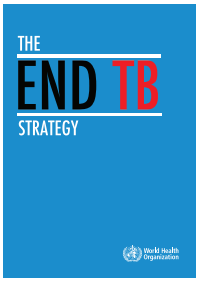
GLOBAL TUBERCULOSIS REPORT

EXECUTIVE SUMMARY

2020

World Health Organization

GLOBAL COMMITMENTS TO END TB



2015

WHO END TB STRATEGY

WORLD HEALTH ASSEMBLY

2017

FIRST WHO GLOBAL MINISTERIAL CONFERENCE

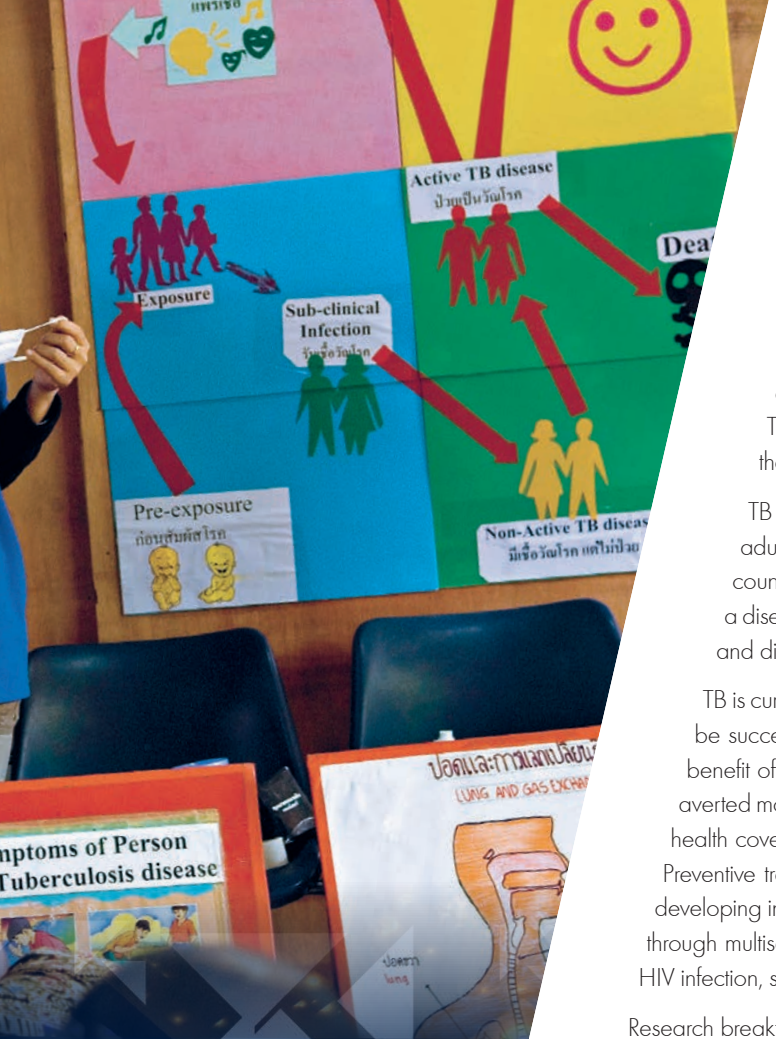
ENDING TB IN THE SUSTAINABLE DEVELOPMENT ERA: A MULTISECTORAL RESPONSE

16-17 NOVEMBER 2017, MOSCOW, RUSSIAN FEDERATION

2018

FIRST UN GENERAL ASSEMBLY HIGH-LEVEL MEETING ON TB IN 2018
26 September 2018

A staff member of the International Organization for Migration gives a class to raise awareness about TB in Thailand.
Thierry Falise/IOM/LightRocket via Getty Images



BACKGROUND

Tuberculosis (TB) is a communicable disease that is a major cause of ill health, one of the top 10 causes of death worldwide and the leading cause of death from a single infectious agent (ranking above HIV/AIDS). TB is caused by the bacillus *Mycobacterium tuberculosis*, which is spread when people who are sick with TB expel bacteria into the air; for example, by coughing. The disease typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB). About a quarter of the world's population is infected with *Mycobacterium tuberculosis*.[1]

TB can affect anyone anywhere, but most people who develop the disease are adults, there are more cases among men than women, and 30 high TB burden countries account for almost 90% of those who fall sick with TB each year. TB is a disease of poverty, and economic distress, vulnerability, marginalization, stigma and discrimination are often faced by people affected by TB.

TB is curable and preventable. About 85% of people who develop TB disease can be successfully treated with a 6-month drug regimen; treatment has the additional benefit of curtailing onward transmission of infection. Since 2000, TB treatment has averted more than 60 million deaths, although with access still falling short of universal health coverage (UHC), many millions have also missed out on diagnosis and care. Preventive treatment is available for people with TB infection. The number of people developing infection and disease (and thus the number of deaths) can also be reduced through multisectoral action to address TB determinants such as poverty, undernutrition, HIV infection, smoking and diabetes.

Research breakthroughs (e.g. a new vaccine) are needed to rapidly reduce TB incidence worldwide to the levels already achieved in low-burden countries, where TB is often regarded as a disease of the past.

THIS REPORT

The World Health Organization (WHO) has published a global TB report every year since 1997. The purpose of the report is to provide a comprehensive and up-to-date assessment of the status of the TB epidemic, and of progress in the response to the epidemic – at global, regional and country levels – in the context of global commitments and strategies. The report is based primarily on data gathered by WHO in annual rounds of data collection. In 2020, data were reported by 198 countries and territories that accounted for more than 99% of the world's population and estimated number of TB cases.[2]

The 2020 edition complements and expands on the United Nations (UN) Secretary-General's 2020 progress report on TB, which was prepared with WHO support as requested in the political declaration of the UN high-level meeting on TB in 2018.[3]

In recognition of the enormous health, social and economic impacts of the COVID-19 pandemic, the report includes a provisional assessment of how the pandemic will affect the TB epidemic, people with TB and progress towards global TB targets.

