

# A global overview of the epidemic



# A global overview of the epidemic

2

The scale of the AIDS crisis now outstrips even the worst-case scenarios of a decade ago. Dozens of countries are already in the grip of serious HIV/AIDS epidemics, and many more are on the brink.

Around the world, an estimated 5 million people became infected in 2001, 800 000 of them children. Over the next decade, without effective treatment and care, they will join the ranks of the more-than-20 million people who have died of AIDS since the first clinical evidence of HIV/AIDS was reported in 1981. It is equally clear that the vast majority of people (including those living in countries with high national HIV prevalence) have not yet acquired the virus. Enabling them to protect themselves against HIV, and providing adequate and affordable treatment and care to people living with the virus, represent two of the biggest challenges facing humankind today.

## Sub-Saharan Africa

HIV/AIDS marks a severe development crisis in sub-Saharan Africa, which remains by far the worst-affected region in the world. Alongside Senegal and Uganda, there are new, hopeful signs that the epidemic can be brought under control in this region. But more resources have to become available if

these kinds of successes are to be sustained and extended to other parts of the region.

Approximately 3.5 million new infections occurred in 2001, bringing to 28.5 million the total number of people living with HIV/AIDS in sub-Saharan Africa. Fewer than 30 000 people

### ***Declaration of Commitment***

*By 2003 [...] have in place in all countries strategies, policies and programmes that identify and begin to address those factors that make individuals particularly vulnerable to HIV infection, including underdevelopment, economic insecurity, poverty, lack of empowerment of women, lack of education, social exclusion, illiteracy, discrimination, lack of information and/or commodities for self-protection, all types of sexual exploitation of women, girls and boys, including for commercial reasons [...] (paragraph 62).*

*United Nations General Assembly Special Session on HIV/AIDS, June 2001, New York*

were estimated to have been benefiting from antiretroviral drugs at the end of 2001. The estimated number of children orphaned by AIDS living in the region is 11 million. Even if exceptionally effective prevention, treatment and care programmes take hold immediately, the scale of the crisis means that the human and socioeconomic toll will remain significant for many generations.

### A long haul ahead

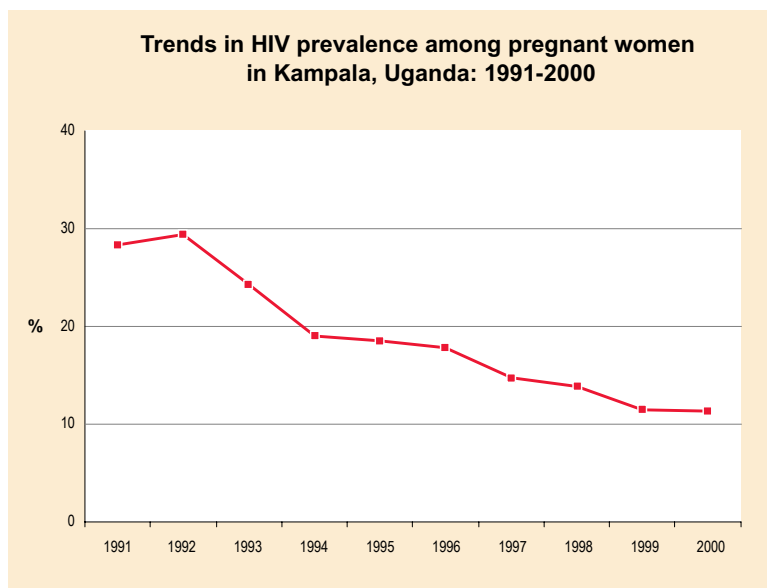
Circulating in southern Africa (where the epidemic is the most severe in the world) has been the hope that the epidemic may have reached its 'natural limit', beyond which it would not grow. Thus, it has been assumed that the very high HIV prevalence rates in some countries have reached a plateau. Unfortunately, this appears not to be the case, as yet. In Botswana, median HIV prevalence among pregnant women in urban areas already stood at 38.5% in 1997. In 2001, it had risen to 44.9%. Similar patterns are visible elsewhere. In Zimbabwe, HIV prevalence among pregnant women climbed from 29% in 1997 to 35% in 2000, while in Namibia it rose from 26% in 1998 to 29.6% in 2000, and in Swaziland from 30.3% to 32.3%, in the same period. If a natural HIV prevalence limit does exist in these countries, it is considerably higher than previously thought.

Startling as these prevalence levels are, they do not reflect the actual risk of acquiring HIV. And prevalence rates are even higher in specific age groups. In Botswana, among 25–29-year-old women attending antenatal care in urban areas, 55.6% were living with HIV/AIDS in

2001. In Swaziland, the corresponding prevalence rate in 2000 was 33.9%, and in Zimbabwe it was 40.1%.

According to the South African Ministry of Health, HIV prevalence among pregnant women attending antenatal clinics reached 24.8% in 2001, on par with the 24.5% level in 2000. About one-in-nine South Africans (or 5 million people) are living with HIV/AIDS. Yet, there are possibly heartening signs that positive trends might be increasingly taking hold among adolescents, for whom prevalence rates have dropped slightly since 1998. Large-scale information campaigns and condom distribution programmes appear to be bearing fruit. In recent surveys, approximately 55% of sexually active teenage girls reported that they always used a condom during sex. But these developments are accompanied by a troubling rise in prevalence among South Africans aged 20–34, highlighting the need for greater prevention efforts targeted at older age groups, and tailored to their realities and concerns.

Figure 1



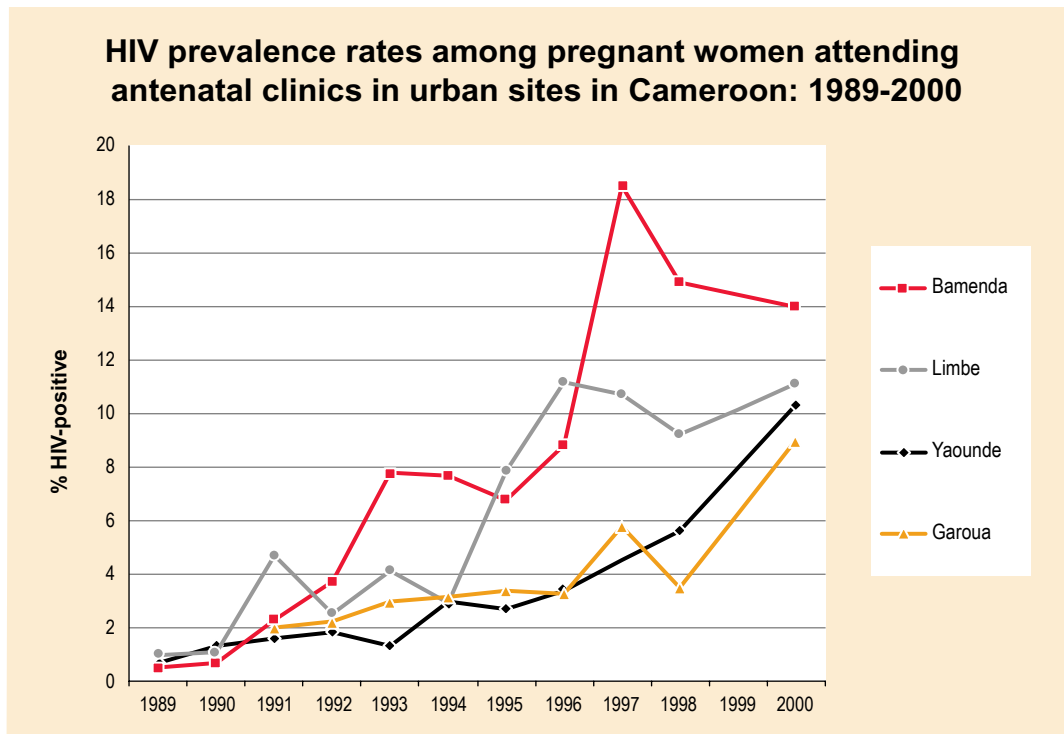
Source: STD/AIDS Control Programme, Uganda (2001) *HIV/AIDS Surveillance Report*

