

**Results
Report
2024**

Tuberculosis

This chapter is part of the Results Report 2024.

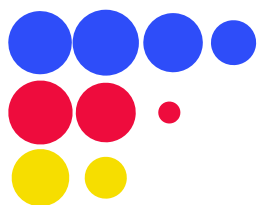
2023 was another year of significant progress in the fight against HIV, tuberculosis (TB) and malaria. In countries where the Global Fund invests, there has been a full recovery from the disruptive impact of the COVID-19 pandemic. The results we have achieved in the last year build on our extraordinary track record of progress. Over the last two decades, our partnership has cut the combined death rate from AIDS, TB and malaria by 61%. As of the end of 2023, the Global Fund partnership has saved 65 million lives.



Online Report

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State of the Fight



Tuberculosis

This chapter captures the latest information available on the fight to end tuberculosis (TB). In 2023, TB programs supported by the Global Fund recorded a complete recovery from COVID-19-related disruption. However, TB continues to be fueled by inequity. We must accelerate the global TB response to get the world on track to end the disease by 2030.

The challenge

An estimated quarter of the world's population is infected with the bacteria that causes TB. While not all these people will develop TB – many will. In 2022, 10.6 million people fell ill with TB. Of those, 7.5 million were newly diagnosed, meaning about 3 million were missed by health systems. Despite being preventable and curable, TB claimed approximately 1.3 million lives in 2022. Behind these numbers are stories of the injustice that fuels this disease – over 80% of TB cases and deaths affect the most marginalized people in low- and middle-income countries. We are currently off track to reach the Sustainable Development Goal 3 (SDG 3) target of ending TB as a public health threat by 2030. Historically, TB has suffered from inadequate financial resources and global attention, despite being one of the world's deadliest diseases.

But the outlook for TB is changing, and our partnership is fighting back and making great gains. In 2023 TB programs supported by the Global Fund recorded a complete recovery from COVID-19-related disruption, with more people with TB found and treated than ever before. The significant recovery and acceleration in screening and testing we saw from 2022 has been sustained, and efforts to find undiagnosed people have accelerated. Taken together with a widening rollout of innovations and tools to enhance efficiency, strengthened commitments at the national and international level and progress in diagnostics, drugs and vaccine development – there is real hope that we can end TB.

Today, the challenge for the TB community is to maintain that momentum. We must remain laser-focused on bridging the gaps that persist. A fundamental step toward beating TB is finding and treating “missing” people with TB – the individuals who fall ill with TB and go undiagnosed, untreated or unreported. These people are not only at risk of dying from the disease, but also of infecting as many as 15-20 other people annually. It is also vital that we scale up efforts to find people eligible for TB preventive treatment – such as household contacts, people with latent TB or those at high risk, including children and people living with HIV.

We must also confront growing threats such as existing and emerging drug-resistant strains of TB. Without implementing effective diagnostics and expanding the reach of treatment programs, we risk a worldwide upsurge in antimicrobial resistance (AMR). This would effectively give free rein to pathogens that are impervious to lifesaving medical tools – such as antibiotics and antivirals – and are a severe threat to global health security. People with TB are heavily impacted by bacterial coinfections, and drug-resistant TB is the seventh leading cause of AMR-related mortality globally.

The Global Fund's response

In 2023, the Global Fund partnership continued to support countries to deliver equitable, people-centered, cost-effective TB interventions that address vulnerabilities, barriers and gaps in quality of and access to services.

The Global Fund provides 76% of all international financing for TB. As of 30 June 2024, we have invested US\$9.9 billion in programs to prevent and treat TB and an additional US\$1.9 billion in TB/HIV programs. Our investments prioritize:

- Finding and treating “missing” people with TB and drug-resistant TB.
- Decentralizing TB services to involve more health facilities at the community level and engaging the private sector.
- Scaling up TB prevention for close contacts of people with TB and vulnerable and at-risk groups, such as children under 5 and people living with HIV.
- Screening people living with HIV for TB and routine testing for people with presumptive and diagnosed TB.
- Market shaping and introducing new tools, such as computer-aided detection software powered by artificial intelligence (AI) and digital chest X-rays.
- Widening access to more sensitive screening and diagnostics, enhancing efficiency and investing in rapid molecular diagnostics for both drug-sensitive and drug-resistant TB.
- Supporting the rollout of more efficient/shorter treatment regimens.

Underpinning all these efforts is our ongoing drive to strengthen health systems. Stronger health and community systems will allow us to not only successfully fight TB but also to be well prepared for future health threats.

We work as a partnership at local and global levels. In many countries where we invest, we work with governments, civil society and community-based organizations. At the global level we work with partners including the Stop TB Partnership, Unitaids, the U.S. Agency for International Development (USAID), the World Health Organization (WHO) and the Bill & Melinda Gates Foundation.

Equity, human rights and gender equality

People who require lifesaving TB services are often confronted with barriers that deprive them of their human rights and access to treatment. These include TB-related stigma and discrimination, harmful laws, bad policies and practices, gender inequality and gender-based violence.



At the Quezon City Jail in Metro Manila, the Philippines, radiology technician Rosselle Anne Flora examines chest X-rays inside a mobile clinic as part of routine TB screening for newly admitted and at-risk inmates.

The Global Fund/Vincent Becker



TB survivor Samuel Maina at his home in Murang'a County, Kenya.

The Global Fund/Brian Otieno

People most affected by TB also face deep social inequities that have made them vulnerable to the disease in the first place. People living in crowded conditions, informal settlements, prisons, or refugee camps; people living with HIV; people living in extreme poverty; and people who are undernourished all face a particularly high risk of TB infection. Compounding this are the prohibitive costs related to TB treatment, which can often amount to “catastrophic costs” (defined as >20% of household income or expenditure), or an amount which is simply impossible for individuals and families to sustain. Almost 50% of all TB patients face catastrophic costs.

Gender can also be a key factor in determining TB vulnerability and outcomes. Men have increased exposure to risk factors such as smoking, alcohol consumption and drug use, as well as risks from working in gendered occupations such as mining or blasting. Harmful gender norms around masculinity, such as the need to appear physically and emotionally strong, may prevent or delay health-seeking. Pervasive gender inequality, stigma and discrimination can also delay or block women’s access to TB care, meaning women often need permission to seek care and lack the financial autonomy to do so. Adolescent girls tend to be more susceptible to TB than adolescent boys. Extrapulmonary

The Global Fund invests in TB programs that address structural barriers, human rights and gender equality.

TB is more common in women than men and more difficult to diagnose. Cultural norms can also prevent women from undergoing sputum tests, and they may delay seeking treatment due to particularly severe TB stigma.

These often-overlapping barriers to accessing TB services create an environment that excludes people from TB diagnosis and treatment. Stigmatization, discrimination and illness can also trigger significant mental health challenges.