GLOBAL COMMITMENTS AND STRATEGY TO END TB

In 2014 and 2015, all Member States of WHO and the UN committed to ending the TB epidemic, through their adoption of WHO's End TB Strategy and the UN Sustainable Development Goals (SDGs). The strategy and SDGs include milestones and targets for large reductions in TB incidence, TB deaths and costs faced by TB patients and their households.

Efforts to step up political commitment to the fight against TB intensified in 2017 and 2018.

A WHO global ministerial conference on TB was organized in November 2017. The outcome was the Moscow Declaration to End TB, which was welcomed by all Member States at the World Health Assembly in May 2018.

In September 2018, the UN General Assembly held its first-ever high-level meeting on TB, attended by heads of state and government as well as other leaders. The outcome was a political declaration in which commitments to the SDGs and End TB Strategy were reaffirmed and new ones added. Global targets for the funding to be mobilized for TB prevention, care and research, and for the number of people to be treated for TB infection and disease, were set for the first time.[4]

Doctors reviewing a patient's medication in a rural TB clinic, South Sudan.
John Rae Photography

GLOBAL TB TARGETS SET IN THE SDGS, THE END TB STRATEGY AND THE POLITICAL DECLARATION OF THE UN HIGH-LEVEL MEETING ON TB, FOR THE PERIOD UP TO THE SDG DEADLINE OF 2030

SDG TARGET 3.3	By 2030, end the epidemics of AIDS, TB, malaria and neglected tropical diseases, and combat hepatitis, water-borne diseases and other communicable diseases
WHO END TB STRATEGY	80% reduction in the TB incidence rate (new and relapse cases per 100 000 population per year) by 2030, compared with 2015 *2020 milestone:* 20% reduction; *2025 milestone:* 50% reduction
	90% reduction in the annual number of TB deaths by 2030, compared with 2015 *2020 milestone:* 35% reduction; *2025 milestone:* 75% reduction
	No households affected by TB face catastrophic costs by 2020
UN HIGH-LEVEL MEETING ON TB, 2018	40 million people treated for TB from 2018 to 2022, including: • 3.5 million children • 1.5 million people with drug-resistant TB, including 115 000 children
	At least 30 million people provided with TB preventive treatment from 2018 to 2022, including: • 6 million people living with HIV • 4 million children under 5 years of age and 20 million people in other age groups, who are household contacts of people affected by TB
	Funding of at least US$ 13 billion per year for universal access to TB prevention, diagnosis, treatment and care by 2022
	Funding of at least US$ 2 billion per year for TB research from 2018 to 2022

AIDS: acquired immunodeficiency syndrome; HIV: human immunodeficiency virus; SDG: Sustainable Development Goal; TB: tuberculosis; UN: United Nations.

STATUS OF THE TB EPIDEMIC

Globally, an estimated 10.0 million (range, 8.9–11.0 million)[5] people fell ill with TB in 2019, a number that has been declining very slowly in recent years.

There were an estimated 1.2 million (range, 1.1– 1.3 million) TB deaths among HIV-negative people in 2019 (a reduction from 1.7 million in 2000), and an additional 208 000 deaths (range, 177 000–242 000)[6] among HIV-positive people (a reduction from 678 000 in 2000).

Men (aged ≥15 years) accounted for 56% of the people who developed TB in 2019; women accounted for 32% and children (aged <15 years) for 12%. Among all those affected, 8.2% were people living with HIV.

Geographically, most people who developed TB in 2019 were in the WHO regions of South-East Asia (44%), Africa (25%) and the Western Pacific (18%), with smaller percentages in the Eastern Mediterranean (8.2%), the Americas (2.9%) and Europe (2.5%). Eight countries accounted for two thirds of the global total: India (26%), Indonesia (8.5%), China (8.4%), the Philippines (6.0%), Pakistan (5.7%), Nigeria (4.4%), Bangladesh (3.6%) and South Africa (3.6%). The other 22 other countries in WHO's list of 30 high TB burden countries accounted for 21% of the global total.[7]

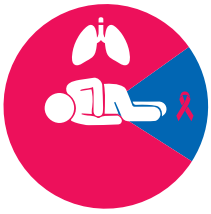
The TB incidence rate at national level varies from less than 5 to more than 500 new and relapse cases per 100 000 population per year. In 2019, 54 countries had a low incidence of TB (<10 cases per 100 000 population per year), mostly in the WHO Region of the Americas and European Region, plus a few countries in the Eastern Mediterranean and Western Pacific regions. These countries are well placed to target TB elimination.

Drug-resistant TB continues to be a public health threat. Worldwide in 2019, close to half a million people developed rifampicin-resistant TB (RR-TB),[8] of which 78% had multidrug-resistant TB (MDR-TB).[9] The three countries with the largest share of the global burden were India (27%), China (14%) and the Russian Federation (8%). Globally in 2019, 3.3% of new TB cases and 17.7% of previously treated cases had MDR/RR-TB. The highest proportions (>50% in previously treated cases) were in countries of the former Soviet Union.

