

Gender and selected communicable diseases: HIV and tuberculosis



Key points

- Globally, the incidence of HIV infection has declined by almost 50% since 2005, for both women and men.
- Sub-Saharan Africa remains the region most heavily affected by HIV, with a much higher incidence rate than the world average (4 times higher for men and 5 times higher for women), as well as the region where women are at higher risk of contracting HIV (58% of all new adult HIV infections), particularly young women, who run twice the risk of infection as young men.
- Globally, in 2017 men were less likely than women to take an HIV test (75% men versus 85% women), access antiretroviral therapy (55% men versus 68% women) or have suppressed their viral loads (47% men versus 59% women).
- Of an estimated 10 million cases of TB in 2018, 63% were among men and 37% among women.

Background

In developing countries, further gains in life expectancy are impeded by causes that are preventable or treatable through access to basic health services; in addition, economic, social and environmental determinants have impacts on health and wellbeing. While deaths from communicable diseases such as malaria, diarrhoea and TB are usually higher in developing countries, this situation changed drastically over the course of 2020 due to the emergence of the Coronavirus-19 (COVID-19) pandemic, a highly communicable disease that has affected developing and developed countries alike.



Current situation

Sub-Saharan Africa is the region most heavily affected by HIV and in 2018, 58% of all new adult HIV infections were among women

Globally, in 2018 there were an estimated 1.7 million new HIV infections, an incidence rate of 0.24 per 1,000 uninfected population among the total population, with a similar incidence among women and men. The rate represents a decline of almost 50% from the infection level of 0.47 recorded in 2005.

There are significant regional differences in HIV transmission. Sub-Saharan Africa is the most heavily affected region in the world, with an HIV incidence of 0.93 per 1,000 for men (almost 4 times the global average) and 1.3 per 1,000 for women (more than 5 times the global average). In addition, 58% of the all new adult HIV infections in sub-Saharan Africa were among women, and new infections among women aged 15–49 in sub-Saharan Africa contributed a third of total HIV infections globally.¹ Oceania (excluding Australia and New Zealand), the second most affected region, had an infection rate much closer to the global average, about 0.27 per 1,000 infections for women and 0.22 per 1,000 for men, with women accounting for more than half of new HIV infections (55%).

Countries in other parts of the world had lower rates of HIV infection, although national or regional data usually hide inequalities within, and the incidence was higher among men than women, particularly in Latin America and the Caribbean and in Europe and Northern America (at least 2.5 times higher) (see figure I), where HIV is predominantly transmitted through sex between men or intravenous drug use.² Men who have sex with men accounted for an estimated 17% of new HIV infections globally, accounting for more than half of new HIV infections in western and central Europe and Northern America and 40% of infections in Latin America.³

Early marriage, gender-based violence, unequal access to information, including sexual health knowledge, and a lack of negotiating power and economic autonomy are among a number of factors that put women and adolescent girls at increased risk of HIV infection and restrict their ability to protect themselves from infection. Research has also show greater biological susceptibility to HIV infection in women, especially adolescent girls.⁴ Among the community of men and boys who have sex with members of the same sex, masculine norms that stigmatize homosexuality can lead to promiscuity and substance abuse, increasing the risk of infection.⁵ More broadly, traditional masculine norms also typically equate risk-taking, aggression and stoicism with so-called manliness, and they stigmatize illness and prudence,⁶ which leads men to increased practice of unsafe sex, and decreased access to health services and adherence to treatment.

Progress in reducing rates of infection has been achieved in eastern and southern Africa, home to 54% of the global population living with HIV. During the period 2010–2018, AIDS-related mortality in these subregions declined by 44% and annual new HIV infections declined by 28%.

