



**Indiana**  
**Department**  
**of**  
**Health**

# GLOBAL TB PERSPECTIVE

**GUY CROWDER, MD, MPHTM**  
CHIEF MEDICAL OFFICER

03/20/2024

## OUR MISSION:

To promote, protect, and improve the health and safety of all Hoosiers.

## OUR VISION:

Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.





# Introduction

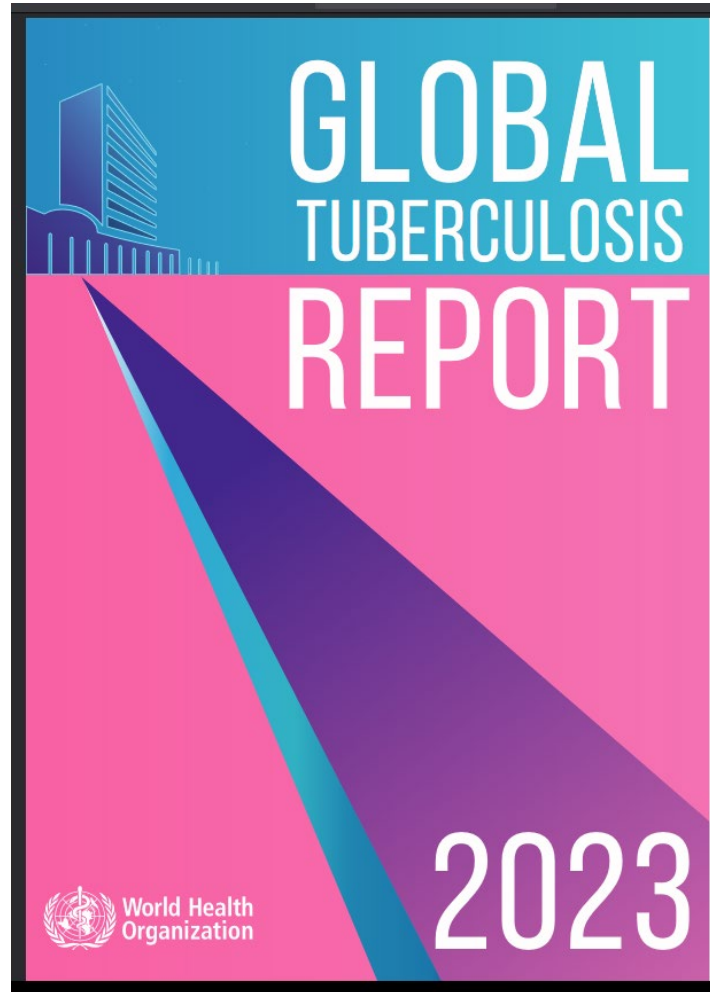


**Indiana**  
Department  
of  
**Health**

# Global TB Report 2023

---

Unless otherwise noted,  
the information in this  
presentation is taken  
from the report<sup>1</sup>



# Statement from WHO Director

---



**Dr Tedros Adhanom Ghebreyesus**  
Director-General  
World Health Organization

“ For millennia, our ancestors have suffered and died with tuberculosis, without knowing what it was, what caused it, or how to stop it. Today, we have knowledge and tools they could only have dreamed of. We have political commitment, and we have an opportunity that no generation in the history of humanity has had: the opportunity to write the final chapter in the story of TB. ”

# WHO: Stories from Tuberculosis survivors

## My journey fighting TB: Timpiyan's story



<https://www.youtube.com/watch?v=uBqa55qVCjQ>



# Global Goals



**Indiana**  
Department  
of  
**Health**

# End TB Strategy at a Glance

Box 2. The End TB Strategy at a glance				
VISION	A WORLD FREE OF TB — zero deaths, disease and suffering due to TB			
GOAL	END THE GLOBAL TB EPIDEMIC			
INDICATORS	MILESTONES		TARGETS	
	2020	2025	2030	2035
Percentage reduction in the absolute number of TB deaths <sup>a</sup> (compared with 2015 baseline)	35%	75%	90%	95%
Percentage reduction in the TB incidence rate (compared with 2015 baseline)	20%	50%	80%	90%
Percentage of TB-affected households facing catastrophic total costs due to TB <sup>b</sup> (level in 2015 unknown)	0%	0%	0%	0%

**PILLARS AND COMPONENTS**

- 1. INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION**
  - A. Early diagnosis of TB including universal drug-susceptibility testing, and systematic screening of contacts and high-risk groups
  - B. Treatment of all people with TB including drug-resistant TB, and patient support
  - C. Collaborative TB/HIV activities, and management of comorbidities
  - D. Preventive treatment of persons at high risk, and vaccination against TB
- 2. BOLD POLICIES AND SUPPORTIVE SYSTEMS**
  - E. Political commitment with adequate resources for TB care and prevention
  - F. Engagement of communities, civil society organizations, and public and private care providers
  - G. Universal health coverage policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control
  - H. Social protection, poverty alleviation and actions on other determinants of TB
- 3. INTENSIFIED RESEARCH AND INNOVATION**
  - I. Discovery, development and rapid uptake of new tools, interventions and strategies
  - J. Research to optimize implementation and impact, and promote innovations