TB IS THE TOP INFECTIOUS DISEASE KILLER WORLDWIDE

IN 2019

1.4 MILLION PEOPLE DIED FROM TB



INCLUDING 208 000 DEATHS AMONG PEOPLE WITH HIV

10 MILLION PEOPLE FELL ILL WITH TB

TB IS THE LEADING KILLER OF PEOPLE WITH HIV

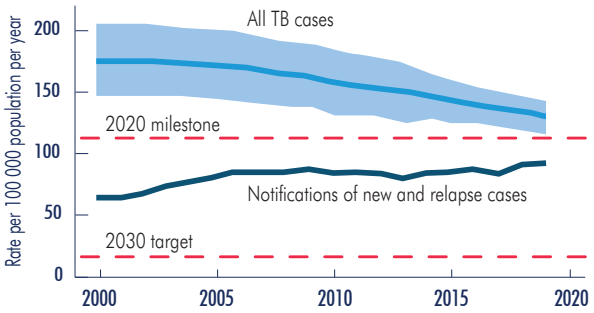
AND A MAJOR CAUSE OF DEATH DUE TO ANTIMICROBIAL RESISTANCE

5.6 MILLION MEN

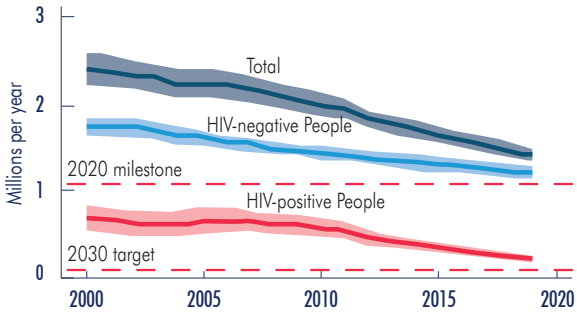
3.2 MILLION WOMEN

1.2 MILLION CHILDREN

GLOBAL TREND IN THE ESTIMATED TB INCIDENCE RATE



GLOBAL TREND IN THE ESTIMATED NUMBER OF TB DEATHS



PROGRESS TOWARDS THE 2020 MILESTONES OF THE END TB STRATEGY

At the end of 2019, the world as a whole, most WHO regions and many high TB burden countries were not on track to reach the 2020 milestones of the End TB Strategy.

Globally, the TB incidence rate is falling, but not fast enough to reach the 2020 milestone of a 20% reduction between 2015 and 2020. The cumulative reduction from 2015 to 2019 was 9% (from 142 to 130 new cases per 100 000 population), including a reduction of 2.3% between 2018 and 2019.

More positively, the WHO European Region has almost reached the 2020 milestone, with a reduction of 19% in the TB incidence rate between 2015 and 2019, and the African Region has made good progress, with a reduction of 16%.[10] A total of 78 countries are on track to reach the 2020 milestone, including seven high TB burden countries that have already reached it (Cambodia, Ethiopia, Kenya, Namibia, the Russian Federation, South Africa and the United Republic of Tanzania) and three other high TB burden countries that are on course to do so (Lesotho, Myanmar and Zimbabwe).

The annual number of TB deaths is falling globally, but not fast enough to reach the 2020 milestone of a 35% reduction between 2015 and 2020.[11] The cumulative reduction between 2015 and 2019 was 14%, less than halfway towards the milestone.

The good news is that the WHO European Region is on track to reach the 2020 milestone, with a 31% reduction in TB deaths from 2015 to 2019, and the African Region has made good progress, achieving a reduction of 19%.[12] A total of 46 countries are on track to reach the 2020 milestone, including seven high TB burden countries that have already reached it (Bangladesh, Kenya, Mozambique, Myanmar, the Russian Federation, Sierra Leone and the United Republic of Tanzania) and one other high TB burden country that is on course to do so (Viet Nam).

Since 2015, a total of 17 countries (including 10 high TB burden countries) have completed a national survey of costs faced by TB patients and their households. On average, 49% of people with TB and their households faced catastrophic costs (defined as total costs[13] equivalent to 20% or more of annual household income), with values at country level of 19–83%. For people with drug-resistant TB, the figure was higher still, at 80%, with values at country level of 67–100%. Survey results are being used to inform approaches to health financing, service delivery and social protection that will reduce these costs.

A further 9 surveys are underway in 2020 and 31 are planned for 2020–2021.

PROGRESS TOWARDS THE GLOBAL TB TARGETS SET AT THE UN HIGH-LEVEL MEETING ON TB

Progress is lagging behind what is needed to reach the global targets set at the UN high-level meeting on TB:

- 14.1 million people were treated for TB in 2018 and 2019, 35% of the 5-year (2018–2022) target of 40 million.
- 6.3 million people were started on TB preventive treatment in 2018 and 2019, 21% of the 5-year target of 30 million.
- Funding for TB prevention, diagnosis, treatment and care was US$ 6.5 billion in 2020, 50% of the target of at least US$ 13 billion per year by 2022.
- Funding for TB research was US$ 906 million in 2018, less than half of the target of US$ 2 billion per year 2018–2022.[14]

Progress towards the subtargets for TB treatment in 2018 and 2019 was slower than progress overall:

- 1.04 million children were treated for TB, 30% of the 5-year target of 3.5 million.
- 333 304 people were treated for MDR/RR-TB, 22% the 5-year target of 1.5 million.
- 8986 children were treated for MDR/RR-TB, 8% of the 5-year target of 115 000.

For TB preventive treatment, the subtarget for people living with HIV is on track to be achieved ahead of schedule in 2020, while progress towards the subtargets for household contacts of people with TB falls far short of what is needed. In 2018 and 2019, the numbers provided with TB preventive treatment were:

- 5.3 million people living with HIV, 88% of the 5-year target of 6.0 million.
- 782 952 children aged under 5 years who were household contacts of people with TB, 20% of the 5-year target of 4 million.
- 179 051 people in older age groups who were household contacts of people with TB, <1% of the 5-year target of 20 million.

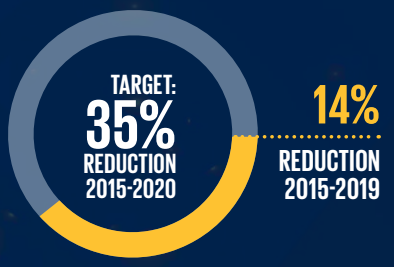
OVERVIEW OF PROGRESS TOWARDS GLOBAL TB TARGETS

The centre of each circle shows the target, the colour coding illustrates the progress made and the text to the right of each circle quantifies the status of progress (by the end of 2019, except for funding).