However, other regions have experienced an increase in HIV infection. Over the period 2010–2018, AIDS-related deaths in eastern Europe and central Asia increased by 5% and in Middle East and North Africa by 9%, and in three subregions the rate of HIV infection increased over the same time period: eastern Europe and central Asia (29% increase), the Middle East and North Africa (10% increase) and Latin America (7% increase).⁷



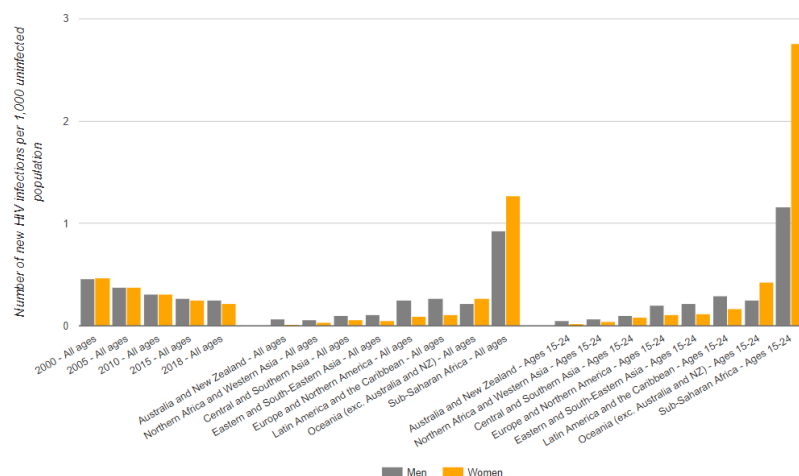
Globally, although new HIV infections among young women (aged 15–24) fell by 25% between 2010 and 2018, rates are significantly high in some regions

As reported in 2018, an alarming 7 in 10 young women in sub-Saharan Africa did not have comprehensive knowledge about HIV,⁸ and women overall were at higher risk of contracting HIV. Infection rates in young women aged 15–24 were almost 2.5 times as high as those of men of the same age (see figure I). A similar pattern has been reported in Oceania, excluding Australia and New Zealand, where adolescent girls and young women are particularly vulnerable and at increased risk of HIV infection.⁹ The pattern of high infection rates in young women reflects harmful gender norms that create unequal power dynamics in the home and wider society and deny young women control over their lives.¹⁰

Curbing HIV infections of girls and adolescents is particularly important in the prevention of mother-to-child transmission of HIV, since about 90% of HIV infections in infants and children are passed on from their mothers during pregnancy, delivery or breastfeeding, and half of all infants infected with HIV are likely to die before their second birthday if they do not receive treatment.¹¹ Persistent efforts to reach pregnant women living with HIV have resulted in a 44% decline in incidence among young children between 2010 and 2018 globally.¹²

Condom promotion remains a mainstay of prevention. However, according to UNAIDS,¹³ from a sample of 12 countries in West and Central Africa with recent data,¹⁴ more than half of young men (aged 15–24 years) in only 6 countries reported condom use at last incidence of high-risk sex. These data also show that condom use among young women was consistently lower.

Figure I: Estimated HIV incidence rate per 1,000 uninfected population: 2018



Source: Joint United Nations Programme on HIV/AIDS (UNAIDS).

Note: Regional values are for 2018; regions are in ascending order of HIV incidence rate in females.

Show Data

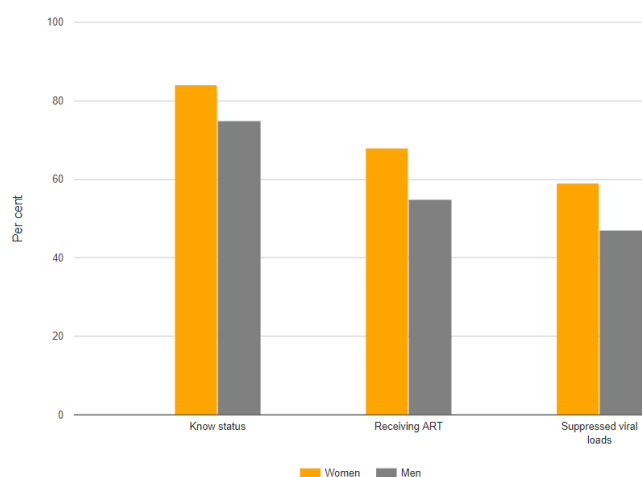
Download to CSV

Globally, in 2017, men were less likely than women to take an HIV test, access antiretroviral therapy or have suppressed their viral loads.¹⁵