# End TB 2025 goals...how are we doing?

## WHO End TB Strategy: 2025 milestones

TB INCIDENCE RATE



**8.7%**  
reduction  
2015-2022

NUMBER OF TB DEATHS



**19%**  
reduction  
2015-2022

PERCENTAGE OF  
PEOPLE WITH TB FACING  
CATASTROPHIC TOTAL COSTS<sup>a</sup>



**49%**  
of people with TB  
face catastrophic  
total costs

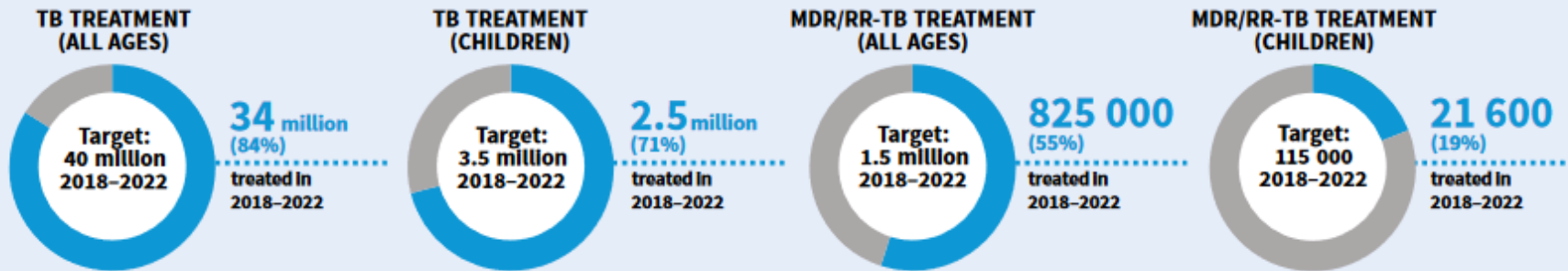
# Global targets from 2018 UN meeting

## Global targets set in 2018 at the first UN high-level meeting on TB

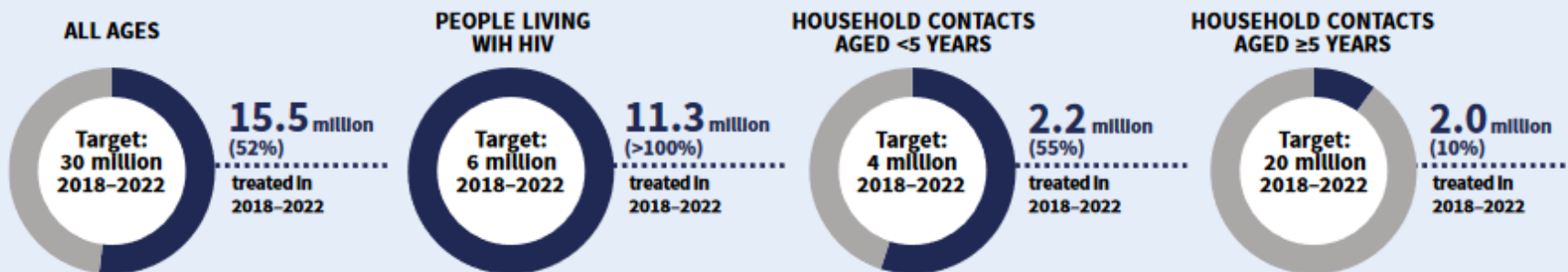
INDICATOR	TARGET
Number of people with TB disease treated in the five years 2018–2022	40 million people, including: <ul style="list-style-type: none"><li>• 3.5 million children</li><li>• 1.5 million people with drug-resistant TB, including 115 000 children</li></ul>
Number of people provided with TB preventive treatment in the five years 2018–2022	At least 30 million people, including: <ul style="list-style-type: none"><li>• 4 million children under 5 years of age who are household contacts of people diagnosed with TB</li><li>• 20 million people in older age groups who are household contacts of people diagnosed with TB</li><li>• 6 million people living with HIV</li></ul>
Annual funding for universal access to quality prevention, diagnosis, treatment and care of TB	At least US\$ 13 billion per year by 2022
Annual funding for TB research	US\$ 2 billion annually in the five years 2018–2022

# Are we hitting the 2018 targets?

## 2018 UN high-level meeting on TB: treatment targets



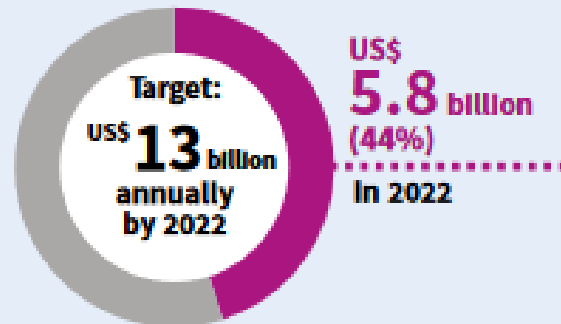
## 2018 UN high-level meeting on TB: TB preventive treatment targets



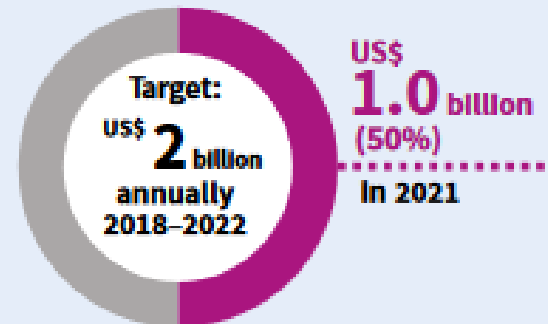
# Are we hitting the 2018 targets?

## 2018 UN high-level meeting on TB: funding targets

### UNIVERSAL ACCESS TO TB PREVENTION, DIAGNOSIS, TREATMENT AND CARE



### TB RESEARCH



# Global targets from 2023 UN meeting

## Global targets set in 2023 at the second UN high-level meeting on TB

INDICATOR	GLOBAL TARGET
TB treatment coverage (percentage of the estimated number of people who develop TB disease each year who are provided with quality-assured diagnosis and treatment)	90% by 2027 (equivalent to up to 45 million people globally in the 5-year period 2023–2027, including up to 4.5 million children and up to 1.5 million people with drug-resistant TB)
Coverage of TB preventive treatment (percentage of people at high risk of developing TB disease who are provided with TB preventive treatment)	90% by 2027 (equivalent to up to 45 million people globally in the 5-year period 2023–2027, including 30 million household contacts of people with TB and 15 million people living with HIV)
Coverage of rapid diagnostic testing for TB (percentage of those diagnosed with TB who were initially tested with a WHO-recommended rapid molecular test)	100% by 2027
Coverage of health and social benefits package for people with TB	100% by 2027
Availability of new TB vaccines that are safe and effective	Rollout initiated, preferably within 5 years
Annual funding for universal access to quality prevention, diagnosis, treatment and care for TB	US\$ 22 billion by 2027, US\$ 35 billion by 2030
Annual funding for TB research	US\$ 5 billion by 2027