A) SDGs AND END TB STRATEGY: TARGETS FOR REDUCTIONS IN THE TB INCIDENCE RATE, TB DEATHS AND CATASTROPHIC COSTS

TB INCIDENCE RATE

NUMBER OF TB DEATHS



PERCENTAGE OF PEOPLE WITH TB FACING CATASTROPHIC COSTS

B) UN HIGH-LEVEL MEETING ON TB: TARGETS FOR THE NUMBER OF PEOPLE PROVIDED WITH TB TREATMENT AND TB PREVENTIVE TREATMENT

TB TREATMENT

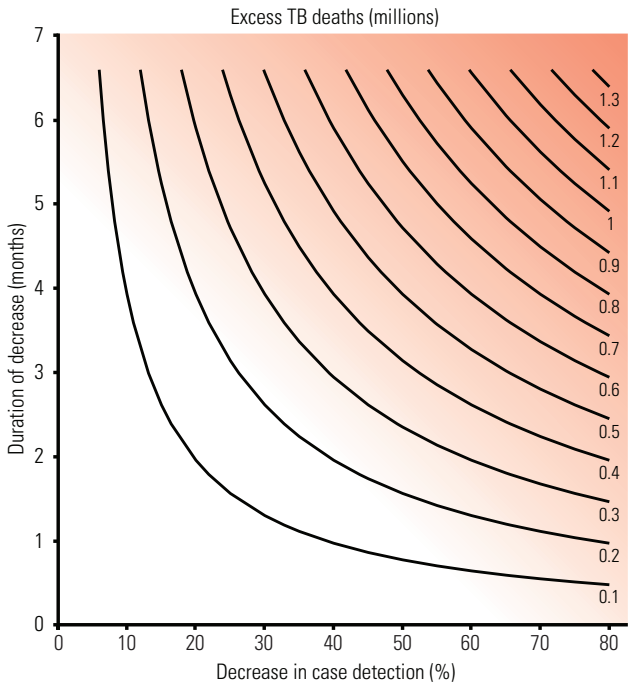
TB PREVENTIVE TREATMENT

C) UN HIGH-LEVEL MEETING ON TB: TARGETS FOR INCREASED FUNDING

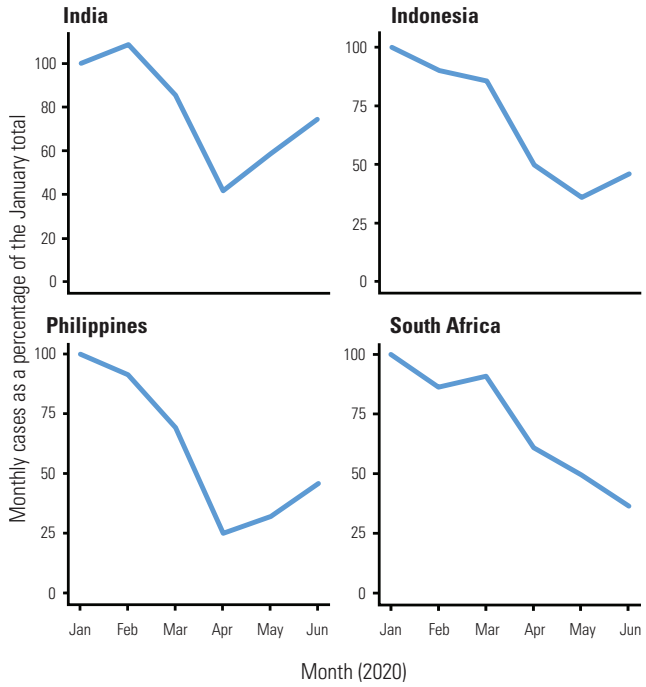
UNIVERSAL ACCESS TO TB PREVENTION, DIAGNOSIS, TREATMENT AND CARE

TB RESEARCH

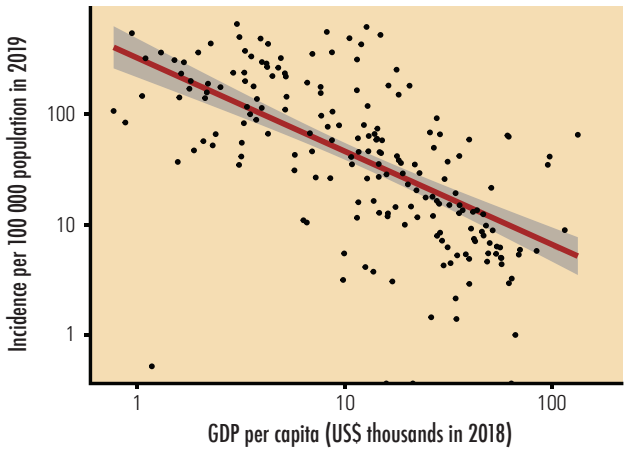
ESTIMATED IMPACT OF THE COVID-19 PANDEMIC ON THE GLOBAL NUMBER OF TB DEATHS IN 2020, FOR DIFFERENT COMBINATIONS OF DECREASES IN CASE DETECTION AND THE DURATION OF THESE DECREASES