As essential conditions for ending TB, human rights and gender equality are squarely on the global agenda. At the second high-level meeting of the UN General Assembly on the fight against tuberculosis in 2023, member states reiterated their commitment to ending TB-related stigma and to implementing people-centered TB services. The Global Fund embeds these principles in our work by investing in TB programs that address barriers, human rights and gender equality. The establishment of the Gender Equality Fund in 2023 initiated a new chapter in our partnership with TB Women through which we aim to strengthen support for women's leadership and engagement in the TB response and work to ensure that TB policies and programs better meet the needs of women and girls.

We continue to scale up investments in our Breaking Down Barriers initiative, which now supports 24 countries as they confront injustice and work to remove human rights and gender-related barriers to health care. This initiative is returning meaningful results in addressing human rights barriers to TB services. A progress assessment of Breaking Down Barriers in 2023 reported scale-up from initial baselines in every country and program area. For example, in 2023 Indonesia

reported noteworthy progress in justice programs for people affected by TB and showed strong civil society activity in reducing human rights barriers to TB services.

Progress

Working with governments, the private sector, health workers, civil society and communities, the Global Fund partnership has reduced TB deaths by 36% between 2002 and 2022. Without these efforts, TB deaths would have increased by 129% and TB cases by 38% over the same period. The tuberculosis mortality rate has reduced by 54% since 2002, and the incidence rate has declined by 28%.

The number of people newly diagnosed with TB in 2022 was 7.5 million. This spike in diagnoses is the highest number since WHO began global TB monitoring in 1995, and it is likely that this figure includes a backlog of cases that went undetected during the COVID-19 pandemic. Never have so many people with TB been diagnosed and put on lifesaving treatment. The global number of people provided with TB preventive treatment in 2022 was 3.8 million, up from 2.9 million in both 2020 and 2021, although there is still a considerable way to go before we can achieve the UN high-level meeting target that aims for 90% of those at risk of TB to be provided with preventive treatment by 2027.

Across the countries where the Global Fund invests, innovative tools and novel approaches are being applied to finding and treating the millions of “missing” people with TB. This includes engaging the private sector, decentralizing screening to the community level – for example through mobile diagnostic units and community health workers – and leveraging the latest digital tools and AI capabilities in screening, such as AI-powered computer-aided detection software and digital chest X-rays.

In 2023, the growing range of available prevention and treatment options continued to strengthen the Global Fund partnership's TB response. These include 3HP, a cost-effective, short-course TB preventive treatment, and the latest shorter treatments, including BPaLM combination therapy for drug-resistant TB. This WHO-recommended treatment is a 6-month all-oral, injection-free treatment regimen composed of four medicines – bedaquiline, pretomanid, linezolid and moxifloxacin – and represents a huge milestone in drug-resistant TB care. The Global Fund also prioritized improved treatment options for children affected by TB. Our investments supported the procurement of a short, 4-month drug-susceptible TB regimen for children with non-severe TB; pediatric fixed-dose combination drugs; and child-friendly formulations of drug-resistant TB medications.

In 2023, our market-shaping efforts with key partners resulted in a 20% reduction in the cost of Cepheid's diagnostic test cartridges for TB, as well as improved service and maintenance arrangements. This is expected to expand access to millions more high-quality TB tests for people living in low- and middle-income countries where the demand is most pressing. Significant price reductions were also achieved for two other key TB commodities – the price of 3HP was reduced by 30% and the price of Johnson & Johnson's bedaquiline was reduced by 55%.

Global efforts to end TB rely on strong political will. Following the first high-level meeting of the UN General Assembly on the fight against TB in 2018, in September 2023, governments came together at a second high-level meeting on TB to double down on their commitments and set new targets for 2023-2027. These include reaching at least 90% of people with TB with prevention and care services; using WHO-recommended molecular rapid tests as the first method of diagnosing TB; providing social benefits packages to all people with TB; committing to decisive and accountable global leadership, including regular UN reporting and review; licensing at least one new TB vaccine; and closing funding gaps for TB implementation and research by 2027. Results for 2023 show that in countries supported by the Global Fund, the number of TB cases treated is close to reaching 100% achievement of the UN high-level meeting annual target at aggregate level.

The power of this multilateral action is being matched by national engagement in many countries where the Global Fund invests. The unprecedented progress across TB programs is being driven by countries committed to building a healthier future for their people. In countries with the heaviest TB burdens – for example India, Indonesia, Nigeria and the Philippines, which together account for almost 50% of the world's TB cases – we are seeing strong political commitments and domestic financing for TB prevention, diagnosis and treatment.

Greater levels of ambition are also being demonstrated through updated national strategic plans to end TB. Health systems are being strengthened through improved diagnostic capabilities, expanded access to essential prevention medicines, and shorter and more effective TB treatment regimens. Engagement with the private sector has resulted in notable increases in the number of TB patients treated in the private sector who gain access to quality diagnosis and treatment. Across countries, there are also significant concerted efforts to address the underlying conditions that put certain people at higher risk for TB infection.

Further positive results have been registered in Africa, where a steady decline in TB incidence and the number of TB deaths have been recorded in recent years. In Africa, TB deaths fell by 38% and the TB incidence rate fell by 23% between 2015 and 2022, and the continent is estimated to have passed the 2020 incidence rate and death reduction milestones of the WHO End TB Strategy. The proportion of estimated people with TB who are also living with HIV has also continued to decline, and the global targets for TB preventive treatment for people living with HIV was surpassed, largely due to the work in Africa. The progress in the fight against TB in Africa is extremely encouraging, especially given that the region has 23% of the global TB burden and some of the highest TB incidence rates and number of people living with both TB and HIV.

In 2023, efforts extended to address post-tuberculosis lung disease (PTLD). This hidden, negative after-effect of TB affects approximately 40% of individuals treated for and cured of TB. In collaboration with partners, the Global Fund supported Kenya, Malawi, Tanzania and Uganda to integrate PTLD in national TB programs. The aim is to improve the quality of TB care and reduce TB's individual, social and economic burden by building a baseline for programmatic post-TB treatment care and support, screening for recurrent TB and other bacterial infections, and administering pulmonary rehabilitation.

Over 100 years since the development of the now minimally effective Bacille Calmette-Guérin (BCG) vaccine, there is real hope that game-changing TB vaccines may soon be available. There are at least five vaccines in phase III efficacy trials and work is underway to develop next-generation vaccines based on mRNA and other promising platforms. With sustained effort and financing of TB vaccine research and development, it is possible that a new vaccine will be available this decade, with some ready to be licensed as early as 2028.

Our response to TB strengthens health systems

The Global Fund's investments in TB programs globally are not only beating back this disease but are also reverberating across health and community systems, making them more resilient, sustainable and inclusive.