# Global Trends



**Indiana**  
Department  
of  
**Health**

# 2022 cases and deaths

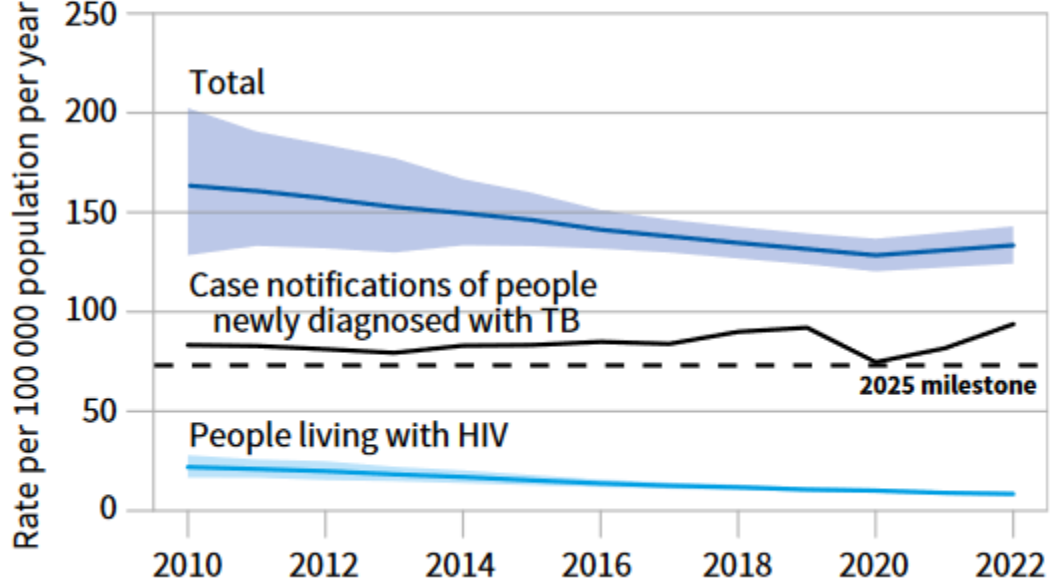
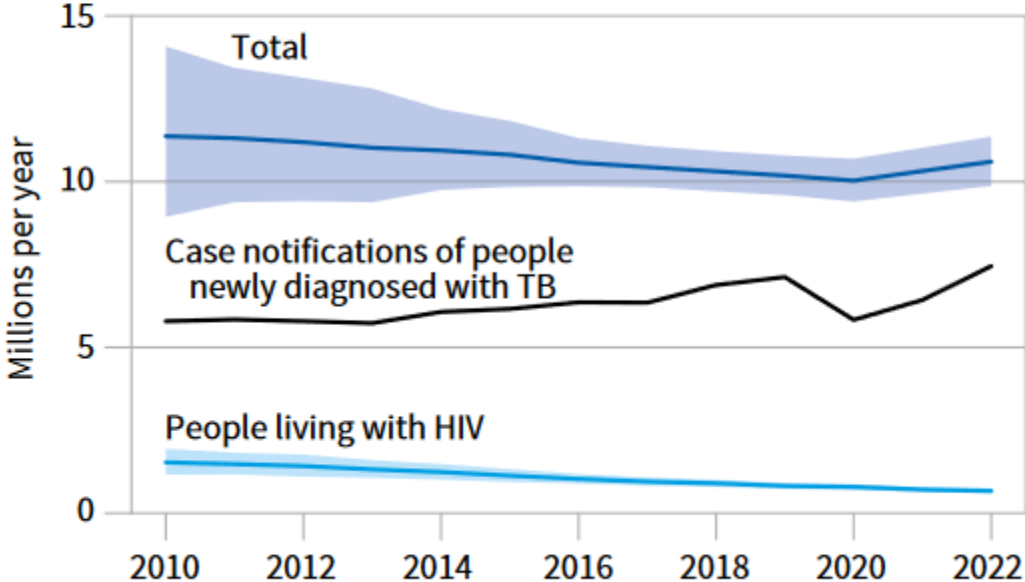
---

- Estimated 10.6 million TB cases
  - Increased from estimated 10.3 million
  - Incidence 133 per 100,000 (up from 128 in 2020)
- 7.5 million new TB case notifications
  - Above 2019 level of 7.1 million
- 1.3 million deaths from TB
  - Down from estimated 1.4 million in 2021
  - 167,000 among patients with HIV

# Incident case trends

## Global trends in the estimated number of incident TB cases (left) and the incidence rate (right), 2010–2022

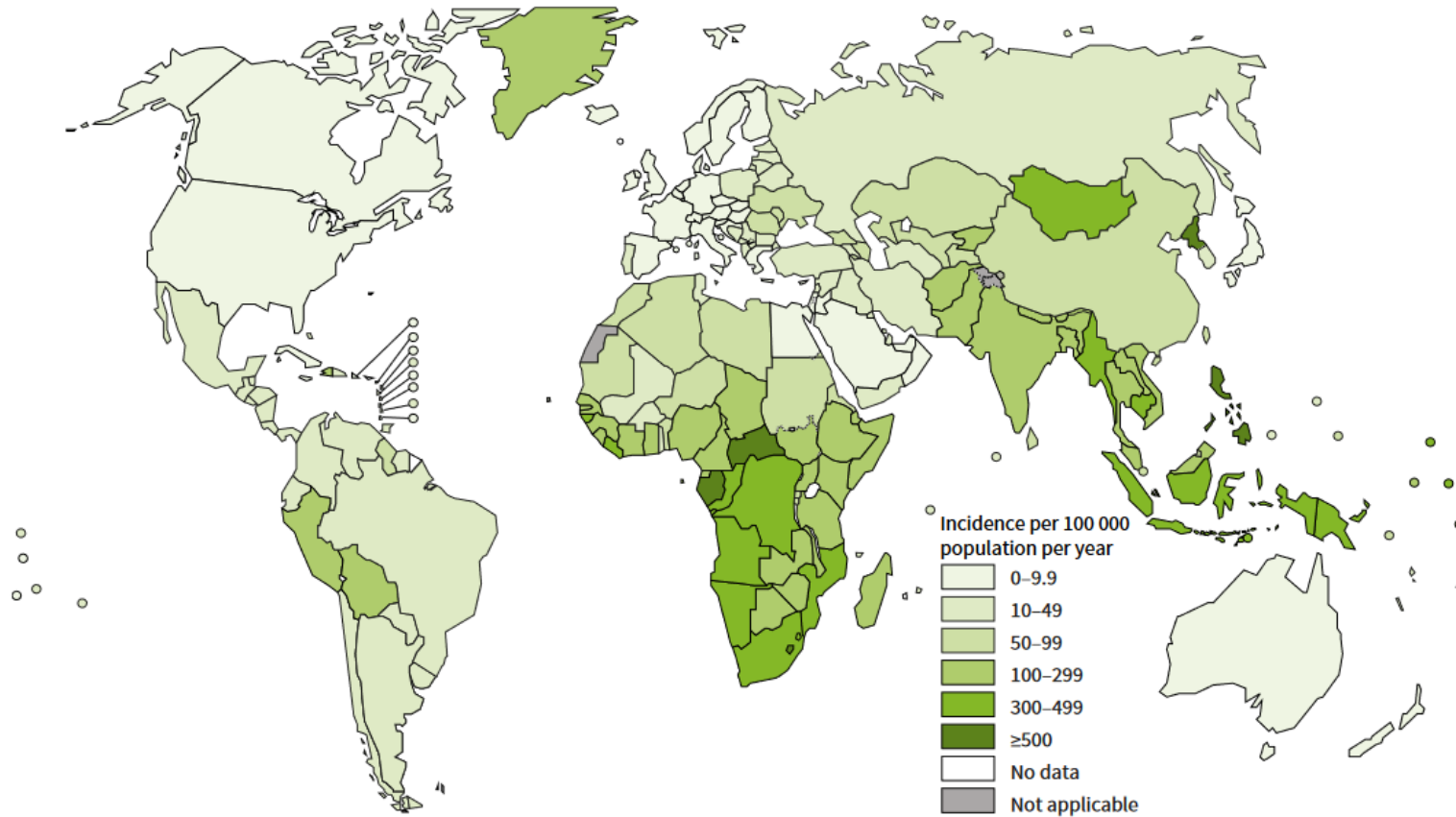
The horizontal dashed line shows the 2025 milestone of the End TB strategy, which is a 50% reduction in the TB incidence rate between 2015 and 2025. Shaded areas represent 95% uncertainty intervals.





