



postnote

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HIV/AIDS IN DEVELOPING COUNTRIES

HIV/AIDS is an increasing problem in developing countries. Bodies such as the World Health Organisation (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) deliver a range of education, prevention and treatment initiatives, but the epidemic continues to grow. This note describes the scale of the epidemic, outlines recent policy initiatives and analyses the effectiveness of current programmes.

Background HIV/AIDS

AIDS was first recognized in 1981 and the virus that causes it (HIV) was isolated in 1983. HIV infects cells of the immune system, destroying them or impairing their function and progressively diminishing the body's ability to fight infections and certain cancers. It is transmitted through contact with bodily fluids. Unprotected sex and the sharing of needles between injecting drug users are the main routes of transmission. UNAIDS co-ordinates the international response to HIV/AIDS. This programme has 8 co-sponsoring UN agencies including the WHO and World Bank. It is responsible for tracking and monitoring the epidemic, promoting global policy and co-ordinating country-based responses. UNAIDS works closely with NGOs, governments and donors such as the US Agency for International Development (USAID) and the UK Department for International Development (DfID).

Scale of the epidemic

In the last 20 years, HIV/AIDS has become a global epidemic, claiming some 20 million lives. UNAIDS estimates that there are over 40 million people around the world living with HIV/AIDS and that ~5 million people were newly infected with the virus in 2002 (see table). In developing countries HIV is largely a sexually transmitted disease, and it affects young people, with severe economic and social consequences.

Breakdown of HIV/AIDS figures, 2002

Region	Number living with HIV/AIDS	Number newly infected with HIV (2002)	Main mode(s) transmission ¹
Sub Saharan Africa	28.4M	3,500,000	Hetero
N Africa & Middle East	0.55M	83,000	Hetero, IDU
S and SE Asia	6M	700,000	Hetero, IDU
E Asia & Pacific	1.2M	270,000	IDU, Hetero, MSM
Latin America	1.5M	150,000	MSM, IDU, Hetero
Caribbean	0.44M	60,000	Hetero, MSM
E Europe & Central Asia	1.2M	250,000	IDU
W Europe	0.57M	30,000	MSM, IDU
N America	0.98M	45,000	MSM, IDU, Hetero
Australia & New Zealand	0.015M	500	MSM
Total	42M	5,000,000	

1 Hetero, heterosexual sex; IDU intravenous drug user; MSM men having sex with men.

Source: UN/WHO regional estimates, December 2002

Regional breakdown

As outlined in the table, sub-Saharan Africa – where over 28 million people live with HIV/AIDS - has been hardest hit. South Africa has the highest number of people living with HIV/AIDS (more than 4 million) and Botswana the highest prevalence rate (more than 1 in 3 of the adult population has HIV). While HIV transmission in these countries is largely through heterosexual sex, elsewhere in the world other modes of transmission such as injecting drug use and men having sex with men are the main routes of transmission.

The next wave?

While the current focus of the epidemic is in central and southern Africa, this is expected to shift. Five countries, accounting for over 40% of the world population, have

Box 1 New methods of preventing HIV/AIDS**Vaccines**

The ultimate aim is to develop a vaccine that gives full protection against HIV. However, it is increasingly recognised that a vaccine that reduced viral load could play an important role in lowering transmission rates. Research continues on a range of candidate HIV vaccines. Each of the approaches aims to stimulate the body into producing the killer T cells and antibodies needed to prevent HIV infection. The UK Medical Research Council (MRC) spends ~£13 million a year on HIV/AIDS research and recently announced clinical trials of a new DNA vaccine. The UK also supports the International AIDS Vaccine Initiative.

Microbicides

Microbicides are substances applied to protect against HIV infection. The attraction of microbicides is that they offer a potential means by which women can be in control of preventing HIV infection. While no effective anti-HIV microbicide has yet been developed, research is underway on a range of possible approaches. These include substances that directly disrupt virus particles, prevent viruses entering host cells, enhance normal defence mechanisms and inhibit viral replication. DfID recently announced £16M funding for the Microbicide Development Programme co-ordinated by the MRC and also supports an International Partnership for Microbicides,

been identified as being particularly at risk: Nigeria, Ethiopia, Russia, China and India.¹ Of these, the epidemic is most advanced in Nigeria and Ethiopia; Nigeria is projected to have 10-15 million cases by 2010, and Ethiopia 7-10 million. In both cases, the situation is likely to be exacerbated by a lack of public health infrastructure. In Russia HIV is largely confined to injecting drug users and prisoners, but there are concerns that it will spread more widely within the population as a result of an increase in prostitution. India and China are a concern because of their huge populations. While the virus is currently confined to vulnerable groups (e.g. sex workers) in these countries, projections suggest that China could have 10-15 million people with HIV/AIDS by 2010, and India 20-25 million.

