Seventy-eighth session
Item 129 of the provisional agenda*
Global health and foreign policy

Comprehensive review of progress towards the achievement of global tuberculosis targets and implementation of the political declaration of the United Nations high-level meeting of the General Assembly on the fight against tuberculosis

Report of the Secretary-General**

Summary

The present report is submitted pursuant to General Assembly resolution 77/274, in which the Assembly requested the Secretary-General, with the support of the World Health Organization, to submit a follow-up comprehensive and analytical report on progress achieved and challenges remaining in realizing tuberculosis goals within the context of achieving the 2030 Agenda for Sustainable Development, including on the progress and implementation of the 2018 political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis, which will serve to inform the preparations for a comprehensive review by Heads of State and Government at the high-level meeting in 2023. The report provides overview of actions taken by Member States, the World Health Organization, communities and partners over a period of five years, from 2018 to 2022.

* A/78/50.
** The present report was submitted late in order to reflect the most recent information.
I. Introduction

1. The global tuberculosis (TB) epidemic is a serious threat to human health and development requiring urgent action. As the present report shows, the epidemic shows no sign of weakening. In 2021, the number of people who developed TB increased globally after many years of slow decline. An estimated 10.6 million people fell sick with the disease and 1.6 million died in 2021. Almost one third of deaths among people living with HIV are due to TB. With close to half a million people developing multidrug- or rifampicin-resistant TB (MDR/RR-TB) annually, it is also a major contributor to antimicrobial resistance. About a quarter of the world’s population is infected with Mycobacterium tuberculosis, which increases the risk of developing TB disease.

2. The encouraging progress made in TB prevention and care in 2018 and 2019 has reversed as a result of the adverse impacts of the coronavirus disease (COVID-19) pandemic, with both the incidence of and mortality resulting from TB increasing in 2020 and 2021. Against this backdrop, there has been progress in expanding multisectoral collaboration approaches; increasing the availability of novel and more effective prevention, diagnostic and treatment options; improving community-based care; and building a strong foundation for a robust and effective TB response. With adequate financing, leadership and action to facilitate the affordable and equitable provision of TB services, social protection measures and effective vaccines, the TB epidemic could be brought to an end by 2030.

3. In the historic political declaration entitled “United to end tuberculosis: an urgent global response to a global epidemic”, of the first high-level meeting of the General Assembly on the fight against TB (resolution 73/3), Member States committed to comprehensive, time-bound targets and actions to enhance equitable access to TB services, protect human rights, address determinants, reduce vulnerability, accelerate research and innovation, and mobilize sufficient resources to support those endeavours. The political declaration also reaffirmed the commitments to end TB envisioned in the End TB Strategy of the World Health Organization (WHO) and the Sustainable Development Goals.

4. As requested in the political declaration, the Secretary-General, with support from the Director General of WHO, prepared a mid-term progress report, which was issued in 2020 (A/75/236). The report indicated that the political declaration had been widely embraced as an important tool to strengthen and accelerate the global response to TB and increase accountability in the fight against TB. The report also established that a number of Member States had met important milestones towards the 2030 targets set out in the End TB Strategy. However, progress was uneven among countries and regions, and, for the most part, access to TB services and financing was adversely affected by the COVID-19 pandemic.

5. The present report builds on the Secretary-General’s 2020 report to provide a comprehensive overview of progress in the context of today’s unprecedented challenges to global health and highlights priority actions that could contribute to a TB-free world. Its objective is to inform the review by Heads of State and
Government to be conducted at the second United Nations high-level meeting on the fight to end TB in 2023. The report covers:

(a) Progress towards global TB targets;
(b) Progress in translating commitments into action;
(c) The impact of the COVID-19 pandemic, armed conflict and climate change on the TB response;
(d) Recommendations.

II. Progress towards global tuberculosis targets

6. The global TB targets set out in the Sustainable Development Goals and the End TB Strategy call for reductions in the TB disease burden, which is measured as TB incidence (new cases per 100,000 people per year),\(^7\) the number of TB deaths and the number of TB-affected households facing catastrophic costs. The 2018 political declaration reaffirmed these targets and set new targets for TB treatment, preventive treatment and funding (see table).\(^8\)

Global tuberculosis targets set out in the Sustainable Development Goals, the End TB Strategy and the political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis

<table>
<thead>
<tr>
<th>Plan of action</th>
<th>Targets</th>
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<tbody>
<tr>
<td>Sustainable Development Goal target 3.3</td>
<td>By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases</td>
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<tr>
<td>WHO End TB Strategy</td>
<td>80 per cent reduction in TB incidence by 2030, compared with 2015</td>
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<td>2020 milestone: 20 per cent reduction</td>
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<td>2025 milestone: 50 per cent reduction</td>
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<td>90 per cent reduction in the number of TB deaths by 2030, compared with 2015</td>
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<td>2020 milestone: 35 per cent reduction</td>
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<td>2025 milestone: 75 per cent reduction</td>
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<td>Political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis (2018)</td>
<td>No TB-affected households face catastrophic costs by 2020</td>
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<td>40 million people treated for TB from 2018–2022, including:</td>
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<td>• 3.5 million children</td>
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<td></td>
<td>• 1.5 million people with drug-resistant TB, including 115,000 children</td>
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\(^7\) The indicator of TB incidence for Sustainable Development Goal target 3.3, measured as the number of new cases per 100,000 people per year. See https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202020%20review_Eng.pdf.

\(^8\) The funding targets were based on Stop TB Partnership, The Paradigm Shift: Global Plan to End TB 2018–2022 (Geneva, 2019).
Plan of action | Targets
---|---
At least 30 million people provided with preventive treatment for TB from 2018–2022, 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 $13 billion per year for universal access to TB prevention, diagnosis, treatment and care by 2022

Funding of at least $2 billion per year for TB research from 2018–2022

7. The sections below provide an overview of progress towards global TB targets by the end of 2021, based primarily on data compiled by the WHO Global TB Programme from all Member States in annual rounds of data collection, complemented by monthly and quarterly national TB case notification data, as well as data from national surveys and databases managed by other WHO programmes and global agencies. The sections that follow first cover the targets under the Sustainable Development Goals and the End TB Strategy (sects. II.A, II.B and II.C), followed by the new targets set out in the political declaration (sects. II.D, II.E and II.F).

A. Incidence of global tuberculosis disease increased during the COVID-19 pandemic

8. Reduction in TB incidence is a target set under the Sustainable Development Goals and the End TB Strategy. Without significantly reducing TB incidence, expanded access to treatment becomes unsustainable and people will continue falling ill and dying from TB. For most of the past two decades, the TB incidence rate (new cases per 100,000 people per year) declined slowly, at a rate of about 2 per cent per year; however, this progress has reversed in recent years, with the incidence rate increasing by 3.6 per cent between 2020 and 2021 (see figure I). As a result, the absolute number of people who developed TB disease increased for the first time since 2006, reaching 10.6 million in 2021 (an increase of 4.5 per cent from the year before). Specifically, TB incidence increased in 80 countries and territories between 2020 and 2021. This can be attributed to the impact of disruptions to essential TB services during the COVID-19 pandemic.

9. TB affects people in all age groups (see figure II), but its greatest impact is among adults and adolescents, who represent more than 90 per cent of cases. It affects proportionately more men (56.5 per cent of cases) than women (32.5 per cent of cases) or children (11 per cent of cases). Close to 7 per cent of the total TB incidence was among people living with HIV. The 30 countries with high TB burdens accounted for 86 per cent of those affected. In geographical terms, in 2021, most people who developed TB were in the WHO Regions of South-East Asia (45 per cent), Africa (23 per cent) and the Western Pacific (18 per cent), with small proportions in the Eastern Mediterranean (8.1 per cent), the Americas (2.9 per cent) and Europe (2.2 per cent).
Figure I
Global tuberculosis incidence over time, 2000–2021

Note: For comparison, the solid black line shows the number of people with TB who were notified (officially reported) to national authorities, per 100,000 people.

Figure II
Global estimates of tuberculosis incidence and case notifications of people newly diagnosed with tuberculosis, by age and sex

Note: The black outlines for each age group represent global estimates of TB incidence and shaded areas represent case notifications.

10. Worldwide, the cumulative reduction in TB incidence from 2015 to 2020 was 13.5 per cent, but this rate levelled off to 10.4 per cent by 2021 owing to challenges associated with the COVID-19 pandemic. That progress was halfway to the End TB Strategy milestone of 20 per cent reduction in TB incidence by 2020 and a long way from the second milestone of a 50 per cent reduction by 2025. Although progress remains far from the global target, some countries and regions have seen a significant decline in TB incidence. For example, the most recent data show that the WHO European and African Regions exceeded the 2020 milestone, achieving 24 per cent and 22 per cent incidence reductions, respectively. Reductions achieved in other
regions were 5.3 per cent in the Eastern Mediterranean, 11 per cent in South-East Asia, 2.3 per cent in the Western Pacific. In the WHO Region of the Americas, TB incidence increased by 9.4 per cent during this period.