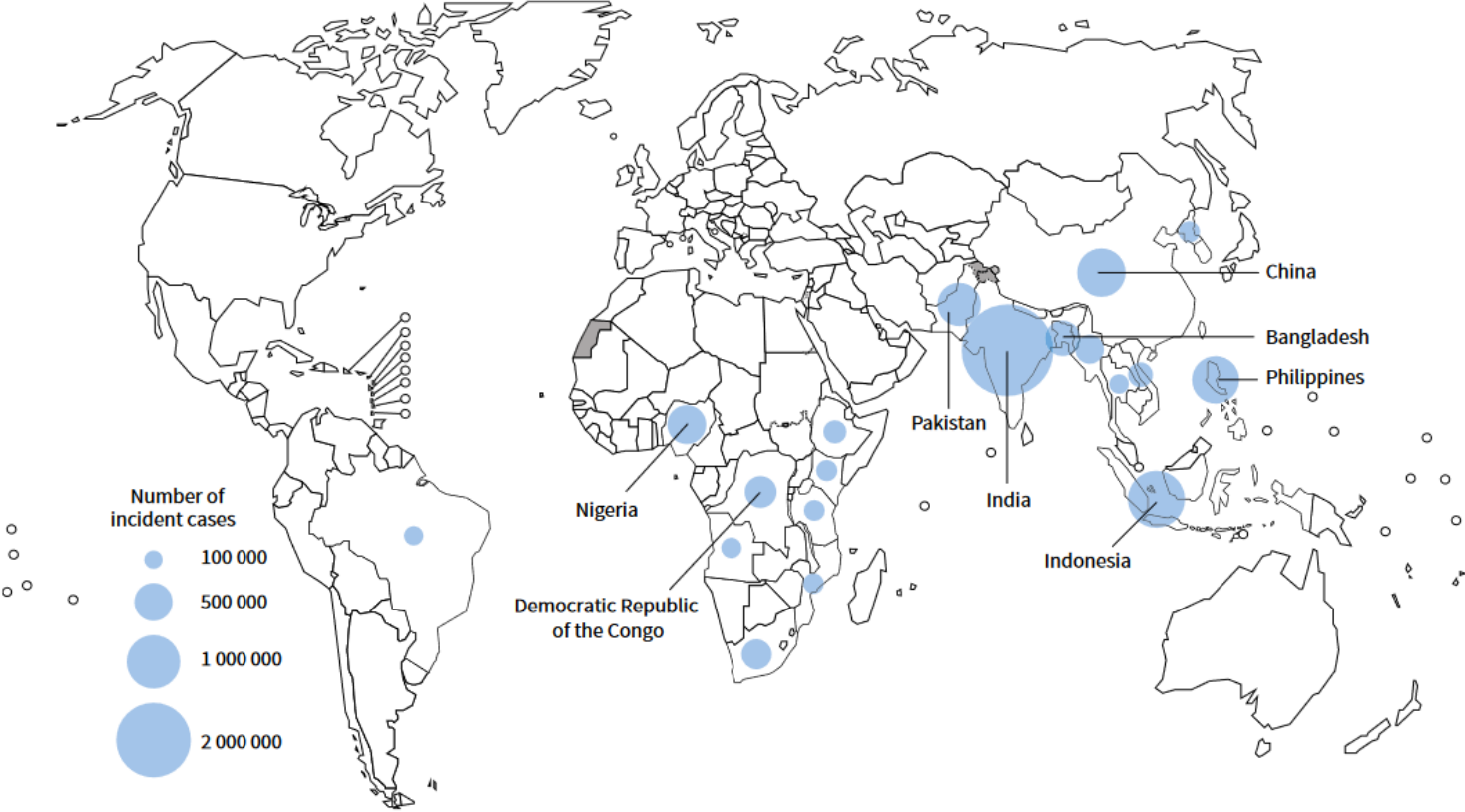
# TB incidence rates

Estimated TB incidence rates, 2022



# Incident cases in highest burden countries

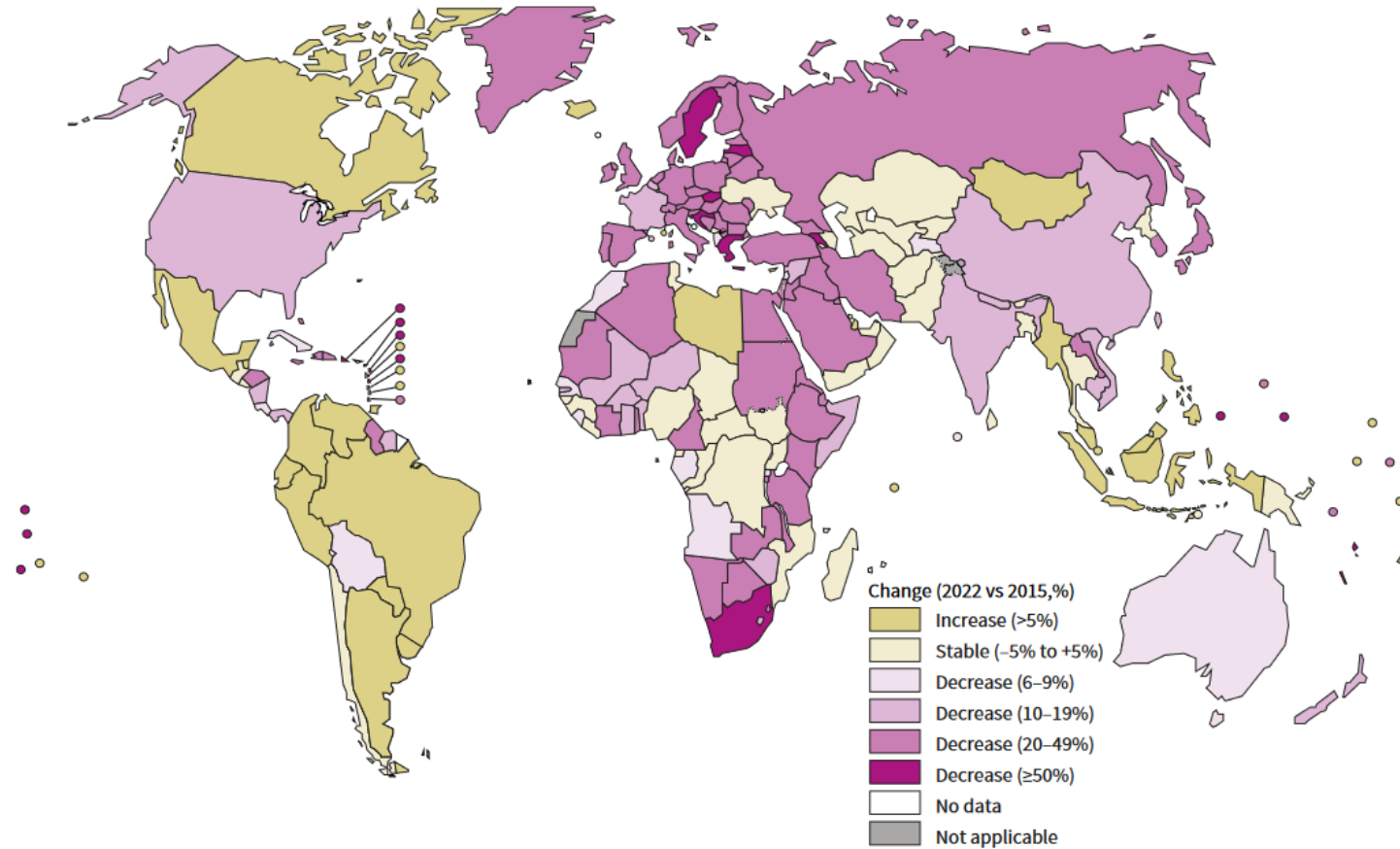
Estimated number of incident TB cases in 2022, for countries with at least 100 000 incident cases<sup>a</sup>