On the eastern side of the continent, the downward arc in prevalence rates continues in Uganda—the first African country to have subdued a major HIV/AIDS epidemic. By sustaining its AIDS programmes, the country has seen HIV prevalence among pregnant women in Kampala, for example, fall for eight years in a row—from a high of 29.5% in 1992 to 11.25% in 2000 (see Figure 1). But huge challenges remain. New infections continue to occur at a high rate, and countrywide prevalence among the adult population stood at 5% at the end of 2001. While efforts to expand treatment and care have increased the number of Ugandans receiving antiretroviral drugs, the vast majority of Ugandans with HIV do not share that access. And Uganda's orphan crisis will continue to strain society's resources for many decades.

## No one is immune

In west and central Africa, there is evidence of recent, rapid HIV spread. Senegal appears to still be reaping the rewards of its early and concerted AIDS response while, in Mali, HIV prevalence was measured at 1.7% in a community-based survey in 2001. Although national adult HIV prevalence rates passed the 5% mark long ago in countries such as Burkina Faso, Cameroon, Côte d'Ivoire, Nigeria and Togo, the rates have stayed relatively stable over the past five-to-eight years. The danger was always that this would be mistaken for an enduring trend. Recent data from Cameroon are confirming the folly of such assumptions. HIV prevalence in Cameroon's urban areas already stood at almost 2% in 1988. Over the following eight years, urban

Figure 2



Source: National AIDS Programme, Cameroon (1989-2000). Data compiled by the US Census Bureau

prevalence varied, rising as high as 4.7% in 1996. However, the 2000 round of HIV surveillance found national prevalence rates of around 11% among pregnant women (see Figure 2). That this might be the beginning of an ongoing, steep rise is indicated by the fact that the highest prevalence rates were found among young people—11.5% among 15–19-year-old pregnant women and 12.2% among those aged 20–24. Also of concern is the fact that prevalence rates were almost equally high in rural and urban areas.

These data sound a loud warning to other countries in the region, and raise strong concerns about the course of the epidemic in, for example, Nigeria, the most populous country in sub-Saharan Africa. Until recently, Nigeria's national prevalence rates remained relatively low (as was the case for neighbouring Cameroon), although growing slowly from 1.9% in 1993 to 5.8% in 2001. But some states in Nigeria are already experiencing HIV prevalence rates as high as those now found in Cameroon. Already, more than 3 million Nigerians are estimated to be living with HIV/AIDS.

### What drives HIV/AIDS in Africa?

No single factor, biological or behavioural, determines the spread of HIV infection. Most HIV transmission in sub-Saharan Africa occurs through sexual intercourse, with unsafe blood transfusions and unsafe injections accounting for a small fraction. While sexual behaviour is the most important factor influencing the spread of HIV in Africa, that behaviour varies greatly across cultures, age groups, socioeconomic class, and gender. Sexual behaviour is itself influenced by a host of factors, ranging from the daily and pragmatic (such as economic and social circumstance), to the complex and abstract (such as culture). For example, higher numbers of sexual partners has consistently been found to be associated with greater likelihood of HIV infection, but the chances of individuals engaging with commercial sex workers, and thus having more partners, is clearly enhanced when large numbers of single, migrant men live together. These communities of single, male migrants (such as those in the mining communities of southern Africa, for example) have been established as a result of a complex interplay of economics and history. And this is only one example. Forced migration due to war, long-term travel along transit routes for commercial reasons, and the lack of secure livelihoods are other factors.

The interplay of multiple factors obscures causal linkages and prevents categorical conclusions. A study in four African cities (Cotonou, Kisumu, Ndola and Yaoundé) revealed that the most common behavioural and biological factors in those cities with the highest HIV prevalence were: young age at women's first sexual intercourse; young age at first marriage; age difference between spouses; the presence of HSV-2 infection and trichomoniasis (a sexually transmitted infection); and lack of male circumcision. There is substantial evidence that sexually transmitted infections enhance the risk of sexual transmission of HIV, while other analyses suggest that male circumcision may be associated with reduced risk of transmission.

Young women have consistently been found to have higher prevalence rates of HIV infection than men of the same age group. The assumption that this results from women having sex with older men suggests a possible inter-generational driver of the infection from men to women. Young women are also physiologically more susceptible to sexually transmitted infections than young men. For instance, in Kisumu, Kenya, in

1998, the prevalence of HIV infection among women aged 15–19 was 23%; among young men the same age, it was 3.5%. Sociocultural systems in many cases also limit women's control over their sexual lives.

In addition, a large share of sub-Saharan Africa's population is young and, therefore, more likely to be sexually active. This helps explain the higher incidence of HIV and other sexually transmitted infections.

Where these facilitating factors are absent, HIV infection can remain 'hidden' for many years. In the presence of social, socioeconomic and biological factors that facilitate spread, however, the epidemic may grow at a rapid rate. While the complex interplay of factors makes it difficult to estimate the likely growth of the epidemic, evidence from the past decade shows that HIV can spread rapidly and widely from very low general seroprevalence levels. All countries with risk factors must employ the range of policies and programmes available (detailed throughout this report) so as to avoid a high-prevalence epidemic.

## The right responses can bring success

None the less, Uganda underscores the fact that a rampant HIV/AIDS epidemic can be brought under control. There is growing evidence that prevention efforts are bearing fruit, including in some of the most heavily affected countries of sub-Saharan Africa. However, much of the progress is still occurring in localized settings.

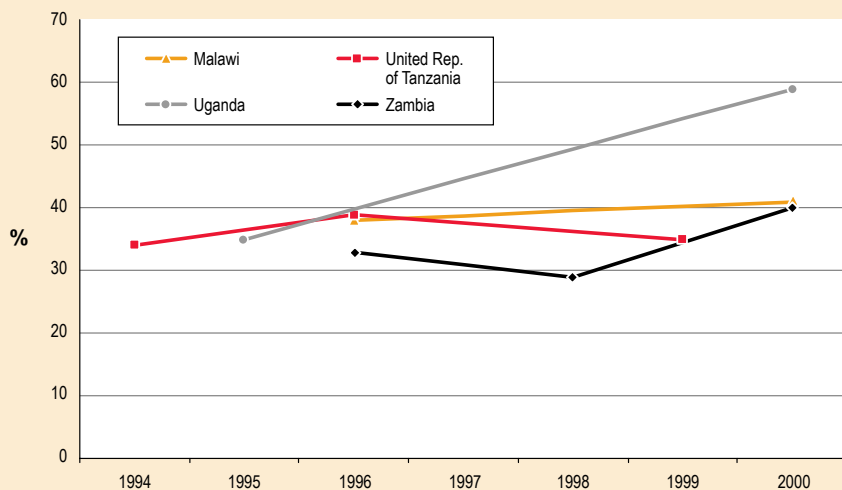
One new study in Zambia shows urban men and women reporting less sexual activity, fewer multiple partners and more consistent use of condoms. This is in line with recently published findings that HIV prevalence declined significantly among 15–29-year-old urban women (down to 24.1% in 1999 from 28.3% in 1996), as well as among rural women aged 15–24 (down from 16.1% to 12.2% in the same period). Although those rates are still unacceptably high, this drop has prompted the hope that, were Zambia to continue building its response, it could become the second African country (after Uganda) to reverse an epidemic of crisis proportions. However, many hurdles still separate the

