

SUB-SAHARAN AFRICA

HIV and AIDS statistics and features, in 2003 and 2005

	Adults and children living with HIV	Number of women living with HIV	Adults and children newly infected with HIV	Adult prevalence (%)*	Adult and child deaths due to AIDS
2005	25.8 million [23.8–28.9 million]	13.5 million [12.5–15.1 million]	3.2 million [2.8–3.9 million]	7.2 [6.6–8.0]	2.4 million [2.1–2.7 million]
2003	24.9 million [23.0–27.9 million]	13.1 million [12.1–14.6 million]	3.0 million [2.7–3.7 million]	7.3 [6.7–8.1]	2.1 million [1.9–2.4 million]

Sub-Saharan Africa has just over 10% of the world's population, but is home to more than 60% of all people living with HIV—25.8 million [23.8 million–28.9 million]. In 2005, an estimated 3.2 million [2.8 million–3.9 million] people in the region became newly infected, while 2.4 million [2.1 million–2.7 million] adults and children died of AIDS. Among young people aged 15–24 years, an estimated 4.6% [4.2–5.5%] of women and 1.7% [1.3–2.2%] of men were living with HIV in 2005.

Declines in adult national HIV prevalence appear to be underway in three sub-Saharan African countries: **Kenya**, **Uganda** and **Zimbabwe**.¹ With the exception of Zimbabwe, countries of southern Africa show little evidence of declining epidemics. HIV prevalence levels remain exceptionally high (except for Angola), and might not yet have reached their peak in several countries—as the expanding epidemics in **Mozambique** and **Swaziland** suggest. West and Central Africa (where estimated national

HIV prevalence is considerably lower than in the south and east of the region) also show no signs of changing HIV infection levels, except for urban parts of **Burkina Faso** (where prevalence appears to be declining).

Just as it is inaccurate to speak of a single 'African' AIDS epidemic, national-level HIV prevalence data can sometimes prompt incomplete pictures of the actual state of affairs. In most countries, HIV prevalence observed among pregnant women attending antenatal clinics, for example, differ by wide margins, depending on the location. Such localized variance also highlights the adaptability of the epidemics, and their sensitivity to contextual factors—which prevention, treatment, care and impact-alleviating strategies need to reflect if they are to prove more effective. Prominent among those factors is the social and socioeconomic status of women, who remain disproportionately affected by HIV in this region and, at the same time, poorly informed about the epidemics (see box following).

¹ It is important to bear in mind that HIV prevalence presents a delayed picture of the epidemics, since they reflect HIV incidence patterns of several years previously. (HIV prevalence describes the total number of people living with HIV, irrespective of when they have been infected; incidence, on the other hand, refers to the rate at which new infections are occurring.) When epidemics have grown as intense and mature as they have in much of East and southern Africa, HIV prevalence data can yield ambiguous and confusing pictures of the epidemics. In such instances, stabilization of HIV prevalence does not necessarily mean the epidemic is slowing: it could signal a grievous equilibrium, where roughly equal numbers of people are being newly infected with HIV and are dying of AIDS.

Still too little knowledge

In much of sub-Saharan Africa, knowledge about HIV transmission routes is still low. Generally, women are less well-informed about HIV than are men; this is also true of rural areas compared with those living in cities and towns. This is the case even in the ten countries where more than one out of ten adults is infected.² In 24 sub-Saharan countries (including Cameroon, Côte d'Ivoire, Kenya, Nigeria, Senegal and Uganda), two thirds or more of young women (aged 15–24 years) lacked comprehensive knowledge of HIV transmission (various surveys, 2000–2004). Data from 35 of the 48 countries in sub-Saharan Africa show that, on average, young men were 20% more likely to have correct knowledge of HIV than young women. Education levels make a huge difference, too (UNICEF, 2004). For example, young women in Rwanda with secondary or higher education were five times as likely to know the main HIV transmission routes than were young women who with no formal education (Ministère de la santé Rwanda, 2001).

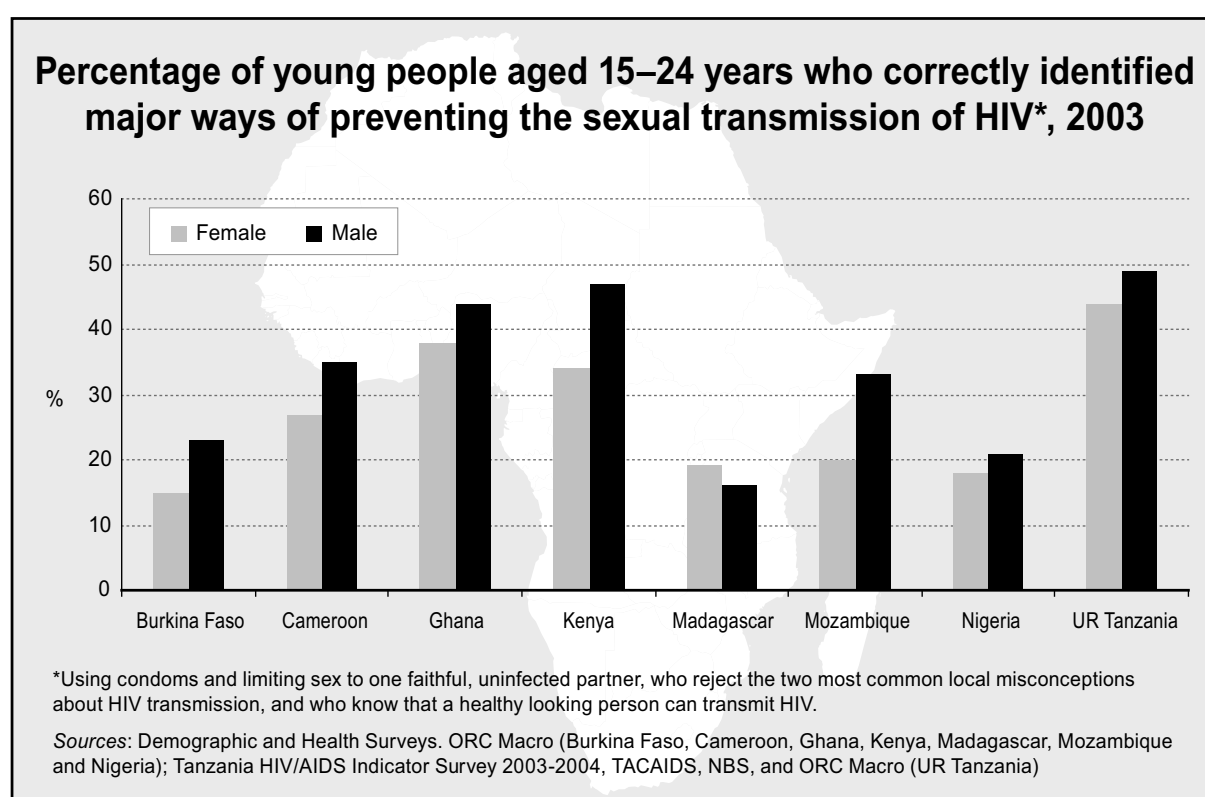


Figure 4

Methodological issues

There is no practical way to determine *exactly* how many people in any given country are being infected with a virus such as HIV. Scientists gather pertinent data, refine various assumptions about the routes and pace of HIV transmission, and calibrate mathematical models that can approximate how many people are acquiring HIV and dying as a result of AIDS, for example (Ward et al., 2004). In mainly heterosexual AIDS epidemics, such as those in sub-Saharan Africa, the most commonly-used data for such calculations are gathered at a sample of antenatal clinics, where blood samples of pregnant women are anonymously tested for HIV. By definition, though, the data only reflect HIV prevalence among women who have had unprotected sex. Because of this, they are prone to overestimating HIV prevalence among young women (15–24 years old), significant proportions of whom are not yet sexually active. The data also do not provide *direct* evidence of prevalence among

² Botswana, Central African Republic, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, United Republic of Tanzania.