The interventions to strengthen laboratories and boost TB diagnostics include tools that can detect other respiratory illnesses, including pathogens with pandemic potential. In the countries where the Global Fund invests, the same testing and laboratory capabilities that countries had built to fight TB were used to fight COVID-19. Simultaneous testing for more than one illness is now becoming a primary tenet of many countries' pandemic preparedness and response plans. Global Fund investments in genome sequencing are also strengthening early diagnosis



Community health worker Shasthya Shebika goes door-to-door in Barura village, Bangladesh, screening people for TB symptoms and collecting sputum samples for further testing. BRAC, an international development organization and Global Fund partner, works to end TB across Bangladesh, including by supporting community health workers.

BRAC

and treatment of deadly diseases, including TB, and contributing to pandemic preparedness.

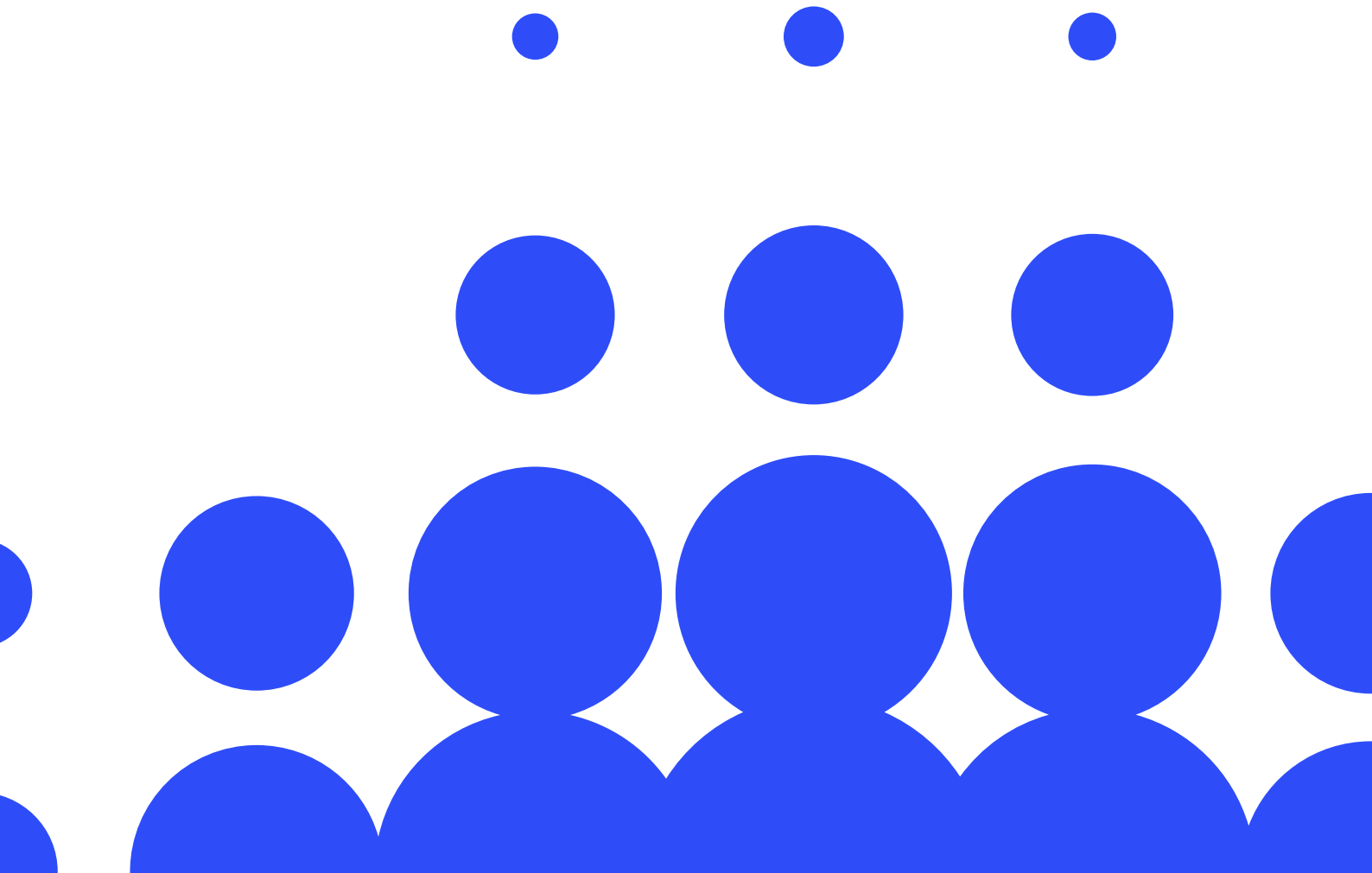
The optimization of surveillance and data systems to track TB is improving the tracking of other disease outbreaks, while improvements in health care waste practices and occupational health risks in the context of TB enhances these practices across all health care delivery. There are also significant positive offshoots of our investments in streamlined sourcing and procurement of TB medical products – these same supply chains are used for vital medical supplies – bringing more quality-assured health products to more people in shorter timeframes.

TB programs supported by the Global Fund are also facilitating and optimizing the work of health care workers beyond TB-specific interventions. For example,

community health workers providing TB care in remote locations are trained to identify and report other unusual medical symptoms, thereby providing an early warning system for outbreaks of infectious diseases.

When the Global Fund supports countries to integrate gender, equity, human rights and people-centered approaches into TB programs, the impact of this extends far beyond the TB response, making health systems more inclusive and comprehensive.

Fighting TB is boosting overall health systems, which helps sustain the gains we are making in our TB response and builds countries' resilience and readiness to confront future health threats. ●



**In countries where the
Global Fund invests:**

Key Results for 2023

7.1M

People were **treated for TB** in 2023.

353K

People with **HIV and TB were on antiretroviral therapy** during TB treatment in 2023; coverage of antiretroviral drugs in people with HIV and TB increased from 45% in 2010 to 91% in 2022. Global target: 100% among detected cases.

70%

TB treatment coverage increased from 45% in 2010 to 70% in 2022, and the TB treatment success rate reached 88% in 2021. Global targets for coverage and treatment success rates: 90% by 2025.

2M

People **exposed to TB** received preventive therapy in 2023.

