World Health Organization

GLOBAL TUBERCULOSIS REPORT 2023

TB SITUATION AND RESPONSE

Tuberculosis (TB) is contagious and airborne.

In 2022, TB was the second leading infectious disease killer worldwide, after COVID-19. It was also the leading killer of people with HIV and a major cause of deaths related to antimicrobial resistance.

TB BURDEN

- In 2022, an estimated 10.6 million (95% uncertainty interval [UI]: 9.9–11.4 million) people fell ill with TB worldwide, of which 5.8 million were men, 3.5 million were women and 1.3 million were children. People living with HIV accounted for 6.3% of the total.
- The TB incidence rate (new cases per 100 000 population per year) rose by 3.9% between 2020 and 2022, reversing declines of about 2% per year for most of the past 2 decades.
- Globally in 2022, TB caused an estimated 1.30 million (95% UI: 1.18–1.43 million) deaths, including 167 000 people with HIV. This was down from best estimates of 1.4 million in both 2020 and 2021 and almost back to the level of 2019.
- Eight countries accounted for more than two-thirds of the global total: India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and the Democratic Republic of the Congo.

TB CARE AND TREATMENT

- Global efforts to combat TB have saved an estimated 75 million lives since the year 2000.
- Globally in 2022, the reported number of people newly diagnosed with TB was 7.5 million. This is the highest number since WHO began global TB monitoring in 1995, above the pre-COVID baseline (and previous historical peak) of 7.1 million in 2019, and up from 5.8 million in 2020 and 6.4 million in 2021.
- The cumulative number of people treated between 2018 and 2022 was 34 million, equivalent to 84% of the 5-year (2018–2022) UN high-level meeting TB target of 40 million. This included 2.5 million children, 71% of the 5-year target of 3.5 million.
- There is still a large global gap between the estimated number of people who fell ill with TB and the number of people newly diagnosed, with approximately 3.1 million people not diagnosed with the disease, or not officially reported to national authorities in 2022, down from around 4 million in both 2020 and 2021, and back to the pre-pandemic level of 2019.

DRUG-RESISTANT TB

- Globally, an estimated 410 000 people (95% UI: 370 000–450 000) developed multidrug-resistant or rifampicin-resistant TB (MDR/RR-TB) in 2022.
- The number of people diagnosed and started on treatment was much lower: 175 650 people in 2022, equivalent to about two in five of those in need and still below the pre-pandemic level of 181 533 people in 2019.
- The treatment success rate for drug-resistant TB was 63% globally.

ADDRESSING THE CO-EPIDEMICS OF TB AND HIV

- Among all incident cases of TB in 2022, 6.3% were people living with HIV; this proportion has been steadily declining for several years. In 2022, 671 000 people living with HIV fell ill with TB, with the highest burden in countries in the WHO African Region.
- The global coverage of HIV testing among people diagnosed with TB remained high in 2022, at 80%. The global coverage of antiretroviral therapy for people living with HIV who were newly diagnosed and reported with TB was 85% in 2022.

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END TB

TUBERCULOSIS IS ONE OF THE TOP INFECTIOUS KILLERS IN THE WORLD

1.3 MILLION
TB DEATHS INCLUDING
167 000
DEATHS AMONG PEOPLE WITH HIV

TB is also the leading cause of deaths among people with HIV and a major cause of antimicrobial resistance related deaths

IN 2022, AN ESTIMATED
10.6 MILLION
PEOPLE FELL ILL WITH TB

75 MILLION LIVES SAVED SINCE THE YEAR 2000 DUE TO GLOBAL EFFORTS TO COMBAT TB

DRUG RESISTANT TB REMAINS A PUBLIC HEALTH CRISIS
with gaps in detection & treatment

Only about
2 IN 5 PEOPLE
ACCESSED TREATMENT OF THOSE IN NEED

Major global recovery in the number of people diagnosed with TB and treated in 2022
AFTER 2 YEARS OF COVID-RELATED DISRUPTIONS

REQUIRED IN 2023
US$ 13 BILLION
FOR TB DIAGNOSIS AND CARE

US$ 5.8 BILLION
WAS AVAILABLE IN 2022
of which 80% domestic financing
and US$ 1.1 billion international financing

US$ 2 BILLION
REQUIRED PER YEAR FOR TB RESEARCH
US$ 1.0 BILLION
FUNDING GAP

TB PREVENTIVE TREATMENT

- WHO recommends TB preventive treatment for people living with HIV, household contacts of those with bacteriologically confirmed pulmonary TB, and clinical risk groups (e.g. those receiving dialysis).
- Globally in 2022, TB preventive treatment was provided to 3.8 million people.
- From 2018 – 2022, 15.5 million people were treated with TB preventive treatment. This is only 52% of the UN High Level Meeting TB target of 30 million for the 5-year period 2018 – 2022.
- Most of those provided with TB preventive treatment were people living with HIV. The global sub-target of providing TB preventive treatment to 6 million people living with HIV between 2018 and 2022 was achieved well ahead of schedule.
- The cumulative total for household contacts was 4.2 million, equivalent to 17% of the 5-year target of 24 million for the period 2018–2022; this number included 2.2 million children aged under 5 years (55% of the 5-year subtarget of 4 million) and 2.0 million people in older age groups (10% of the 5-year subtarget of 20 million).