11. Overall, 89 countries and territories, including seven countries with high TB burdens\(^9\) (Ethiopia, Kenya, Lesotho, Namibia, South Africa, United Republic of Tanzania and Zambia) and three countries from the global TB watchlist\(^10\) (Cambodia, Russian Federation and Zimbabwe), achieved or exceeded the End TB Strategy 2020 milestone for TB incidence reduction by 2021.

12. Sixty countries and territories had a low incidence of TB (<10 cases per 100,000 people per year) in 2021, mostly in the WHO Region of the Americas and the European Region, in addition to a few countries in the Eastern Mediterranean and Western Pacific Regions. These countries are well placed to target TB elimination (<1 case per 1,000,000 people per year).

**B. Increase in tuberculosis deaths in 2020 and 2021 is associated with the COVID-19 pandemic**

13. Worldwide, TB is one of the leading infectious disease killers.\(^11\) The most recent year for which WHO has published estimates of global deaths by cause is 2019. In that year, TB was the thirteenth leading cause of death worldwide and the top cause from a single infectious agent. From the regional perspective, TB ranked as the fifth leading cause of death in the WHO Region of South-East Asia, eighth in the African Region and thirteenth in the Eastern Mediterranean Region. The annual number of deaths from TB fell between 2005 and 2019 but this trend reversed in 2020 and 2021. In 2021, TB caused 1.6 million deaths, including among HIV-positive people.\(^12\) There were an estimated 187,000 TB-related deaths in 2021 among people living with HIV, representing a 67 per cent reduction since 2010. The 2021 Political Declaration on HIV and AIDS: Ending Inequalities and Getting on Track to End AIDS by 2030 (General Assembly resolution 75/284) requires an 80 per cent reduction in TB-related deaths among people living with HIV by 2025 (compared to a 2010 baseline).

14. The African and South-East Asia Regions accounted for 82 per cent of all deaths from TB of HIV-negative and HIV-positive people. The first milestone of the End TB Strategy calls for a 35 per cent reduction in TB deaths between 2015 and 2020. The reduction globally during that period was 9.5 per cent, less than half of the target. This rate retracted further, to a 5.9 per cent reduction in TB deaths in 2021 (see figure II). The global pattern of a fall in the TB mortality rate before 2019, followed by increases in 2020 and 2021, is evident in five of the six WHO regions. The exception was the African Region, where there was a continued decline in the mortality rate; the region achieved a 26 per cent reduction in TB deaths between 2015 and 2021. The WHO European Region was on track to reach the 2020 milestone, with a 28 per cent reduction from 2015 to 2019, but this trend reversed in 2020 and 2021. Mortality also decreased slightly in the Eastern Mediterranean Region, by 2 per cent. However, mortality increased by 31 per cent in the Region of the Americas, by 9 per cent in South-East Asia and by 19 per cent in the Western Pacific between 2015 and 2021.

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\(^9\) In 2021, WHO updated the list of 30 countries with high TB burdens for the period 2021–2025. It also defined lists of countries that had high multidrug-resistant TB burdens and high TB/HIV burdens.

\(^10\) In 2021, WHO established a “global TB watchlist” category to highlight countries that had transitioned out of the global list of 30 countries with high TB burdens. In 2021, those countries were Cambodia, the Russian Federation and Zimbabwe.

\(^11\) For further details, please see the annual WHO Global Tuberculosis Reports. Available at [www.who.int/teams/global-tuberculosis-programme/tb-reports](http://www.who.int/teams/global-tuberculosis-programme/tb-reports).

\(^12\) When an HIV-positive person dies from TB, under the International Classification of Diseases system, the underlying cause is coded as HIV.
15. Among countries with a high TB burden, six (Bangladesh, Kenya, Mozambique, Uganda, United Republic of Tanzania and Zambia) have achieved the 2020 milestone of 35 per cent reduction in mortality by 2021, while Ethiopia made considerable progress by achieving a 34 per cent decline. Among countries on the global TB watchlist, the Russian Federation has also achieved this milestone.

C. Half of people who have tuberculosis, and their households, face financial hardship because of tuberculosis disease and its treatment

16. The 2030 Agenda for Sustainable Development emphasizes that all people should receive the quality health services they need without facing financial hardship (see target 3.8). The End TB Strategy reaffirms this commitment and seeks to capture the existing financial burden through measurement of TB-related catastrophic costs, defined as total costs equivalent to 20 per cent or more of annual household income. National surveys since 2015 have found that roughly 48 per cent of people who have TB, and their households, face catastrophic costs (see figure IV). Among people with drug-resistant TB, the rate is much higher (82 per cent). No country has met the target that no TB-affected households face catastrophic costs.

17. Loss of income and increased poverty resulting from the global economic recession caused by the COVID-19 pandemic, compounded by TB-related stigma and discrimination and the rising cost of living, are expected to worsen the TB crisis, including financial hardship stemming from out-of-pocket health spending for those seeking care.\textsuperscript{13}

D. Tuberculosis treatment saved millions of lives but did not reach the 40 million people targeted for care between 2018 and 2022

18. TB treatment has saved 74 million lives since 2000. However, owing to disruptions to TB services caused by the COVID-19 pandemic, the annual number of people reported to have accessed TB treatment decreased from 7.1 million in 2019 to 6.4 million in 2021 (see figure V). Similarly, the annual number of people enrolled in treatment for MDR/RR-TB declined from 181,533 in 2019 to 161,746 in 2021 (see figure VI). Member States have made significant efforts to mitigate and recover from the impacts of the COVID-19 pandemic, in line with WHO guidance on ensuring continuity of TB services. Provisional data from countries indicate that the number of people accessing TB treatment significantly increased in 2022, signalling a recovery from disruptions caused by the COVID-19 pandemic.

Figure VI
Number of people enrolled in treatment for multidrug- or rifampicin-resistant tuberculosis worldwide, 2015–2021

![Figure VI](image)

**Note:** Global data disaggregated by age were not available prior to 2018.

19. In the political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis, Member States committed to treating 40 million people for TB between 2018 and 2022, including people with drug-resistant forms of TB and children. A total of 26.3 million people were treated for TB between 2018 and 2021, representing 66 per cent of the cumulative five-year target (see figure VII). Globally, progress towards meeting the cumulative five-year target of treating 1.5 million people for MDR/RR-TB reached 43 per cent. The total number of children receiving TB treatment was 1.9 million, representing 54 per cent of the cumulative five-year target of 3.5 million, although the proportion of children with MDR/RR-TB who received treatment remained very low.

Figure VII
**Global progress in the number of people treated for tuberculosis, 2018–2021**

20. A total of 23 countries reported a 10 per cent or more increase in the number of people treated for TB from 2018 to 2021. Of those countries, increases in the number of people being treated in absolute terms were particularly large in Nigeria and India, which reported 100,000 and 56,000 additional people treated, respectively. Among the other 28 countries with high TB burdens, high levels of treatment coverage\textsuperscript{15} (>75 per cent) have already been achieved in Bangladesh, Brazil, China, Uganda and Zambia.

\textsuperscript{15} Defined as the number of people started on treatment divided by the estimated number of cases in the same year.
21. A total of 61 countries reported an increase by 10 per cent or more in the number of people enrolled in treatment for MDR/RR-TB from 2018 to 2021. The five countries with the biggest increases in absolute numbers were, from largest to smallest, India, China, the Russian Federation, Indonesia and Angola. Of the 30 countries with a high MDR/RR-TB burden, those that had the smallest gaps between the estimated number of cases of MDR/RR-TB and the number of people enrolled in treatment in 2021 included Azerbaijan, Belarus, Kazakhstan, Peru, the Republic of Moldova, the Russian Federation and Uzbekistan.

E. **Number of people provided preventive treatment for tuberculosis significantly increased between 2018 and 2021 but remains far below the target of 30 million**

22. Prevention is an essential part of the response to the TB epidemic, but it is not implemented at a scale that would curb it. WHO recommends TB preventive treatment for people living with HIV, the household contacts of those who have bacteriologically confirmed pulmonary TB and clinical risk groups (e.g. people who receive dialysis). The number of people living with HIV and household contacts given TB preventive treatment has increased in recent years, from 1.0 million in 2015 to 3.5 million in 2021 (see figure VIII).

23. Member States committed to providing TB preventive treatment to 30 million people between 2018 and 2022, including people with HIV and the contacts of TB patients. A total of 12.5 million people received TB preventive treatment between 2018 and 2021, representing 42 per cent of the cumulative five-year target (see figure IX). Most of these were people living with HIV. India and South Africa accounted for 15 per cent and 14 per cent, respectively, of the combined total for 2018–2021.