country from such a milestone. Condom use among rural men remains very low (reported as 15% in 2001 compared to 68% for urban men when they last had sex with a casual or paid partner). Stricken with a large debt burden, a poorly performing economy and massive socioeconomic challenges, Zambia is no different from many other sub-Saharan African countries in that its domestic financial resources are not equal to the task at hand. None the less, massive mobilization and awareness campaigns by community- and faith-based organizations have resulted in behavioural change leading to a reduction in new infections. Decentralized home-based care programmes have also resulted in better care and treatment of people living with AIDS.

From the other end of the continent comes further evidence that prevention works. A new review of efforts mounted among female sex workers attending a clinic in Abidjan, Côte d'Ivoire, shows that prevalence of HIV infection among the women fell from 89% to 32% in 1991–1998. Partly explaining this positive development is the fact that the 20% share of sex workers who, in 1992, said they had

Figure 3

### Condom use among men with non-regular partners in selected sub-Saharan African countries: 1994-2000



Sources: Macro International (1994-2000) Demographic and Health Surveys; Measure Evaluation

used condoms in their most recent working day, swelled to 78% in 1998. Sustained prevention efforts, built around local initiatives, have been central to this shift.

### New concerns in conflict zones

A troubling rise in HIV prevalence has been detected in Angola. Although the country's civil war has hindered data collection, a significant increase in prevalence has been documented among pregnant women attending antenatal clinics in the capital, Luanda. In 2001, 8.6% of the women were HIV-positive, up from 1.2% in 1995. Given that the capital serves as a refuge for tens of thousands of people displaced by the war, this upward trend is a serious concern. (In Huila and Benguela Provinces, by contrast, the corresponding figures were 4.4% and 2.6% respectively). There is cause to fear a similar

trend in the Great Lakes region. While war and other hindrances make accurate surveillance data collection there difficult, the massive displacement of people, and disruption of social and governance systems are worsening the vulnerability of huge numbers of people. An upward trend such as that now evident in parts of Angola cannot be ruled out in, for example, Burundi, the Democratic Republic of Congo and Rwanda. Elsewhere, initiatives such as the Mano River Union (which involves Côte d'Ivoire, Guinea, Liberia and Sierra Leone) have been introduced to help deal with the movement of refugees in conflict zones, by trying to foster

economic development while strengthening peace efforts.

### Despite the stacked odds

In many parts of sub-Saharan Africa, as elsewhere in the world, gender inequality and economic deprivation help drive the epidemic. At the same time, efforts to reverse the epidemic are undermined by resource shortages, weakened terms of trade and low rates of economic growth, despite economies having been restructured over the past two decades.

Nevertheless, there are heartening signs that a growing number of governments are not allowing these handicaps to hold up their responses. Steady but slow progress is being made on the treatment-and-care front. In the southern African region, relatively prosperous Botswana has become the first country to adopt a policy that aims to ultimately make

antiretrovirals available to all citizens who need them, through its public health system.

The political commitment to turn the tide of AIDS appears stronger than ever. Gatherings, such as the 2000 African Development Forum meeting and the Organization of African Unity Summit on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases in April 2001, appear to be cementing that resolve. At the latter meeting, Heads of State agreed to devote at least 15% of their countries' annual budgets to improving their health sectors (see 'Meeting the need' chapter). Several regional initiatives to roll back the epidemic are under way. Some, such as those grouping countries in the Great Lakes region, the Lake Chad Basin, and West Africa, are concentrating their efforts on reducing the vulnerability of refugees and other mobile populations.

Other initiatives are continent-wide, such as the International Partnership against AIDS in Africa. Harnessing the strengths of its members (governments, the United Nations, donors, and the private and community sectors) the Partnership in its first two years of existence has helped galvanize national

HIV/AIDS responses. Nineteen countries have set up national HIV/AIDS councils or commissions at senior levels of government, and local responses are growing in number and vigour. Thirty-four countries across the region have completed national strategic AIDS plans, and another seven plans were near completion in March 2002. These plans serve as the basis for the more detailed strategies of various ministries, provinces, districts, civil society and the business sector.

Notwithstanding the progress, too many countries still reflect the fact that the longer effective action is delayed, the harder it is to change the course of the epidemic. Underlined is the need for long-term planning to slow the epidemic and reduce its impact. Equally important are stepped-up efforts to protect the millions of seronegative people (especially the young) from infection. That means enabling the more-than-90% of Africans who are not HIV-positive to protect themselves against infection. The other massive challenge is that of ensuring that the estimated 9% of African adults (aged 15–49) who are HIV-positive get the treatment and care they need.

## Asia and the Pacific

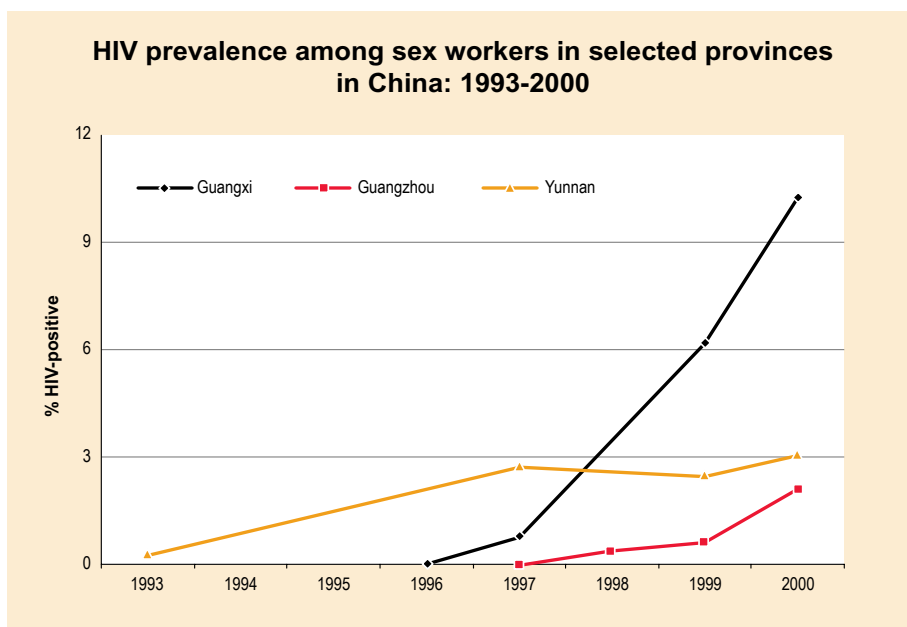
---

Despite well-documented and successful HIV-prevention programmes in a few countries, the HIV/AIDS epidemic continues to spread in Asia and the Pacific. In the past two years, the situation has changed rapidly in several parts of the region.