UPTAKE OF DIAGNOSTICS, NEW DRUGS AND REGIMENS

- Increasing access to early and accurate diagnosis using a molecular WHO-recommended rapid diagnostic test is one of the main components of TB laboratory-strengthening efforts under the End TB Strategy.
- The use of rapid diagnostic test remains far too limited. A WHO-recommended rapid molecular test was used as the initial diagnostic test for only 47% of the 7.5 million people newly diagnosed with TB in 2022, up from 38% in 2021 and 33% in 2020.
- By the end of 2022, 40 countries had started to use the new 6-month BPaLM/BPaL regimen to treat people with MDR/RR-TB or pre-XDR-TB. A total of 92 countries were using the 9-month oral regimens for the treatment of MDR/RR-TB, almost the same as in 2021 and up from 65 in 2020.
- There was an increase in access to shorter (1–3 months) rifamycin-based regimens for TB preventive treatment. In 2022, 0.60 million people in 74 countries were reported to have been treated with these shorter regimens, up from 185 350 people in 52 countries in 2021.

The second UN high-level meeting on TB was held on 22 September 2023. The resulting political declaration reaffirms existing commitments and targets and includes new ones for the period 2023–2027.

Read more

RESEARCH AND INNOVATION

- The diagnostic pipeline has expanded considerably in terms of the number of tests, products or methods in development. These include molecular tests for the detection of TB disease and drug resistance, interferon-gamma release assays (IGRAs) for the detection of TB infection, biomarker-based assays for detection of TB disease, computer-aided detection (CAD) for TB screening using digital chest radiography, and a new class of aerosol-capture technologies for detection of TB disease.
- Three M.tb. antigen-based skin tests for detection of TB infection that perform better than tuberculin skin tests (particularly in terms of specificity) were evaluated and recommended by WHO in 2022. In 2023, WHO convened a guideline development group to assess the use of targeted next-generation sequencing for detecting drug-resistant TB directly from sputum specimens. This newly-recommended class of tests is a major step towards comprehensive drug susceptibility testing.
- There were 16 vaccine candidates in clinical trials by August 2023: four in Phase I, eight in Phase II and four in Phase III. They included candidates to prevent TB infection and TB disease, and to help improve the outcomes of treatment for TB disease.
- In August 2023, there were 28 drugs for the treatment of TB disease in Phase I, Phase II or Phase III trials. These drugs comprise 18 new chemical entities, two drugs that have received accelerated regulatory approval, one drug that was recently approved by the United States (US) Food and Drug Administration under the limited population pathway for antibacterial and antifungal drugs, and seven repurposed drugs. There are at least 29 clinical trials and implementation research studies to evaluate drug regimens and models of delivery for TB preventive treatment.

UNIVERSAL HEALTH COVERAGE, SOCIAL DETERMINANTS AND MULTISECTORAL ACTION

- Progress towards universal health coverage (UHC), better levels of social protection and multisectoral action on broader TB determinants are all essential to reduce the burden of TB disease.
- About 50% of TB patients and their households face total costs (direct medical expenditures, direct non-medical expenditures and indirect costs such as income losses) that are catastrophic (>20% of annual household income), far from the WHO End TB Strategy target of zero.
- Globally in 2022, an estimated 2.2 million incident cases of TB were attributable to undernourishment, 0.89 million to HIV infection, 0.73 million to alcohol use disorders, 0.70 million to smoking and 0.37 million to diabetes.
- From 2019 to 2022, WHO worked with high TB burden countries to ensure the inclusion of accountability mechanisms in national budget planning and pursuing assessment during high-level missions and joint TB programme reviews with engagement of civil society representatives, in line with WHO's multisectoral accountability framework on TB.
- The Global TB Report features a TB-SDG monitoring framework that focuses attention on 14 indicators that are associated with TB incidence. Monitoring of these indicators can be used to identify key influences on the TB epidemic at national level and inform the multisectoral actions required to end it.

TB FINANCE

- By 2022, US$ 13 billion was needed annually for TB prevention, diagnosis, treatment and care to achieve the global target agreed at the UN high-level meeting on TB in 2018.
- There was a decline in global funding available on essential TB services from US$ 6.5 billion in 2019 to US$ 5.8 billion in 2022, which is less than half of the global target.
- As in the previous 10 years, most of the spending on TB services in 2022 (80%) was from domestic sources.
- In low- and middle-income countries, international donor funding remains crucial. The main source is the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund). The United States Government is the largest contributor of funding to the Global Fund and is also the largest bilateral donor; overall, it contributes about 50% of international donor funding for TB.
- Financing for TB research at US$ 1.0 billion in 2021 also continues to fall far short of the global target of US$ 2 billion per year, constrained by the overall level of investment.

WHO's GLOBAL TUBERCULOSIS PROGRAMME together with WHO regional and country offices: develops policies, strategies and standards; supports the efforts of WHO Member States; measures progress towards TB targets and assesses national programme performance, financing and impact; promotes research; and facilitates partnerships, advocacy and communication.

More information: www.who.int/tb