

## FOCUS

## Early diagnosis of HIV in infants



The youngest children exposed to HIV – those under age one – are not getting diagnosed and are missing out on treatment. As a result, every year large numbers of very young children are dying because of AIDS without ever having been diagnosed.

Yet there has been an encouraging increase in the number of children infected with HIV on antiretroviral treatment from 127,000 in 2006 to almost 200,000 in 2007.

Some countries have made great strides in providing access to early infant diagnosis of HIV: in sub-Saharan Africa – the region with the largest numbers of exposed infants – Botswana, Kenya, Malawi, Mozambique, Rwanda, South Africa, Swaziland and Zambia have made virological testing possible, even in remote rural areas, through the implementation of testing networks using dried blood spot specimens on filter paper.



### DID YOU KNOW...

One third of children living with HIV who are without access to antiretroviral treatment die by age one, and half by age two.

The lives of many infants can be saved by initiating antiretroviral treatment for those who are HIV-positive immediately after diagnosis within the first 12 weeks of life.

In 2007, 30 low- and middle-income countries used dried blood spot specimens on filter paper to perform polymerase chain reaction (PCR) testing for DNA of HIV in infants, up from 17 countries in 2005.

Clinical guidelines issued by the World Health Organization (WHO) now recommend immediate initiation of antiretroviral therapy for all infants under one year of age diagnosed as infected with HIV, rather than waiting until they show signs of infection.

## UNDERLYING ISSUES

Access to tests for HIV diagnosis for infants remains limited. In resource-limited countries with high burdens of infectious disease, laboratory services and skilled staff are critically needed to provide accessible, appropriate and high-quality diagnostic testing.

Some infants and children are not tested for HIV and do not receive appropriate follow-up because it is not known that they were exposed to the virus; frequently, children are identified as infected with HIV only when they become very sick. One study in Malawi found that only 1 per cent of children referred for HIV care and treatment came through prevention of mother-to-child transmission (PMTCT) services – whereas 80 per cent came from children's wards or nutritional rehabilitation units.

The median age for the onset of antiretroviral treatment for children with HIV is currently between five and nine years old. However, late initiation of treatment may mean that the child's immune system is already severely compromised. One important study showed that infants and children started on antiretroviral treatment when they were already severely immunodeficient never regained normal levels of immune functioning, even after five years of treatment.

There are no clear data on how many children born to women who are HIV-positive and were tested for HIV before they were two months old tested positive for HIV or actually began antiretroviral therapy. This is one illustration of the gap in data on children's access to HIV and AIDS services.

### Surveys point to the need for early diagnosis of infants and early access to care and treatment

Based on different surveys of low- and middle-income countries, for every 100 children born to HIV-positive women in 2007:



- Only eight were tested for HIV before they were two months old.
- Only four were started on cotrimoxazole prophylaxis – part of a comprehensive life-saving approach – before they were two months old.



## ACTIONS

**Scale up programmes that provide early diagnosis of infants exposed to HIV and treatment of children who are infected.** Scaling up in most countries will require strengthening laboratory capacity, providing equipment and ensuring a reliable supply of reagents, training service providers and establishing networks that effectively link diagnosis with care.

**Where necessary, review health policies at national and subnational levels to improve linkages** between HIV and AIDS and child survival interventions, family planning based on national policies, and services to prevent and treat sexually transmitted infections and tuberculosis, as well as to improve programme management and coordination.

**Promote inclusion in national policies of guidelines for early diagnosis and treatment targets.** Infants diagnosed with HIV will require new, fixed-dose combination medicines appropriate for the youngest populations. There is also a need to develop and use innovative mechanisms, such as mobile phones to reach families in a timely manner when test results are positive, because time is of particular importance for the youngest children.

**Integrate HIV and AIDS services with primary health-care programmes.** HIV prevention, diagnosis, care and treatment should be integrated within existing health infrastructure for antiretroviral treatment sites and maternal, neonatal and child health (MNCH) care services. Preventing mother-to-child transmission of HIV should be available in all antenatal care and MNCH services. Integration allows for reaching more children and women with interventions. It also reduces stigma attached to AIDS-only facilities. Infants exposed to HIV can be identified and referred for testing, cotrimoxazole treatment can be initiated for children in need, and adherence to treatment can be supported during routine well-child visits, scheduled immunization visits and in other settings.

**Prioritize the collection and disaggregation of high-quality data.** Quantitative and qualitative data are essential to identify the populations most at risk, understand trends and evaluate prevention programmes.

## SPOTLIGHT

### ON ACHIEVING RESULTS

The Clinton Foundation HIV/AIDS Initiative supports expansion of early infant diagnosis in 29 countries through donation of commodities with UNITAID funding and by providing technical assistance. In these countries, the number of sites providing early infant diagnosis grew in 2007 from approximately 200 to more than 1,400, and 200,000 PCR tests for HIV DNA were conducted.

The use of child health cards is one promising way to track children exposed to HIV and increase the likelihood that infants known to be exposed are referred for virological testing, and then early treatment if needed. Several countries have revised child health cards to include HIV-related information. **Zambia**, for example, began documenting HIV status on child health cards in 2006; subsequently, the number of HIV-exposed children benefiting from a virological test increased from 1,931 in 2006 to 7,664 in 2007 and 6,000 in the first six months of 2008 alone.

Another way to scale up early diagnosis of young children is through child health days, organized in many countries to deliver health and nutrition services on a large scale. During child health days in **Lesotho** in 2007, more than 4,400 children were tested for HIV, including some through dried blood spot testing, and screened for tuberculosis and malnutrition. Nearly 100 per cent of participants (adults and children) were tested. The Lesotho experience is important because of its high participation rate and seeming effectiveness – and because it raises crucial questions about consent and the implicit testing of mothers when children are tested.

#### **For more information, see:**

United Nations Children's Fund, *Children and AIDS: Third Stocktaking Report*, UNICEF, New York, 2008.

United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS and the World Health Organization, *Towards Universal Access: Scaling up HIV services for women and children in the health sector – Progress Report 2008*, WHO, Geneva, 2008.

Joint United Nations Programme on HIV/AIDS, *2008 Report on the Global AIDS Epidemic*, UNAIDS, Geneva, 2008.

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