This region serves as a reminder that no country is immune to a serious HIV epidemic. Low national prevalence rates conceal serious, localized epidemics in several areas, including

China and India, where large numbers of people are infected and affected—proof that national HIV prevalence figures do not tell the full story of the epidemic. In fact, the region as a whole is home to more people living with HIV/AIDS than any other besides sub-Saharan Africa—an estimated 6.6 million people at the end of 2001, including the 1 million adults and children who were newly infected with HIV in that year. Less than

Figure 4



Source: National AIDS Programme, China (1993-2000). Data compiled by the US Census Bureau

30 000 people are on antiretroviral treatment in this region.

### Appearances can deceive

In China, home to a fifth of the world's people, HIV is moving into new groups of the population and raising the spectre of a much more widespread epidemic. Surveillance data on China's huge population are sketchy, but it is estimated that around 850 000 Chinese were living with HIV/AIDS in 2001, with reported HIV infections having risen more than 67% in the first six months of 2001.

Several HIV epidemics are being observed among certain population groups in different parts of this vast country. Serious localized HIV epidemics are occurring among injecting drug users in at least seven provinces, with prevalence rates higher than 70% among injecting drug users in areas such as Yili Prefecture in Xinjiang and Ruili County in Yunnan. Another nine provinces are possibly on the brink of similar HIV epidemics because of very high rates of needle-sharing. There

are also signs of heterosexually transmitted HIV epidemics in at least three provinces (see Figure 4).

Widespread attention has been devoted to the serious epidemics in Henan Province in central China, where many tens of thousands (and possibly more) of rural villagers have become infected since the early 1990s by selling their blood to collecting centres that did not follow basic blood-donation safety procedures. There are concerns that similar tragedies might have unfolded in other provinces, including Anhui and Shanxi. Overall, it has been estimated that 150 000 (and possibly many more) people may have been infected through these practices.

Several other factors highlight the need for swift action if a much more serious epidemic is to be prevented. Reported sexually transmitted infections increased significantly from 430 000 cases in 1997 to 860 000 cases in 2000. This suggests that unprotected sex with non-monogamous partners is on the rise in China. In addition, massive population mobil-

ity (an estimated 100 million Chinese are temporarily or permanently away from their registered addresses), and increasing socio-economic disparities add to the likelihood of wider HIV spread.

By expanding prevention and care efforts across the entire nation, China can avert millions of HIV infections and save millions of lives in the coming decade. The five-year AIDS action plan promulgated in mid-2001 has signalled a strong commitment to take up the challenge.

India, too, is experiencing serious, localized epidemics. At the end of 2001, India's national adult HIV prevalence rate was under 1%, yet this meant that an estimated 3.97 million Indians were living with HIV/AIDS—more than in any other country besides South Africa. The epidemic is spreading among the general population and beyond groups with high-risk behaviour. Indeed, median HIV prevalence among women attending antenatal clinics was higher than 2% in Andhra Pradesh and exceeded 1% in four other states (Karnataka, Maharashtra, Manipur and Tamil Nadu). India's epidemic is also strikingly diverse, both among and within states.

## In the shadows

The factors facilitating the rapid spread of HIV/AIDS epidemics are present throughout the region. This is reflected in the fact that many countries are experiencing high HIV infection rates among some population groups—mainly injecting drug users, sex workers and men who have sex with men. In Ho Chi Minh City in Viet Nam, for example, the percentage of sex workers with HIV has risen sharply since 1998, reaching more than 20% by 2000. Across the region, injecting drug

use offers the epidemic huge scope for growth. Upwards of 50% of injecting drug users already have acquired the virus in Myanmar, Nepal, Thailand and Manipur in India. Recent surveys show very high rates of needle-sharing among users in other countries, including Bangladesh and Viet Nam. It is vital that more effective HIV-prevention programmes among injecting drug users be introduced.

Male-to-male sex occurs in all countries of the region and features significantly in the epidemic, despite much official denial. Countries that have measured HIV prevalence among men who have sex with men have found it to be high—14% in Cambodia in 2000, for example, roughly the same level among Thai male sex workers, and up to 10% in several states in Malaysia (see 'Prevention' chapter).

Indonesia, the world's fourth-most populous country, shows just how suddenly a HIV/AIDS epidemic can emerge. After more than a decade of negligible HIV prevalence rates, the country is now seeing infection rates increase rapidly among injecting drug users and sex workers, in some places, along with an exponential rise in infection among blood donors (an indication of HIV spread in the population at large). Although injecting drug use is a relatively recent phenomenon in this country, HIV prevalence measured in one drug treatment centre in the capital, Jakarta, rose from 15.4% in 2000 to over 40% by mid-2001. The situation in Indonesia underlines the fact that, where risky behaviour exists, the epidemic may eventually spread, even if it takes some years for that spread to become apparent.

Among the Pacific Island countries and territories, Papua New Guinea has reported the highest HIV infection rates. Although prevalence

of HIV is still low in the wider population, recent studies in the capital, Port Moresby, have found high HIV prevalence levels among female sex workers (17%) and people attending sexually transmitted infection clinics (7% in 1999). Given the very low levels of condom use, and very high rates of sexually transmitted infections, the country could see HIV spreading beyond these groups.

The Philippines, meanwhile, has taken strong action against HIV/AIDS. To date, this has helped keep HIV prevalence low, but there are risks that an epidemic could grow, especially if efforts are not quickly expanded. High rates of other sexually transmitted infections among Filipino sex workers, their clients and men who have sex with men indicate low levels of condom use. Fewer than half of sex workers in the Philippines report using condoms with every client.

## The effort pays off

Thailand and Cambodia have shown that the 'natural' course of the epidemic can be changed. Early, large-scale prevention programmes, which include efforts directed at both those with higher-risk behaviour and the broader population, can keep infection rates lower in specific groups and reduce the risk of extensive HIV spread in the wider population.

In the past two years, Cambodia has demonstrated that consistent political commitment at all levels can bring the epidemic under control. HIV prevalence among pregnant women in major urban areas declined from 3.2% in 1996 to 2.7% at the end of 2000, thanks to a multifaceted response that includes a 100%-condom-use programme, and steps to counter stigma and reduce people's vulner-

### Working against the clock

HIV infection levels in Bangladesh are still low, even among population groups that are at high risk of infection. But the risk factors are so widespread that, once the virus is introduced, it will probably spread very rapidly. Only 0.2% of brothel-based sex workers in central Bangladesh, for example, said they used condoms consistently during paid sex, while condom use is also very low among men who have sex with men. Fully 93% of men who sell sex to other men in central Bangladesh said they seldom or never used condoms; among men buying sex, 95% gave the same answer. Meanwhile, needle-sharing is a common practice among injecting drug users, with a 2001 survey showing that over 60% of users in northern Bangladesh and 93% in central Bangladesh shared equipment.