<sup>a</sup> The eight countries ranked in order from first to last in terms of numbers of cases, and that accounted for about two thirds of global cases in 2022, are India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and the Democratic Republic of the Congo.

# Change in incidence rates

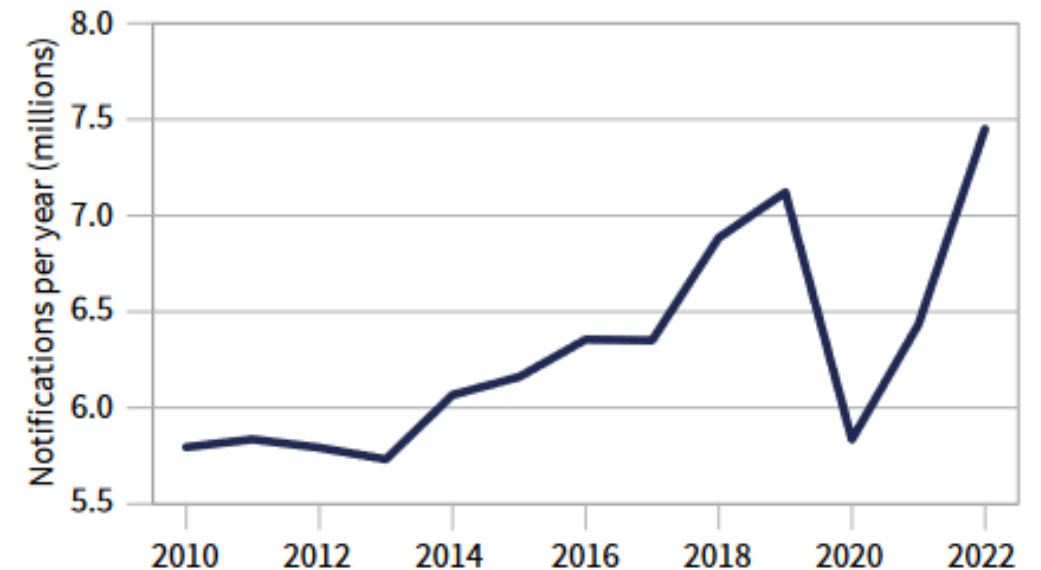
Change (%) in estimated TB incidence (new cases per 100 000 population), 2022 compared with 2015



# Recovery in number of people diagnosed

- In 2022 there was a major recovery in the number of people diagnosed with TB
  - Following two years of COVID-related disruptions
  - Rebound to pre-COVID levels
  - 2022 increase likely related to backlog from previous years
- TB remains the No. 2 infectious disease cause of death

**Global trend in case notifications of people newly diagnosed with TB, 2010–2022**

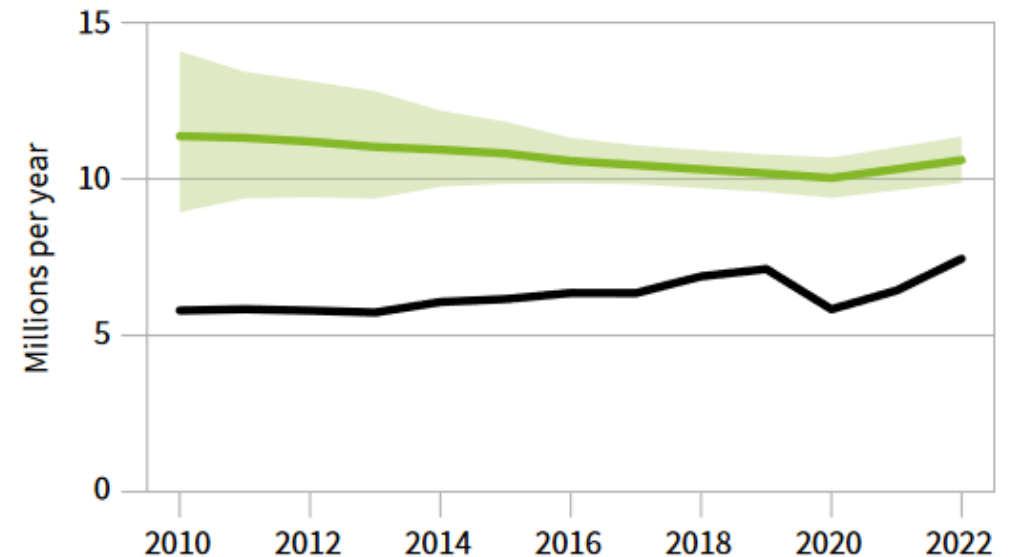


# Incident cases vs diagnosed cases

- Widening incident cases vs diagnosed cases in recent years representative of COVID disruption
  - But improved with increased case notification in 2022

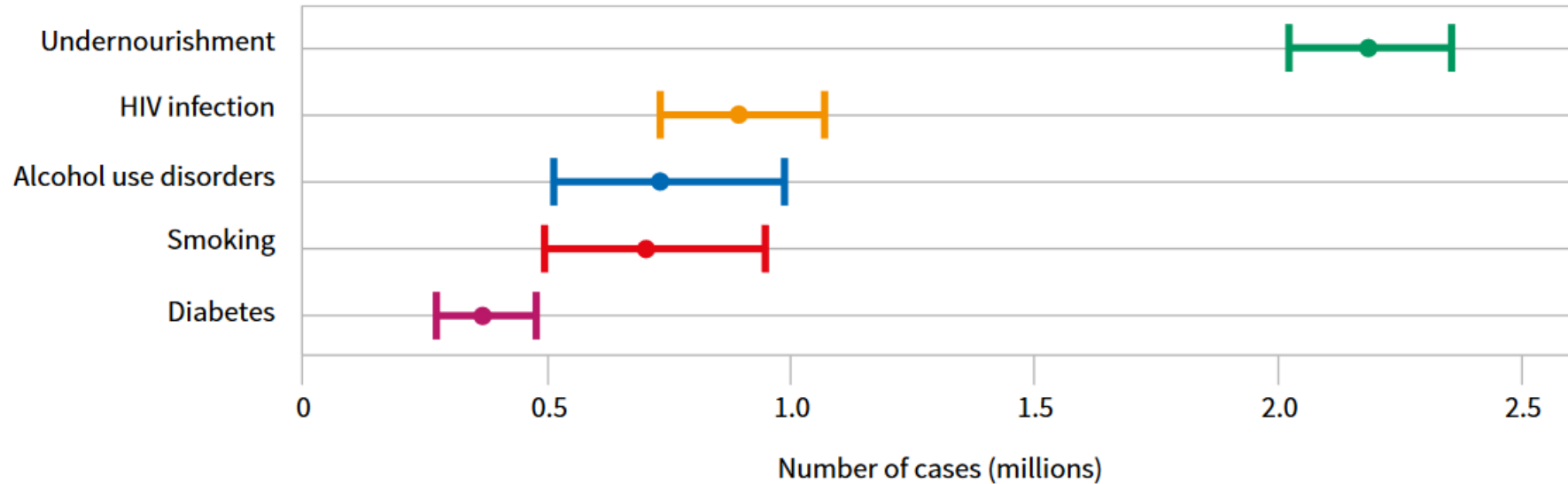
**Global trend in case notifications of people newly diagnosed with TB (black) and the estimated number of incident TB cases (green), 2010–2022**

