

# HIV/AIDS: the unfolding story

The latest global report indicates substantial progress, but challenges remain

With some 33 million people living with HIV and 2.7 million new infections in 2007, the HIV epidemic continues to be a major challenge for global health. Sub-Saharan Africa remains the most affected region, accounting for two-thirds of all global HIV infections. Intensified political commitments and financial support from international partners has led to expanded access to HIV health sector services for those in need, though financing a sustained response to HIV remains a challenge for the future, particularly in the context of the current global economic crisis.

For the first time this year, WHO, UNICEF, and UNAIDS collected data from national programmes worldwide through a joint reporting tool. The tool includes 46 indicators to track progress across all critical health sector areas.

### HIV testing and counselling

The data show increased political commitment for HIV testing and counselling policies. Nearly 90% of reporting countries had national HIV testing and counselling policies in 2008 compared with 70% in 2007. More countries are implementing a provider-initiated HIV testing and counselling approach, whereby health workers recommend these services to patients seen in health facilities. Most countries make HIV testing available free of charge. In 2008, 94 of 101 countries surveyed across all regions provided free HIV testing through public sector health facilities. In 39 low- and middle-income countries, including 19 sub-Saharan African countries, the total reported number of HIV tests more than doubled between 2007 and 2008. Populations at high

risk of HIV infection, including men who have sex with men, sex workers, injecting drug users and prisoners, continue to have limited access to HIV testing and counselling services.

Despite the expansion of services, knowledge of HIV status remains low. According to seven population-based surveys conducted in 2007 and 2008, a median of less than 40% of people living with HIV knew their status.

### HIV prevention

Prevention and treatment must be strengthened in tandem. The annual number of new HIV infections (an estimated 2.7 million in 2007) must decrease dramatically before we can begin to effectively curb the epidemic. The health sector plays a critical role in scaling-up interventions for HIV prevention.

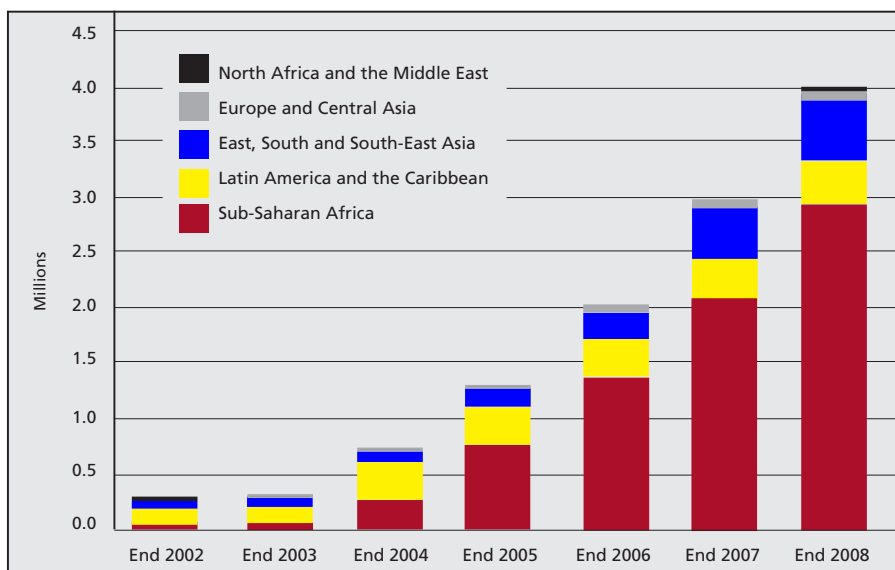
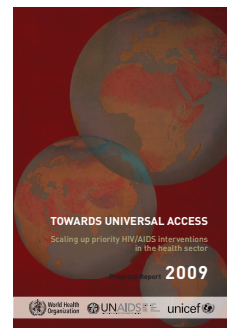
Since 2007, WHO and UNAIDS have recommended male circumcision as an important HIV prevention strategy in countries with high rates of heterosexual HIV transmission and low rates of male circumcision. As of end-2008, all 13 priority countries in sub-Saharan Africa had established policies and programmes to expand male circumcision. Within healthcare settings, HIV transmission continues to be a serious problem due to the lack of universal quality-assured screening of blood supplies and the use of unsafe injection equipment. Among the key findings of this year's report: Of 162 countries that provided data on screening for infections transmitted through blood transfusion (including HIV, hepatitis B, hepatitis C, and syphilis), 41 reported that

they were unable to screen all donated blood for one or more of these infections.

