

# HIV AND AGING

A special supplement to the  
UNAIDS report on the global AIDS epidemic 2013

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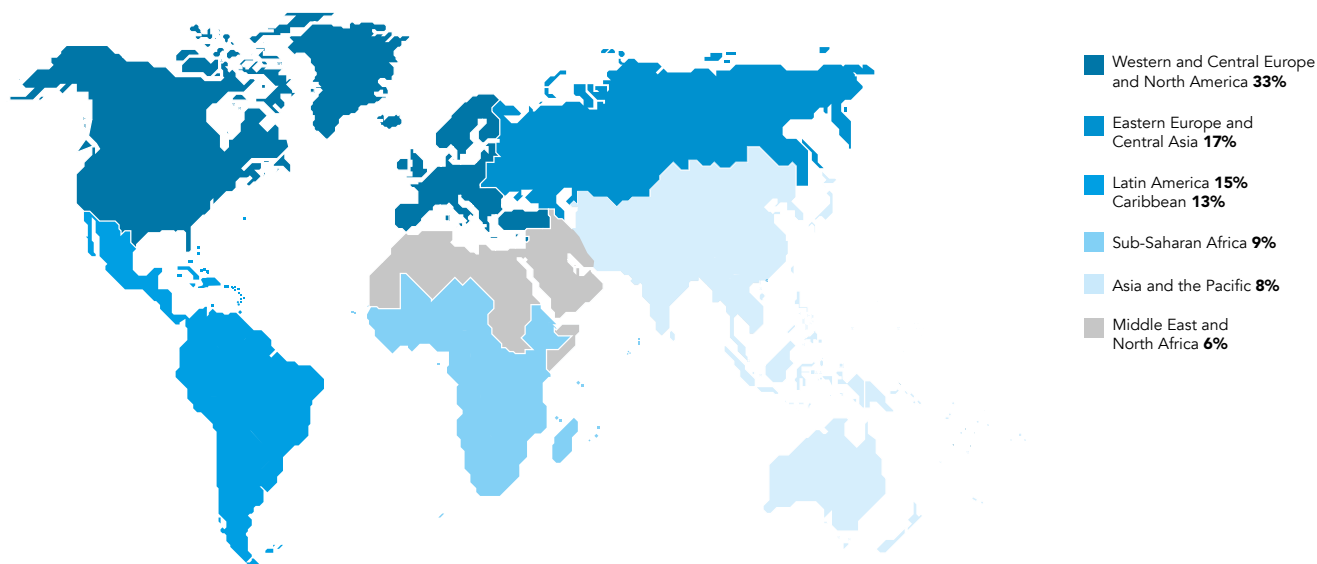
## RESPONDING TO HIV IN POPULATIONS AGED 50 YEARS AND OLDER

An increasingly significant trend in the global HIV epidemic is the growing number of people aged 50 years and older, who are living with HIV. Very few HIV strategies in low- and middle-income countries currently address this previously hidden dimension of the HIV epidemic, yet populations 50 years and older hold important implications for HIV responses.

- Worldwide, an estimated 3.6 [3.2–3.9] million people aged 50 years and older are living with HIV.
- For the first time since the start of the HIV epidemic, 10% of the adult population living with HIV in low- and middle-income countries is aged 50 or older (see Figure 1).
- In 2012 there were an estimated 2.9 [2.6–3.1] million people aged 50 years and over living with HIV in low- and middle-income countries.
- In high-income countries, approximately 30% of all adults living with HIV are aged 50 years and over.
- The proportion of adults living with HIV that is aged 50 years and older has increased in all regions, at varying rates, since 2007 (see Figure 2).

FIGURE 1

Estimated percentage of the adult population (15 years and over) living with HIV which is aged 50 years or over, by region, 2012.