121K

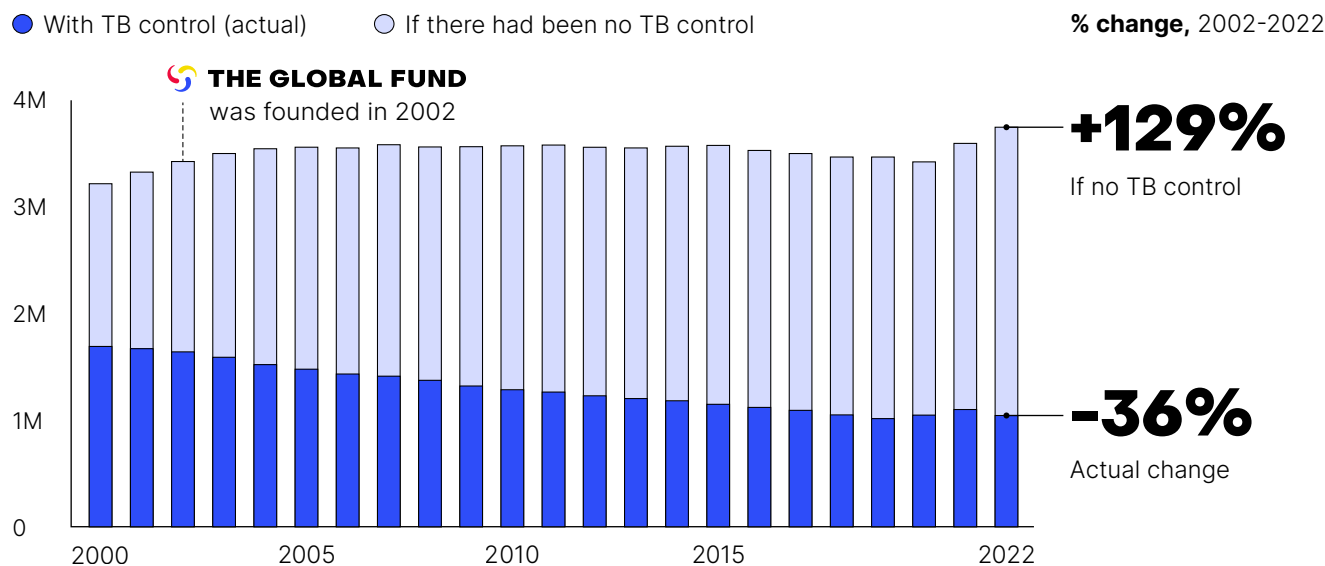
People were on **treatment for drug-resistant TB** in 2023; treatment coverage reached 33% in 2022 and the multidrug-resistant TB treatment success rate increased from 51% in 2010 to 70% in 2020. Global targets: 90% multidrug-resistant TB treatment coverage and success by 2025.

1.7M

People **living with HIV** on antiretroviral therapy initiated TB preventive therapy in 2023.

Trends in TB deaths (excluding HIV-positive)*

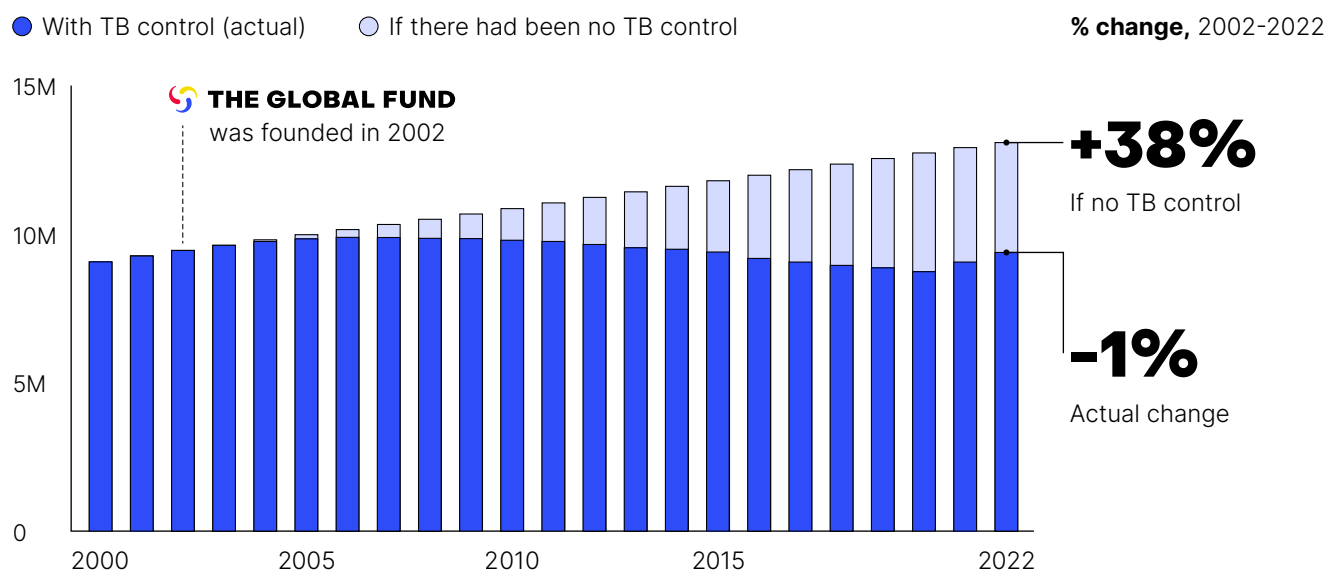
In countries where the Global Fund invests



*While major control efforts for malaria and HIV began with the launch of the Millennium Development Goals in 2000, TB control efforts began much earlier. The counterfactual and actual results therefore diverged from each other much earlier, making this graph look considerably different than its HIV and malaria counterparts.

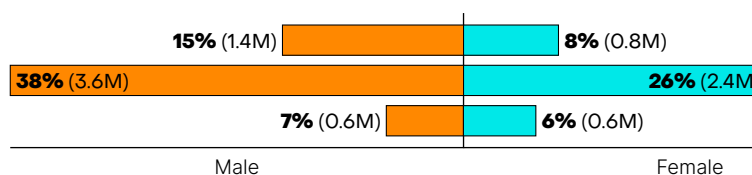
Trends in new TB cases (all forms)