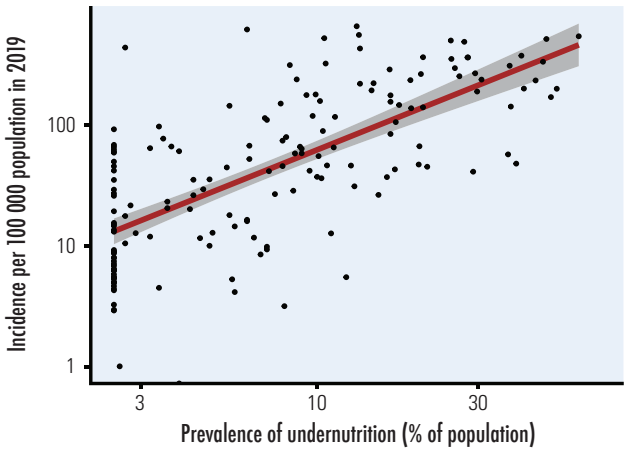


TRENDS IN MONTHLY NOTIFICATIONS OF PEOPLE DIAGNOSED WITH TB IN FOUR HIGH TB BURDEN COUNTRIES, JANUARY–JUNE 2020



THE RELATIONSHIP BETWEEN GDP PER CAPITA AND THE PREVALENCE OF UNDERNUTRITION, AND TB INCIDENCE PER 100 000 POPULATION





DRAMATIC SETBACK TO PROGRESS PREDICTED IF THE CONTINUITY OF ESSENTIAL TB SERVICES NOT ENSURED

IF TB DETECTION DROPS BY 50% OVER THREE MONTHS, THE NUMBER OF TB DEATHS WORLDWIDE WOULD INCREASE BY NEARLY 400 000.

* These estimates include TB deaths among HIV-positive individuals.

THE COVID-19 PANDEMIC AND TB – IMPACT AND IMPLICATIONS

The COVID-19 pandemic threatens to reverse recent progress in reducing the global burden of TB disease.

The global number of TB deaths could increase by around 0.2–0.4 million in 2020 alone, if health services are disrupted to the extent that the number of people with TB who are detected and treated falls by 25–50% over a period of 3 months. In India, Indonesia, the Philippines and South Africa, four countries that account for 44% of global TB cases, there were large drops in the reported number of people diagnosed with TB between January and June 2020. Compared with the same 6-month period in 2019, overall reductions in India, Indonesia and the Philippines were in the range 25–30%.

The economic impact of the pandemic is predicted to worsen at least two of the key determinants of TB incidence: GDP per capita and undernutrition. Modelling has suggested that the number of people developing TB could increase by more than 1 million per year in the period 2020–2025. The impact on livelihoods resulting from lost income or unemployment could also increase the percentage of people with TB and their households facing catastrophic costs.

In line with WHO guidance, actions that countries have reported taking to mitigate impacts on essential TB services include expanded use of digital technologies for remote advice and support (108 countries including 21 high TB burden countries) and reducing the need for visits to health facilities by giving preference to home-based treatment and providing TB patients with a one-month supply of drugs (100 countries including 25 high TB burden countries).

Negative impacts on essential TB services include the reallocation of human, financial and other resources from TB to the COVID-19 response. Many countries have reported the use of GeneXpert machines for COVID-19 testing instead of diagnostic testing for TB (43 countries including 13 high TB burden countries), reassignment of staff in national TB programmes to COVID-19 related duties (85 countries including 20 high TB burden countries), and reallocation of budgets (52 countries including 14 high TB burden countries). Smaller but still considerable numbers of countries reported reducing the number of health facilities providing inpatient and outpatient care for people with TB (35 and 32 countries, respectively). In many countries, data collection and reporting have also been affected.

An ex-inmate undertaking TB outreach in a prison, Paraguay.
John Rae Photography

TB DIAGNOSIS AND TREATMENT

Globally, 7.1 million people with TB were reported to have been newly diagnosed and notified in 2019, up from 7.0 million in 2018 and a large increase from 6.4 million in 2017 and 5.7–5.8 million annually in the period 2009–2012.

Many countries have increased the number of people newly diagnosed with TB since 2013. The biggest contributors to the global increase were India and Indonesia, the two countries that rank first and second worldwide in terms of estimated incident cases per year.[15] In India, notifications of people newly diagnosed with TB rose from 1.2 million to 2.2 million between 2013 and 2019 (+74%). In Indonesia, the number rose from 331 703 in 2015 to 562 049 in 2019 (+69%).

Despite increases in TB notifications, there was still a large gap (2.9 million) between the number of people newly diagnosed and reported and the 10 million people estimated to have developed TB in 2019. This gap is due to a combination of underreporting of people diagnosed with TB and underdiagnosis (if people with TB cannot access health care or are not diagnosed when they do).

Five countries accounted for more than half of the global gap: India (17%), Nigeria (11%), Indonesia (10%), Pakistan (8%) and the Philippines (7%). In these countries especially, intensified efforts are required to reduce underreporting and improve access to diagnosis and treatment.

As countries intensify efforts to improve TB diagnosis and treatment and close gaps between incidence and notifications, the proportion of notified cases that are bacteriologically confirmed needs to be monitored, to ensure that people are correctly diagnosed and started on the most effective treatment regimen as early as possible. The aim should be to increase bacteriological confirmation by scaling up the use of WHO-recommended diagnostics (e.g. rapid molecular tests) as the initial diagnostic test for TB. In 2019, 57% of pulmonary cases were bacteriologically confirmed, a slight increase from 55% in 2018. In high-income countries with widespread access to the most sensitive diagnostic tests, about 80% of pulmonary TB cases are bacteriologically confirmed.

The percentage of notified TB patients who had a documented HIV test result in 2019 was 69%, up from 64% in 2018. In the WHO African Region, where the burden of HIV-associated TB is highest, 86% of TB patients had a documented HIV test result. A total of 456 426 people with TB coinfected with HIV were reported, of whom 88% were on antiretroviral therapy.

The treatment success rate for people newly enrolled on treatment in 2018 was 85%.