Alert to these dangers, Bangladesh has mounted an early response that is driven by strong commitment. The country's President is the Chief Patron of the National Programme on AIDS and STI, and a special ministerial committee is helping coordinate AIDS work inside the government. Nongovernmental organizations are running innovative projects with groups of people at highest risk, including migrant workers and young people. A countrywide network of such organizations working on AIDS participates in the country's National AIDS Committee and takes part in policy formulation. And, as one of the largest providers of United Nations peacekeeping forces, Bangladesh has also developed a successful programme to prevent HIV infection among its peacekeeping personnel.

ability. In 2001, the country took another step forward by enacting a new and inclusive national AIDS strategic plan based on analysis undertaken by the Cambodian authorities. HIV/AIDS has now been mainstreamed into the strategic plans of several ministries, including the Ministry of National Defence. This allows Cambodia to expand successful projects nationally, and to tackle outstanding issues such as blood safety, which remains a major concern.

Thailand, though, is also a reminder that success can be relative. Its well-funded, politically-

supported and comprehensive prevention programmes have saved millions of lives, reducing the number of new HIV infections from 143 000 in 1991 to 29 000 in 2001. None the less, one-in-100 Thais in this country of 63.6 million people are infected with HIV, and AIDS has become the leading cause of death. There is concern that, unless prevention efforts are adapted to changes in the epidemic, it could break out of its current pattern and spread further. At particular risk are the spouses of sex workers' clients, young people, injecting drug users, men who have sex with men, and mobile populations.

## Eastern Europe and Central Asia

---

HIV/AIDS is spreading rapidly through countries of this region, which continues to experience the fastest-growing epidemic in the world. In 2001, there were an estimated 250 000 new infections, bringing to 1 million the number of people living with HIV/AIDS. Less than 1000 people are estimated to be receiving antiretroviral treatment.

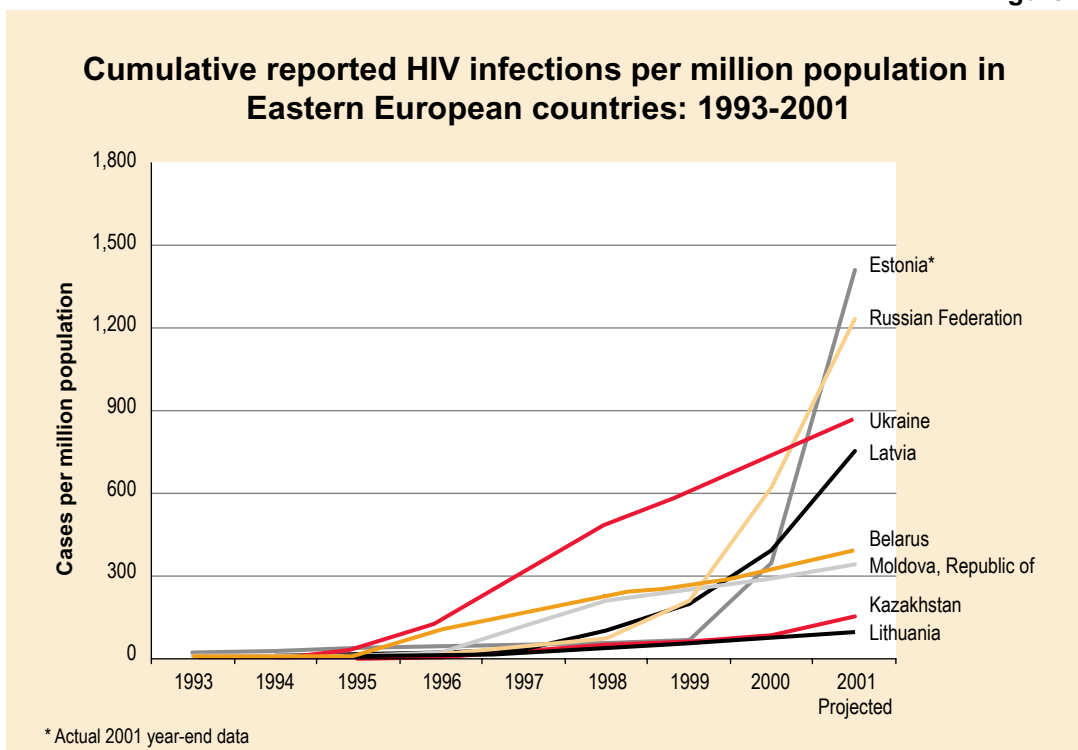
The Russian Federation remains at the forefront of the epidemic in this region, but many others countries are now experiencing rapidly emerging epidemics, as shown in Figure 5. Except for isolated epidemics in the early 1990s (related to injecting drug use in Poland, and to nosocomial infections among thousands of children in Romania), no country of the region was reporting many HIV infections in 1994. This began to change with the first widespread outbreak of HIV in Ukraine and Belarus in 1995. The epidemic then started to take off in other countries of the region—Moldova in 1996 and the Russian Federation in 1998, followed by Latvia and then Kazakhstan.

In the Russian Federation, the startling increase in HIV infections of recent years is continuing, with new reported diagnoses almost doubling annually since 1998.

Almost 83 000 new HIV-positive diagnoses were reported in 2001, raising the total number of HIV infections reported since the epidemic began to more than 173 000 in 2001—up from the 10 993 reported at the end of 1998. The estimated number of people now living with HIV/AIDS in the Russian Federation is thought to be around four times higher than these reported figures.

Reported HIV incidence is rising sharply in other countries, too. In Estonia, reported infections have soared from 12 in 1999 to 1474 in 2001. The same pattern appears in Latvia, where new reported infections rose from 25 in 1997 to 807 in 2001. The epidemic is growing in Kazakhstan, where 1175 HIV infections were reported in 2001. Swift spread of HIV is now also evident in Azerbaijan, Georgia, Kyrgyzstan, Tajikistan and Uzbekistan.

Figure 5



Source: National AIDS Programmes (2001) *HIV/AIDS surveillance in Europe. Mid-year report*. Data compiled by the European Centre for the Epidemiological Monitoring of AIDS

Ukraine, with an estimated adult HIV prevalence rate of 1%, remains the most affected country in the region and, indeed, in all of Europe. An estimated 250 000 people were living with HIV in this country of nearly 50 million. While three-quarters of cumulative HIV infections in Ukraine are related to injecting drug use, the proportion of sexually transmitted HIV infections is increasing. Although their absolute numbers remain small, more people (mostly women) appear to be contracting HIV through sexual transmission and more pregnant women are testing positive for HIV, suggesting a shift of the epidemic into the wider population.

In the psychological and socioeconomic aftermath of the recent conflicts in the Balkans,

young people have become more vulnerable to HIV. Currently, there is little evidence that the HIV/AIDS epidemic has become well established there, but limited surveillance data means that the actual levels or trends in the epidemic are not clear. A recent, extensive rapid assessment study by WHO and UNICEF found high levels of drug injection in some places, along with frequent sharing of injecting equipment. Among men who have sex with men, and sex workers, reported condom use is low. The study also found strong overlap between these groups at higher risk. For example, in Serbia, 20% of sex workers and 18% of men who have sex with men were found to inject drugs.

## Fertile settings

Several factors are creating a fertile setting for the epidemic. The opening of borders has drawn several countries in the region into the globalized circuits of drug trafficking. Mass unemployment and economic insecurity beset much of the region. The rigid social control of the past has eroded, and new common norms and values are yet to become firmly grounded. Public health and other services are steadily deteriorating in some countries. Unprecedented numbers of young people do not complete their secondary schooling. Belarus, Bulgaria, Latvia, Lithuania, the Republic of Moldova, Romania, the Russian Federation and Ukraine all experienced setbacks in the human development index over the past two decades. (The index measures countries' average achievements in life expectancy, educational attainment and real gross domestic product per capita.)