In countries where the Global Fund invests



**Age-sex
breakdown, 2022**
(9.4M new TB
cases)

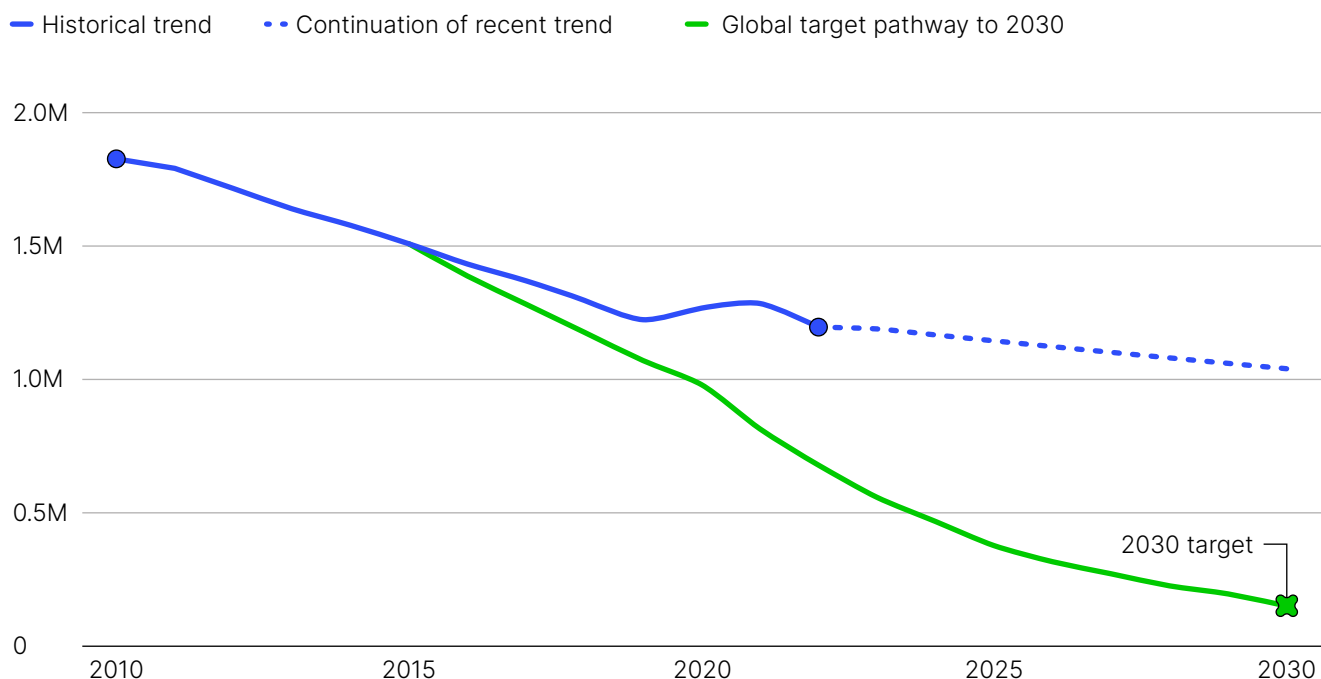
55+ years
15-54 years
0-14 years



The TB burden estimates are from the WHO Global Tuberculosis Report 2023. The estimation of "no TB control" trends for TB deaths from WHO and for new TB cases is based on the assumption of a constant trend in new TB cases since 2000.

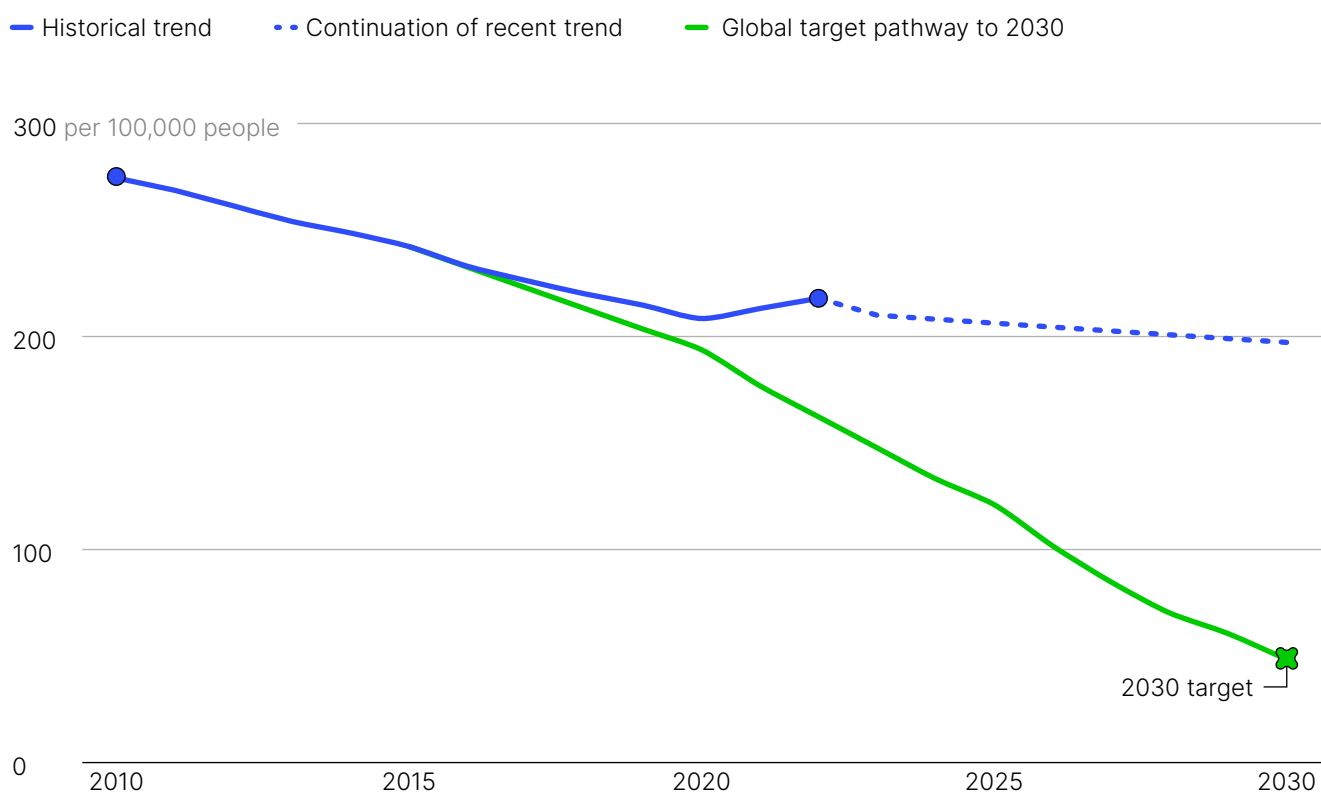
TB deaths: progress toward the WHO target*