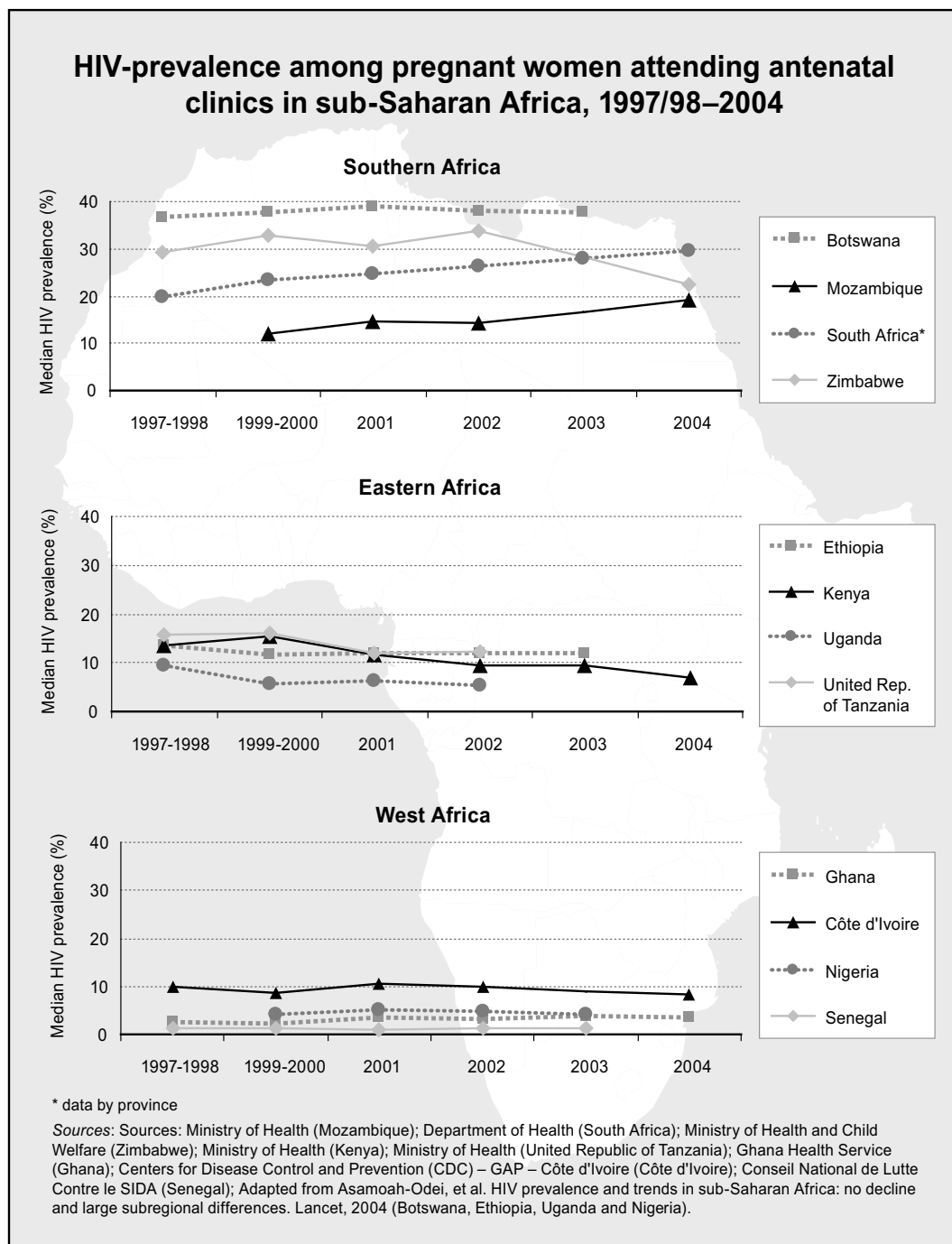


Figure 5

men, among women younger and older than child-bearing ages, nor among women who are not having unprotected sex. Often the sampled clinics are predominantly urban or peri-urban. These factors can lead to an overestimation of HIV infections. On the other hand, because HIV reduces fertility, data gathered by testing pregnant women might not reflect large numbers of women who are infected with the virus and are not able to become pregnant. Once adjusted accordingly with other relevant information and evidence-based assumptions, the data offer a basis for reasonably accurate estimations, which are presented within 'plausibility bounds' or 'ranges of uncertainty'.

Household surveys that include testing for HIV provide countrywide data on HIV prevalence for both sexes and for various age groups, and include samples from remote rural areas. They, too, are sometimes prone to inaccuracy. If a significant share of respondents refuse to be tested, or answer



only certain questions or are absent at the time of the survey, a potential bias is introduced into the survey data. This has been a recurrent issue in most of the household surveys carried out in African countries in recent years, where non-response rates of 8–42% have been reported. The estimates can be adjusted if the salient characteristics of non-responders are known. The surveys, however, usually do not reveal the possible association between a person's absence or refusal to participate, and that person's HIV status. It might be that a person's refusal to participate or his/her absence from the household is correlated with a stronger likelihood of HIV infection. There is a likelihood, therefore, that high non-response rates in household-based surveys could lead to underestimation of HIV prevalence.

Each of these methods has its strengths and weaknesses. Generally, estimates based on antenatal clinic data are a useful gauge of HIV infections trends among 15–49 year-olds. National household surveys, on the other hand, can reveal important information about the national prevalence level and about the spread of HIV, particularly among young people, men and residents in rural areas. Considered together, the various data can yield more accurate estimates of HIV infection levels and rates (and of other estimates, such as AIDS-related deaths). However, HIV and AIDS estimates (whether derived from household surveys or sentinel surveillance data) need to be assessed carefully, and the data and assumptions reviewed continually. The regional estimates presented in this chapter have incorporated both sources of information.

SOUTHERN AFRICA

Southern Africa remains the epicentre of the global AIDS epidemic. However, for the first time there are signs that one of the epidemics here could be ebbing.