The shaded area represents the 95% uncertainty interval.



# Cases and risk factors

Global estimates of the number of TB cases attributable to selected risk factors,<sup>a</sup> 2022

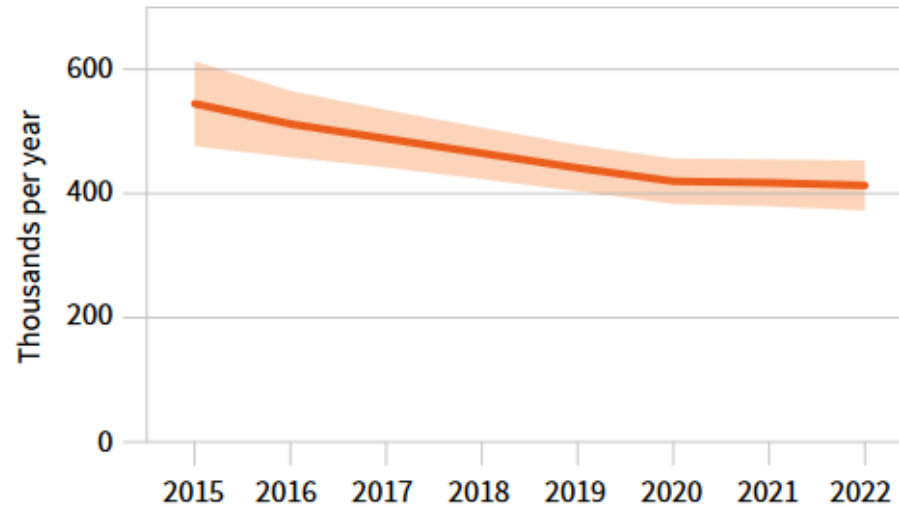


<sup>a</sup> Sources of data used to produce estimates were: Imtiaz s et al. Eur Resp Jour (2017) (<https://pubmed.ncbi.nlm.nih.gov/28705945/>); Hayashi S et al. Trop Med Int Health (2018) (<https://pubmed.ncbi.nlm.nih.gov/30062731/>); Lönnroth K et al. Lancet (2010) (<https://pubmed.ncbi.nlm.nih.gov/20488524/>); World bank sustainable Development Goals Database (<http://datatopics.worldbank.org/sdgs/>); WHO Global Health Observatory (<https://www.who.int/data/gho>); and the WHO Global Tuberculosis Programme.

# MDR case trends

## Global trend in the estimated number of people who developed MDR/RR-TB (incident cases), 2015–2022

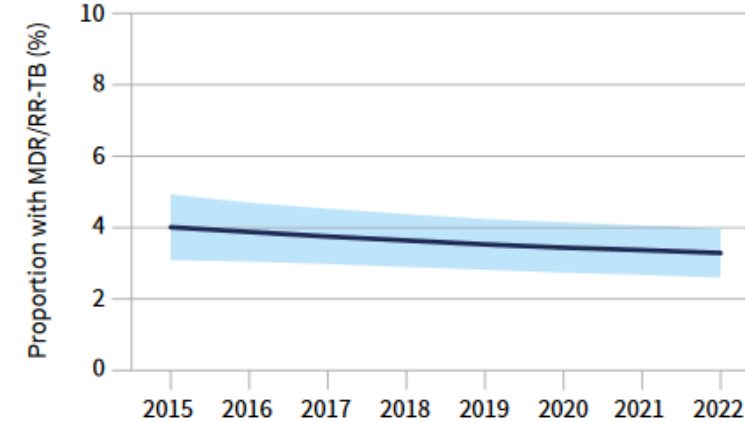
The shaded area represents the 95% uncertainty interval.



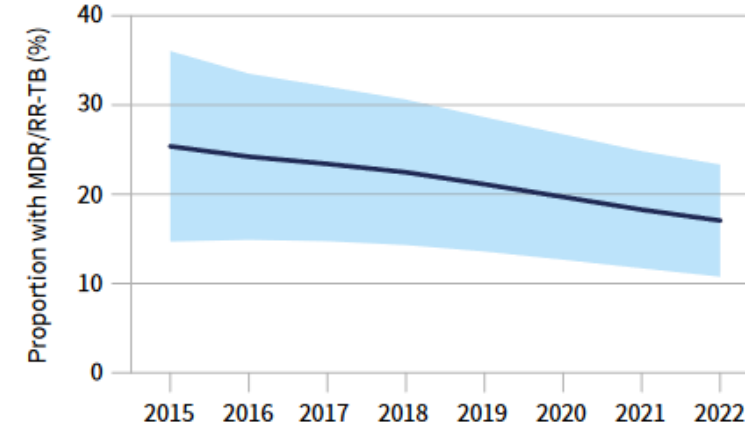
## Global trend in the estimated percentage of people with TB who had MDR/RR-TB, 2015–2022

The shaded areas represent 95% uncertainty intervals.