A doctor examining a TB patient in a government TB hospital, India.
Prabhat Kumar Verma/Pacific Press/Alamy

CLOSING GAPS IN CARE

2.9 MILLION GLOBAL GAP IN 2019

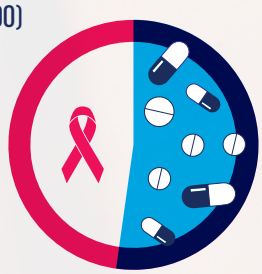
7,1 MILLION WERE DETECTED AND NOTIFIED

2,9 MILLION PEOPLE WITH TB WERE UNDIAGNOSED OR DETECTED AND NOT REPORTED

TOP 5 COUNTRIES WITH THE BIGGEST GAPS

INDIA
NIGERIA
INDONESIA
PAKISTAN
PHILIPPINES

815 000
(729 000 - 906 000)
PEOPLE WITH HIV FELL ILL WITH TB



56% DETECTED AND NOTIFIED OF WHOM

88% WERE ON ANTIRETROVIRAL THERAPY

IN 2019

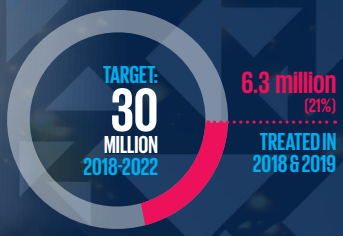
ABOUT 0.5 MILLION PEOPLE FELL ILL WITH MDR/RR-TB*

ONLY 38% PEOPLE ACCESSED TREATMENT

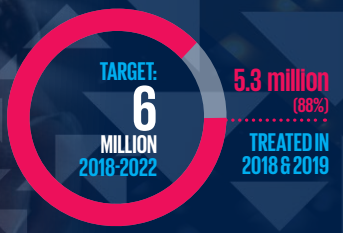
OF THOSE TREATED, ONLY 57% WERE TREATED SUCCESSFULLY

* MDR/RR-TB refers to multidrug and rifampicin-resistant TB.
The 95% uncertainty interval for the incidence of rifampicin-resistant TB is 400 000 - 535 000.
About 78% of these cases had multidrug-resistant TB.

TB PREVENTIVE TREATMENT (ALL AGES)



PEOPLE LIVING WITH HIV



HOUSEHOLD CONTACTS AGED < 5 YEARS

HOUSEHOLD CONTACTS AGED ≥ 5 YEARS

DRUG-RESISTANT TB: DIAGNOSIS AND TREATMENT

In accordance with WHO guidelines, detection of MDR/RR-TB requires bacteriological confirmation of TB and testing for drug resistance using rapid molecular tests, culture methods or sequencing technologies. Treatment requires a course of second-line drugs for at least 9 months and up to 20 months, supported by counselling and monitoring for adverse events. WHO recommends expanded access to all-oral regimens.

There was some progress in testing, detection and treatment of MDR/RR-TB between 2018 and 2019. Globally in 2019, 61% of people with bacteriologically confirmed TB were tested for rifampicin resistance, up from 51% in 2017 and 7% in 2012.[16] Coverage of testing was 59% for new and 81% for previously treated TB patients. A global total of 206 030 people with MDR/RR-TB were detected and notified in 2019, a 10% increase from 186 883 in 2018, and 177 099 people were enrolled in treatment, up from 156 205 in 2018.

Despite these improvements, the number of people enrolled in treatment in 2019 was equivalent to only 38% of the estimated number of people who developed MDR/RR-TB in 2019. Closing this wide gap requires one or more of the following: improving detection of TB; increasing bacteriological confirmation among those diagnosed with TB; expanding the coverage of testing for drug resistance among those with bacteriologically confirmed TB; and ensuring that all those diagnosed with MDR/RR-TB are enrolled in treatment.

Ten countries accounted for 77% of the global gap between treatment enrolments and the estimated number of new cases of MDR/RR-TB in 2019, and thus will have a strong influence on progress in closing this gap. China and India accounted for 41% of the global gap.[17]

The latest treatment outcome data for people with MDR/RR-TB show a global treatment success rate of 57%. Three examples of high MDR-TB burden countries with relatively high TB treatment coverage that have higher treatment success rates for MDR/RR-TB (≥75%) are Ethiopia, Kazakhstan and Myanmar.

TB PREVENTION SERVICES

The main health care intervention available to reduce the risk of TB infection progressing to active TB disease is TB preventive treatment.[18] Other interventions are TB infection prevention and control; and vaccination of children with the bacille Calmette–Guérin (BCG) vaccine, which can confer protection, especially from severe forms of TB in children.

WHO guidance recommends TB preventive treatment for people living with HIV, household contacts of bacteriologically confirmed pulmonary TB cases and clinical risk groups (e.g. those receiving dialysis). Globally in 2019, TB preventive treatment was provided to 4.1 million people, up from 2.2 million in 2018.

People living with HIV accounted for 85% (3.5 million) of the 2019 total. Of the 3.5 million, three countries – India, the United Republic of Tanzania and South Africa – accounted for 25%, 17% and 14%, respectively. Numbers of household contacts provided with TB preventive treatment were much smaller: 423 607 in 2018 and 538 396 in 2019. Of these, 81% were children under 5 years (349 796 in 2018 and 433 156 in 2019, equivalent to 27% and 33% of the 1.3 million estimated to be eligible) and 19% were people in older age groups (73 811 in 2018 and 105 240 in 2019). Substantial scale-up will be needed to reach the targets set at the UN high-level meeting on TB. Building synergies with contact tracing efforts related to the COVID-19 pandemic may help.

The COVID-19 pandemic has also highlighted the importance of infection prevention and control in health care facilities and congregate settings, for both health care workers and people seeking care.

In 2019, 153 countries reported providing BCG vaccination as a standard part of childhood immunization programmes, of which 87 reported coverage of ≥90%.

FINANCING FOR TB PREVENTION, DIAGNOSIS AND TREATMENT

Funding for the provision of TB prevention, diagnostic and treatment services has doubled since 2006 but still falls far short of what is needed.