The uptake of testing and treatment can be low if such services are difficult to access. Fear of stigma and discrimination can also result in delays in seeking care, which can result in poor health outcomes.^{16 17 18} Men have reduced access to health-care services compared with women, who often access HIV services through maternal health services. Moreover, in general, men are less likely to seek health care,^{19 20} and are thus less likely to be diagnosed (75% men living with HIV/AIDS know their status versus 84% of women) and treated (55% among diagnosed men receive antiretroviral therapy versus 68% women) (see figure II). When men living with HIV are not diagnosed, do not start HIV treatment or fail to continue treatment, both their own health and the well-being and prospects of their partners, households, extended families and communities are jeopardized.

The intersections between infectious diseases, including HIV, and structural inequalities cannot be overstated.²¹ In light of the COVID-19 pandemic, efforts must be made to mitigate and overcome interruptions in health services and supplies in sub-Saharan Africa. Models show that if no action is taken, a six-month complete disruption in HIV services, including antiretroviral therapy, could lead to more than 500,000 additional deaths in the period 2020–2021 in sub-Saharan Africa from AIDS-related illnesses, including TB.²²

Figure II: Proportion of people living with HIV/AIDS who know their HIV status, are receiving treatment and have suppressed their viral loads: 2018



Source: UNAIDS, UNAIDS Data 2019, Geneva, 2019 (https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf).

Show Data Download to CSV

People who are infected with HIV are 19 times more likely to develop active TB²³

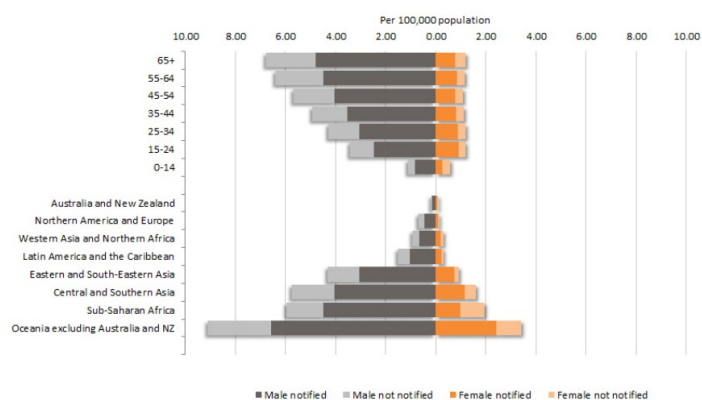
In 2018, it is estimated that there were 10 million cases of TB, 63% among men and 37% among women. While the incidence of TB appears to increase as men grow older, it remains relatively constant across age for women. Regional differences, with incidence among women consistently lower than men, were also significant (see figure III). Incidence was highest in Oceania (excluding Australia and New Zealand), with 6.5 new notified cases per 100,000 for men and 2.4 per 100,000 for women, followed by sub-Saharan Africa and Central and Southern Asia. Regional gender gaps in the incidence of TB also varied significantly, with the largest gender gap reported in Northern America and Europe, where men are 2.2 times more likely than women to be infected by TB, followed by Eastern and South-Eastern Asia and Latin America and the Caribbean, where men are almost twice as likely to be infected by TB as women.