In the Commonwealth of Independent States, the vast majority of reported HIV infections are among young people—chiefly among those who inject drugs. It is estimated that up to 1% of the population of those countries is injecting drugs, placing these people and their sexual partners at high risk of infection. Sentinel surveillance in St Petersburg in 2000, for example, revealed an increase in HIV prevalence from 12% to 19.3% among injecting drug users in one year. In the Belarus city of Svetlogorsk, sentinel surveillance found an astounding 62% HIV prevalence rate among injecting drug users in 2000.

There is evidence that young people in several countries are becoming sexually active at an earlier age and that premarital sex is increasing. A steady rise in premarital sex is being observed among Romanian adolescent girls

(aged 15–19), for example. The percentage of reported premarital sexual relations in 1993 (9%) had more than doubled to 22% in 1999, while a 2000 report in Ukraine found that about 51% of women aged 15–24 had had a premarital sexual relationship.

In some Central Asian republics, as of 2001, awareness of HIV/AIDS was still dismal among vulnerable groups, such as adolescent (15–19-year-old) girls—a mere 10% of whom in Tajikistan had ever heard of HIV/AIDS. In 2001, in Azerbaijan and Uzbekistan, fewer than 60% were aware of the disease. The proportion of young girls harbouring at least one major misconception about HIV/AIDS ranged from 94% to 98% in those countries. In Ukraine, which has the highest HIV prevalence rate in Europe, only 9% of adolescent girls were aware of HIV prevention methods.

Although improving in some countries, levels of condom use remain low. In the 2000 Ukraine report referred to earlier, only 28% of the young women had used a condom when they first had sex. Meanwhile, very high rates of sexually transmitted infections continue to be found in Eastern Europe and Central Asia, compounding the odds of HIV being transmitted through unprotected sex. In 2000, the number of newly reported cases of syphilis in the Russian Federation stood at 157 per 100 000 persons, compared to 4.2 per 100 000 persons in 1987. Similar general trends are visible in the other countries of the Commonwealth of Independent States, in the Baltic States and in Romania.

HIV risk is also high among men who have sex with men, among whom multiple partners and unprotected sex are widespread. While laws penalizing homosexual activities with imprisonment have been struck off the stat-

ute books in most countries of the former Soviet Union, this group remains highly stigmatized socially. Recently, gay groups have started HIV prevention activities for men who have sex with men in Belarus, Ukraine and several Central Asian republics. Overall, though, coverage remains minimal.

### Some cause for optimism

Central Europe offers cause for moderate optimism. By mounting a strong national response, the Polish Government has successfully curtailed the epidemic among injecting drug users and prevented it from gaining a foothold in the wider population. Prevalence remains low in countries such as the Czech Republic, Hungary and Slovenia, where well-designed national HIV/AIDS programmes are in operation.

There are other signs of growing political commitment in the region. Members of the Commonwealth of Independent States were the first to organize a regional follow-up to the 2001 United Nations General Assembly Special Session on HIV/AIDS, and recently endorsed a regional Programme of Work on HIV/AIDS. In countries such as Bulgaria, Romania, the Russian Federation and Ukraine, the budgets of national AIDS programmes have increased considerably. Stronger partner-

ships are also being forged between governments, the private sector and nongovernmental organizations, with Ukraine setting a strong example on this front.

Despite the economic hardships and public spending cuts that are weakening many countries' health systems and general infrastructure, the capacity of the region remains generally good. This is particularly true for human resources. People are generally well educated, and the illiteracy rate remains low. Many countries have managed to adopt best practices, and considerable efforts are being made in training and capacity-building in prevention and care. For many, too, national strategic plans on HIV/AIDS, which identify young people and vulnerable groups as priorities, have been developed. More than 150 HIV/AIDS prevention projects among injecting drug users now operate across the region, along with projects focusing on other vulnerable populations such as prison inmates, sex workers and men who have sex with men.

Building on these achievements, the current challenge is to expand coverage, develop and implement more comprehensive approaches to reduce vulnerability among young people, and create better access to care for those who are becoming ill.

## Latin America and the Caribbean

---

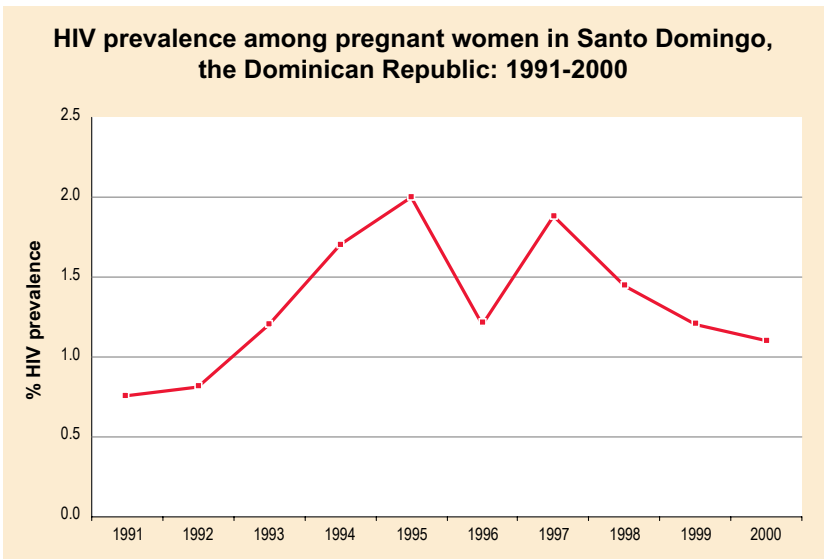
The epidemic in Latin America and the Caribbean is well established and is in danger of spreading both more quickly and more widely in the absence of effective responses. An estimated 1.9 million adults and children are living with HIV—a figure that includes

the estimated 200 000 people who acquired the virus in 2001. Some 1.5 million people are living with HIV/AIDS in Latin America and 420 000 in the Caribbean. At the end of 2001, an estimated 170 000 people living with HIV/AIDS were receiving antiretroviral treatment.

Twelve countries in this region (including the Dominican Republic and Haiti, several Central American countries, such as Belize and Honduras, and Guyana and Suriname) have an estimated HIV prevalence of 1% or more among pregnant women. In these areas, the epidemic is firmly rooted in the wider population and is driven mainly by heterosexual intercourse.

In several of the countries forming the Caribbean Basin, adult HIV prevalence rates are surpassed only by the rates experienced in sub-Saharan Africa, making this the second-most affected region in the world. HIV/AIDS is now a leading cause of death in some of these countries. Worst affected are Haiti (with a national adult HIV prevalence of over 6%) and the Bahamas (where prevalence is close to 4%). Surveillance data released in 2000 indicate a relatively stable HIV prevalence rate of around 2% among the adult population of the Dominican Republic, after the increases seen in the 1990s.

Figure 6



Source: National AIDS Programme, the Dominican Republic, 1991-2000

## Driving factors

Among the factors helping drive the spread of HIV is the combination of unequal socio-economic development and high population mobility, as Central America shows. There, the epidemic is worsening and is concentrated chiefly among socially marginalized populations. Population mobility (spurred by high rates of unemployment and poverty) is emerging as a significant factor in the epidemic's growth, with new research highlighting the need for interventions at border crossings and transit stations to help protect migrant and sex workers against possible infection. Central America's geographic position also makes it an important transit zone for people moving between the rest of the region and North American countries. Protecting vulnerable populations on the move, including adolescent girls and young women, is now the focus of a regional initiative.