New evidence shows a declining trend in national adult HIV prevalence in **Zimbabwe**. Recent data from the national surveillance system show a decline in HIV prevalence among pregnant women from 26% in 2002 to 21% in 2004. Other data indicate that the decline had already started

women (15–24 years)—which fell from 29% to 20% in 2000–2004—suggests that the rate of new HIV infections (incidence) could be slowing, too. Comparison of estimates of HIV incidence from studies among postnatal women and male factory workers in Harare, and low contemporary estimates for HIV incidence in rural Manicaland, all seem to confirm this trend (Hargrove et al., 2005; Mugurungi et al., 2005).

Changes in sexual behaviour appear to have contributed to the declines in HIV prevalence.

Changes in sexual behaviour appear to have contributed to the declines in HIV prevalence.

in 2000 (Ministry for Health and Child Welfare Zimbabwe, 2004 and 2005, forthcoming). Findings from local studies reinforce the national evidence. In Harare, HIV prevalence in women attending antenatal or postnatal clinics fell from 35% in 1999 to 21% in 2004. In rural eastern Zimbabwe, declines in HIV prevalence in pregnant women were also reflected in declines among both men and women in the general population (Mundandi et al., 2004). A significant decline in HIV prevalence among pregnant young

Condom use within casual partnerships has reached high levels (86% among men, and 83% among women) and data from recent national and local surveys indicate that there could have been a reduction in the reported number of sexual partners in recent years (Mahomva, 2004). Mortality rates are levelling off in some parts of the country, which further supports the view that declines in HIV incidence accelerated by changes in sexual behaviour are driving the apparent decline in prevalence.

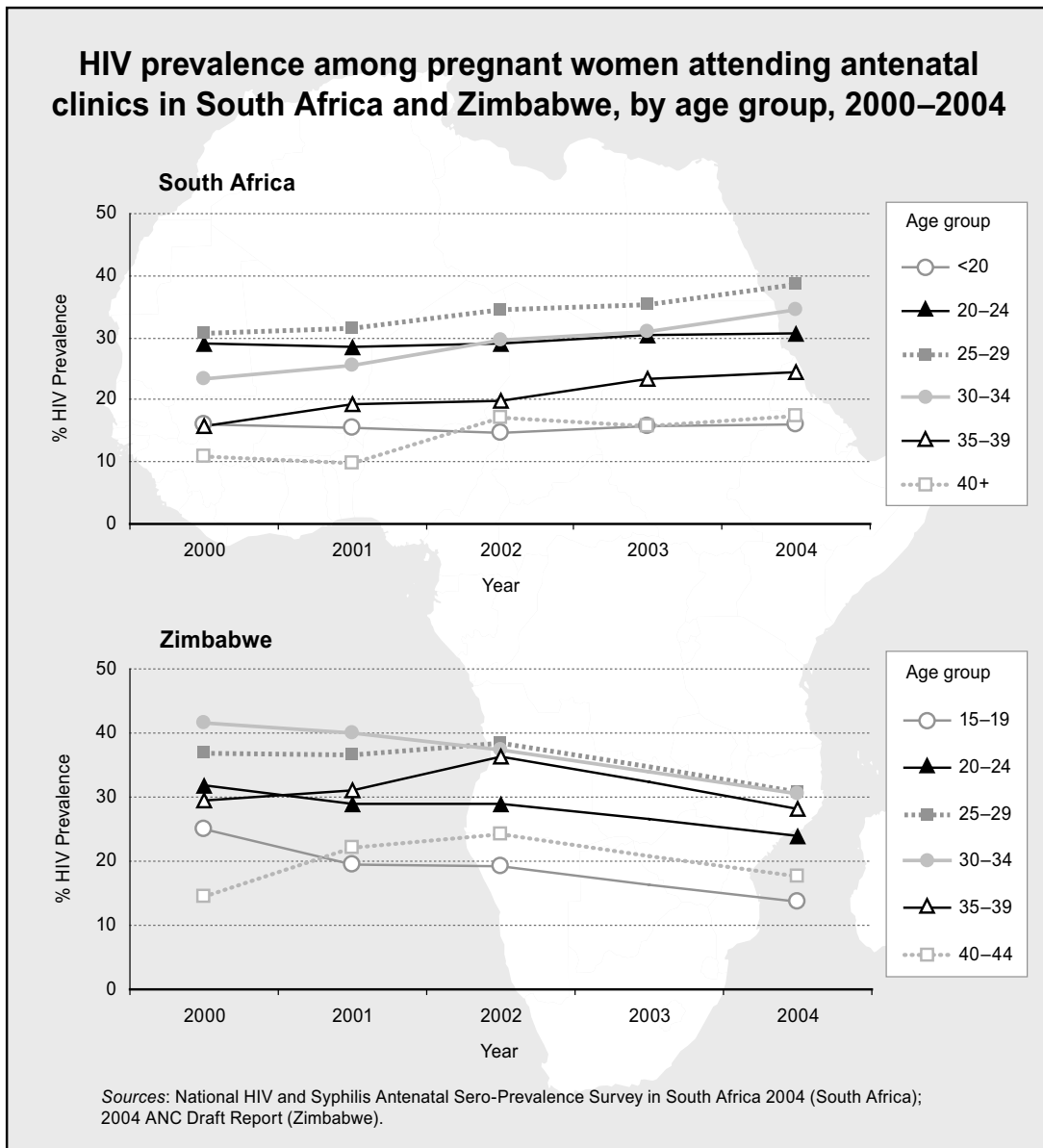


Figure 6

With over one in five pregnant women still testing HIV-positive, infection levels nevertheless remain among the highest in the world, underscoring the need to bolster prevention activities. Of special concern is the possibility that factors such as population mobility, spousal separations and livelihood insecurity following the forced displacement of several hundred thousand Zimbabweans in 2005 could reverse these recent trends (Human Rights Watch, 2005).

Unfortunately, there is no evidence yet of a national decline in other epidemics in southern Africa. New data from **South Africa** show HIV prevalence among pregnant women has reached its highest levels to date: 29.5% [range 28.5–30.5%] of women attending antenatal clinics

were HIV-positive in 2004 (Department of Health South Africa, 2005). Prevalence was highest among women aged 25–34 years—more than one in three of whom was estimated to be living with HIV. Among women aged 20–24 years, almost one in three was infected. In the country’s worst-affected province, KwaZulu-Natal, prevalence has reached 40%, while it has remained exceptionally high at between 27% and 31% in the Eastern Cape, Free State, Gauteng, Mpumalanga and North West provinces.

These latest data underline an outstanding feature of South Africa’s epidemic: the astonishing speed at which it has evolved. National adult HIV prevalence of less than 1% in 1990 rocketed to almost 25% within 10 years. Among pregnant women in their

late teens (15–19 years), HIV infection levels have remained at 15–16% since 2000, while among their 20–24 year-old counterparts those levels have stayed between 28% and 31% in 2000–2004 (Department of Health, 2005).