In 121 low- and middle-income countries that reported data (and accounted for 98% of reported TB cases globally), funding is projected to reach US$ 6.5 billion in 2020. This is higher than estimated expenditures of US$ 6.0–6.1 billion annually in these countries between 2017 and 2019, but still only 50% of the global target of at least US$ 13 billion annually by 2022. Moreover, the final amount may be lower due to reallocation of funding for the COVID-19 response.

As in previous years, most of the funding (85%) available in 2020 is from domestic sources. This aggregate figure is strongly influenced by the BRICS group of countries (Brazil, Russian Federation, India, China and South Africa). The BRICS countries account for 57% of the available funding in 2020, and 97% of their funding is from domestic sources.

In other low- and middle-income countries, international donor funding remains crucial, accounting for 44% of the funding available in the 25 high TB burden countries outside BRICS and 57% of the funding available in low-income countries.

International donor funding, as reported by national TB programmes (NTPs), increased from US$ 0.9 billion in 2019 to US$ 1.0 billion in 2020. The single largest source (77% of the total in 2020) is the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund). The largest bilateral donor is the US government, which provides almost 50% of total international donor funding for TB, when combined with funds channelled through and allocated by the Global Fund.

UNIVERSAL ACCESS TO TB PREVENTION, DIAGNOSIS, TREATMENT AND CARE

TB screening activities in a rural village, Cambodia.
Yoshi Shimizu/WHO

UNIVERSAL HEALTH COVERAGE, SOCIAL DETERMINANTS AND MULTISECTORAL ACTION

The End TB Strategy milestones for 2020 and 2025 can only be achieved if TB diagnosis, treatment and prevention services are provided within the context of progress towards UHC, and if there is multisectoral action and accountability to address the broader determinants that influence TB epidemics and their socioeconomic impact.

UHC means that everyone can obtain the health services they need without suffering financial hardship. SDG Target 3.8 is to achieve UHC by 2030; the two indicators to monitor progress are a UHC service coverage index (SCI), and the percentage of the population experiencing household expenditures on health care that are large in relation to household expenditures or income.

The global SCI increased steadily between 2000 and 2017, from 45 (out of 100) in 2000 to 66 in 2017. Improvements were made in all WHO regions and all World Bank income groups. However, values of the SCI in 2017 in the 30 high TB burden countries were mostly in the range of 40–60.

In 2015, at least 930 million people, or 12.7% of the world's population, faced out-of-pocket expenditures on health care that accounted for 10% or more of their household expenditure or income (a threshold used within the SDG framework to define direct expenditures on health in the general population as catastrophic), up from 9.4% in 2010.

Among high TB burden countries, Thailand stands out as having a high SCI of 80 and a low level of catastrophic health expenditures (2% of households). Brazil and China both had a relatively high SCI of 79.

Many new cases of TB are attributable to five risk factors: undernutrition, HIV infection, alcohol use disorders, smoking (especially among men) and diabetes. In 2019, the estimated numbers of cases attributable to these risk factors were 2.2 million, 0.76 million, 0.72 million, 0.70 million and 0.35 million, respectively. In the context of the COVID-19 pandemic, multisectoral action to address these and other determinants of TB and its consequences, including GDP per capita, poverty and social protection, is more important than ever.

Following the request to the WHO Director-General at the UN high-level meeting, a multisectoral accountability framework for TB (MAF-TB) was released by WHO in May 2019. The framework has four major components: commitments; actions; monitoring and reporting; and review. These apply at the global/regional level, and at national (including subnational) level.

At global level, actions taken by WHO include: the development of a MAF-TB checklist; high-level missions; the WHO Director-General Initiative Find.Treat. All#EndTB; engagement of civil society (e.g. the WHO Civil Society Task Force on TB) and youth; updating of guidelines and tools; and development and release of a global strategy for TB research and innovation. Global monitoring, reporting and review has been ensured through annual rounds of data collection, the WHO global TB report, TB reports to the World Health Assembly and the UN Secretary-General 2020 progress report on TB.

Countries have started to adapt and use the MAF-TB. In terms of actions in 2020, 25/30 high TB burden countries reported that they had developed or updated a national strategic plan for TB since the UN high-level meeting on TB, with countries reporting the involvement of civil society and affected communities in 29/30. Most high TB burden countries (27/30) reported that they produce an annual TB report. High-level review mechanisms were stated to be in place in 16/30 countries. More detailed assessments of the status of accountability using the checklist developed by WHO are underway.

TB RESEARCH AND INNOVATION

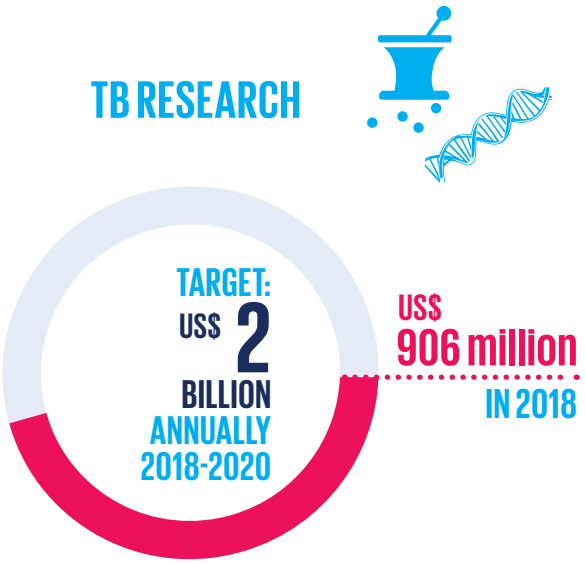
The SDG and End TB Strategy targets set for 2030 cannot be met without intensified research and innovation. Technological breakthroughs are needed by 2025, so that the annual decline in the global TB incidence rate can be accelerated to an average of 17% per year. Priorities include a vaccine to lower the risk of infection, a vaccine or new drug treatment to cut the risk of TB disease in the approximately 2 billion people already infected, rapid diagnostics for use at the point of care, and simpler, shorter treatments for TB disease.