In countries where the Global Fund invests



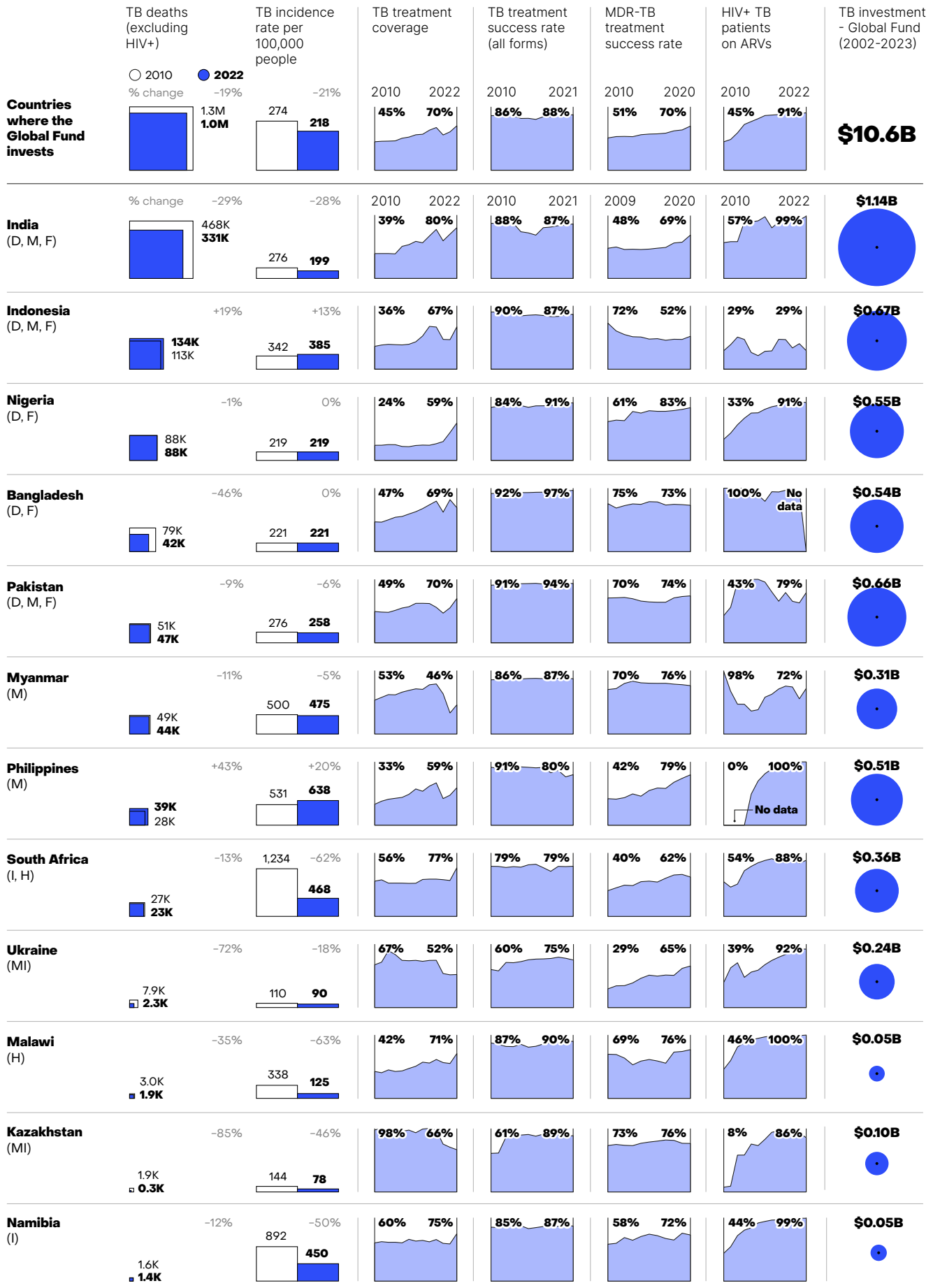
TB incidence rate: progress toward the WHO target

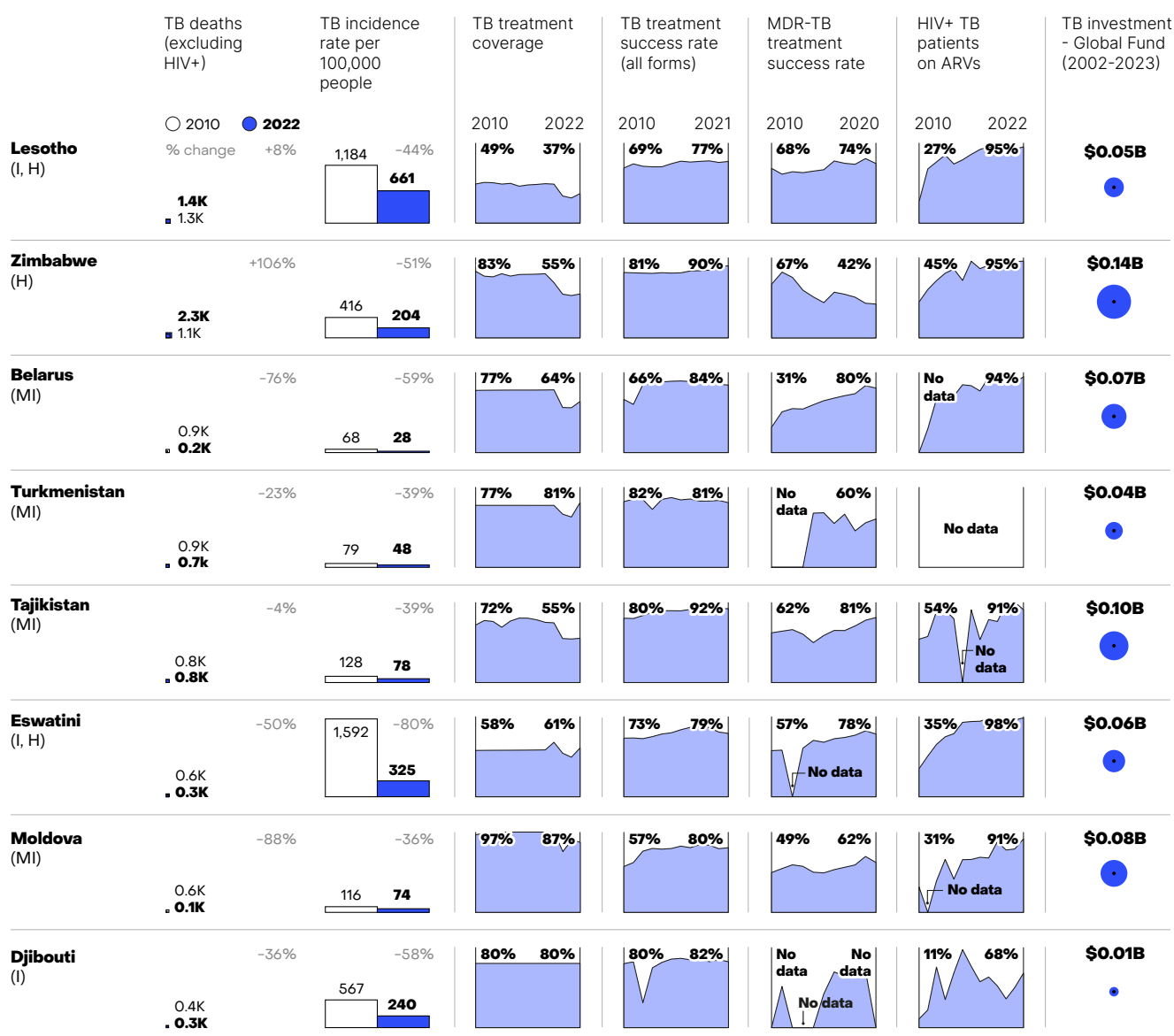
In countries where the Global Fund invests



*TB deaths include HIV-positive. "Continuation of recent trend" projection is based on reverting to pre-COVID-19 (2014-2019) trends. "Global target pathway to 2030" is based on targets from the WHO End TB Strategy. Countries that have recently received Global Fund TB funding and have reported programmatic results over the past two cycles.

