Public Health

She's dying for help: global HIV

"AIDS has a woman's face."
— Kofi Annan

With 5 million new human immunodeficiency virus (HIV) infections in 2005 and an estimated 40 million cases worldwide, the HIV epidemic shows no sign of abating (Box 1). Growing epidemics as a result of injection drug use and commercial sex are evident in Eastern Europe and Central and East Asia, while infections in sub-Saharan Africa, which result mostly from heterosexual transmission, account for a third of global infections and 77% of female infections. (Many of the statistics stated here can be found in the "Special Section on HIV Prevention" of the *AIDS Epidemic Update: December 2005* [available at www.unaids.org/epi2005/doc/epiupdate2005_html_en/epi05_00_en.htm], by the World Health Organization [WHO] and the Joint United Nations Programme on HIV/AIDS [UNAIDS].) Rising death and morbidity rates impact heavily: life expectancy in Zambia is 39 years, and 13 million orphans live in sub-Saharan Africa as a result of deaths from AIDS (see www.who.int).

Women are particularly vulnerable to infection; those aged 15–24 years are 3 times more likely to be infected than men.[1] Biological, social and economic factors play a role: poor women trade sex for income, and many women with low social status or who lack financial autonomy are unable to negotiate safe sex or abstinence in their personal relationships.[1] Pregnant women are also vulnerable because untested blood is frequently used for transfusions, to treat, for example, anemia and intrapartum hemorrhage; blood contaminated with HIV is responsible for some 5%–10% of global HIV infections (see www.who.int/hiv/topics/blood/safety).

It is well recognized that girls and women are vulnerable to HIV infection. In 2001 the UN General Assembly made clear that gender equality and empowerment of women is critical to gaining control of the HIV pandemic.[1] Measures are needed that reach beyond the health system, such as ensuring education and literacy among women and enforcing laws that support female land ownership and prevent "wife inheritance" (accompanied by the livestock, land and other assets associated with her) and "ritual cleansing." Women also need access to income or to microfinancing (i.e., small business loans) to develop financial autonomy and the potential to gain decision-making power at home.[1]

In the meantime, treatment efforts for both men and women are underway. Heavy lobbying has reduced the prices of antiretroviral (ARV) drugs and increased the availability of generic ARVs (Box 2), and 2003 saw the start of WHO's 3 by 5 Initiative, with its goal to have 3 million people in low- and middle-income countries receiving ARV treatment by 2005. So far, 3 times as many people in such countries are taking ARVs than there were in 2003; treatment coverage in countries such as Argentina, Brazil, Chile and Cuba now exceeds 80%. Many people are nevertheless missing out: as of mid-2005, only 1 person in 10 in Africa and 1 in 7 in Asia who needed treatment received it (see the UNAIDS report, as already cited, on the Web).

Attempts to deliver ARV-based treatment have highlighted starkly the health-system deficiencies already discussed in this series. Most developing countries lack staff adequately trained to provide health care or run laboratory facilities, cannot afford the necessary drugs and have poor health-system infrastructure that obstructs the continuity of drug supply, crucial for treatment adherence and for prevention of the development of drug-resistant HIV. Some key components of effective HIV treatment are also missing, such as pediatric syrup formulations to help with compliance — staff are still forced to crush adult tablets to treat some children (see www.accessmed-msf.org). Coinfection with tuberculosis (TB) is also often underrecognized and untreated; a third of HIV-infected persons have coexistent TB infection, of whom 90% die within months of contracting TB (www.who.int/tb/hiv/faq).

As millions fail to receive treatment, effective prevention remains key. In addition to education programs about sex, injection drug use and how to prevent mother-to-child transmission of HIV, safe blood transfusions need to be assured. Access to ARV therapy must also be increased for pregnant women; more than a third of the children born to HIV-positive mothers will also contract HIV (www.who.int/hiv/topics/mtct). Short-term ARV combination therapy decreases the risk of intrapartum transmission; treating mothers with highly active ARV therapy may also reduce transmission through breast milk.[1] Because breast-feeding has been linked to a 20% increase in rates of transmission of HIV, bottle-feeding is recommended where affordable and not associated with excess risk of diarrheal disease. Otherwise, exclusive breast-feeding is recommen-

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A woman in sub-Saharan Africa and her children.

Box 1: World prevalence in 2005 of HIV infection (in millions)

People now living with HIV infection, total no.	40.3
• Adults	38.0
• Women	17.5
• Children < 15 yr	2.3
Newly infected with HIV	4.9
• Adults	4.2
• Children < 15 yr	0.70
Deaths attributable to AIDS	3.1
• Adults	2.6
• Children < 15 yr	0.57

Source: Kim J, Watts CH. Gaining a foothold: tackling poverty, gender inequality, and HIV in Africa. *BMJ* 2005;331:769-72.

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ded (www.who.int/hiv/topics/mtct).

Blood safety programs also need wide implementation, with coordinated national programs, blood screening and voluntary blood donors. Needle-exchange programs for drug users are poorly implemented, although progress in this area is evident: China has recently announced 1400 new needle-exchange programs to be established in an area where 2 million injection-drug users live (see the UNAIDS report).

Other preventive measures are also being studied, such as microbicides to prevent HIV infection. These gels, foams and vaginal rings are designed to be inserted into the vagina or rectum and to provide an effective female-controlled method of infection prevention.[2,3] According to the UNAIDS report, 4 different agents are currently undergoing phase III trials. Male circumcision has also been studied as a preventive measure, with varying degrees of success reported; a recent prospective trial found a protective effectiveness of 61%.[2] Vaccine development is ongoing; 6 phase-III trials for HIV prevention are currently registered at www.clinicaltrials.gov (although efforts to date have been unsuccessful).[2] A single pre-exposure administration of an ARV agent as prophylaxis before risky sexual encounters has been explored with phase II or III studies underway or planned in Botswana and Ghana, but concerns remain about the ethics of these trials when known preventive measures exist.[2]

Although a lot of progress has been made during the last few years, there is no room for complacency on behalf of the 40 million infected persons, or the 5 million expected to become infected in 2006. Affordable treatment and supportive social environments need to be assured.

Box 2: The Access to Essential Medicines campaign

Médecins Sans Frontières (MSF) has worked hard on its "Access" campaign, launched in 1999 to lower prices of antiretroviral drugs in developing countries. Competition from generic drugs began in 2000: generic equivalents of drugs costing $10 000–$15 000 per patient per year in Europe and the United States have been offered by manufacturers for $300. Expanded production, MSF believes, could lower prices to $200.

Campaign participants also lobbied to ensure that the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement signed at Doha in 2001 affirmed governments' right to protect public health before recognizing rights to intellectual property. This means that governments can now override patents if drug companies price medicines beyond the reach of their people (see www.accessmed-msf.org/campaign/faq.shtm).

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Image from MSF's Access campaign.

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REFERENCES

1. Kim J, Watts CH. Gaining a foothold: tackling poverty, gender inequality, and HIV in Africa. *BMJ* 2005;331:769-72.
2. Jones R, Gazzard B, Halima Y. Preventing HIV infection. *BMJ* 2005;331:1285-6.
3. Balzarini J, Van Damme L. Intravaginal and intrarectal microbicides to prevent HIV infection. *CMAJ* 2005;172(4):461-4.