The diagnostic pipeline appears robust in terms of the number of tests, products or methods in development. Examples include several cartridge-based technologies for the detection of drug resistance; next-generation sequencing (NGS) assays for detecting drug-resistant TB directly from sputum specimens; and newer skin tests and interferon gamma release assays (IGRA) to test for TB infection.

As of August 2020, there were 22 drugs, various combination regimens and 14 vaccine candidates in clinical trials.

Final results from a Phase IIb trial of the M72/AS01E vaccine candidate showed a 50% (90% CI: 12–71%) point estimate for vaccine efficacy for people with TB infection after 3 years of follow-up. If the findings are confirmed in a Phase III trial, this vaccine could transform global TB prevention efforts. In 2020, the Gates Medical Research Institute obtained a license to develop M72/AS01E for use in low-income countries.

A Global Strategy for TB Research and Innovation was adopted by all WHO Member States through a World Health Assembly resolution in August 2020. The strategy aims to support countries and relevant stakeholders to translate commitments in the Moscow Declaration and the political declaration of the UN high-level meeting on TB into concrete actions. WHO has also developed a TB/ COVID-19 research compendium and launched a toolkit to support expanded use of digital technologies in TB care.



1 For these people, the lifetime risk of developing TB disease is about 5–10%.

2 WHO's annual rounds of global TB data collection and the annual WHO Global TB Report are key elements of "monitoring and reporting" in the WHO multisectoral accountability framework for TB.

3 The UN Secretary General's report was released in October 2020.

4 The treatment targets were built on the WHO Flagship Initiative "Find. Treat. All. #EndTB" and the funding targets were based on the Stop TB Partnership's Global Plan to End TB, 2018–2022.

5 Here and elsewhere, "range" in the context of estimates of TB disease burden refers to the 95% uncertainty interval.

6 When an HIV-positive person dies from TB disease, the underlying cause is coded as HIV in the International Classification of Diseases system.

7 The other 22 countries are Angola, Brazil, Cambodia, Central African Republic, the Congo, the Democratic People's Republic of Korea, the Democratic Republic of the Congo, Ethiopia, Kenya, Lesotho, Liberia, Mozambique, Myanmar, Namibia, Papua New Guinea, the Russian Federation, Sierra Leone, Thailand, the United Republic of Tanzania, Viet Nam, Zambia and Zimbabwe.

8 The 95% uncertainty interval is 400 000–535 000.

9 MDR-TB is defined as resistance to rifampicin and isoniazid.

10 Reductions in other WHO regions were 3.5% in the Eastern Mediterranean Region, 8.7% in the South-East Asia Region and 6.1% in the Western Pacific Region. In the WHO Region of the Americas, incidence is slowly increasing, owing to an upward trend in Brazil.

11 Including TB deaths among both HIV-negative and HIV-positive people.

12 Reductions in other WHO regions were 6.1% in the Americas, 11% in the Eastern Mediterranean, 10% in South-East Asia and 17% in the Western Pacific.

13 Calculated as the sum of direct medical expenditures, non-medical expenditures and income losses.

14 Funding for TB research is monitored by Treatment Action Group; the latest data are from their 2019 report.

15 Other countries with large relative increases in 2017–2019 are shown in **Fig. 5.2**.

16 The numbers cited refer to pulmonary cases.

17 The other 8 countries were the Democratic Republic of the Congo, Indonesia, Myanmar, Nigeria, Pakistan, the Philippines, the Russian Federation and Viet Nam.

18 The drug regimens currently recommended by WHO are explained in **Chapter 6**.

A laboratory specialist in the National TB Reference Laboratory, Belarus.
Maxim Dondyuk/WHO

CONCLUSION

Leaders of all UN Member States have committed to "ending the global TB epidemic" by 2030, backed up by concrete milestones and targets.

Progress is being made. At the end of 2019, global indicators for reductions in TB disease burden, improved access to TB prevention and care and increased financing were all moving in the right direction. The WHO European Region and several high TB burden countries are on track to reach 2020 milestones for reductions in TB cases and deaths. However, agreed milestones and targets are not on track to be met globally and the COVID-19 pandemic now threatens to stall or reverse the progress that has been achieved. The UN Secretary-General's 2020 progress report on TB urges countries to implement 10 priority recommendations needed to reach targets and reduce the enormous human and societal toll caused by TB (10 priority recommendations of the UN Secretary-General's 2020 progress report on TB for actions needed to accelerate progress towards global TB targets). The overarching message of this report and that of the UN Secretary-General's 2020 progress report on TB is the same. High-level commitments have galvanized global, regional and national progress towards ending TB, but urgent and more ambitious investments and actions are required to put the world on track to reach targets, especially in the context of the COVID-19 pandemic.

10 PRIORITY RECOMMENDATIONS OF THE UN SECRETARY-GENERAL'S 2020 PROGRESS REPORT ON TB FOR ACTIONS NEEDED TO ACCELERATE PROGRESS TOWARDS GLOBAL TB TARGETS

1. Fully activate high-level leadership to urgently reduce TB deaths and drive multisectoral action to end TB
2. Urgently increase funding for essential TB services including for the health workforce
3. Advance universal health coverage to ensure all people with TB have access to affordable quality care and resolve underreporting challenges
4. Address the drug-resistant TB crisis to close persistent gaps in care
5. Dramatically scale up provision of TB preventive treatment
6. Promote human rights and combat stigma and discrimination
7. Ensure meaningful engagement of civil society, communities and people affected by TB
8. Substantially increase investments in TB research to drive technological breakthroughs and rapid uptake of innovations
9. Ensure that TB prevention and care are safeguarded in the context of COVID-19 and other emerging threats
10. Request WHO to continue to provide global leadership for the TB response, working in close collaboration with Member States and other stakeholders, including to prepare for a High-Level Meeting on TB in 2023

END TB

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