**Figure VIII**

**Number of people provided with preventive treatment for tuberculosis worldwide, 2015–2021**

24. At the subpopulation level, the target of providing preventive treatment for 6 million people living with HIV was reached in 2020. In contrast, only 40 per cent of the target set for the number of household contacts under the age of 5 receiving preventive treatment has been met. The number of household contacts aged 5 years and over receiving preventive treatment increased by 90 per cent between 2020 and 2021. However, the total number remains very small and only 3 per cent of the
cumulative five-year target has been met for this subpopulation. The expanded access to TB prevention treatment for people living with HIV needs to be matched for other risk groups to reduce illness and mortality among the most vulnerable.

Figure IX
Global progress in the provision of preventive treatment for tuberculosis, 2018–2021

F. In 2021, funding for universal access to tuberculosis services, research and innovation remained far below global targets

25. Expanding coverage of high-quality TB prevention, diagnosis, treatment and care services requires adequate and sustained investment. Funding for TB services in low- and middle-income countries was $6.0 billion in 2018, but decreased to $5.5 billion in 2020 and $5.4 billion in 2021 (see figure X). This amount falls far short of the target set in the political declaration of the high-level meeting of the General Assembly on the fight against TB of at least $13 billion per year by 2022.

26. Overall, 79 per cent of funding was from domestic sources in 2021, similar to previous years. However, aggregate figures are strongly influenced by Brazil, the Russian Federation, India, China and South Africa (the BRICS countries), which consistently accounted for more than 50 per cent of available funding between 2018 and 2021, of which more than 90 per cent was from domestic sources. In other low- and middle-income countries, international donor funding remained crucial, consistently accounting for at least 40 per cent of funding.

27. Since 2015, funding from international donors has been around $1 billion per year, with approximately two thirds of this total coming from the Global Fund to Fight AIDS, Tuberculosis and Malaria. The seventh Global Fund replenishment means that eligible countries will receive more financial support – $2.4 billion for the next grant cycle ($154.2 million higher than the current cycle) – although TB receives the smallest share of resources across the three diseases. The Government of the United States of America is the largest contributor of funding to the Global Fund and the largest bilateral donor; overall, it accounts for close to 50 per cent of international donor funding for TB.

28. The Stop TB Partnership’s Global Plan to End TB 2023–2030 estimates more funding ($22 billion annually) will be required in low- and middle-income countries between 2023 and 2030 to sufficiently finance TB programme operations, strengthen health systems and scale up access to new TB innovations, including the introduction and scaling up of a new TB vaccine, once available.16

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29. Funding for TB research has grown in recent years: between 2018 and 2021, it ranged from $0.9 billion to $1.0 billion, an increase from $772 million in 2017 (see figure XI). However, this amount was just half the target set at the 2018 high-level meeting of the General Assembly on the fight against TB of $2 billion per year. The Stop TB Partnership’s *Global Plan to End TB 2023–2030* estimates that a minimum of $5 billion annually will be required to meaningfully drive the development of improved tools to prevent, diagnose and treat TB.


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30. The two largest investors from 2018 to 2021 were the Government of the United States and the Bill and Melinda Gates Foundation, which in combination accounted for more than 50 per cent of total funding. In 2021, most of the funding came from the public sector (70 per cent), followed by the philanthropic (14 per cent), private (10 per cent) and multilateral (6 per cent) sectors. Approximately a little over one third of TB research funding was for drug research, followed by 17 per cent for basic science, 16 per cent for operational research, 12 per cent for vaccines, 15 per cent for diagnostics and 5 per cent for infrastructure/unspecified research.

G. Summary

31. Global and national progress towards TB targets has been made, but the targets were either not met or are not on track to be met at a global level (see figure XII). Of great concern is the fact that progress made by the end of 2019 was reversed by the COVID-19 pandemic (see sect. IV). The urgent actions required for faster progress are set out in section V.

Figure XII
Overview of progress towards global tuberculosis targets

(a) Sustainable Development Goals and End TB Strategy: status of target in 2021

(b) High-level meeting of the General Assembly on the fight against tuberculosis: status of targets for treatment in 2021

(c) High-level meeting of the General Assembly on the fight against tuberculosis: status of targets for increased funding in 2022
III. **Success and lessons learned from the translation of the five-year commitments into action**

32. The political declaration of the high-level meeting of the General Assembly on the fight against TB set out important commitments and urgent actions needed to reach global TB targets. These can be grouped under three themes, which align with the principles and pillars of the End TB Strategy\(^\text{18}\) of WHO:

   (a) Accelerating progress towards universal access to people-centred tuberculosis care and prevention;

   (b) Transforming the tuberculosis response with a focus on human rights, equity, multisectoral engagement and accountability;

   (c) Advancing science, research and innovation.

33. Section III provides an overview of the status of progress, using data compiled by the WHO Global TB Programme from all Member States through annual rounds of data collection, WHO reports and contributions from the Stop TB Partnership and the WHO Civil Society Task Force on TB.

**A. Accelerating progress towards universal access to people-centred tuberculosis care and prevention**

34. Universal health coverage means that everyone can obtain the health services they need without suffering financial hardship. Globally, the health service coverage index (see Sustainable Development Goal indicator 3.8.1), increased from a population-weighted average of 45 in 2000 to 67 in 2019: values were highest in the Western Pacific Region, the European Region and the Region of the Americas and lowest in the African Region (see figure XIII (a)).\(^\text{19}\) However, the average score observed in low-income countries in 2019 was half that of the average score observed in high-income countries, demonstrating inequity in health service coverage across countries (see figure XIII (b)).

35. The high percentage of people with TB and their households facing financial hardship (see figure IV above) is a clear illustration of the urgent need to improve financial protection to achieve universal health coverage. A joint WHO and World Bank report published in 2021 also illustrated that an unacceptably high number of people are impoverished or further impoverished by out-of-pocket health care expenditure.


Providing equitable access to quality tuberculosis services

36. In the End TB Strategy, progress towards universal health coverage is measured through TB treatment coverage, which measures the proportion of people with TB who can access high-quality treatment. In 2021, global TB treatment coverage (overall, for both HIV-negative and HIV-positive people) was 61 per cent – lower than the figure of 69 per cent recorded in 2019. Among the six WHO regions, treatment coverage was highest in the Region of the Americas (69 per cent) and lowest in the Eastern Mediterranean (58 per cent). Of the 30 countries with high TB burdens, those with the highest levels of treatment coverage in 2021 comprised Brazil, Bangladesh, China, Uganda and Zambia. Ten other countries with high TB burdens had worryingly low estimated levels of treatment coverage in 2021: less than 50 per cent.
37. Estimated treatment coverage was much lower among children and young adolescents aged 0–14 years (38 per cent) than people aged 15 years and above (63 per cent) in 2021. Uptake of TB preventive treatment was also lower among children. WHO has updated its guidance on the management of TB in children and adolescents as well as on drug-resistant TB treatment, to support access to child-friendly, shorter regimens for both drug-susceptible and resistant forms of TB. Child-friendly formulations for WHO-recommended oral medicines for the treatment of MDR/RR-TB are now commercially available.

38. In 2021, there was a gap of approximately 4 million between the annual number of people who developed TB (about 10.6 million) and the number who were officially notified (reported) to national authorities: an increase from 3.1 million in 2019 (see figure I above). These 4 million people are commonly referred to as “the missing people with TB”. Until 2019, there was encouraging progress in “finding the missing people with TB” (see sects. II.D and II.E above). Overall, there are two explanations for this gap. The first is underdiagnosis, either because people with TB do not reach health facilities (e.g. owing to legal, social or economic barriers) or because they are not diagnosed when they do. The second is underreporting of people diagnosed with TB, particularly in countries in which many private or public care providers are not closely linked to national TB programme.

39. Several efforts are under way to close this gap. In 2022, WHO led efforts to strengthen reporting and to track performance of the private health sector and the unengaged public health sector in the TB response, as outlined in the WHO public-private mix road map for TB prevention and care. The initiative was implemented in seven priority countries where the private sector accounted for more than 60 per cent of total health service provision. Furthermore, at least 20 countries with high TB burdens are scaling up implementation of approaches to strengthen the engagement of both private and public health-care providers.