### People with no previous history of TB treatment

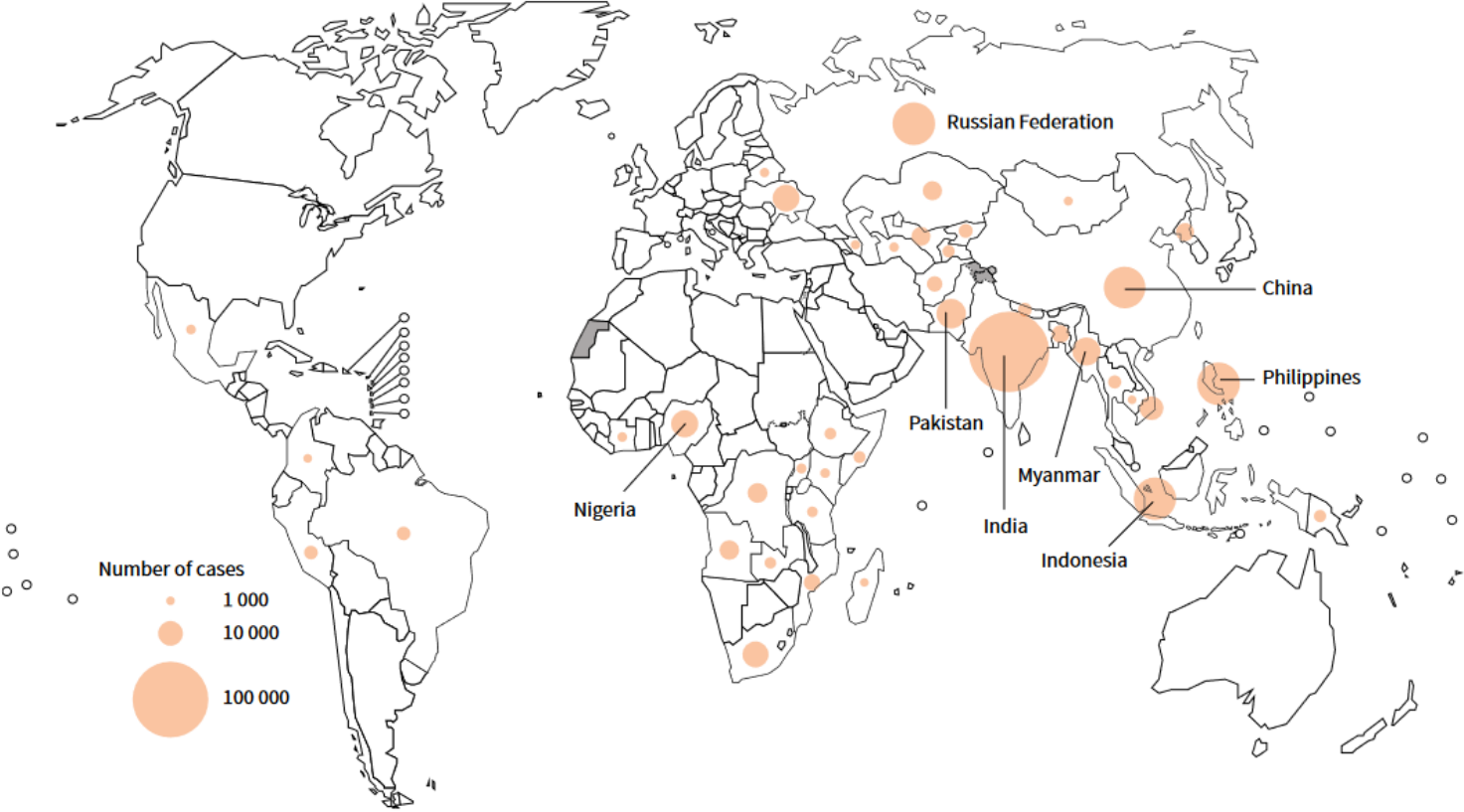


### People previously treated for TB



# MDR/RR-TB cases in highest burden countries

Estimated number of people who developed MDR/RR-TB (incident cases) in 2022, for countries with at least 1000 incident cases<sup>a</sup>



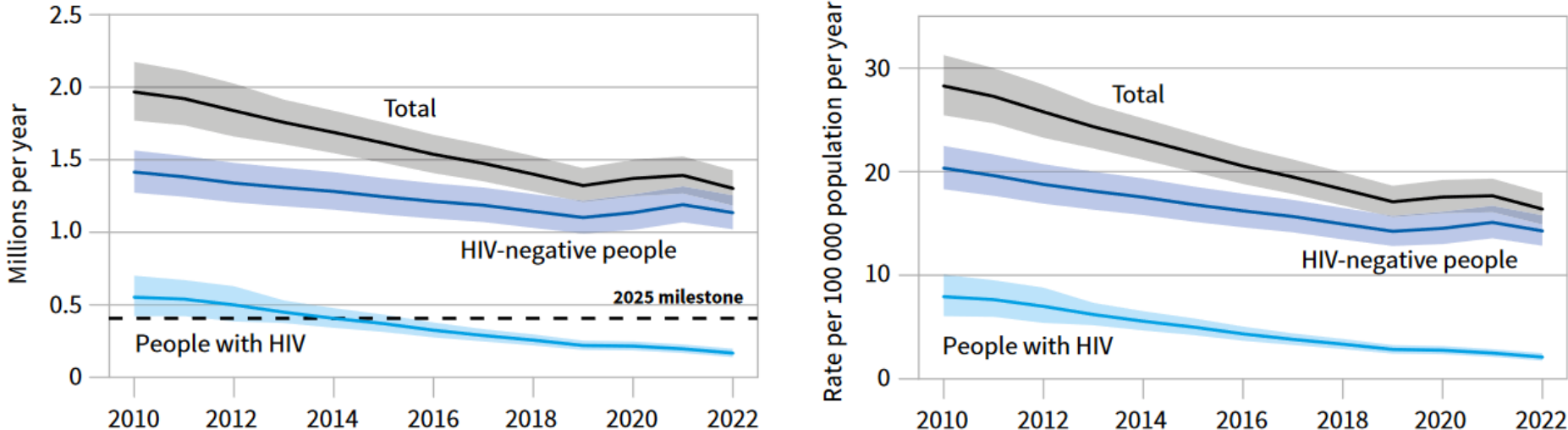
<sup>a</sup> The eight countries ranked in descending order of the total number of RR-TB incident cases in 2022 are India, the Philippines, the Russian Federation, Indonesia, China, Pakistan, Myanmar and Nigeria.



# Decrease in estimated number of deaths

## Global trends in the estimated number of deaths caused by TB (left) and the TB mortality rate (right),<sup>a</sup> 2010–2022

The horizontal dashed line shows the 2025 milestone of the End TB strategy, which is a 75% reduction in the total number of TB deaths between 2015 and 2025. Shaded areas represent 95% uncertainty intervals.

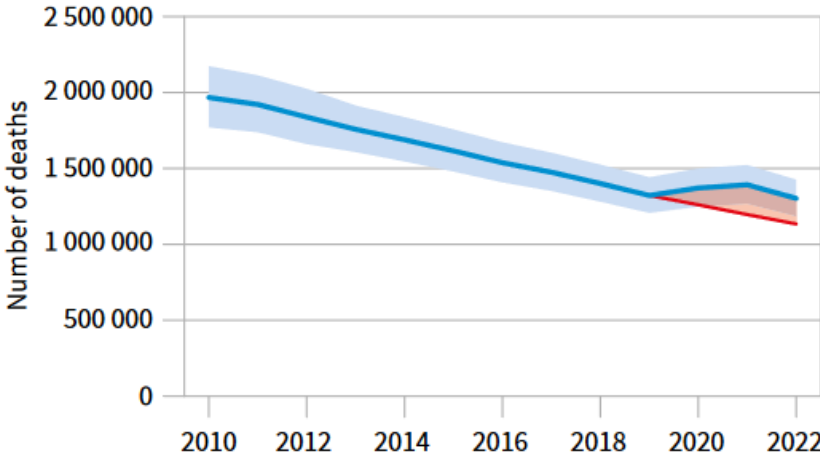


<sup>a</sup> Deaths from TB among people with HIV are officially classified as deaths caused by HIV/AIDS, with TB as a contributory cause.