Treatment and prevention**Treatment**

The first anti-HIV drugs were used singly, but experience showed that while they initially controlled the amount of virus circulating in the body, this was usually transient. It is now known that the virus can mutate rapidly, developing resistance to single drugs; continued use of a single drug merely ensures that the drug resistant HIV strain thrives. Treatment thus now uses combination therapy - a cocktail of three or more different drugs - to mount a multi-pronged attack on the HIV infection.

Combination therapy has proved successful in reducing detectable levels of HIV in the blood, but has limitations. These include cost (~\$10,000-\$15,000 per person per year in developed countries) as well as a range of side-effects that can make it difficult for people to comply with treatment regimes. There is also growing concern over the recent emergence of multi-drug resistant (MDR) HIV strains. Widespread emergence would have serious implications for the future shape of the epidemic.

Prevention

There are three main approaches that are currently used to prevent HIV infection:

- *Sexual health education.* Education is often targeted at children under 14 years as they are least likely to be infected with HIV. It can protect by promoting healthy lifestyles and avoidance of risky behaviours. Continued education of the 15-24 age group who are at higher risk and account for an estimated 60% of all new HIV infections, can also reduce infection rates.
- *Condoms use.* Condoms reduce the risk of HIV infection by 85-90% when used properly. Condom use is proven to be a highly effective way of tackling HIV in many developing countries where the vast majority of HIV infections are sexually transmitted. But to be effective, condoms need to be accessible and affordable; their use is not always easy for women to negotiate and may not be culturally acceptable.
- *Treatment to reduce HIV transmission.* People with existing sexually transmitted infections (STIs) are at greater risk of acquiring HIV and of transmitting the virus to others. Early detection and treatment of STIs has been shown to be effective in reducing HIV rates. Also, pregnant women with HIV are at risk of passing the infection on to their baby. Mother to child transmission can be greatly reduced by treating the mother with anti-HIV drugs, through safer delivery practices, infant-feeding counselling and support.

Such approaches need to be backed up with voluntary counselling and testing services to allow early detection of HIV. Those testing positive need access to a variety of treatments and services to help them manage. Counselling services can also provide a means for modifying sexual behaviours to help those testing negative remain free from HIV.

Two main areas of research are on-going to provide better prevention options in the future. An effective vaccine remains the 'holy grail' for HIV prevention (box 1). Microbicides are also the subject of research, largely because they offer the advantage of giving women control over the means of preventing HIV infection. Although a number of products are in clinical trials, no effective anti-HIV vaccine or microbicide has yet been developed.

Issues**The need for new strategies**

Recent years have seen major initiatives to tackle HIV/AIDS (see box 2). A recent survey² suggests that many people in developing countries do not have access to prevention programmes. It shows that, among those at highest risk, just 1 in 20 pregnant women have access to drugs to prevent mother to child transmission and only around 1 in 9 people have access to HIV counselling and testing. Furthermore, the report found that only 1 in 4 people in developing countries received AIDS education.

What works best?

Box 3 outlines a number of 'success stories' where prompt action has kept infection rates low or reduced high infection rates. DfID has analysed such case

Box 2 Recent HIV/AIDS initiatives**The Global Fund to Fight AIDS, TB and Malaria**

The Global Fund is a public private partnership to attract, manage and spend funds to reduce illness and death from AIDS, TB and malaria. First suggested at the July 2000 Okinawa G8 summit, it was constituted as a charitable foundation under Swiss law in January 2002. The Fund has been pledged \$4.6 billion from governments, \$1 billion from foundations, and around \$1.6 million each from private individuals and corporations. The UK has pledged \$280 million to the Global Fund over 7 years.

Main donors

The US announced an Emergency Plan for AIDS relief in January 2003. Congress was asked for \$15 billion (of which \$10 billion was 'new money') over 5 years to fight AIDS in the worst hit countries. Congress has agreed \$2 billion for the first year's instalment (2004). This includes:

- \$1.6 billion to the Global Fund by 2008 (see above);
- a new Millennium Challenge Account, to improve economic and social systems in developing countries;
- a \$500 million International Mother and Child HIV Prevention Initiative, to reduce the transmission of HIV/AIDS from mothers to infants.