40. The flagship initiative of the Director General of WHO, “FIND.TREAT.ALL. #EndTB”, which is a joint effort by WHO, the Global Fund and the Stop TB Partnership, has been working to “find the missing people with TB”. Since 2018, the initiative has provided a strong political platform to urge countries to prioritize efforts to end TB, including by setting country-specific targets and strengthening multisectoral partnerships and through high-level advocacy and campaigns. The Global Fund supported these efforts through its strategic initiative programme in 13 countries; this initiative was eventually expanded to 20 countries, accounting for some 75 per cent of missing people with TB for the period 2021–2023. The United States Agency for International Development continues to be a major contributor to reach the missing millions in priority countries. Given the positive impact of the first flagship initiative at the global and national level and based on advice from the Strategic and Technical Advisory Group for TB of WHO, the flagship initiative has been extended to cover the period 2023–2027. The renewed initiative features new targets and will intensify the focus on universal access to quality, WHO-recommended TB prevention and care, on advancing research, especially with regard to new TB vaccines, on strengthening engagement and accountability across sectors beyond health and on linkages to the broader health agendas on antimicrobial resistance, universal health coverage and pandemic preparedness and response. In this regard, the targets of the initiative can be used to support preparations by Member States for the high-level

22 See www.who.int/initiatives/find-treat-all-endtb.
meeting of the General Assembly on the fight against TB, to be held in September 2023.\textsuperscript{24}

**Addressing the drug-resistant tuberculosis crisis**

41. There was some global progress from 2018 to 2020 in overcoming the public health crisis of MDR/RR-TB, but incidence increased by 3.1 per cent in 2021 owing to disruptions caused by the COVID-19 pandemic. Since detection relies upon bacteriological confirmation of TB and testing for drug resistance, further improvements require an increase in the percentage of people diagnosed with TB whose infections have been bacteriologically confirmed and, among those, an increase in the coverage of testing for drug resistance.

42. In 2021, 63 per cent of people diagnosed with TB worldwide had their infections bacteriologically confirmed,\textsuperscript{25} up from 55 per cent in 2018. This number was higher in high-income countries (a median value in 2021 of 88 per cent), where there is widespread access to the most sensitive diagnostic tests. The global percentage of people with bacteriologically confirmed TB tested for rifampicin resistance was 70 per cent in 2021, up from 50 per cent in 2018, but still far short of the 100 per cent that is theoretically achievable.

43. The treatment success rate for MDR/RR-TB remained low, at 60 per cent globally in 2019 (the latest patient cohort for which data are available), but was a significant improvement from 50 per cent in 2012. The treatment success rate is much higher for drug-susceptible TB, at 86 per cent, which helps prevent the development of drug-resistant TB among those treated with first-line regimens. This can be attributed to the scaling up of safer and more effective WHO-recommended treatment regimens and the expansion of WHO-recommended molecular diagnostics. Currently, at least 109 countries are using a WHO-recommended all-oral treatment regimen for MDR/RR-TB, with child-friendly formulations available in 74 countries. The availability of shorter, novel six-month all-oral regimens for the treatment of MDR/RR-TB is anticipated to improve treatment adherence and health outcomes among people with such forms of drug-resistance.\textsuperscript{26}

44. To accelerate the response to the public health threat caused by antimicrobial resistance, WHO is developing a comprehensive research agenda on antimicrobial-resistant pathogens. At the same time, national or regional plans or strategies that create synergies in the response to TB and antimicrobial resistance can improve laboratory infrastructure and capacity, infection prevention and control, and surveillance and antibiotic stewardship.

**Tuberculosis and HIV co-infection**

45. WHO has recommended a set of collaborative TB/HIV activities since 2004 to expand access to comprehensive services for people affected by TB and HIV co-infection, including in the context of the global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections.\textsuperscript{27} The latest available data show continued improvements: 76 per cent of people diagnosed with TB had a documented HIV test result in 2021 (up from 64 per cent in 2018), with even higher coverage (89 per cent) in the WHO African Region, where the burden of


\textsuperscript{25} The numbers cited are for pulmonary TB only (i.e. they exclude people with extrapulmonary TB).


\textsuperscript{27} Ibid., *The Global Health Sector Strategies on, Respectively, HIV, Viral Hepatitis and Sexually Transmitted Infections for the Period 2022–2030* (Geneva, 2022).
HIV-associated TB is highest. Furthermore, 89 per cent of people diagnosed with TB in 2021 who were also living with HIV were on an antiretroviral treatment, up from 87 per cent in 2018. From 2018 to 2021, 10.3 million people living with HIV were provided with preventive treatment for TB, surpassing the United Nations global target of 6 million people living with HIV provided with preventive treatment for TB by 2022 (see sect. II.E above). Between 2000 and 2021, the combination of TB treatment and antiretroviral therapy for people living with HIV who are also diagnosed with TB has averted about 13 million deaths.

**Strengthening health systems for an effective response to tuberculosis**

46. Cross-cutting public health functions, including infection prevention and control, laboratory services and surveillance systems, are necessary to create the strong and effective health systems required to end TB. The TB response also contributes to strengthening these public health functions. For example, TB prevention and control measures have been leveraged to strengthen the response to airborne diseases, including in the context of the COVID-19 pandemic.

47. One of the indicators of the status of TB infection control and prevention is the ratio of TB cases per 100,000 health-care workers to TB cases per 100,000 adults in the general adult population. This is because population groups such as health workers have a higher risk of acquiring TB infection and progressing to disease once infected. In 14 countries that reported five or more TB cases among health-care workers in 2021, the ratio was greater than 1, suggesting a need for improvement in many countries (if effective measures are in place in health facilities, the ratio should be around 1).

48. Strong laboratory networks are needed for the early diagnosis of TB and testing for drug resistance. WHO coordinates the Supranational Reference Laboratory Network, a key technical resource to support the strengthening of national laboratory capacity. As a first step, a WHO framework of indicators and targets for laboratory strengthening recommends using a WHO-recommended rapid diagnostic as the initial test for all people with signs or symptoms of TB. However, the proportion of people diagnosed with TB who were initially tested with a WHO-recommended rapid diagnostic was only 38 per cent globally in 2021.

49. Robust monitoring of the status of the TB epidemic (in terms of the number of people with TB and the number of deaths caused by TB) and reliable, timely data about diagnosis and treatment are needed to track progress and to inform action. Case-based digital surveillance systems for the recording and reporting of data for people with TB and cause-of-death data from national vital registration systems, of high quality and coverage, are the reference standards.

50. By mid-2021, 130 countries and territories had a case-based surveillance system that covered all people diagnosed with TB, accounting for 60 per cent of those officially reported: an increase from 123 in 2019. Data on TB mortality from national vital registrations systems were available for 127 countries and territories in 2019. The biggest gaps in both case-based surveillance and national vital registration systems are in countries in Africa and South-East Asia. Since 2018, WHO has developed digital packages for the collection, analysis and use of both aggregated and case-based TB data and has supported assessments of the performance of TB surveillance and training on data analysis in more than 60 countries.

**Access to tuberculosis medicines, diagnostics and other technologies**

51. Maintaining a reliable, affordable supply of quality medicines and diagnostics is one of the greatest challenges countries face. WHO has updated its guidance on TB screening, diagnosis, treatment and care, and has updated its lists of essential medicines, to increase access to new technologies and medicines. This includes
important updates that shorten the treatment duration for both drug-susceptible and drug-resistant TB, including among children.\textsuperscript{28,29}

52. In 2021, a WHO-recommended rapid diagnostic test was used as the initial test worldwide for 38 per cent of people newly diagnosed with TB, compared with 22 per cent in 2018. In 2021, 7 of the 30 countries with high TB burdens (China, Lesotho, Mongolia, Namibia, Papua New Guinea, South Africa and Zambia) reported that more than 50 per cent of their TB diagnostic sites had access to WHO-recommended rapid diagnostic tests. The use of these tests needs to expand, as it allows for a more accurate diagnosis of TB, allowing patients to be linked to care promptly.

53. Global mechanisms continue to facilitate access to high-quality affordable diagnostics and treatment. Unitaid, in collaboration with WHO and national ministries of health, is supporting the introduction and expansion of access to TB-related innovations such as diagnostics, treatment regimens and treatment-adherence digital technologies.\textsuperscript{30} In 2022, MedAccess secured a volume-based commitment to reduce the price of a new drug used as part of an all-oral regimen to treat MDR-TB by 34 per cent.\textsuperscript{31}

54. The Global Fund and WHO have a successful model (the Green Light Committee mechanism) that supports 87 countries in scaling up new diagnostics and shorter, all-oral treatment regimens for people with drug-resistant TB.

55. Since 2018, the Global Drug Facility of the Stop TB Partnership has supported the procurement of TB medicines and/or diagnostics in 150 countries, and 50 countries have been assisted in adopting all-oral regimens for treating drug-resistant TB. During this time, the Facility helped 81 countries procure child-friendly formulations for drug-resistant TB.

56. The COVID-19 pandemic has reinforced the application of digital technologies in the provision of services, as well as in capacity-building. Aided by WHO guidance and tools\textsuperscript{32,33} countries are expanding people-centred TB care using digital technologies.

57. Overall, achieving equitable access to new TB medicines and technologies remains a major challenge. Contributing factors include complex legal and regulatory mechanisms; the failure of manufacturers to register products in countries with high TB burdens or to include TB indications for medicines; clinician preferences and/or resistance to changing practices; inadequate health-care budgets; weak health-care system infrastructure and social care; local costs that drive up prices (e.g. taxes and tariffs on health products); and gaps in procurement and supply chain frameworks. Implementation research can help enhance delivery and scale up efforts.