Investment and impact: TB





An interactive version of this chart is available with data for all Global Fund-supported countries at <https://www.theglobalfund.org/en/results/>.

All data is based on estimates published in the Global Tuberculosis Report 2023 <https://www.who.int/tb/data/en/>, other than Global Fund disbursements, which are available on the [Global Fund Data Explorer](#).

1. Countries listed on this page were selected based on six criteria:

- Being among the top-5 countries with the highest number of TB deaths (excluding HIV+) in 2010 (D).
- Being among the top-5 countries with the highest TB incidence rate in 2010 (I).
- Being among the top-5 countries with the highest number of MDR-TB cases in 2022 (M).
- Being among the top-5 countries with the highest ratio of estimated number of MDR-TB to estimated number of new TB cases in 2022 (MI).
- Being among the top-5 countries receiving the highest amount of funding from the Global Fund from 2002 to end December 2023 to support TB programs (F).
- Being among the top-5 countries with the highest estimated HIV prevalence among incident TB cases in 2010 (H).

Some countries appear in multiple lists; therefore, the total number of countries is less than 30.

2. The aggregate numbers presented as “Global Fund-supported” include countries that have recently received Global Fund funding for TB programs and have reported programmatic results over the past two cycles. These countries received US\$10.6 billion from 2002 to end December 2023 to support TB programs and a portion of joint HIV/TB programs. Additionally, they received US\$2.0 billion in cross-cutting support across the three diseases, resulting in a total of US\$12.5 billion. Countries/programs previously supported by the Global Fund had received US\$808 million since 2002, resulting in a total disease-specific investment of US\$11.4 billion.

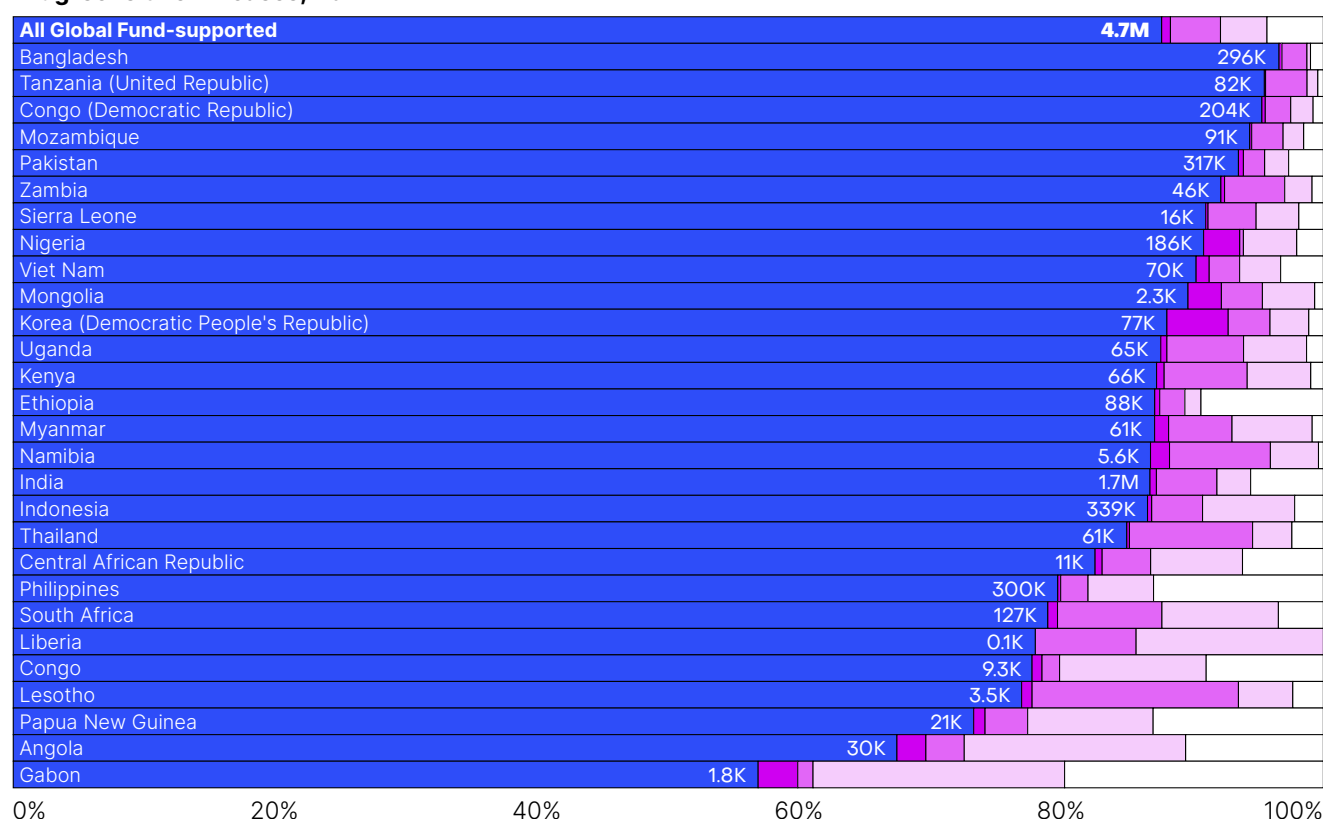
3. In line with the Global Fund [results reporting methodology](#), the charts reflect the achievements of national health programs, representing the outcomes, efforts and investments of all partners, domestic and international. For selected High Impact countries, Country Results Profiles provide further detail, including investment from all funding sources: <https://data.theglobalfund.org/annual-results>.