The UK is the second biggest national donor of HIV/AIDS assistance, through the Global Fund, contributions to UNAIDS (£3 million in 2003 rising to £6 million in 2004) and via vaccine and microbicide research (box 1). In 2002/3, DfID contributed ~£270 (\$435) million to HIV/AIDS-related programmes in some 40 countries.

Other initiatives

The Bill and Melinda Gates Foundation announced a \$200 million research grant to the US Foundation for the National Institutes of Health in October 2003. In the same month, the Clinton Foundation announced that it had reached an agreement with drugs manufacturers to reduce the price of combination therapy to as little as \$140 per person per year. The WHO and UNAIDS recently announced a '3 by 5' initiative to get HIV treatments to 3 million people by 2005.

studies in a recent strategy paper, noting that successful programmes share common features.³ These include high level political commitment and leadership and the involvement of NGOs, the business community and faith/community leaders. DfID also stressed the importance of a multi-pronged approach including prevention, treatment, counselling and testing.

Approaches to prevention behind the success stories outlined in box 3 are often summarised as ABC: abstinence, be faithful (behaviour change) and condom use. It is widely accepted that it is the diversity of the approaches used that is the key to success; i.e. A, B and C together are more effective than A or B or C alone. NGOs such as *Medicins sans Frontieres* are concerned to ensure that national and international strategies to combat HIV/AIDS reflect the lessons learned from successful programmes.

Abstinence-based programmes

As outlined in box 2, the US is the single biggest national donor of HIV/AIDS assistance. While NGOs have welcomed recent US announcements of increased funding for HIV/AIDS, some have also expressed concern over its apparent emphasis on abstinence-based

Box 3 HIV/AIDS success stories**Uganda**

In Uganda, HIV infection rates among men attending STI clinics fell from 46% in 1992 to 30% in 1998 and among pregnant women from 21% to 8% between 1990-98. This was the result of a national effort backed by political commitment and cross sector support including NGOs, faith based groups and the private sector involving:

- sex education in schools and on the radio focusing on the need to negotiate safe sex and encouraging teenagers to delay the age at which they first have sex;
- a social marketing scheme to increase condom use (from 7% nationwide to over 85% in urban areas);
- promoting the use of an STI self-treatment kit;
- a same-day counselling/testing service reaching 180,000 people and distributing 1 million condoms.

Senegal

In Senegal, HIV infection rates have remained very low at ~2% since the 1980s, despite the rising epidemic in neighbouring states. This is largely due to a nationwide campaign to modify sexual behaviour, which led to a big rise in condom use and a delay in the age at which teenage girls first have sex. A school-based education campaign was mounted with the support of religious leaders, backed up by campaigns targeted at high risk groups such as sex workers. Voluntary counselling and testing services were made available throughout Senegal, and STI treatment services improved by integrating them into primary health care services. Social marketing led to a tenfold rise in the number of condoms distributed between 1988 and 1997.

Thailand

Surveys in the late 1980s revealing very high infection rates among sex workers in Thailand, gave rise to concerns that the epidemic could rapidly spread into the population at large. The government took action to enforce condom use in brothels, and to ensure wide access to HIV prevention campaigns through schools, the media, and the workplace. This led to an increase in condom use in brothels (from 14% of sex acts in 1989 to over 90% by 1994), a reduction in visits to sex workers, a fall in the number of new cases of STIs and a reduction in HIV infection rates (from around 4% in military conscripts in 1993 to around 1.5% in 1997).

programmes. Such concerns have their basis in the Global AIDS bill which authorised \$15 billion in funding over 5 years. While the underlying bill promoted a comprehensive A, B and C approach to prevention, Congress voted for an amendment requiring one third of the funding to go to "*abstinence-until-marriage programs*". Reproductive health groups suggest that this will change the emphasis of US funding, tilting it towards 'big A, big B and little C'. They argue that the evidence available from successful programmes in developing countries supports continued funding of a more balanced A,B and C approach. Any such shift would be out of line with the policies of international and national agencies. In the UK, DFID has focused on a broad-based approach to prevention involving provision of health information, empowerment, and ready access to condoms.