B. Transforming the tuberculosis response with a focus on human rights, equity, multisectoral engagement and accountability

58. Ending TB requires a strong primary health-care response through multisectoral approaches that address TB determinants, engages TB-affected communities and civil
society and facilitates equitable and affordable access to high-quality services as a commitment to people-centred TB care.\textsuperscript{34} Universal health coverage, through primary health care, that reaches people with TB or those who are at risk of TB, is close to their everyday environments, enables them to fully enjoy the benefits of scientific advances and is free of charge and free of discrimination and stigma, is essential to ending the epidemic.

**Eliminate stigma, discrimination and other rights-related barriers to equitable service coverage**

59. The 2018 political declaration of the high-level meeting of the General Assembly on the fight against TB affirmed that stigma, discrimination and other vulnerabilities associated with the epidemic are major barriers to effective national responses to TB. Making real progress towards universal access – and against the TB epidemic – requires the formulation and implementation of health and social laws and policies that protect the human rights of individuals, in particular those with, or those who are most vulnerable to, TB. A report on progress in the TB response through the lens of affected communities and civil society was published in 2020.\textsuperscript{35}

60. Major examples of progress since 2020 include the following:

(a) National assessments of barriers to quality TB care associated with community engagement, human rights and gender have resulted in the development of costed action plans in several countries,\textsuperscript{36} while at least three countries (Azerbaijan, Ghana and Ukraine) have implemented national assessments on TB-related stigma;\textsuperscript{37}

(b) National networks of communities affected by TB and civil society are monitoring the availability, accessibility, acceptability and quality of TB care in at least 26 countries;\textsuperscript{38}

(c) Policy briefs, regional strategies, guidance on combating stigmatizing language and estimates of global funding needs have been developed to strengthen community participation and boost investments and political will for a human rights-based response to the TB epidemic.\textsuperscript{39,40,41}

61. United Nations bodies and entities working to address the special risks of TB in vulnerable populations include the Permanent Forum on Indigenous Issues, the Office of the United Nations High Commissioner for Refugees, WHO and the International Organization for Migration. The International Federation of Red Cross and Red Crescent Societies, Médecins sans frontières and many other non-governmental and technical partners are helping to address TB among Indigenous Peoples, refugees and internally displaced persons, migrants and communities affected by humanitarian emergencies and other crises. The Global Fund to Fight AIDS, Tuberculosis and Malaria has specific funds to create supportive environments and strategic initiatives that include specific attention to community, rights and gender. The World Bank also supports community-focused efforts in several countries.


\textsuperscript{38} See https://stophbpartnershiponeimpact.org/.


\textsuperscript{40} See Stop TB Partnership, “Words matter: suggested language usage for tuberculosis communications”, 2022.

\textsuperscript{41} Ibid., *Global Plan to End TB 2023–2030.*
Community responses to tuberculosis

62. The engagement of affected communities, TB survivors and civil society in the TB response has grown since the first United Nations high-level meeting on the fight against TB.\textsuperscript{42,43,44} They are driving national advocacy campaigns on human rights and the elimination of stigma, treatment literacy and psychosocial support. Increased investment is required to strengthen and sustain their participation in service delivery and research, as well as in monitoring and reporting on progress made in the TB response.

63. In 2019 and early 2020, 25 of 30 countries with high TB burdens conducted reviews of their national TB programmes and national strategic plans, with nearly all countries engaging civil society and communities affected by TB in the process.

64. The establishment of national mechanisms for community-led monitoring\textsuperscript{45} and redress mechanisms for people with TB have been growing with support from partners.\textsuperscript{46} These mechanisms are working to improve TB prevention and care and multi-stakeholder accountability, leveraging existing and innovative tools such as human rights scorecards and digital technology.

65. Of the 27 (out of 30) countries with high TB burdens that participated in a WHO survey in 2022, the majority of them (95 per cent) reported the inclusion of community health worker programmes as part of the national ministry of health responses, 89 per cent of which provided TB services such as support for treatment adherence and the facilitation of access to TB diagnoses. While all the countries confirmed external funding support for community and civil society engagement, only one third reported access to domestic funding. Policy and legal frameworks were in place in 20 of the 27 countries (74 per cent) that responded to the survey, with 22 countries (81 per cent) reporting an active national coordinating body for civil society and community stakeholders.

66. Funding, legal and policy frameworks, and coordination bodies for civil society and affected communities are key elements to creating a conducive environment for their meaningful participation in the TB response. The Stop TB Partnership,\textsuperscript{47} WHO, the Global Fund and bilateral donors such as the United States Agency for International Development are continuing to fund and support civil society efforts at the country level.

67. While the most vital work of civil society is happening in countries and communities, global leadership and alliances among international participants are crucial to create the conditions for success. The WHO Civil Society Task Force on TB, which was established in 2018, continues to meet regularly and engage with the Director General, governments and policy-setting and guideline-development forums and bodies at the global and regional levels to mainstream civil society and affected community perspectives at all levels.\textsuperscript{48} The Task Force issued a joint statement with

\textsuperscript{42} See http://tbpeople.org/index.php/country-chapters/?fbclid=IwAR35LYc_GTQFOFHcEC1c hFUtbiZKmxv9q2pDOr-0mMgX2C2mEuyK1dMNIU.
\textsuperscript{43} See www.who.int/groups/civil-society-task-force-on-tb.
\textsuperscript{44} See https://apcaso.org/asia-pacific-dialogue-on-tb-and-human-rights/.
\textsuperscript{46} The Global Fund, USAID and the Stop TB Partnership.
\textsuperscript{47} For example, through TB REACH and the Challenge Facility for Civil Society.
the Director General of WHO highlighting the urgent actions needed to stop preventable TB deaths in the context of the COVID-19 pandemic, and highlighting the need for increased political commitment and accountability in preparation for the high-level meeting of the General Assembly on the fight against TB, to be held in 2023. WHO is developing guidance for effective community and civil society engagement to accelerate efforts to end TB.

68. Over 30,000 young people have been engaged through the 1+1 youth initiative of WHO since 2019 to identify and address challenges youth are facing in accessing TB services. The members of the initiative receive regular training sessions, and they remain active in advocating for the implementation of the Youth declaration to end TB.

Adaptation and implementation of the multisectoral accountability framework for tuberculosis of the World Health Organization

69. Mounting an effective response to TB requires multisectoral action to address the broader health and non-health determinants that influence TB epidemics (e.g. poverty, undernourishment, HIV, smoking, diabetes, mental health) and to mitigate their socioeconomic impact (e.g. through social protection). In 2021, an estimated 2.2 million cases of TB were attributable to undernourishment, 0.86 million to HIV infection, 0.74 million to alcohol use disorders, 0.69 million to smoking and 0.37 million to diabetes. A framework for collaborative action on TB and comorbidities was developed to support countries with the implementation of people-centred interventions to comprehensively address TB and other co-existing health conditions. WHO continues to provide national profiles showing the status of Sustainable Development Goal-related indicators that are determinants of TB incidence in its annual Global Tuberculosis Report (see figure XIV).

70. To make the TB response transparent, participatory and accountable, WHO developed and rolled out a multisectoral accountability framework to end TB in 2019. There has been notable progress in its adaptation and implementation in countries from all WHO regions, and best practices have been compiled and published. Overall, the proportion of countries that produced annual reports on progress towards national TB-related targets and commitments increased from 62 to 77 per cent from 2020 to 2022, and all countries with high burdens have reported their use. Furthermore, 63 per cent of countries reported that they have multisectoral accountability and review mechanisms in 2022, compared with 40 per cent in 2020, including an increase in the use of those mechanisms in countries with high TB burdens from 53 to 70 per cent for the same period. These multisectoral accountability and review mechanisms included non-health sectors and ministries, such as education, justice or corrections, labour, finance and social welfare, among others. The engagement of civil society and affected communities in multisectoral accountability and review mechanisms was reported in 45 per cent of countries, a 1.5-fold increase from 2020.

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49 Tedros Adhanom Ghebreyesus, Director General of WHO and WHO Civil Society Task Force on Tuberculosis, joint statement on urgent actions to stop preventable deaths and suffering due to tuberculosis and recover gains lost during the COVID-19 pandemic, Geneva, 30 April 2021.
50 Ibid., joint statement on the call for increased political commitment and accountability in preparation for the 2023 United Nations High-Level meeting on Tuberculosis, Geneva, 17 August 2022.
51 See www.who.int/activities/mobilizing-youth-to-end-tb.
53 Ibid., Global Tuberculosis Report 2022.
71. Effective multisectoral action also means jointly involving the private and public sectors, as well as civil society, to coordinate their response to TB. The private sector remains less integrated into national TB service governance and programming in many countries. There are ongoing efforts to improve public-private health engagement in TB prevention and care, which has contributed to closing gaps in TB care, including through improved notification of TB cases (see sect. III.A above).