In Mexico, adult HIV prevalence in the wider population is still well under 1%, but much higher prevalence rates are being detected among specific population groups in some parts of the country—up to 6% among injecting drug users and 15% among men who have sex with men. There, as in some South American and Caribbean countries, the epidemic has been spreading mainly through these modes of transmission. There is significant overlap between these two groups, especially in Brazil and the southern cone countries, where injecting drug use is a growing social phenomenon.

## Encouraging progress

In Brazil, where prevention programmes among injecting drug users feature strongly in the country's response, a substantial decline in HIV prevalence among injecting drug users has been observed in several large metropolitan areas. In addition, a national survey has shown condom use among injecting drug users rising (from 42% in 1999 to 65% in 2000)—a sign that sustained education and prevention efforts are bearing fruit. In 2001, Argentina authorized its Ministry of Health to introduce a national policy on harm minimization, and is also collaborating with Chile, Paraguay and Uruguay to set up similar schemes for injecting drugs users.

Countries' commitment to stem the epidemic and limit its impact is perhaps most evident in the efforts to distribute antiretroviral drugs to HIV/AIDS patients. As detailed in the 'Treatment, care and support' chapter, this region has made significant advances in access to treatment and care. By reducing HIV/AIDS-related morbidity, Brazil's treatment-and-

care programme is estimated to have avoided 234 000 hospitalizations in 1996–2000.

Strengthened political resolve is apparent in several regional initiatives. Launched in February 2001, the Pan-Caribbean Partnership against HIV/AIDS, for instance, links the resources of governments and the international community with those of civil society to boost national and regional responses. It is being coordinated by the Caribbean Community Secretariat (CARICOM). National AIDS programmes have also joined a collaborative scheme to share technical assistance throughout Latin America and the Caribbean. Known as the Horizontal Technical Cooperation Group, it brings together more than 20 countries of the region. And, on the basis of the Nassau Declaration issued in July 2001, as follow-up to the UN General Assembly Special Session on HIV/AIDS, Caribbean Heads of Government are also devising ways to support each other's national HIV/AIDS programmes and jointly negotiate affordable prices for antiretroviral drugs.

## The Middle East and North Africa

---

In the countries of the Middle East and North Africa, the visible trend is also towards increasing HIV infection rates, though still at very low levels in most countries. Existing surveillance systems in many countries of the region have been strengthened, and it is currently estimated that 80 000 people acquired the virus in 2001, bringing to 500 000 the number of people living with HIV/AIDS.

Despite the comparatively late arrival of the epidemic in this region, significant increases

in HIV infections are occurring in several places, particularly among some population groups. While there is recognition of the need for more effective, sustained and far-reaching prevention efforts in the region, existing capacities are still limited, and the HIV/AIDS response is still concentrated in the health sector only. Yet, only a very small number of people living with HIV/AIDS (less than 2000) benefit from antiretroviral therapy.

Unfortunately, factors driving the epidemic in most countries in the region are still too seldom analysed systematically. As a result, HIV/AIDS responses rarely rest on a clear understanding of infection patterns or the behaviour and needs of particular high-risk groups. Based on current knowledge, however, it appears that sexual intercourse remains the dominant route of transmission, although significant outbreaks of HIV infection are occurring among injecting drug users. Moreover, conditions that favour more rapid and extensive HIV spread (such as high levels of population mobility, socioeconomic disparities and complex emergencies) exist in several countries in this region.

Already, Djibouti and the Sudan have large, widespread epidemics that are driven by combinations of socioeconomic disparities, large-scale population mobility and political instability, and other countries may also be moving towards a more generalized spread.

A surveillance study in Algeria has detected HIV prevalence rates of 1% among pregnant women in the south of the country. These findings raise concern that, amid the social disruption caused by civil strife, a generalized HIV epidemic could emerge rapidly. Strong political commitment to avert such an outcome was evident in 2001, with several ministries now actively taking up the AIDS challenge.

In neighbouring Morocco, national HIV prevalence was well below 1% in 2001. However, the National AIDS Control Programme noted in 2001 the relatively high prevalence of other sexually transmitted infections—an indication that risky behaviour (such as having multiple sexual partners, and buying and selling sex) might be more widespread than commonly thought.

## Dangerous new highs

Except for the Sudan and the Republic of Yemen, all countries in the region have reported HIV transmission through injecting drug use. Unless addressed promptly through harm minimization and other prevention approaches, the epidemic among injecting drug users could grow dramatically and spread into the wider population.

Outbreaks of HIV are occurring elsewhere in North Africa, including in the Libyan Arab Jamahiriya, where all but a fraction of the 570 new HIV infections reported in 2000 were among injecting drug users. Among prisoners in the Islamic Republic of Iran, rates of HIV infection rose from 1.37% in 1999 to 2.28% in 2000. By 2001, 10 Iranian prisons had reported HIV infection among injecting drug users. HIV prevalence among imprisoned drug injectors was 12% in 2001, with one site reporting prevalence as high as 63%. These figures might reflect the fact that injecting drug users are more likely to be arrested and imprisoned, but they almost certainly also indicate that some transmission of HIV is occurring behind prison walls.

There are also signs that the double disease burden of HIV and tuberculosis is growing in some countries. Rates of HIV infection among tuberculosis patients are rising and, by mid-2001, stood at 8% in the Sudan, 4.8% in Oman and 4.2% in the Islamic Republic of Iran.

At the same time, the political will to mount a more potent response to the epidemic is visible in several countries, some of which are introducing innovative approaches. Examples include the mobilization of nongovernmental organizations around prevention programmes

in Lebanon, and harm-minimization work among injecting drug users in the Islamic Republic of Iran. A potential breakthrough in the response occurred in late 2001, when UNAIDS and National AIDS Programme

managers from across the region met and, for the first time at regional level, agreed to focus on fresh efforts to protect young people, mobile populations, displaced persons and drug users against the epidemic.

## High-income countries

---

HIV/AIDS continues to threaten high-income countries, where approximately 75 000 people became infected with HIV in 2001. A total of 1.5 million people are now living with the virus in these countries, where two pronounced changes have become apparent in recent years. About 500 000 people are receiving antiretrovirals.

Higher rates of sexually transmitted infections are signalling a rise in unsafe sex and highlighting the need for renewed prevention efforts, especially among young people. In addition, heterosexual transmission of HIV now accounts for a bigger share of new infections, with young, disadvantaged people appearing to be at particular risk. The prospect of larger HIV/AIDS epidemics cannot be ruled out if widespread public complacency is not addressed, and if inappropriate or stalled prevention efforts are not adapted to reflect changes in the epidemic.

The HIV epidemic in Western Europe is the result of a multitude of epidemics that differ in terms of their timing, their scale and the populations they affect. In Spain, a significant share of HIV infections (24%) is occurring via heterosexual transmission. But injecting drug use is the main mode of transmission. Reported HIV prevalence among injecting drug users in 2000 was 20–30% nationwide (although two studies have shown decreasing

trends, from 44% in 1996 to 36% in 1999), while, in France, prevalence rates ranged between 10% and 23%. Portugal, meanwhile, faces a serious epidemic among injecting drug users. Of the 3680 new HIV infections reported there in 2000, more than half were caused by injecting drug use and just under a third occurred via heterosexual intercourse. At 37.3 per 100 000 persons, Portugal's rate of reported new infections is the highest among all reporting countries in Western Europe.