The higher estimated incidence among men may be partly explained by men being more likely to smoke or drink.^{24 25} As reported by WHO, Oceania (excluding Australia and New Zealand) and Central and Southern Asia are the top three regions in terms of prevalence of **tobacco smoking** among men. The prevalence of smoking in adult men (aged over 15) is above 40% in 10 of the 30 countries with high incidence of TB.²⁶ Immunological reasons for an excess of TB infection in men have also been proposed.²⁷

Male TB patients appear to be less likely to seek care than female TB patients, as reflected in lower rates of case notification compared with the estimated total of cases (see figure III). As a consequence, male patients remain infectious in the community longer than female patients. There is a need for strategies to improve access to and use of health-care services among men, not only to address gender inequities but also to reduce infection to greatest extent possible. Potential strategies include the more active targeting of men with routine diagnostic and screening services.

Even though globally men are significantly more at risk of contracting and dying from TB than women, TB can have particularly severe consequences for women, especially during their reproductive years and during pregnancy. TB among mothers is associated with a six-fold increase in perinatal deaths and a two-fold risk of premature birth and low birth-weight; TB in pregnant women living with HIV increases the risk of maternal and infant mortality by almost 400%.²⁸

Modelling suggests that if the COVID-19 pandemic leads to a 25% global reduction in expected TB detection for three months, a realistic possibility given the levels of disruption being observed in multiple countries, a 13% rise in TB deaths might be expected. This would mean that global mortality rates from TB infection could return to those seen five years ago.²⁹

Figure III: Estimated incidence of notified and not notified cases of tuberculosis by sex: 2018

Source: WHO, Global Tuberculosis Report 2019, Geneva, 2019 (<https://apps.who.int/iris/bitstream/handle/10665/329368/9789241565714-eng.pdf?ua=1>).

Note: Regions are ordered according to estimated incidence of TB. Notified cases: the number of TB cases detected in a given year. The term "case detection", as used here, means that TB is diagnosed in a patient and is reported within the national surveillance system, and then to WHO. Not notified cases: gap between the number of new cases reported and the estimated.

[Show Data](#)
[Download to CSV](#)

About the data

Definitions

- HIV incidence rate (SDG Indicator 3.3.1): **Number of new HIV infections per 1,000 uninfected population in a given period. The incidence rate provides a measure of progress towards preventing the onward transmission of HIV.**
- Proportion of the population living with HIV/AIDS who know their HIV status, are receiving treatment and have suppressed their viral loads: **Percentage of all people living with HIV who know their HIV status, are accessing treatment and have suppressed viral loads. This indicator belongs to the cascade of the 90-90-90 targets, called the "HIV testing and treatment cascade".**
- Tuberculosis incidence rate (SDG Indicator 3.3.2): **Estimated number of new cases and relapsed cases of tuberculosis (TB) (all forms of TB, including people living with HIV) arising in a given year, expressed as a rate per 100,000 population.**
- Notified TB cases: **The number of TB cases detected in a given year. The term "case detection", as used here, means that if TB is diagnosed in a patient it is reported within the national surveillance system and then to WHO.**
- Not notified TB cases: **Gap between the number of new cases reported and the estimated number of new cases.**

Availability

- HIV incidence rate (SDG Indicator 3.3.1): **Estimates published in 2019 by the Joint United Nations Programme on HIV/AIDS (UNAIDS)³⁰ and the World Health Organization³¹ are available for 170 countries. Estimates are not produced for 10 countries with very small HIV epidemics or those with populations lower than 250,000. Countries are organized by regional groupings under the Sustainable Development Goals (SDGs) indicator framework.³²**
- Tuberculosis incidence rate (SDG Indicator 3.3.2): **WHO produces an annual report with estimates for all countries.³³**