Figure XIV
Sample country profile from India on the monitoring of Sustainable Development Goal indicators associated with tuberculosis incidence

- **NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2021**

- **INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

* **PPP** = purchasing power parity; **UHC** = universal health coverage
72. Social protection measures are key to reducing the impact of the epidemic on some of the world’s most vulnerable people. WHO TB guidance provides recommendations on material, nutritional and psychological support to improve treatment adherence and health outcomes of vulnerable people with TB. Accordingly, the Global Fund is providing financing for social support for people with MDR/RR-TB in many countries. The World Food Programme has provided nutritional or livelihood support to people with TB in more than 18 low-income countries.

73. One of the most important challenges in driving a multisectoral response is ensuring that these mechanisms are being used to their fullest potential. Sustained national leadership and ownership remains essential to driving an impactful multisectoral response, visible at the community level, through good governance, domestic resource mobilization, planning and coordination, that reinforces capacity to absorb resources and implement joint programmes and uses effective monitoring to review progress.

C. Advancing science, research and innovation

74. TB research and innovation is essential to achieving global TB targets for reductions in TB incidence and TB deaths. Between 2018 and 2022, WHO has recommended science-based interventions that shorten the duration of preventive treatment for TB infection to as little as one month, the treatment of drug-susceptible TB to four months and the duration of MDR/RR-TB treatment to six months (as an all-oral regimen), as well as new tests for TB infection and disease.

75. The 2018 political declaration on TB urged strong and sustained research efforts to accelerate the search for more accurate and affordable rapid point-of-care tests to diagnose TB infection and TB disease and to detect drug resistance; shorter, safer regimens for treating TB infection and TB disease, especially drug-resistant TB; a TB vaccine that is effective before and after exposure across a range of age groups and geographical settings; and strategies to optimally scale up effective interventions. Such tools can support better integration of TB services into primary health care.

76. The research and development pipeline for new TB vaccines, diagnostics and medicines has expanded moderately in recent years. In 2018, there were at least 20 medicines, 12 vaccines and several diagnostics in clinical development. By mid-2022, the number of medicines and vaccines had increased to 26 and 16, respectively. The diagnostics pipeline was robust in terms of the number of technologies used, but the development and evaluation of these tools progressed slowly. Vaccines remain critical interventions to transform TB prevention approaches.

77. In 2018, results from a phase IIb trial of the TB vaccine candidate M72/AS01E demonstrated partial protective efficacy against TB disease after approximately three years of follow-up. Further testing of the M72/AS01E vaccine candidate in a phase III clinical study is planned but has not commenced. It is imperative that funders continue to invest in both early- and late-stage research to ensure that other promising candidate vaccines reach full-scale development. A recent study commissioned by WHO estimates that, over 25 years, a vaccine that is 50 per cent effective in preventing disease among adolescents and adults could avert up to 76 million new TB cases, 8.5 million deaths, 42 million courses of antibiotic treatment and $6.5 billion in costs.

58 See https://extranet.who.int/tbknowledge.
faced by TB affected households, especially for the poorest and most vulnerable.\textsuperscript{60} WHO has announced plans to establish a TB vaccine accelerator council to facilitate the development of and access to novel TB vaccines, once they are available.\textsuperscript{61}

78. In 2020, Member States adopted a global strategy for TB research and innovation to set out key steps that Governments and non-State actors could undertake to increase public spending on TB research, ensuring that the benefits of TB research were shared equitably and committing to create policy and regulatory frameworks favourable to advancing the partnerships and collaborations needed to expedite research. In 2022, the WHO Director General published a progress report on the implementation of the research strategy, in the context of the End TB Strategy.\textsuperscript{62}

79. The funding target for TB research set at the 2018 high-level meeting of the General Assembly on the fight against TB was $2 billion per year; to date, annual funding has reached only $1 billion (see sect. II.G above). The Stop TB Partnership’s \textit{Global Plan to End TB 2023–2030} estimates that, at a minimum, $5 billion annually is required to meaningfully drive the development of improved tools to prevent, diagnose and treat TB. To close the funding gap, stakeholders, including governments, the biomedical industry, other funders of health-care research and civil society, should test and implement innovative models of financing and novel methods of rewarding public health research and development.

80. Transparent, reliable and widely available data is crucial to inform the policymaking process at various stages. WHO has reorganized the individual patient data platform for TB treatment to facilitate the sharing of data for policy updates and public health research.\textsuperscript{63} To address unmet needs in translational research, several countries with high TB burdens, including members of the BRICS TB Research Network, are collecting and analysing data and biospecimens from people with TB using common protocols coordinated through the Regional Prospective Observational Research for TB (RePORT) International network.\textsuperscript{64} Easily accessible databases on research and development investment, patents and the pricing of medicines can help ensure that investments in innovation lead to equitable access.

81. Multi-country and public-private partnerships are essential to foster collaboration, improve efficiency and amplify financing. Two public-private partnerships, UNITE4TB and the Project to Accelerate New Treatments for Tuberculosis (PAN-TB) collaboration, have been established to accelerate the development of new TB drugs and regimens.\textsuperscript{65,66}

82. The BRICS TB Research Network, which was launched in 2018, is continuing to advance innovations in TB prevention and care by implementing joint research projects and exchanging information. WHO supports the Network’s secretariat.\textsuperscript{67}

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\textsuperscript{60} See WHO, \textit{An Investment Case for New Tuberculosis Vaccines} (Geneva, 2022).
\textsuperscript{61} Ibid., \textquotedblleft WHO announces plans to establish a TB Vaccine Accelerator Council	extquotedblright, 17 January 2023.
\textsuperscript{62} WHO, document A75/10/Rev.1.
\textsuperscript{64} See www.reportinternational.org.
\textsuperscript{65} See www.unite4tb.org/.
\textsuperscript{66} See https://fnih.org/our-programs/pan-tb-project-to-accelerate-new-treatments-for-tuberculosis/.
\textsuperscript{67} Ministers for health from Brazil, the Russian Federation, India, China and South Africa (BRICS), joint communiqué presented at the 72nd World Health Assembly, Geneva, May 2019.
\end{flushright}
D. **Strengthening collaboration among all stakeholders with Member States under the leadership of the Secretary-General of the United Nations and the Director General of the World Health Organization**

83. WHO is coordinating a platform of 12 multilateral health, development and humanitarian agencies to build on Sustainable Development Goal 3 (ensure healthy lives and promote well-being for all at all ages), including the TB-related target. WHO works closely with many agencies and entities, including the Bill and Melinda Gates Foundation; the Global Fund to Fight AIDS, Tuberculosis and Malaria; the Global TB Caucus; the Group of 20 countries; the KNCV Tuberculosis Foundation; the Stop TB Partnership; the International Union against Tuberculosis and Lung Disease; the Special Programme for Research and Training in Tropical Diseases; Unitaid; the Joint United Nations Programme on HIV/AIDS; the Centers for Disease Control and Prevention of the United States; the United States Agency for International Development; and the World Bank. Several Member States continue to actively support WHO in its work on TB, including the Government of the United States through its Agency for International Development and its Centers for Disease Control and Prevention, the Kingdom of the Netherlands, the Russian Federation, China, Luxembourg, the Republic of Korea and Japan.

84. There is accelerated action in all WHO regions towards ending TB. Recent examples include partnerships between the African Union and the WHO Regional Office for Africa with countries and partners to create a continental accountability platform; the creation of a United Nations common position on ending HIV, TB and viral hepatitis through intersectoral collaboration, under the leadership of the WHO Regional Office for Europe; the organization of meetings of Heads of State and Government on TB by the WHO Regional Office for South-East Asia in 2018 and 2019, with a follow-up meeting of ministers for health in 2021; partnerships with subregional mechanisms to support the United Nations global TB targets in the Americas, including the Council of Central American Ministers of Health and the Dominican Republic, and the Andean Health Agency-Hipólito Unanue Agreement of the Andean Integration System; discussions of TB elimination strategies by the Gulf Cooperation Council in the Eastern Mediterranean Region; and high-level missions to countries with high TB burdens in the Western Pacific Region, including the launch of initiatives called “Race to End TB” in the Philippines and Viet Nam. There is a regional platform for TB advocacy in every region. All WHO regional offices have developed region-specific strategies or frameworks to end TB.

**Global monitoring, reporting and review**

85. Regular reports and reviews of progress towards ending TB by the General Assembly and the World Health Assembly are essential to global and national accountability. The General Assembly reviewed progress on the implementation of the 2018 political declaration on TB in 2020. The World Health Assembly reviewed progress on TB in 2019, 2020 and 2022 in follow-up to the high-level meeting of the General Assembly, examining data collected by WHO global monitoring and reporting on the status of the TB epidemic and progress in responding to it, which includes an annual round of data collection from all Member States and the publication of the annual WHO *Global Tuberculosis Report*. The World Health Assembly will next address progress in 2024, in follow-up to the comprehensive review at the high-level meeting of the General Assembly in 2023.
IV. Impact and implications of the COVID-19 pandemic, armed conflict, economic crises and climate change

86. Since 2020, the COVID-19 pandemic has caused enormous health, social and economic consequences. This includes impacts on the provision of and access to essential TB services, on the number of people diagnosed with TB and notified through national disease surveillance systems and on TB disease burden (incidence and mortality). The impact of the COVID-19 pandemic on TB services varies by country, with some countries observing recovery since 2021.