Having lagged behind most other epidemics in the subregion, AIDS in South Africa is now taking

no clear patterns of a decline in prevalence are evident. Swaziland's epidemic continues unabated. HIV prevalence among pregnant women soared to 43% in 2004, up from 34% four years earlier. In 1992, prevalence had stood at 4% (Ministry of Health and Social Welfare Swaziland, 2005). In Swaziland there is little regional variation in HIV prevalence measured

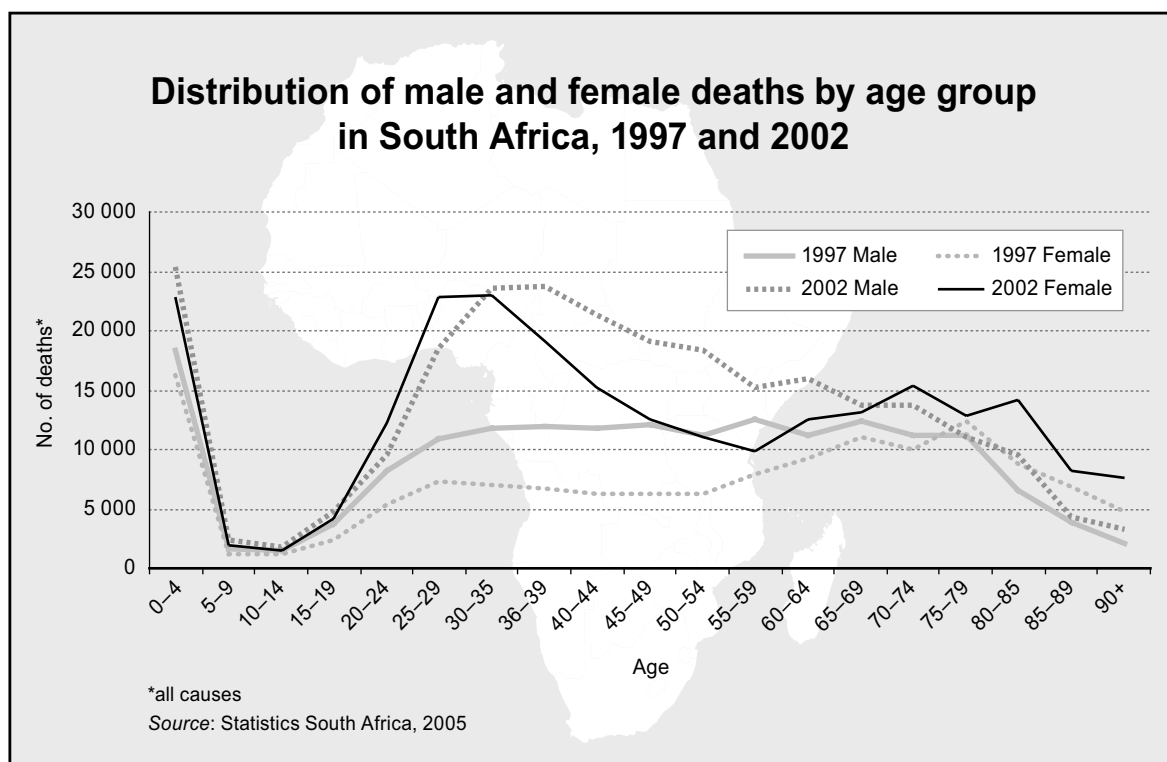


Figure 7

a devastating toll in human lives. A recent study of death registration data has shown that deaths among people 15 years of age and older increased by 62% in 1997–2002, with deaths among people aged 25–44 years more than doubling. Based on information from nearly 2.9 million death notification certificates, the study showed that more than one third of all deaths were among people in that age group (Statistics SA, 2005). AIDS is believed to be responsible for a large proportion of the trend shifts shown in Figure 7, above, with South Africans dying in patterns that closely match those predicted by AIDS models.

Very high HIV prevalence—often exceeding 30% among pregnant women—is still being recorded in four other countries in the region: **Botswana, Lesotho, Namibia and Swaziland**. Yet again,

among pregnant women (Ministry of Health and Social Welfare, Swaziland, 2002). There are a few, tentative signs that some young women are adopting safer behaviour (teen pregnancies seem to be on the decline, for example). However, in an epidemic this rampant, women face overwhelming odds of being infected once they do have unprotected sex; among pregnant women 25–29 years-old, as many as 56% were HIV-positive in 2004 (Ministry of Health and Social Welfare, Swaziland, 2004). Like Swaziland, HIV prevalence among pregnant women in **Lesotho** is exceptionally high, although there are indications that it could be stabilizing. Mean HIV prevalence was 27% when most recently measured among antenatal clinic attendees, slightly lower than the 29% measured in 2003 (Ministry of Health and Social Welfare Lesotho, 2005).

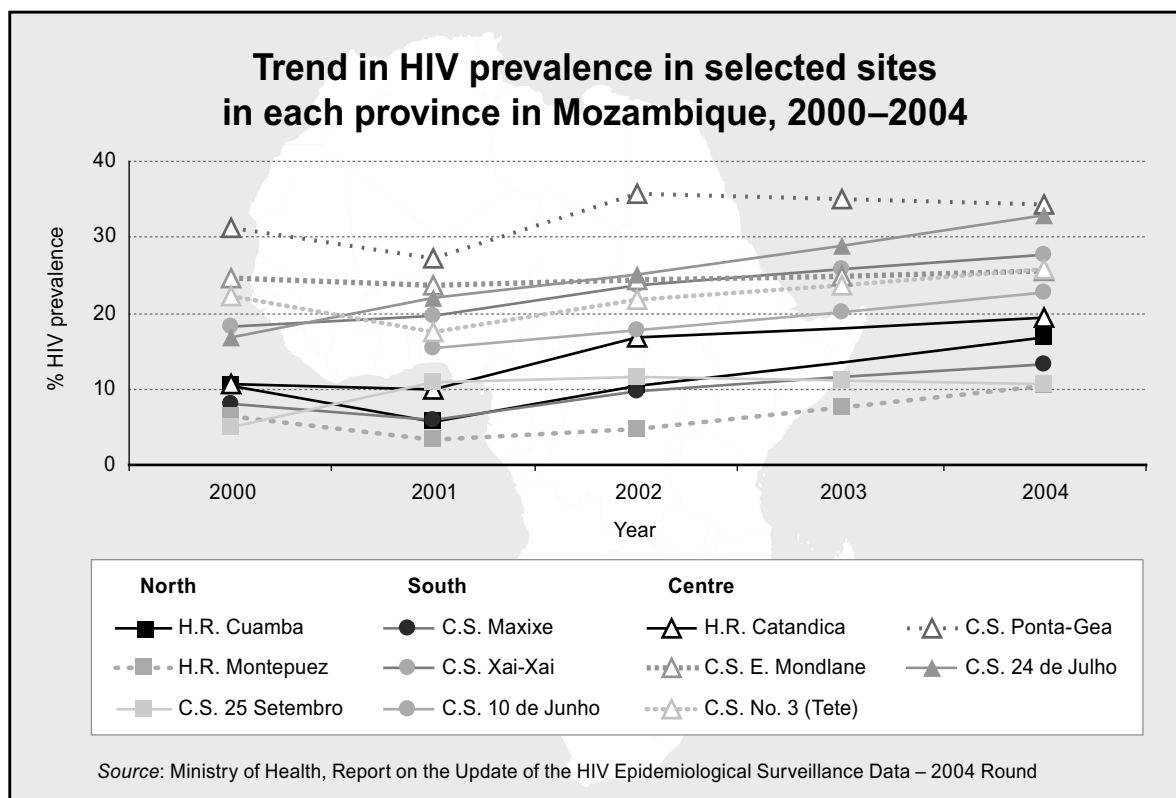
Apparently stable national HIV prevalence can hide significantly varied local patterns and trends—even in a relatively small country such as **Malawi**. Prevalence among pregnant women in Malawi ranged from just under 7% at a site in the central region to 33% at the southern tip of the country. While national prevalence among antenatal clinic attendees has remained around 20%, two more detailed trends give cause for concern. Prevalence measured at rural clinics is on the increase (up from 12.1% in 1999 to 14.5% in 2003), and prevalence among young pregnant women is high (15% among 15–19 year-olds, and 20% among 20–24 year-olds). (Ministry of Health and Population Malawi, 2003).