TB treatment outcomes

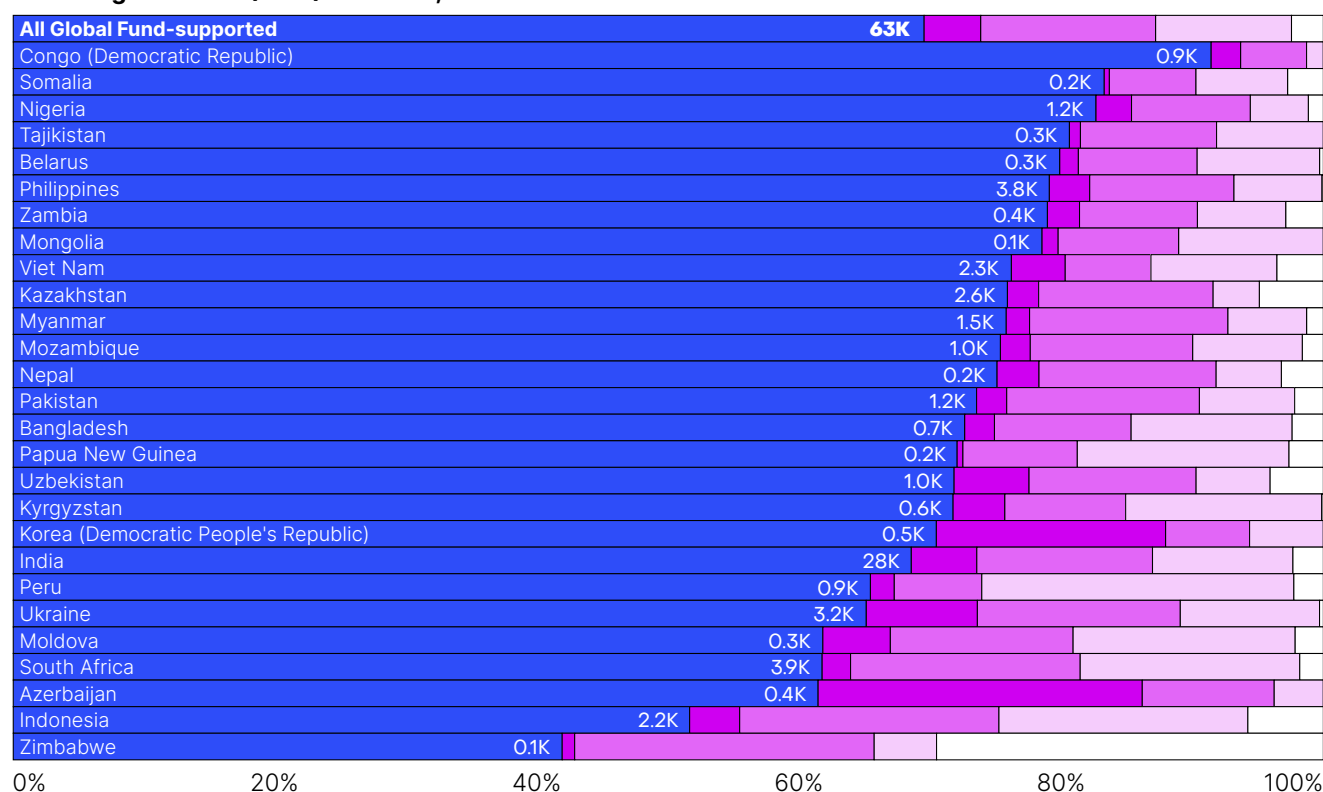
In WHO high-burden countries supported by the Global Fund

● Treatment successful ● Failed ● Died ● Lost to follow-up ○ Not evaluated

Drug-sensitive TB cases, 2021



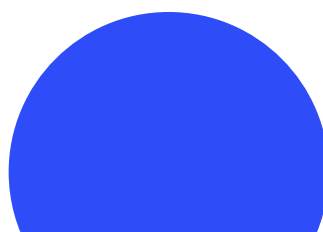
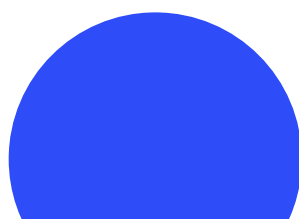
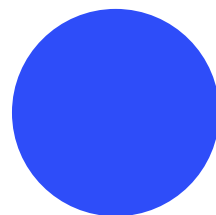
Multidrug-resistant (MDR) TB cases, 2020



TB treatment outcomes for new and relapse TB cases, WHO list of high-burden countries. Source: WHO Global Tuberculosis Report 2023. No MDR-TB treatment outcome data is available for Angola.



A TB patient collects his medicine inside Penitentiary no. 16 in Chișinău, Moldova.
The Global Fund/Vincent Becker



Case Study

Chest camps bring TB services to people across the country

Pakistan has made significant strides in its fight against TB. In 2023 alone, 475,000 people were treated for TB – about 50,000 more than in 2022.

Still, Pakistan ranks fifth among countries with a high burden of the disease, with millions of people living in areas without easy access to TB testing and care. Clinics with the tools to accurately diagnose TB are often too far away from people living in rural areas.

In 2014, Mercy Corps, an international humanitarian organization and Global Fund partner, launched chest camps: mobile health facilities that bring TB and health care services to people living in some of the most remote parts of Pakistan.

The camps provide a place where people – particularly women and children – living in far-flung communities can safely gather to meet, exchange news and access health services they might otherwise go without.

Over the past decade, Pakistan's chest camps have evolved to meet changing health needs across the country.

In 2022, catastrophic floods blocked roads that connected people in remote communities to hospitals and clinics. Chest camps became health camps: 40 vans – equipped with X-ray machines, diagnostic equipment, medicines and teams of health care providers – navigated little-used roads to reach communities isolated by floods.

Mercy Corps and partners are also incorporating the latest tools and technology to make the camps more targeted and effective.

AI tools help identify “hotspots” and prioritize locations where chest camps will reach more people who might have TB. AI is also used to read X-rays and identify people who should receive additional testing – which often means that TB is caught and treated much earlier.

With the Global Fund's support, Mercy Corps holds 600 camps per month across 110 districts. Recently, the organization procured 25 portable X-ray machines that providers can bring down narrower roads to reach rural communities – and bring TB services to more people than ever before. ●

A chest camp in Chak 168 GB Sirāj, about an hour's drive from Faisalabad, Pakistan.

The Global Fund/Vincent Becker





The full suite of the Results Report 2024 includes:

Summary & Key Results

Health and
Community Systems



HIV:
State of the Fight

Colliding Crises



Tuberculosis:
State of the Fight

Investing for Impact



Malaria:
State of the Fight

Left: Laboratory scientists Ismail Tofiq and Bakr Hamadamin run blood tests to check TB patients' kidney and liver function in Erbil, northern Iraq.

The Global Fund/Ashley Gilbertson

Back cover: Liz Tatiana Mereles and her 9-year-old son Tiago Masi enjoy a quiet moment together after their X-ray and TB test at CAMSAT in San Felipe, Asunción, Paraguay. Liz has four children. Flooding in Asunción has forced them from their home eight times over the past 13 years; they have had to stay with family or lodge in temporary housing for up to six months at a time. CAMSTAT's San Felipe Health for All Mutual Aid Center is part of a national TB awareness campaign that aims to provide people like Liz and her family with a safe, convenient, comfortable place to test for TB.

The Global Fund/Johis Alarcón/Panos

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AIDS, Tuberculosis and Malaria**

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