A. Disruptions associated with the COVID-19 pandemic have reversed years of global progress in tuberculosis prevention and care

87. The COVID-19 pandemic has reversed progress towards the achievement of global TB targets. The most immediate and visible impact of health-service disruptions caused by the pandemic was a significant drop in the number of people newly diagnosed with TB and notified to national authorities, particularly among children and adolescents. Overall, there was an 18 per cent reduction in diagnoses and notifications, from 7.1 million to 5.8 million, between 2019 and 2020. This number partly recovered to 6.4 million in 2021. The WHO regions of South-East Asia and the Western Pacific collectively accounted for 84 per cent of the total reductions in 2020, and 99 per cent in 2021, when compared with 2019.

88. These effects were concentrated in a few countries. For example, 10 countries (including 9 countries with high TB burdens) accounted for 90 per cent of the reduction in annual notifications in 2020 compared with 2019, while 5 countries with high TB burdens accounted for 90 per cent of the reductions in 2021 compared with 2019. At the same time, the number of people who died from TB increased in both 2020 and 2021, while the historic decline in the TB incidence rate slowed in 2020 and then reversed in 2021 (see sects. II.A and II.B above).

89. Assuming that reductions in TB notifications reflect reductions in TB case detection (rather than underreporting or a reduction in TB incidence), this implies there is an increase in the number of undiagnosed and untreated people in the community, who are transmitting the disease. The consequences of the COVID-19 pandemic are therefore foreseen to continue having an adverse impact on people with TB and the services they rely on in the medium to long term, unless proactive efforts are made.

90. Other impacts of the pandemic (when compared with 2019) include a 17 per cent reduction in the number of people enrolled in treatment for drug-resistant TB in 2020, followed by a partial recovery in 2021; reductions in spending on TB prevention, diagnostic and treatment services in both 2020 and 2021 (see sect. II.F above); and worsening global coverage of the bacille Calmette-Guérin (BCG) vaccine among children in both 2020 and 2021 (global coverage declined from 88 per cent in 2019 to 84 per cent in 2021), consistent with a general decrease in the coverage of childhood immunization during the COVID-19 pandemic.\textsuperscript{68} Provisional data from countries indicate that some of these adverse impacts partially or fully reversed in 2022.

B. The consequences of armed conflict, climate change, economic crises and the COVID-19 pandemic

91. The adverse impacts of pandemics, climate change, economic crises and armed conflicts on broader TB determinants such as poverty, mass displacement and undernourishment are likely to fuel the TB epidemic, especially in the absence of wide coverage of social protection and universal health coverage for vulnerable persons. In 2022, the COVID-19 pandemic, compounded by rising inflation and the effects of armed conflict in Ukraine, was estimated to have pushed 75 million to 95 million more people into poverty globally compared with pre-pandemic projections. This may amplify the risk that the number of people facing TB-related catastrophic costs will increase.

92. Climate change presents another threat, as it drives the social and environmental determinants of TB, including air pollution, food insecurity and mass displacement. In 2022, more than 100 million people were forcibly displaced worldwide because of conflicts, food shortages and economic and humanitarian crises. Displacement increases the vulnerability of people to TB and limits their access to care. WHO estimates that more than 90 per cent of the world’s population live in neighbourhoods with polluted air. Managing TB in the context of climate change has been constrained owing to insufficient research on the complexities of climate-health dynamics.

93. Global initiatives are contributing to aid TB-affected households in recovering from the pandemic. For example, by mid-2022, the Global Fund to fight AIDS, Tuberculosis and Malaria had made available $4.4 billion through its COVID-19 Response Mechanism to help mitigate impacts on TB, HIV and malaria services. Countries are also benefiting from access to COVID-19 tests, treatments and vaccines through the Access to COVID-19 Tools (ACT) Accelerator initiative, although global access to these tools remains far from its envisioned target. A pandemic fund was launched in 2022 to strengthen pandemic prevention, preparedness and response capacities, particularly in the most vulnerable parts of the world. In 2022, Member States of the Conference of the Parties to the United Nations Framework Convention on Climate Change committed to providing “loss and damage” funding for countries most vulnerable to the adverse effects of the climate crisis.

C. Building shock-resilient health systems to end tuberculosis

94. Throughout the COVID-19 pandemic, the WHO Global TB Programme has been monitoring its impact and providing guidance and support to Member States, in close collaboration with regional and country offices, civil society and partners, including the Stop TB Partnership and the Global Fund. In addition to annual data, WHO is collecting monthly and quarterly national TB case notification data from more than 100 countries on an ongoing basis to facilitate timely action in response to disruptions.

95. WHO is developing and sharing a compilation of country case studies to build and strengthen a shock-resilient TB response in the context of primary health care,

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69 See Daniel Gerszon Mahler and others, “Pandemic, prices and poverty”, World Bank, 13 April 2022.
70 See www.unhcr.org/globaltrends.html.
and to support countries with the implementation of funding from the Global Fund’s COVID-19 Response Mechanism to mitigate the impact of the COVID-19 pandemic on TB services.

96. To extend the TB response to refugees and other populations during humanitarian emergencies, WHO, in collaboration with the Office of the United Nations High Commissioner for Refugees and the Centers for Disease Control and Prevention of the United States, developed an inter-agency field guide that provides an overview of key actions to prepare for and deliver comprehensive TB services. WHO works closely with health authorities, Member States hosting displaced persons and technical and funding partners to minimize disruptions to the delivery of TB services during humanitarian crises.

D. Leveraging the tuberculosis response to strengthen pandemic prevention, preparedness and response

97. Over the years, the TB response has laid a robust foundation for pandemic prevention, preparedness and response by strengthening global health security core capacities (e.g. surveillance and information systems, research and laboratory infrastructures) and universal and rights-based access to health services (e.g. innovative service delivery models, affordable pricing strategies for medicines and supplies, community-led responses). Already existing TB molecular diagnostic infrastructures and screening, surveillance and contact tracing expertise were leveraged to support the response to the COVID-19 pandemic in many countries.

98. Based on lessons learned from the adverse impacts of the COVID-19 pandemic, armed conflict, climate change and other humanitarian emergencies, WHO recommends that TB services be maintained and strengthened as essential services, and provided free of charge and free of stigma and discrimination, in all settings. In accordance with local needs, TB services should also be provided as part of primary health-care packages, particularly in countries most affected by TB.

V. Recommendations

99. The first high-level meeting of the General Assembly on the fight against TB, in 2018, and its ambitious political declaration that set out clear targets and commitments, has catalysed progress towards ending TB – saving a significant number of lives. However, disruptions caused by the COVID-19 pandemic have reversed years of progress. The effects of the COVID-19 pandemic, compounded by significant gaps in financing and inequitable access to essential TB services, meant that the achievement of the agreed global TB targets was not realized. Uniting around the TB response provides an opportunity to build health systems that are capable of not only addressing the TB epidemic, but also protecting the broader health and well-being of communities and strengthening pandemic preparedness and response. Averting TB-related financial hardship and preventing the development of the disease

76 Ibid., WHO Information Note on Ensuring Continuity of Essential Tuberculosis Services for People with or at Risk of the Disease within Ukraine and in Refugee-Hosting Countries (2022).
77 Ibid., “Updated WHO information note: ensuring continuity of TB services during the COVID-19 pandemic”.
78 See WHO, WHO Information Note on Ensuring Continuity of Essential Tuberculosis Services for People with or at Risk of the Disease within Ukraine and in Refugee-hosting Countries.
in vulnerable groups will help diminish inequities within and between countries, contributing to the achievement of the Sustainable Development Goals.

100. In September 2023, Member States will discuss universal health coverage, pandemic prevention, preparedness and response, and ways to accelerate global and national responses towards ending TB. This presents an opportunity to elevate the interconnectedness between these priorities and harmonize efforts to accelerate global and national responses towards ending TB. In the light of this, Member States are urged to consider the following recommendations in the course of making future commitments during the second high-level meeting of the General Assembly on the fight against TB.

**Recommendation 1. Fully activate high-level leadership to urgently reduce tuberculosis deaths and drive multisectoral action to end tuberculosis**

101. Considering that TB remains one of the leading infectious disease killers, that disruptions caused by the COVID-19 pandemic have resulted in increases in both disease incidence and mortality and that overall efforts to address the health and social determinants of the epidemic have so far been insufficient, Member States are urged to:

(a) Ensure that high-level multisectoral collaboration and accountability under the leadership of Heads of State and Government, including robust monitoring and regular review of progress towards globally agreed targets, is established or strengthened in all countries – especially those with a high TB burden;

(b) Ensure that the response to TB in national health strategies and plans enables universal access to quality TB services and has a multisectoral perspective to effectively address the determinants of TB, such as poverty and undernutrition, in line with the WHO multisectoral accountability framework for TB.