Mozambique's epidemic—like South Africa's—is lagging behind those of other countries in this subregion. However, latest data show a dramatically worsening epidemic overall, with rising infection levels in all regions. (HIV prevalence among pregnant women rose at 23 of the 34 clinics included in the 2004 serosurveillance round.) Estimated national adult HIV prevalence rose from 14% to just over 16% in 2002–2004, with HIV spreading fastest in provinces that contain the country's main transport links with **Malawi**, **South Africa** and **Zimbabwe**. Among pregnant

women in Caia (which lies along the main railway link with southern Malawi) HIV prevalence rose almost threefold from 7% in 2001 to 19% in 2004 (Ministry of Health, 2005). High infection levels are being seen in Gaza province, which borders Zimbabwe and South Africa (and has been a major source of migrant workers for South African industry and farms), and in Sofala province, which is split by Zimbabwe's main export route. Overall, the highest and most-steeply rising HIV prevalence levels are found in Mozambique's central and southern provinces, where national (weighted) prevalence was over 18% and 20%, respectively, in 2004. Although lower in the north at 9%, HIV prevalence is rising there, too (Ministry of Health Mozambique, 2005).

HIV prevalence in Zambia remains high. National mean HIV prevalence among adult (15–44 years old) pregnant women has remained at 18–20% since 1994. The rising prevalence trends seen among 15–19 year-old antenatal clinic attendees in 1998–2002 (at, among others, Chilenje, Matero, Kasama, Kapiri Moposhi and Livingstone) suggest that new infections are still occurring at significant rates in parts of the country (Monze, 2004). Urban residents are twice as likely to be

Figure 8



HIV-infected, compared with rural residents, with the highest infection levels clustered in cities and towns that straddle major transport routes—including Kabwe, Kapiri Mposhi, Livingstone and Ndola, where 22–32% of pregnant were HIV-positive in 2002 (National HIV/AIDS Council Zambia, 2002).

Angola, which is still emerging from decades of war, has by far the lowest HIV prevalence in southern Africa. The latest round of HIV surveillance estimated that 2.8% [range 2.5–3.1%]

as it is in some of the worst-affected areas of Botswana, South Africa and Swaziland. Where declines in infection levels have been observed recently (such as in Katutura and Oshakati), HIV prevalence among pregnant women still exceeds 20%. Overall, the slight decline in national HIV prevalence recorded in Namibia's 2004 antenatal survey does not clearly indicate whether the country's epidemic has stabilized. Such a cautious interpretation seems borne out by infection levels among 15–24 year-old antenatal clinic attendees, which show

*Awareness of the epidemic is on the rise,
but specific knowledge about HIV still is inadequate.*

of pregnant women nationally were HIV-positive (Department of Health Angola, 2004). The recent expansion of HIV surveillance in Angola (data are now being collected at antenatal clinics in all 26 provinces) make comparisons with earlier national HIV estimates difficult. The best clue to current trends would be HIV prevalence among 15–24 year-old women attending antenatal clinics, whose ages mean most would have been infected relatively recently. HIV prevalence among young pregnant women was close to 3% or higher in seven provinces (Cunene, Kuando-Kubango, Luanda, Lunda Norte, Lunda Sur, Namibe, Uige). The only long-term comparable data are for the capital, Luanda, where prevalence climbed from 0.3% in the mid-1980s (1986) to 4.4% in 2004. The fact that HIV prevalence of 33% has been found among female sex workers in Luanda points to considerable potential for further growth in the epidemic (Grupo Tematico HIV/SIDA, 2002). A closer look reveals considerable regional variation, with two of the most seriously affected provinces Cunene and Kuando-Kubango on the border with Namibia (where some of the highest HIV infection levels among pregnant women have been recorded in the north of the country).

HIV prevalence in pregnant women in **Namibia** varies dramatically—from 8.5% in Opuwo (in the remote northwest) to over 42% in Katima Mulilo (in the Caprivi Strip wedged between Angola, Botswana and Zambia). In the ports of Luderitz, Swakopmund and Walvis Bay, prevalence ranged between 22% and 28%. In parts of Namibia, the epidemic is as intense

ambivalent trends, depending on the location. While there have been significant declines in prevalence among young pregnant women in Andara, Nyangana, Otjiwarongo and Tsumeb, prevalence has moved markedly in the opposite direction in places such as Nankudu, Oshakati, Rundu and Swakopmund (Ministry of Health and Social Services Namibia, 2004).

Botswana's epidemic appears to be stabilizing—but national HIV prevalence among pregnant women has stayed between 35% and 37% since 2001. Among pregnant women aged 15–24 years, HIV infection levels have remained steady since 1999, but among their counterparts 25 years of age and older, prevalence has been rising constantly since 1992 and reached 43% when last measured in 2003. Preliminary data from a new household survey in Botswana have given hope that the country's epidemic might be smaller than previously indicated (National AIDS Coordinating Agency, Botswana 2005). The survey estimated that some 25% of 15–49 year-olds were estimated to be living with HIV—considerably lower than the 37% estimate derived from antenatal clinic data (UNAIDS, 2004). However, that estimate should be interpreted with caution, since its very high non-response rate (44% of participants refused to be tested for HIV) could have skewed the results toward underestimations of HIV prevalence. Nevertheless, the survey found that more than 6% of children, aged 18 months to four years, were HIV-positive, most of which are likely due to mother-to-child transmission of the virus. Infection levels among older men

and women were unexpectedly high: 29% for those 45–49 years-old, and 21% for those in their early 50s. The gaps in HIV knowledge seem to persist. One in four respondents did not know that consistent condom use prevents transmission, and only 13% knew three ways for preventing sexual transmission of the virus (National AIDS Coordinating Agency, 2005).

National adult HIV prevalence in **Madagascar** has risen sharply in recent years, reaching an estimated 1.8% in 2005 (Ministère de la santé Madagascar, 2005). The epidemic is being driven largely by unprotected heterosexual contact. Awareness of the epidemic is on the rise, but specific knowledge about HIV still is inadequate. When surveyed in 2003–2004, fewer than one in five Madagascans could name two methods for preventing the sexual transmission of HIV and identify three misconceptions about AIDS (Ministère de l’Economie, des Finances et du Budget, 2005). Just 12% of young men and 5% of young women (aged 15–24 years) said they used a condom the last time they had sex with a casual partner (Direction Générale de la Lutte contre le SIDA et al., 2004).