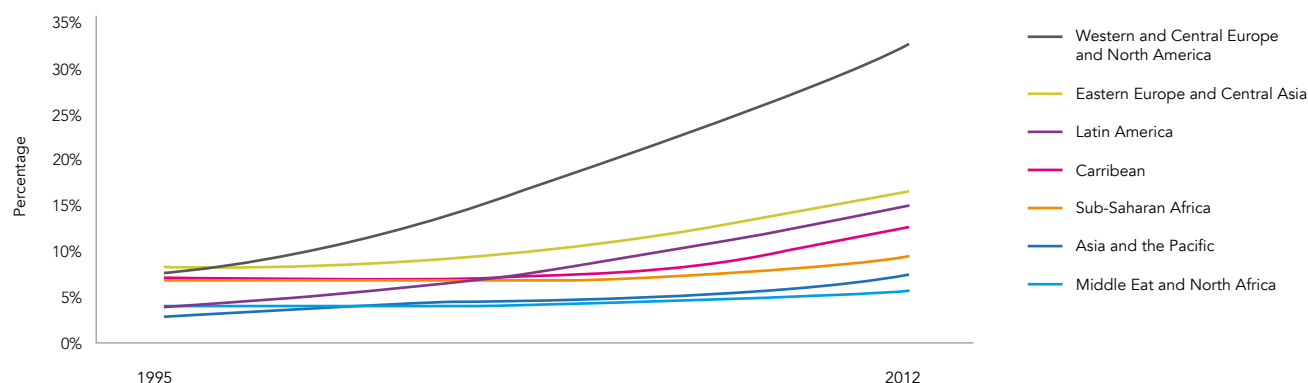


Source: UNAIDS.

This “aging” of the HIV epidemic is mainly due to three factors: the success of antiretroviral therapy in prolonging the lives of people living with HIV; decreasing HIV incidence among younger adults shifting the disease burden to older ages; and the often-unmeasured, and thus often overlooked, fact that people aged 50 years and older exhibit many of the risk behaviours also found among younger people.

**FIGURE 2**

**People aged 50 years or older, as a percentage of all adults 15 years or older living with HIV, by region, 1995–2012.**



Source: UNAIDS 2012 estimates.

### HIV PREVALENCE IS INCREASING AMONG POPULATIONS 50 YEARS AND OLDER

Relatively few HIV surveys have been conducted among individuals aged 50 years and older, but those available reveal high HIV prevalence. In a 2012 national HIV survey in South Africa, for example, HIV prevalence was 13% among people aged 50–54 years, and 12% among women and 6.9% among men aged 55–59 years (compared to 18% among men and women aged 15–49 years).<sup>1</sup> A 2006–2007 national population-based survey in Swaziland, found 13% of men and 7% of women aged 60–64 years were living with HIV (compared to 27% among men and women aged 15–49 years). In Kenya, HIV prevalence was 5% among people aged 50–64 years (compared with 7.4% in people aged 15–49 years).<sup>2</sup>

An estimated 100 000 people in low- and middle-income countries aged 50 years or over acquire HIV every year. Of these, three quarters (74%) live in sub-Saharan Africa. It is possible that the rate of new HIV infections among people 50 years and older is higher than previously thought, but there is very little quantitative research into the sexual behaviours and HIV incidence among this age group in sub-Saharan Africa.<sup>3</sup> Among the rare exceptions was a 2005 national household HIV survey in South Africa, in which more than half the people 50 years and older reported having had sex 1–4 times, and more than one fifth said they had had sex 5–9 times in the previous 30 days (see Figure 3).

In a study in Mpumalanga Province in South Africa in 2010, HIV prevalence was 35% among men aged 55–59 years and 27% among women of the same age, as shown in figure 3. HIV prevalence was 20% among men aged 60–64 years, and 17% among men aged 65–69 years, while among women in the same age groups it was 13% and 10%, respectively.<sup>5</sup> The fact that antiretroviral therapy rollout in the study area only began in 2007 suggests that significant numbers of the people 50 years and older living with HIV may have acquired HIV in the previous few years.<sup>4</sup>

<sup>1</sup> Shisana O, Rehle T, Zuma K, Simbaya LC, Jooste S, Pillay-van-Wyk V et al. (2013). *South African national HIV prevalence, incidence and behaviour survey, 2012*. Summary presented to the 6th South African AIDS Conference, Durban.