**Recommendation 2. Urgently close the chronic funding gaps that impede progress towards ending the tuberculosis epidemic, particularly in countries with a high burden of tuberculosis**

102. Given that investment in the TB response has been far short of requirements for many years, and that funding decreased during the COVID-19 pandemic, which in 2021 was less than half the global target of at least $13 billion per year, Member States are urged to:

(a) Substantially increase domestic funding to combat TB, especially in middle-income countries with a high TB burden;

(b) Substantially increase international donor funding for the TB response through existing, as well as new, funding mechanisms, particularly for low-income countries.

**Recommendation 3. Accelerate progress towards universal health coverage to ensure equitable access to affordable and high-quality services for all people with tuberculosis**

103. Considering that ending the TB epidemic requires universal health coverage, including access to essential TB services at the primary health-care level, Member States are urged to:

(a) Expand systematic screening for TB among high-risk populations such as contacts of people with TB, people with comorbidities (e.g. HIV, diabetes or silicosis), the urban poor and homeless, people in penitentiary institutions, Indigenous
Peoples and migrants by implementing national policies and strategies for TB screening in line with WHO recommendations;

(b) Significantly increase coverage of WHO-recommended treatment for people with TB such that, by 2027, at least 90 per cent of the estimated number of people who develop TB are reached with quality-assured diagnosis and treatment, with all those diagnosed having been initially tested with WHO-recommended rapid molecular tests, and at least 90 per cent of people at high-risk of developing TB are provided with preventive treatment, in accordance with WHO guidance;

(c) Ensure that people affected by TB have access to a health and social benefits package so they do not have to endure financial hardship because of their illness;

(d) Ensure the delivery of comprehensive, patient-centred and integrated services for people with TB, through primary health care, while strengthening effective referral systems to other levels of care;

(e) Ensure mandatory notification of all people diagnosed with TB, covering public, private and community-based providers, facilitated by the expanded use of digital case-based surveillance.

Recommendation 4. Address drug-resistant tuberculosis in the context of a comprehensive national, regional and global response to antimicrobial resistance

104. Given that drug-resistant TB, particularly multidrug resistant forms of the disease, remain a major contributor to antimicrobial resistance and a threat to global health security, and the target of treating 1.5 million people with drug-resistant TB from 2018 to 2022 was not achieved, Member States are urged to:

(a) Expand the use of WHO-recommended rapid molecular TB diagnostics and test all those diagnosed with TB and rifampicin resistance for susceptibility to the fluoroquinolone class of drugs;

(b) Expand access to WHO-recommended all-oral shorter-duration treatments for adults, adolescents and children diagnosed with drug-resistant TB, while ensuring support for treatment completion;

(c) Increase access to affordable, high-quality drugs and diagnostics for populations in need, using effective mechanisms such as the Global Drug Facility of the Stop TB Partnership and other relevant mechanisms;

(d) Include actions to address drug-resistant TB, explicitly, within national antimicrobial-resistance strategies and plans.

Recommendation 5. Prioritize the needs of people vulnerable to, at-risk for or affected by tuberculosis to reduce inequalities and the adverse health and socioeconomic impacts of the disease

105. Considering that TB disproportionately affects vulnerable people in low- and middle-income countries, that undernutrition and poverty are among the principal contributing factors to the development of TB disease and that there is a significant gap in access to TB services for children and adolescents, Member States are urged to:

(a) Address social, financial and structural barriers to accessing TB services, particularly for marginalized and hard-to-reach populations such as refugees, migrants and other displaced populations, Indigenous Peoples, people living in urban slums and people living in prisons or other places of detention;
(b) Close long-standing gaps in diagnosis and care for children and adolescents by improving access to TB services as an integral part of comprehensive primary health care;

(c) Ensure access to social, nutritional and psychological support, as well as rehabilitation and palliative care, as appropriate, for all people with TB.

**Recommendation 6. Eliminate stigma, discrimination and other human rights-related barriers as a key condition for ending tuberculosis**

106. Recognizing that stigma and discrimination remain key roadblocks in ending the TB epidemic, and that human rights-related barriers need to be addressed through comprehensive political, legal and programmatic actions, Member States are urged to:

(a) Enforce laws, policies and programmes that protect human rights, and eliminate inequalities, stigma and discriminatory practices in the TB response, including by establishing social protection policies, working together with civil society and affected communities and paying particular attention to vulnerable populations;

(b) Mainstream a gender perspective when designing, implementing and monitoring the TB response.

**Recommendation 7. Strengthen and sustain the engagement of civil society, tuberculosis-affected people and communities in the response to tuberculosis**

107. Acknowledging that the active participation of civil society, communities and people affected by TB is vital to improving access to TB prevention and care, promote human rights and recover from the social, health and economic impacts of the COVID-19 pandemic, Member States are urged to:

(a) Ensure the meaningful engagement of civil society and representatives of affected communities, including young people, in all aspects of the TB response, including with regard to policymaking forums, planning, care delivery, monitoring and review;

(b) Strengthen the engagement of civil society and affected communities in national multisectoral accountability mechanisms.

**Recommendation 8. Substantially increase investments in tuberculosis research and establish and build effective collaboration platforms to drive the development and rapid uptake of innovations, in particular safe and effective vaccines, as outlined in the Global Strategy for Tuberculosis Research and Innovation of the World Health Organization**

108. Given that game-changing innovative tools such as new TB vaccines more effective than bacillus Calmette-Guérin (the only licensed vaccine more than 100 years old), rapid point-of-care tests that can be used in primary health-care settings and safe, effective and short-duration treatment regimens, including for drug-resistant forms of TB, are urgently needed to accelerate the fight against TB, that this requires an increase in current investments to at least $5 billion annually and that a vaccine that is 50 to 75 per cent effective could avert up to 110 million new TB cases and 12.3 million deaths within 25 years of its introduction, Member States are urged to:

(a) Develop and implement actionable, fully funded and well-resourced national strategies for TB research and innovation;

(b) Substantially increase investments in TB research and innovation through national, bilateral and multilateral channels for the development and diffusion of affordable and effective TB vaccines, diagnostics, medicines and other health technologies, as a matter of urgency;
(c) Strengthen existing public-private partnerships and product development partnerships nationally and globally (and, where necessary, create new partnerships) to accelerate research and development into new medicines, diagnostics, vaccines and other health technologies, including through collaborative platforms such as the WHO TB Vaccine Accelerator Council;

(d) Accelerate the development of the most promising new TB vaccines and drug candidates by supporting phase II and phase III trials;

(e) Implement legislative and regulatory frameworks to ensure that new TB diagnostics, drugs and vaccines are prioritized for fast-tracked review and registration, as relevant, by national regulatory authorities and considered for inclusion in essential lists.

Recommendation 9. Ensure that tuberculosis services are safeguarded as part of essential health services during emergencies and in fragile settings, including in the context of pandemic prevention, preparedness and response

109. Given that the COVID-19 pandemic and other recent crises such as armed conflicts and natural disasters have revealed serious shortcomings in preparedness for and response to health emergencies and the fragility of health systems, and that national TB programmes have been at the forefront of the response to the COVID-19 pandemic and can serve as strategic platforms to combat airborne pandemics, Member States are urged to:

(a) Ensure uninterrupted provision of TB services during health and humanitarian emergencies and fragile settings, in line with humanitarian principles;

(b) Leverage pandemic prevention, preparedness and response financing mechanisms, and the institutional capacity of TB programmes to strengthen health system resilience to future epidemics and pandemics;

(c) Strengthen national TB services, including laboratory and surveillance capacities, as they also contribute to core health-system capacities to detect, report and respond to threats from new epidemics and pandemics.

Recommendation 10: Request the World Health Organization to continue to provide global leadership for the tuberculosis response, working in close collaboration with Member States and other stakeholders, including by preparing for a high-level meeting on tuberculosis in 2023 in alignment with ongoing preparations for the United Nations high-level meetings on universal health coverage and on pandemic prevention, preparedness and response

110. Given that WHO, as the United Nations specialized agency for health, provides global leadership and coordination for the TB response, in collaboration with stakeholders such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Stop TB Partnership, Unitaid, civil society and other entities, Member States are urged to:

(a) Request that WHO support preparations for a comprehensive review by Heads of State and Government at a high-level meeting on TB in 2023, informed by the present report, the Global Tuberculosis Report and other global, regional and national high-level multisectoral reviews, and considering outcomes of the interactive multi-stakeholder hearing;

(b) Request WHO to provide effective, timely and coordinated support to Member States with the implementation of follow-up actions to the 2023 high-level meeting of the General Assembly on the fight against TB;
(c) Request that WHO continue to support Member States in building resilient responses to TB in the context of health and humanitarian emergencies, in collaboration with partners, civil society and affected communities, and lead periodic global reviews of the TB response.