Mauritius and **Seychelles** thus far have not experienced epidemics on the scale experienced elsewhere in the region. However, in Mauritius HIV is

East Africa continues to provide the most hopeful indications that serious AIDS epidemics can be reversed.

spreading among injecting drug users: prevalence of 10–20% has been detected among drug injectors and the country’s health authorities estimate that as many as 3000 users could be living with HIV. There are also significant infections levels (3–7%) recorded among female sex workers. A smaller epidemic is underway on the islands of Seychelles, where fewer than 400 HIV cases have been diagnosed since 1987. There, heterosexual intercourse is the main mode of HIV transmission, although there have been rising numbers of HIV diagnoses since 2000 among men who have sex with men (Seychelles Communicable Disease Control Unit, 2005). Reports of increasing drug use (including heroin) raise concerns that injecting drug use might emerge as a prominent route for HIV transmission here, as well.

EAST AFRICA

East Africa continues to provide the most hopeful indications that serious AIDS epidemics can be reversed. The countrywide drop in HIV prevalence among pregnant women seen in **Uganda** since the mid-1990s is now being mirrored in urban parts of **Kenya**, where infection levels are dropping, in some places quite steeply. In both countries, behavioural changes are likely to have contributed to the trend shifts. Elsewhere in East Africa, though, HIV prevalence has either decreased slightly or remained stable in the past several years.

New research and analysis is enabling a clearer understanding of Uganda’s epidemic, where national HIV prevalence peaked at over 15% in the early 1990s before steadily diminishing, partly as a result of a nationwide effort to curb the epidemic. Data on behaviour suggest that the past declining prevalence trends may not continue in the future without a renewed focus on prevention. A countrywide household survey done in 2004–2005 found that men were much more likely to have multiple partners than were women—29% of men and only 4% of women said they had had more than one sexual partner in the previous 12 months. Condom use was not all that widespread: of the women and men who said they had slept

with a casual partner in the previous year, roughly half used a condom the last time they had sex with that person. There is also evidence of continued HIV-related stigma: roughly half the men and women surveyed said that if a family member contracted HIV they would prefer to keep that fact secret (Ministry of Health Uganda, 2005).

The survey estimated national adult HIV prevalence at 7%—higher than the most recent estimates derived from HIV test data at antenatal clinics. (The Ministry of Health Uganda in 2003 put national antenatal HIV prevalence at 6.2%.) One in ten Ugandans aged 30–39 years was HIV-positive, according to the survey, and prevalence among middle-aged and older people was high: approximately 7% of men aged 50–59 years were infected, as were about 5% of women of the same

age. In urban areas, HIV prevalence among women was twice that among men (13% compared with 7.3%), while in rural areas it was roughly similar (7.2% versus 5.6%). Varying considerably from region to region, infection levels were found to be lowest in the West Nile (less than 3%) and highest

(more than 9%) in Kampala, and in the Central and North-Central regions (Ministry of Health Uganda, 2005).

Such findings are echoed in the ongoing longitudinal study in Rakai. That study found that more than two thirds of sexually active women

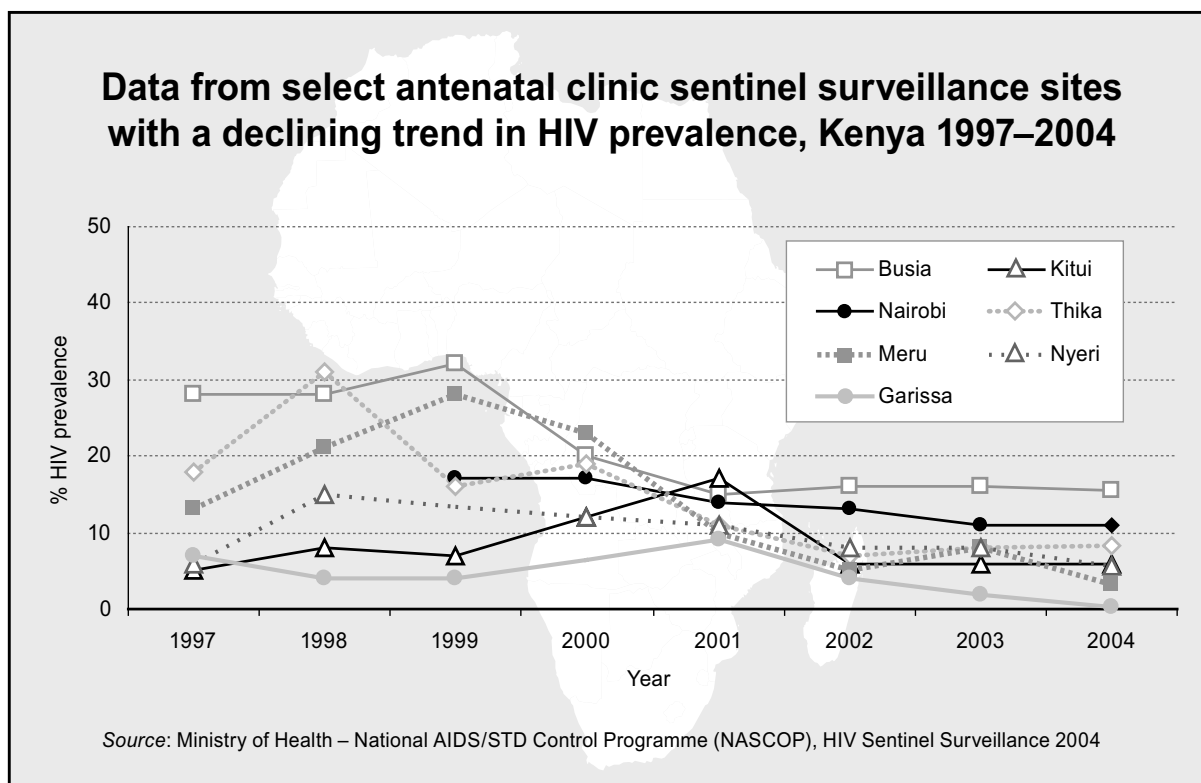


Figure 9

What happened in Uganda?

Recent findings from a multi-year (1994–2003) study of 44 communities in Rakai in the south of country have helped refine understandings of the progression of Uganda's epidemic. HIV prevalence declined sharply—among women from 20% in 1994–1995 to 13% in 2003, and among men from 15% to 9% over the same period. Generally in Uganda, such declines have been attributed to behavioural change. However, in Rakai, evidence of such change has been uneven, with researchers observing no significant increases in abstinence or fidelity. The proportion of teenagers who say they have had multiple non-marital partners has increased considerably (from under 25% in 2000, to almost 35% in 2003). Condom use with casual partners, however, is now more commonplace—especially for men—and has probably helped lower HIV prevalence (Wawer et al, 2005). However, most of the momentum for Rakai's decline in prevalence appears to have derived from higher mortality rates—to such an extent that researchers' calculations suggest that approximately 5% of the observed 6.2% decline in HIV prevalence in 1994–2003 in Rakai was due to increased mortality.