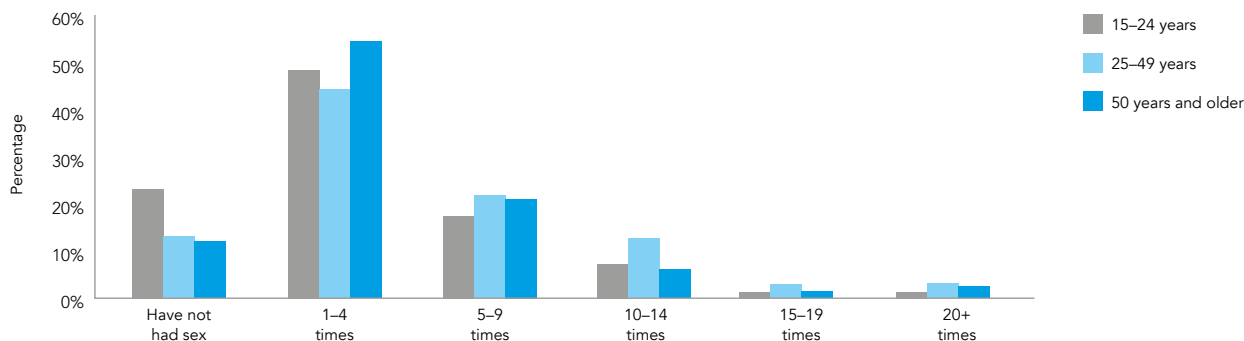
<sup>2</sup> Ministry of Health [Kenya] (2008). *AIDS Indicator Survey 2007*. Nairobi: Ministry of Health.

<sup>3</sup> Hontelez JA, de Vlas SJ, Baltussen R, Newell ML, Bakker R, Tanser F et al. (2012). The impact of antiretroviral treatment on the age composition of the HIV epidemic in sub-Saharan Africa. *AIDS*, 2012, 26 Suppl 1, pp. S19–30.

<sup>4</sup> Gomez-Olive FX, Angotti N, Houle B, Klipstein-Grobusch K, Kabudula C, Menken J et al. (2013). Prevalence of HIV among those 15 and older in rural South Africa. *AIDS Care*, 25(9): 1122–1128.

FIGURE 3

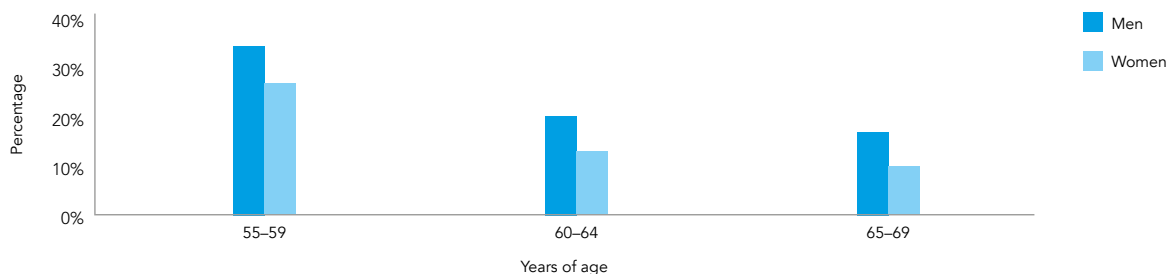
Sexual frequency among respondents aged 15 years and older in the last 30 days by age group, South Africa, 2005.



Source: Shisana O et al. (2013). South African national HIV prevalence, incidence and behaviour survey, 2012. Pretoria; Human Sciences Research Council.

FIGURE 4

HIV prevalence among men and women aged 55–69 years in rural South Africa, 2010–2011.



Source: Gomez-Olive FX et al (2013). Prevalence of HIV among those 15 and older in rural South Africa. *AIDS Care*, 25(9): 1122–1128.

HIV prevention services – and other services, such as tuberculosis screening – need to place increased emphasis on people 50 years and older and their specific realities and needs.<sup>5</sup> Such adaptation should reflect the needs of key populations in this age group as well.

There are indications that people 50 years and older may know less about HIV compared with younger people, as shown in surveys done in nine sites in West, East and Southern Africa; awareness was especially low among the women 50 years and older.<sup>6</sup> Biological changes are among the factors that can also put sexually active women aged 50 years and older at high risk of acquiring HIV. The thinning of the vaginal wall after menopause, for example, increases the chances of lesions and tears, thereby increasing the risk of HIV transmission during sex.<sup>7</sup>

<sup>5</sup> Bendavid E, Ford N, Mills EJ (2012). HIV and Africa's elderly: the problems and possibilities. *AIDS*, 26 (Suppl. 1), pp. S85–S91.