An increasing proportion of new HIV diagnoses are among those who have been infected heterosexually. In the United Kingdom, for example, nearly half of the 3400 new HIV infections diagnosed there in 2000 (an increase over previous years) resulted from heterosexual sex, compared to 21% of new infections a decade earlier. There, as in several other European countries, a large share of these HIV infections appears to have been acquired in countries where there is a generalized epidemic. An increase in unsafe sex in the United Kingdom may also be playing a role in the rise in HIV prevalence, as there has been an increase in reported cases of gonorrhoea among both heterosexual and homosexual males.

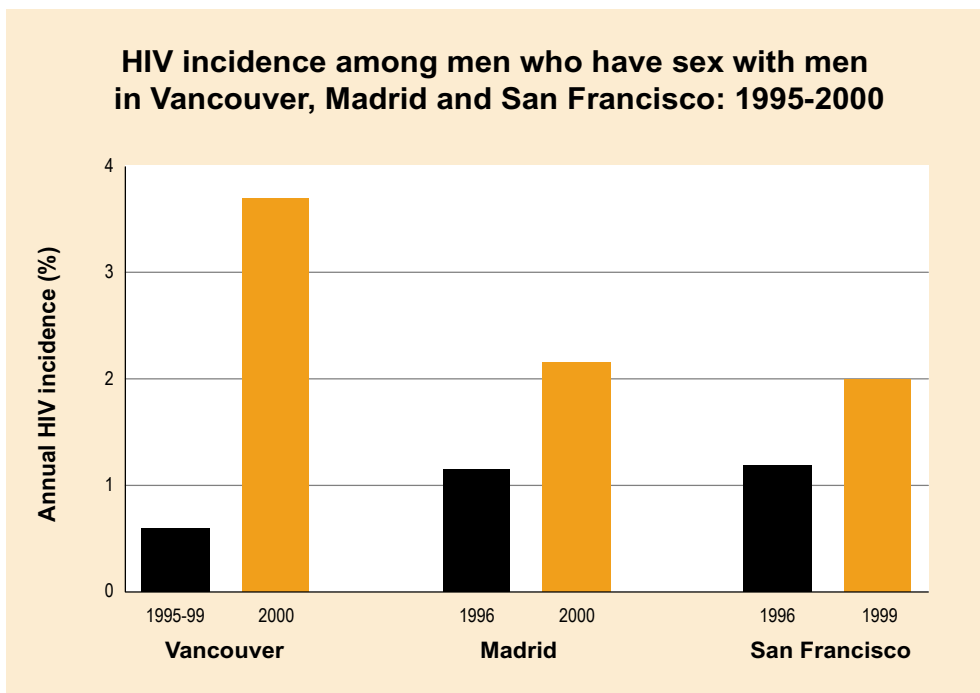
There is evidence that HIV is moving into poorer and more deprived communities in some high-income countries, with women

at particular risk of infection. Young adults belonging to ethnic minorities (including men who have sex with men) in the United States of America are considerably more likely to be infected than before. African-Americans, for instance, make up only 13% of the population of the United States, but accounted for an estimated 54% of new HIV infections in 2000. One six-city survey in the United States of America found that HIV prevalence levels reached 30% among 23–29-year-old African-American men who had sex with men. Some 70% of new infections occur among men, and the main mode of transmission remains that of sex between males. But young disadvantaged women (especially African-American and Hispanic women) are increasingly vulnerable to infection. About 82% of the women estimated to have become HIV-positive in 2000 were African-American and Hispanic. Overall, almost one-third of new HIV-positive

diagnoses were among women in 2000. In this latter group, an overlap of injecting drug use and heterosexual intercourse appears to be driving the epidemic. Indeed, injecting drug use has become a more prominent route of HIV infection, with an estimated 30% of new reported AIDS cases related to this mode of transmission. In Canada, too, women now account for 24% of new HIV infections, compared to 8.5% in 1995.

There are signs that the sexual behaviour of young people in Japan could be changing significantly and putting this group at greater risk of HIV infection. Higher rates of *Chlamydia* among females and gonorrhoea among males, as well as a doubling of the number of induced abortions among teenage women in the past five years, indicate increased rates of unprotected sexual intercourse. Sex between men remains an important transmission route in

Figure 7




Sources: (Vancouver) Hogg RS et al. (2001) *AIDS*. (Madrid) Del Romero J et al. (2001) *AIDS*. (San Francisco) Katz MH et al. (2002) *Am. J. of Public Health*

several countries, while recently becoming a more prominent mode of HIV transmission in others, such as Japan. There, the number of HIV infections detected in men who have sex with men has risen sharply in recent years. Male-male sex now accounts for more than twice as many HIV infections in men as heterosexual sex; two years ago, the number of new infections reported in both groups was roughly equal.

In Australia, Canada, the United States of America and countries of Western Europe, an apparent increase in unsafe sex is triggering higher rates of sexually transmitted infections and, in some cases, higher HIV incidence among men who have sex with men. The rise in new HIV infections among men who have sex with men is striking, as Figure 7 shows. Rising incidence of other sexually transmitted infections among men who have sex with men (in Amsterdam, Sydney, London and southern California, for instance) confirms that more widespread risk-taking is eclipsing the safer-sex

ethic promoted so effectively for much of the 1980s and 1990s. A syphilis outbreak in Los Angeles among men who have sex with men, reported in 2001, confirmed warnings that safe sex was on the decline in that city. In a 2000 French study, 38% of surveyed HIV-positive men who have sex with men said they had recently practised unsafe sex, compared to 26% in 1997.

The reasons for this are debatable. Part of the explanation could lie in the perceived life-saving effects of antiretroviral therapy, introduced in high-income countries in 1996. Deaths attributed to HIV in the United States of America, for instance, fell by a remarkable 42% in 1996–97. Since then, the decline has levelled off, with an estimated 15 000 people dying of AIDS in 2001. On the other hand, surveys show that only a minority of gay men who report increased risk-taking associate their actions with less concern about becoming infected, or optimism about HIV/AIDS treatment. 

### **A link between treatment availability and unsafe sex?**

A debate has emerged over the possibility that the wide availability of highly active antiretroviral therapy (HAART) in high-income countries might be encouraging unsafe sex, by causing some people to view HIV infection as a less devastating prospect. However, no studies have found a causal relationship between this so-called ‘treatment optimism’ and unprotected sex. One review in 2001 found that, in a range of surveys done since 1996, only a minority of respondents (10–20%) reported that new treatment options had reduced their concern about HIV infection. None the less, a significant minority of gay men surveyed (30% in a 1998 London study, 16% in a 2000 French study, and 13% in a 1997 United States study) reported viewing HIV/AIDS in a less serious light since the introduction of HAART.

While the availability of HAART might be a contributing factor, other explanations seem to weigh as strongly. In settings where antiretroviral therapy is widely available, the intensity and visibility of prevention efforts directed at men who have sex with men have waned in recent years, along with the prevention and treatment of other sexually transmitted infections. It is possible, too, that prevention campaigns have grown too generic to strike the appropriate chords throughout communities that are as socially stratified as the rest of society.