It is unclear whether or to what extent the trends observed in Rakai have played out elsewhere in Uganda. In Masaka district (next to Rakai), for example, declining HIV incidence in the 1990s appeared to correlate strongly to behaviour change (Mbulaiteye et al., 2002). However, in Rakai (and in other areas of the country) there are tentative signs of a possible resurgence of HIV incidence among young men and women (aged 15–24 years). These trends underline the need for revitalized HIV prevention strategies (Wawer et al., 2005).

between the ages of 16 and 25 are married. Yet large numbers of women in that age group are being infected with HIV. More than 85% of women (and 90% of men) with HIV are currently or were previously married. Women's vulnerability to infection within marriage is underlined by the fact that most men with multiple partners are married (indeed, 45% of married men had multiple sexual partners, compared with just 5% of women). For some girls, meanwhile, abstinence was not an option: 14% of women said their first sexual experience had been coerced (Wawer et al., 2005).

Uganda has made strong strides in expanding access to treatment. It is estimated that more

in pregnant women has dropped in the capital, Nairobi, as well (Baltazar, 2005).

The declines in HIV incidence and prevalence are partially likely to have been caused by behavioural change, but two 'natural' progressions in AIDS epidemics could also have lowered prevalence. First, as the epidemic matures and greater numbers of people die of AIDS-related conditions, death rates can be higher than the rates at which new infections are occurring. As a result, the total number of people living with HIV would decrease (and *prevalence* would drop)—but the rate of new HIV infections would not necessarily have slowed. Second, in the early stages of the epidemic, HIV spreads primarily among those people who are

The most dramatic drops in prevalence have been among pregnant women in urban Kenya.

than one third of people in need of antiretroviral treatment were receiving it in mid-2005—the best coverage in sub-Saharan Africa, with the possible exception of Botswana (UNAIDS/WHO, 2005). Despite the admirable achievements in prevention, treatment and care in the past decade, Uganda has not overcome its epidemic. The recent research findings underline the need for renewed emphasis on comprehensive prevention strategies that can respond to the challenges posed by mature epidemics where antiretroviral treatment access is improving.

The epidemic in **Kenya** peaked in the late 1990s with an overall HIV prevalence of 10% in adults, which declined to 7% in 2003. Infection levels in urban residents peaked in the mid-1990s, before those in rural residents, which subsequently dropped, though at a slower rate than the urban residents (Ministry of Health Kenya, 2005). This is only the second time in more than two decades that a sustained decline in national HIV infection levels has been seen in a sub-Saharan African country. The most dramatic drops in prevalence have been among pregnant women in urban Kenya—especially in Busia, Meru, Nakuru and Thika, where median HIV prevalence plummeted from approximately 28% in 1999 to 9% in 2003. There have been significant declines also in Garissa, Kajiado, Kisii, Kitale, Kitui and Nyeri, while prevalence

most at-risk of acquiring and transmitting the virus. Their eventual deaths remove them from the circuits of HIV transmission and (all else being equal) could cause HIV incidence to decline, which could translate into lower prevalence, too. Behavioural change is therefore only one aspect of what affects declines in HIV incidence and prevalence.

In Kenya's case, however, there is also evidence that significant numbers of Kenyans in recent years have adopted safer sexual behaviour. Condom use with casual partners has increased, most strikingly among women: in 2003 almost 24% (23.9%) said they used a condom the last time they had casual sex, compared with 15% five years earlier (in 1998). In addition, the proportions of men and women with more than one sexual partner reduced by more than half in 1993–2003, and more young men and women are delaying sexual debut (Cheluget et al., 2004). There are also signs that other sexually transmitted infections are occurring at a slower rate. All this is occurring against the backdrop of expanded HIV information campaigns, voluntary counselling and testing programmes and gradually improving access to antiretroviral therapy. However, the declines in HIV prevalence are not yet evident across the entire country, which still exhibits considerable variance in HIV levels and trends. Prevalence at antenatal clinics varied from as low

as 2% and under (in Bamba, Garissa and Kajjado) [1.6%, 0.4% and 2%, respectively]) to as high as 14% in Chulaimbo, 16% in Busia and 30% in Suba in 2004 (Baltazar, 2005).

In the **United Republic of Tanzania**, about 7% of the mainland adult population is living with HIV, according to a new household survey. In cities and towns, HIV prevalence averaged 11%, twice the levels found in rural areas. HIV infections have increased sharply in older age groups, with prevalence reaching 13% in women aged 30–34 years (Tanzania Commission for AIDS, 2005). HIV testing of antenatal clinic attendees, meanwhile, has revealed varied patterns of infection, with prevalence ranging from almost 5% (4.8%) in Kagera to over 15% (15.3%) in Mbeya (Ministry of Health United Republic of Tanzania, 2004). It is important to bear in mind, however, that average HIV prevalence at antenatal clinics in Mbeya went beyond 20% a decade ago (1994), and reached 36% at some clinics, before receding to current levels (Jordan-Harder et al., 2004).

HIV prevalence trends among pregnant women suggest a relatively stable epidemic overall, but low infection levels among young Tanzanians and the household survey's finding that more people are practising safe sex compared with five years ago point toward a reduction in HIV transmission. Infections diagnosed at antenatal clinics have declined slightly in the Dar es Salaam and Mtwara regions since 2002, but rose in Dodoma. At the same time, about 40% of married men said they had extramarital sexual relationships, according to a recent study in rural parts of the country (Nko S et al., 2004). (For a discussion of the contrasting outcomes of prevention efforts in the Mbeya and Rukwa regions, please refer to the *AIDS epidemic update 2004*.)

Rwanda's epidemic appears to have stabilized at the national level in recent years, but differing localized trends are visible, with HIV prevalence in pregnant women rising in some places, staying stable in others, and decreasing in a few locations (such as Gikondo). Overall, prevalence is more than twice as high in urban areas (6.4% median prevalence in 2003), compared with rural areas (2.8%)—with Kigali by far the worst-affected, despite some evidence of declining infection

levels in 1998–2003 among pregnant women younger than 35 years (Kayirangwa, 2004). The expansion of the country's AIDS programme points to a welcome trend. Sites offering services to prevent mother-to-child transmission of HIV increased by one third in the past year, sites offering voluntary counselling and testing have increased, and the number of people receiving antiretroviral therapy rose from 8700 in 2004 to more than 13 200 by June 2005, a 50% increase (Binagwaho et al., 2005). There is no clear trend discernible in neighbouring **Burundi**, where HIV prevalence among pregnant women ranges from 2% (in Kiremba) to 13% (in a suburb of the capital, Bujumbura) and has been fluctuating at most sentinel surveillance sites (Ministère de la santé publique, 2004).