<sup>6</sup> Negin J, Nemser B, Cumming R, Lelera E, Ben Amor Y, Pronyk P (2012). HIV attitudes, awareness and testing among older adults in Africa. *AIDS Behav.*, 16(1):63-8.

<sup>7</sup> Drew O, Sherrard J (2008). Sexually transmitted infections in the older woman. *Menopause Int.*, 14(3): 134-5.

## PROVIDING EFFECTIVE TREATMENT

It is clear that widening access to antiretroviral therapy (and the larger proportions of people who are starting treatment earlier and with higher CD4 cell counts) is leading to an increase in the number of people living with HIV aged 50 or older.<sup>8</sup> In high-income countries, the life expectancy of a person living with HIV who achieves and maintains viral suppression on antiretroviral therapy now approaches that of a person who has not acquired HIV.<sup>9</sup> A similar trend is underway in sub-Saharan Africa, where average life expectancy of people living with HIV has increased considerably in the past decade. Between 2009 and 2011, life expectancy at birth in South Africa overall is estimated to have increased from 56.5 to 60 years – largely due to the rollout of antiretroviral therapy and prevention of mother-to-child transmission of HIV programmes.<sup>10</sup>

Meanwhile, the rate of new HIV infections among people aged 15-49 years is likely to continue declining. The combined effect is an ongoing shift in the age composition of the HIV epidemic towards older ages<sup>3</sup> – as has been observed in high-income countries. In the United States of America, for example, about 31% of people living with HIV were aged 50 years or more in 2008, compared with 17% in 2001.<sup>11</sup> A similar shift is taking place in sub-Saharan Africa, where recent modeling indicates that people aged 50 years and older will account for a steadily growing proportion of people living with HIV in the years ahead.<sup>3</sup>

HIV testing and treatment services therefore need address the possibly distinct needs and realities of populations 50 years and older who are living with HIV. Timely initiation of antiretroviral therapy is especially important because the immune systems of people over age 50 tend to recover more slowly compared with younger people.<sup>5</sup> Yet, research in sub-Saharan Africa suggests that people aged 50 years and older may be less likely to take an HIV test compared with people under the age of 50.<sup>6,12</sup> Consequently, this population also appear likely to be diagnosed late in the course of HIV infection, often after their health has deteriorated considerably – as has been found in Brazil, for example.<sup>13</sup>

Antiretroviral therapy in people 50 years and older can pose special challenges. Analysis of data from nine countries in sub-Saharan Africa found that more than 1 in 10 people initiating antiretroviral therapy were aged 50 years or more and about two thirds were women. Mortality among people aged 50 years and older was higher compared with younger people, suggesting the need for more attention in HIV treatment programmes.<sup>14,15</sup>

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<sup>8</sup> Johnson LF, Mossong J, Dorrington RE, Schomaker M, Hoffmann CJ, Keiser O et al. (2013). Life expectancies of South African adults starting antiretroviral treatment: collaborative analysis of cohort studies. *PLoS Med.*, 10(4): e1001418.

<sup>9</sup> Nakagawa F, May M, Phillips A (2013). Life expectancy living with HIV: recent estimates and future implications. *Curr Opin Infect Dis.*, 26(1), pp. 17–25.

<sup>10</sup> Medical Research Council. *Rapid mortality surveillance report 2011*. Cape Town: Medical Research Council of South Africa; 2012.

<sup>11</sup> Centers for Disease Control (2010). HIV/AIDS surveillance reports. Volumes 17 and 23. Atlanta: Centers for Disease Control and Prevention.

<sup>12</sup> J. Williams, FX. Gómez-Olivé, N. Angotti, C. Kabudula, J. Menken, S. Clark, et al. HIV risk and recent sexual behaviour of older adults in rural South Africa. Abstract THPDD0205. International AIDS Conference, 22-27 July 2012, Washington DC.

<sup>13</sup> Lacerda HR, Kitner D (2008). Mortality of the elderly is still exceedingly high at diagnosis of AIDS despite favourable outcomes after highly active antiretroviral therapy in Recife, Brazil. *Int J STD AIDS.*, 19: 450-4.

<sup>14</sup> Central African Republic, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, Nigeria, Republic of the Congo, Uganda, Zambia and Zimbabwe.

<sup>15</sup> Greig J, Casas EC, O'Brien DP, Mills EJ, Ford N (2012). Association between older age and adverse outcomes on antiretroviral therapy: a cohort analysis of programme data from nine countries. *AIDS*, 26 (Suppl. 1), pp. S31–S37.