Footnotes

1. United Nations, Report of the Secretary-General on progress towards the Sustainable Development Goals, April 2020 (E/2020/57) .
2. UNDESA, Statistics Division, World's Women 2015: Trends and Statistics (chap. 2, p. 44) New York, 2015 .
3. UNAIDS, Communities at the Centre – Defending rights – Breaking barriers – Reaching people with HIV services, Global AIDS update 2019.
4. UNAIDS, HIV prevention among adolescent girls and young women, 2016 .
5. United Nations Children's Fund (UNICEF), Gender and HIV/AIDS, New York, July 2020 .
6. UNAIDS, Blind spot – Reaching out to men and boys, 2017 .
7. UNAIDS, Communities at the Centre – Defending rights – Breaking barriers – Reaching people with HIV services, Global AIDS update 2019.
8. Ibid.
9. WHO, Health Topics database, HIV/AIDS .
10. Garcia-Moreno, C., and Watts, C., "Violence against women: its importance for HIV/AIDS", AIDS, vol. 14, Suppl. 3, 2000 .
11. UNICEF, Gender and HIV/AIDS, New York, July 2020 .
12. UNDESA, Statistics Division, The Sustainable Development Goals Report 2020, New York, 2020 .
13. UNAIDS, UNAIDS Data 2019, Geneva, 2019 .
14. Population-based surveys, 2013–2017.
15. UNAIDS, Blind Spot: Reaching out to men and boys: addressing a blind spot in the response to HIV, Geneva, 2017 .
16. Dlamini-Simelane, T.T.T., and Moyer E. "Lost to follow up": rethinking delayed and interrupted HIV treatment among married Swazi women", Health Policy and Planning, vol. 32, Issue 2, March 2017 .
17. Gamarel, K.E., Nelson, K.M., Stephenson, R., Santiago Rivera, O.J., Chiaramonte, D., and Miller, R.L., "Anticipated HIV stigma and delays in regular HIV testing behaviors among sexually-active young gay, bisexual, and other men who have sex with men and transgender women", AIDS and Behavior, vol. 22, January 2017 .
18. Merten, S., Ntalasha, H., Musheke, M., "Non-uptake of HIV testing in children at risk in two urban and rural settings in Zambia: a mixed-methods study", PLOS ONE, June 2016 .
19. Saikia, N., Moradkhaj, Bora, J.K., "Gender difference in health-care expenditure: evidence from India human development survey", PLOS ONE, 11(7), July 2016 .
20. Thompson, A. et al., "The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study", BMC Family Practice, 17:38, 2016.

21. Small, E., Sharma, B.B., and Nikolova, S.P., "Covid-19 and Gender in LMICs: Potential Lessons from HIV Pandemic", *AIDS and Behavior*, vol. 24, May 2020 .
22. UNDESA, Statistics Division, *The Sustainable Development Goals Report 2020*, New York, 2020 .
23. WHO, Health Topics, Fact sheets, Tuberculosis .
24. Amere, G.A., Nayak, P., Salindri, A.D., Narayan, K.M.V., and Magee, M.J., "Contribution of Smoking to Tuberculosis Incidence and Mortality in High-Tuberculosis-Burden Countries", *American Journal of Epidemiology*, vol. 187, Issue 7, September 2018.
25. Narasimhan, P., Wood, J., MacIntyre, C.R., and Mathai, D., "Risk factors for tuberculosis", *Journal of Pulmonary Medicine*, vol. 2013, February 2013 .
26. WHO, *Global Tuberculosis Report 2019*, Geneva, 2019 .
27. Nhamoyebonde, S., and Leslie, A., "Biological differences between the sexes and susceptibility to tuberculosis", *Journal of Infectious Diseases*, vol. 209, Issue suppl. 3, July 2014 .
28. WHO, *Tuberculosis in women*, 2019 .
29. UNDESA, Statistics Division, *The Sustainable Development Goals Report 2020*, New York, 2020 .
30. Joint United Nations Programme on HIV/AIDS (UNAIDS), *UNAIDS Data 2019*, Geneva, 2019 .
31. World Health Organization (WHO), Health Topics database, HIV/AIDS .
32. United Nations Department of Economic and Social Affairs (UNDESA), Statistical Division, regional groupings under the Sustainable Development Goals (SDGs) indicator framework .
33. WHO, *Global Tuberculosis Report 2019*, Geneva, 2019 .