Family planning and HIV/AIDS services

NGOs such as the International Planned Parenthood Federation (IPPF) have also expressed concern about another aspect of US funding, the so-called Mexico City policy (box 4). This disqualifies NGOs offering abortion

Box 4 The US 'Mexico City' policy

In 1984, the US introduced the so-called Mexico City policy.⁴ This disqualifies non-US NGOs from receiving US family planning funds if they promote or offer abortion as a method of family planning, even where this is provided by non-US funding. Although the policy was rescinded in 1993, it was reinstated in 2001. Currently, the policy applies only to 'population assistance' administered by USAID. Such funds help non-US NGOs support reproductive health services including providing birth control and testing/counselling for HIV/AIDS and other STIs.

services receiving US money for other reproductive health services. Since its reintroduction in 2001, IPPF claims that the policy has led to a reduction in the availability of condoms, the closure of clinics in 7 African countries and a reduction in the range of HIV/AIDS programmes available in 30 developing countries.⁵

There are also concerns that the US may seek to extend the policy to include all US HIV/AIDS funding, not just USAID's population assistance funds (box 4). IPPF and others are concerned that such a move could exclude from US funding countries that have integrated HIV/AIDS prevention services into their reproductive health programmes. They argue that this would weaken the link between HIV/AIDS services and family planning-services. Any such move would run counter to the policy of other donors. For instance, the World Bank, WHO and EU all endorse the integration of HIV/AIDS services into family planning services. In the UK, DfID has stated that "*we believe we cannot make progress on HIV/AIDS without making progress on access to reproductive health care*".⁶ Furthermore, many of the countries where HIV/AIDS is of most concern have well developed family planning infra-structures that could offer extended HIV/AIDS services as new money is made available.

Access to treatment

Increased access to HIV care and support, including anti-HIV drugs and treatment for HIV-related opportunistic infections, is seen as a global priority. WHO estimates that 6 million people in developing countries have HIV infections that require drug treatment, while fewer than 300,000 are actually receiving it. Four million of these people live in sub-Saharan Africa, where only around 50,000 people are currently receiving the drugs they need. Recognising the urgent need to expand access to anti-HIV drugs, WHO and UNAIDS announced a '3 by 5' target, to have 3 million people on treatment by 2005.

Until recently, the cost of combination therapy (\$10-15,000 per person per year) was the main barrier to improving access to the drugs in developing countries. But costs have come down to as little as \$140 per person per year (box 2) since 2000 as a result of:

- the wide availability of generic drugs - these are drugs that are either out of patent or have been made in a country that does not recognise a current patent;
- a price agreement between UN agencies and several major pharmaceutical companies;

- an agreement of 142 countries at the 4th WTO ministerial conference to affirm that governments are free to take measures to protect public health without fear of retribution under the TRIPS agreement.⁷

Barriers to treatment

A remaining barrier is the lack of basic healthcare infrastructure in many developing countries. This is needed to offer counselling and testing, monitor the progress of patients and ensure compliance with drug regimes. For instance, South Africa recently announced a new campaign to make anti-HIV drugs universally available. This will involve establishing distribution centres in each of the country's 50 health districts and recruiting and training large numbers of new healthcare workers. NGOs such as *Medicins sans Frontieres* suggest that treatment can still be offered in resource-poor countries, by developing simpler diagnostics and drugs. A simplified (3 drugs in one pill, taken twice a day) treatment has already been developed, and others are in clinical trials. This should also assist compliance with drug regimes, and thus reduce the risk of the emergence of MDR HIV strains.

Other challenges include improving women's access to services as women now account for almost three fifths of all HIV infections in sub-Saharan Africa. Another critical issue is stigmatisation. This is a problem in many developing countries, where fear of rejection by family and friends to a positive HIV diagnosis is a powerful factor in dissuading people from taking HIV tests. For instance, in Botswana HIV treatment is free and widely available, but uptake is slow largely because of stigma.

The UK's response

As outlined in box 2, the UK is the second biggest national donor of HIV/AIDS assistance. DfID is currently leading the development of a new UK HIV/AIDS strategy which will be published in 2004. It will set out the UK's planned response to tackle HIV/AIDS internationally and the resources that will be made available for this. In December 2003, the government launched the first step in this process by calling for stronger political direction and better funding and co-ordination between donors. The UK and US have also agreed to establish a joint task force on HIV/AIDS to ensure closer cooperation.

Endnotes

- 1 *The next wave of HIV/AIDS*, US National Intelligence Council, ICA 2002-04D, September 2002.
- 2 www.kff.org/hivaids/200305-index.cfm
- 3 http://62.189.42.51/DFIDstage/Pubs/files/hiv_isp.pdf
- 4 The Mexico City policy is also referred to as the 'gag clause'
- 5 www.plannedparenthood.org/library/AIDS/030702_AIDS_report.pdf
- 6 www.dfid.gov.uk/Pubs/files/dr2003_dfid-chp3.pdf
- 7 See POSTnote 160, July 2001 for more information.

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