Although **Ethiopia's** national HIV prevalence rate is low (an estimated 4.4%) compared with many other countries to its south (Federal Ministry of Health Ethiopia, 2004), it faces many challenges in dealing with AIDS. The country's epidemic is concentrated mainly in urban areas, where HIV prevalence among pregnant women has averaged at 12–13% since the mid-1990s. In a society where some 85% of the population lives in rural areas, rising adult prevalence in rural areas (up from 1.9% in 2000 to 2.6% in 2003) gives cause for concern. Indeed, a large part of the AIDS burden is shifting to rural communities where more people are now being infected with HIV than in urban areas (Federal Ministry of Health Ethiopia, 2004). With approximately 1.5 million people living with HIV in 2004 and more than 4.5 million orphans (including at least 500 000 children orphaned by AIDS), the country faces a huge task of providing adequate treatment, care and support to affected households (UNAIDS, 2004). In a country where AIDS caused an estimated 30% of all adult deaths in 2003, fewer than 10% of people in need of antiretroviral therapy were receiving it by mid-2005 (Federal Ministry of Health Ethiopia, 2004; UNAIDS/WHO, 2005).

Little new information has emerged regarding neighbouring **Eritrea's** epidemic, where the 2003 HIV surveillance survey pointed to an epidemic that was stabilizing at relatively low levels (2.4% adult HIV prevalence overall). However, infection levels varied considerably across the country, and ranged from under 2%

in the west to more than 7% in the south-east (Ministry of Health Eritrea, 2004).

Until very recently, little was known about the extent of HIV transmission in **Somalia**, but a survey carried out in 2004 indicates that the virus is present in most of the country, although infection levels are still low. The survey found that HIV prevalence among pregnant women nationally was 0.6%, with the highest infections levels in the capital Mogadishu (0.9%) and the lowest in Merca where hardly any infections were detected (WHO, 2005). On the other hand, 4% of people seeking treatment for sexually transmitted infections were found to be HIV-positive (and 7% of women attending one clinic in Mogadishu), suggesting that the epidemic remains concentrated. With the country rebuilding itself after devastating conflict, HIV prevention might not have ranked high as a priority. Knowledge of HIV transmission is very poor, and condom use rare. Only 13% of young men aged 15–24 years had ever used a condom, and a mere 5% of young women (WHO, 2005).

WEST AND CENTRAL AFRICA

Although the epidemics in West Africa vary in scale and intensity, this subregion historically has been less severely affected than other parts of sub-Saharan Africa. National adult HIV prevalence is yet to exceed 10% in any West African country, and there is no consistent evidence of significant changes in prevalence among pregnant women in recent years.

Nigeria is home to more people living with HIV than any other country in the world, except South Africa and India—between 3.2 and 3.6 million people at the end of 2003 (UNAIDS, 2004). Median HIV prevalence among pregnant women appears to have levelled at around 4%. Although HIV prevalence among pregnant women varies (from a low of 2.3% in the South West to a high of 7% in the North Central parts), stable trends are evident at almost all the antenatal clinics surveyed since the mid-1980s. The only exception is Cross River State, where infection levels rose from 4% in 1993-1994 to 12% in 2003 (Federal Ministry of Health Nigeria, 2004). The reasons for this sharp increase are not clear.

In **Côte d'Ivoire**, HIV prevalence among urban pregnant women has remained steady at around 10% since 1997 (and about half that among their rural counterparts). The only marked change has been among female sex workers who, in Abidjan for example, have shown declining prevalence of HIV and of other sexually transmitted infections—probably a reflection of increasing condom use (Ekra et al., 2004). Unfortunately, the country's civil conflict has prevented new HIV-related data from being gathered.

Togo has an apparently stable national HIV infection level (approximately 4%) but significant regional variation. HIV prevalence in pregnant women ranges from under 2% at clinics in the Central and Kara regions, to over 7% in the Maritime, Plateaux and Savanes regions, as well as in the capital, Lomé (Ministère de santé Togo, 2004). Neighbouring **Ghana**'s epidemic seems to be on a similarly stable path, with HIV prevalence measured at antenatal clinics fluctuating between 2.5% and 4% for the past decade. To the north, in **Burkina Faso**, HIV prevalence at antenatal clinics was 2.7% in 2003, but a downward trend in prevalence is observed among young pregnant women (15–24 years) in urban areas. The HIV prevalence of 1.9% found in young pregnant women in 2003 was half the 2001 level of 3.9% (Presidence du Faso, 2005). In the capital, Ouagadougou, there has been a steep drop in HIV infection levels among female sex workers, 59% of whom were HIV-positive when tested in 1994, compared with 21% in 2002 (Kintin et al., 2004). These are encouraging trends.

National HIV infection levels in **Mali** and **Senegal** remain below 2% (Ministère de la santé Mali, 2004; Ministère de la santé et de la prévention médicale Senegal, 2004). In **Senegal**, HIV prevalence did not exceed 3% at any of the antenatal clinics during the most recent round of HIV surveillance in 2002-2003. However, in the 2005 Demographic and Health Survey, prevalence of 3.4% was found in adult women in Ziguinchor and 2.7% in Kolda in the south along the border with Guinea-Bissau (Centre de recherche pour le développement humain et MEASURE DHS+, 2005). Among sex workers, prevalence has stayed at roughly the same high levels (21% in Dakar and 30% in Ziguinchor) for close on a decade (Gomes et al., 2005).

Cameroon has been experiencing one of the more serious epidemics in Central Africa, as a new household survey has confirmed with its estimate that national HIV prevalence stood at 5.5% in 2004 (Ministère de la santé publique Cameroon, 2004). Among women, infection levels reached 10% or higher in three regions (Adamaoua, North-East and South-East), as well as in the capital Yaoundé. Nationally, one in ten young women aged 25–29 years was found to be living with HIV. As many as 110 000 people (and possibly more) are living with HIV in the **Republic of the Congo**, where HIV prevalence varies considerably from one part of the country to another. Low infection levels of just over 1% have been observed in Impfondo and Djambala, but in Sibiti, for example, adult prevalence was 10% (Ministère de la santé République du Congo, 2004).

Progress in expanding treatment and care provision in sub-Saharan Africa in the past year has been uneven. At least one third of people in need of antiretroviral therapy are receiving it in such countries as **Botswana** and **Uganda**, while

in **Cameroon, Côte d'Ivoire, Kenya, Malawi** and **Zambia** between 10% and 20% of people requiring antiretroviral drugs were receiving them in mid-2005. However, there is extensive unmet need in most of the region. At least 85% (almost 900 000) of South Africans who needed antiretroviral drugs were not yet receiving them by mid-2005; the same applied to 90% or more of those in need in countries such as **Ethiopia, Ghana, Lesotho, Mozambique, Nigeria, the United Republic of Tanzania** and **Zimbabwe** (UNAIDS/WHO, 2005).

In southern and East Africa, as well as in parts of central Africa, serious AIDS epidemics will most probably continue for some time to come. The declines observed in Uganda and, more recently, in Kenya and Zimbabwe confirm that the epidemics can respond to specific HIV-related intervention. However, in high prevalence settings, it is equally important to continue to address underlying socioeconomic and sociocultural dynamics that create situations of vulnerability, so that declines can be maintained where initiated and achieved where needed.