### HIV treatment and care

Since 2003, the '3 by 5' initiative, led by WHO, UNAIDS, and partners, has galvanised the unprecedented expansion of antiretroviral therapy (ART) in low- and middle-income countries. The greatest gains were seen in sub-Saharan Africa, where some two-thirds of global HIV infections occur. An estimated 2.9 million people in sub-Saharan Africa received ART in 2008, compared with about 2.1 million in 2007—an increase of 39%.

Prices of most first-line



Number of people receiving antiretroviral therapy in low and middle-income countries, by region, 2002–2008

antiretroviral drugs decreased globally by 10–40% between 2006 and 2008 in low- and middle-income countries, contributing greatly to wider availability of treatment. Second-line regimens continue to be more expensive.

Tuberculosis is a leading cause of death for those living with HIV. Of the 9.3 million new TB patients in 2007, 1.4 million were living with HIV. In 2007, only 16% of notified TB patients knew their HIV status in low- and middle-income countries. As a result, access to treatment services for HIV-positive TB patients remains low. Slowing and halting the impact of TB among people living with HIV will require a greater emphasis on the 'Three Is': Intensified case finding, Isoniazid preventive therapy and Infection control for TB.

### Health systems

Strong health systems are critical to achieve universal access to HIV/AIDS prevention, treatment and care. Yet in high-prevalence and resource-limited settings, health systems are often weak, inequitable, and unresponsive. The global shortage of trained health workers exceeds four million, according to WHO estimates. One strategy for tackling the health work-force crisis is task-shifting which entails delegating specific tasks, where appropriate, from highly qualified health workers to less specialized, but trained, health

workers. Many health systems are further undermined by weak procurement and supply management systems, resulting in frequent stock-outs (shortages) of antiretroviral drugs.

## Number crunching

How are global epidemiological figures assessed?

Fifty leading HIV prevention experts gathered recently in Chapel Hill, North Carolina, USA to assess the methods used to measure the number of new HIV infections in a population. Although the topic receives little attention in the news media, the accurate measurement of HIV incidence is crucial for the fight against HIV.

'Without an accurate measure of incidence, scientists cannot identify whether the number of new HIV infections is increasing or decreasing, or whether new HIV prevention strategies are working,' says Timothy Mastro, Vice President of Health and Development Sciences at Family Health International. Mastro, who chaired the Chapel Hill meeting, said the field needed HIV incidence assays that are more reliable, less expensive, and easier to use than the existing methods.

Most HIV-prevention experts agree that the current assays have significant flaws. For example, existing assays can misclassify a long-standing infection as a recent infection, an error that can result in an over-estimation of the HIV incidence rate. In addition, none of the current HIV incidence assays are recommended for use at the individual level, although such an assay would have both clinical and public health applications.

Overcoming such limitations will not be easy. For one thing, many experts believe that the market's demand for the assays is too low to drive the development of new assays in the private sector. The lack of sustained funding makes it difficult to tackle the technical challenges of refining a current assay or developing a new one. The field is also burdened by a lack of standardised terminology and the absence of guidelines on using the assays. Such deficiencies can make it impossible to compare HIV incidence measures between populations.

So what can be done? After several brainstorming sessions, the experts at the meeting outlined a series of steps to address these issues.

Perhaps the easiest problems to tackle are the development of standardised terminology and assay-usage guidelines. The World Health Organization (WHO) HIV Incidence Technical Working Group began to address the terminology problem during an April meeting and has already made substantial progress. Guidelines for the use of the assays will be drafted by scientists who are collaborating with the WHO Technical Working Group.

The question of the global demand for the assays is being addressed by Family Health International, which is assessing the market through interviews with stakeholders and informants in different parts of the world and by estimating current and future demand under various scenarios. The experts suggested several ways to deal with the funding problem, including the development of public-private partnerships and the importance of small companies, which may be more interested in developing products for a niche market.

The experts also outlined some ways to improve on the current generation of assays, including new methods for identifying and exploiting biomarkers (the antibodies and other biological molecules that are assayed to determine a person's response to HIV). They also identified the materials – human specimens, laboratory supplies, and infrastructure – needed to develop and evaluate HIV incidence assays, and they outlined the optimal specifications and requirements of new assays.

'The experts tackled nearly every issue that is holding the field back,' says Mastro, 'and the meeting was considered a great success.' The mere existence of the meeting was an achievement since it marked the first time a large group of leading experts and industry representatives gathered to discuss the status and future of HIV incidence testing. The resulting actions and recommendations can only help this vitally important field.