Providing HIV treatment can be challenging if the person living with HIV is also experiencing other chronic conditions; in a **South African** study, 30% of the people 50 years and over had two or more chronic conditions.<sup>16</sup> While there is evidence that people over 50 are more likely than their younger counterparts to adhere to antiretroviral therapy<sup>17</sup>, there is also evidence that adherence can suffer when individuals are experiencing several chronic conditions at the same time.<sup>18</sup>

Similar trends have been observed in high-income countries, where increased mortality among people living with HIV 50 years and older is often attributed to an increased risk of a range of non-AIDS-defining illnesses such as cardiovascular disease, and kidney and liver failure.<sup>19</sup> Those illnesses may also worsen HIV disease progression.<sup>20</sup> People living with HIV who are 50 years and older also appear to be at greater risk of infectious diseases, such as tuberculosis.<sup>21</sup> This points to a need to improve knowledge about the efficacy and modifications of regimens in different age groups, issues of co-morbidity that are related to the aging process, and how the presence of other illnesses may affect HIV-related treatment. This requires closer integration of antiretroviral treatment with care systems for other chronic diseases.<sup>3</sup>

This demographic shift could also have broader consequences for health systems more generally, especially in sub-Saharan Africa. Increased life expectancy is likely to increase the relative burdens of other diseases in this region, notably noncommunicable diseases. In countries with high HIV prevalence, high AIDS-related mortality rates tends to “hide” the burden of noncommunicable diseases, since large proportions of the population do not survive long enough for those diseases to manifest.<sup>3</sup> The aging of the HIV epidemic could also affect other social sectors. The demand for financial support for older adults (including pensions) in countries with large numbers of people living with HIV may well be higher than anticipated before their HIV treatment scale-ups began in earnest.

## CONCLUSIONS

People aged 50 years and over are a growing part of the HIV epidemic and this requires new responses. Many people with HIV are living longer, more active lives thanks to the expansion of effective antiretroviral treatment. Fewer younger people aged 15-49 years are newly acquiring HIV, which means that people aged 50 and over are a growing HIV demographic. People in this age group share many of the HIV risk behaviours seen among younger people.

HIV responses therefore need to account for this important demographic by reflecting risks and trends and providing appropriate prevention, testing and treatment services. HIV services for people aged 50 or over would be helpfully integrated with non-communicable disease screening and treatment as well as other age-appropriate health services.

These changes in the HIV epidemic are a reminder that it defies a single, universal approach and continues to demand solid knowledge and focused responses.

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<sup>16</sup> Negin J, Martiniuk A, Cumming RG, Naidoo N, Phaswana-Mafuya N, Madurai L, et al. (2012). Prevalence of HIV and chronic comorbidities among older adults. *AIDS*, 26 Suppl 1:S55-63.

<sup>17</sup> Silverberg MJ, Leyden W, Horberg MA, DeLorenze GN, Klein D, Quesenberry CP Jr. (2007). Older age and the response to and tolerability of antiretroviral therapy. *Arch Intern Med.*, 167(7):684-91.

<sup>18</sup> Catz S, Balderson B, BlueSpruce J, Mahoney C, Harrison R, Grothaus L (2010). Chronic disease burden association with medication adherence and quality of life in an older HIV population, in Proceedings of the 18th International AIDS Conference, Vienna, Austria. Cited in Newman J, Iriundo-Perez J, Hemingway-Foday J, Freeman A, Akam W, Balimba A et al. (2012). Older Adults Accessing HIV Care and Treatment and Adherence in the leDEA Central Africa Cohort. *AIDS Res Treat.*, 2012:725713.

<sup>19</sup> Balderson, B. H., L. Grothaus, et al. (2013). “Chronic illness burden and quality of life in an aging HIV population.” *AIDS Care* 25(4): 451-458.

<sup>20</sup> Kirk JB, Goetz MB (2009). Human immunodeficiency virus in an aging population, a complication of success. *J Am Geriatr Soc.*, 57(11), pp. 2129–2138. Cited in Hontelez et al. (2012).

<sup>21</sup> Schaaf HS, Collins A, Bekker A, Davies PD (2010). Tuberculosis at extremes of age. *Respirology*, 15, pp. 747–763.



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