# More global TB death trends

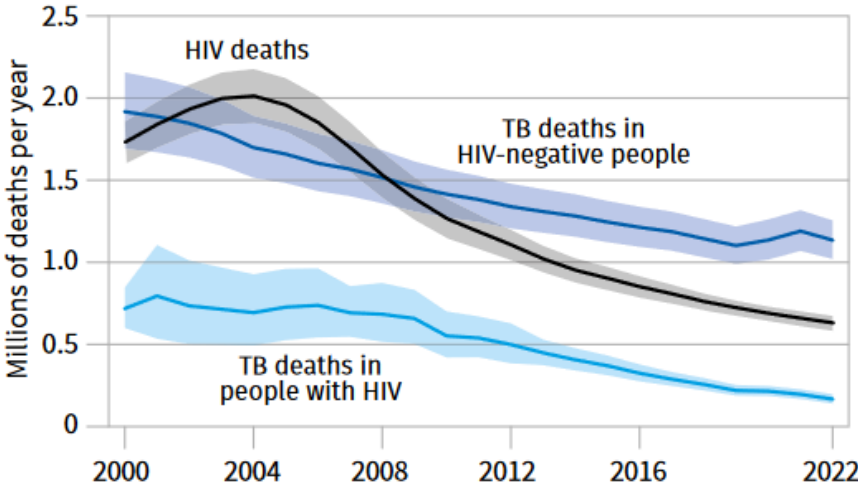
## Estimated number of excess TB deaths during the COVID-19 pandemic and its aftermath

The **blue** shaded area represents the 95% uncertainty interval of the actual number of deaths estimated to have been caused by TB; the **red** line shows the estimated number of deaths that would have been caused by TB in the absence of the COVID-19 pandemic; the **red** shaded area shows the excess number of deaths caused by TB due to disruptions associated with the COVID-19 pandemic.



## Global trends in the estimated number of deaths caused by TB and HIV (in millions),<sup>a,b</sup> 2000–2022

Shaded areas represent 95% uncertainty intervals.



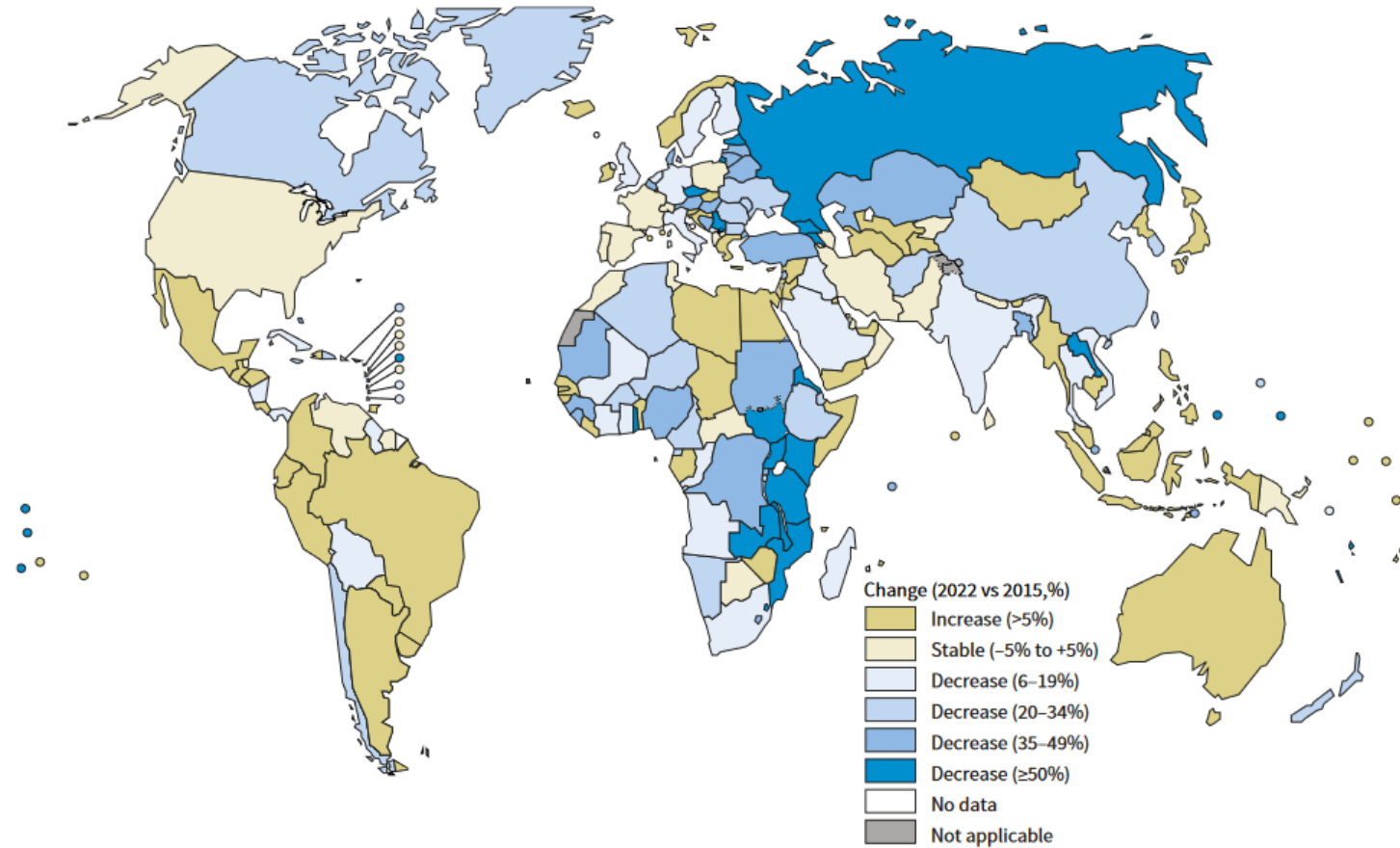
<sup>a</sup> For HIV/AIDS, the latest estimates of the number of deaths in 2022 that have been published by UNAIDS are available at <http://www.unaids.org/en/> (accessed 15 August 2023). For TB, the estimates for 2022 are those published in this report.

<sup>b</sup> Deaths from TB among people with HIV are officially classified as deaths caused by HIV/AIDS in the International Classification of Diseases.

# Change in deaths (%)

81% of all deaths attributable to TB in those without HIV occurred in the African and South-East Asian Regions

Change (%) in the estimated number of deaths caused by TB, 2022 compared with 2015



# Treatment saving lives

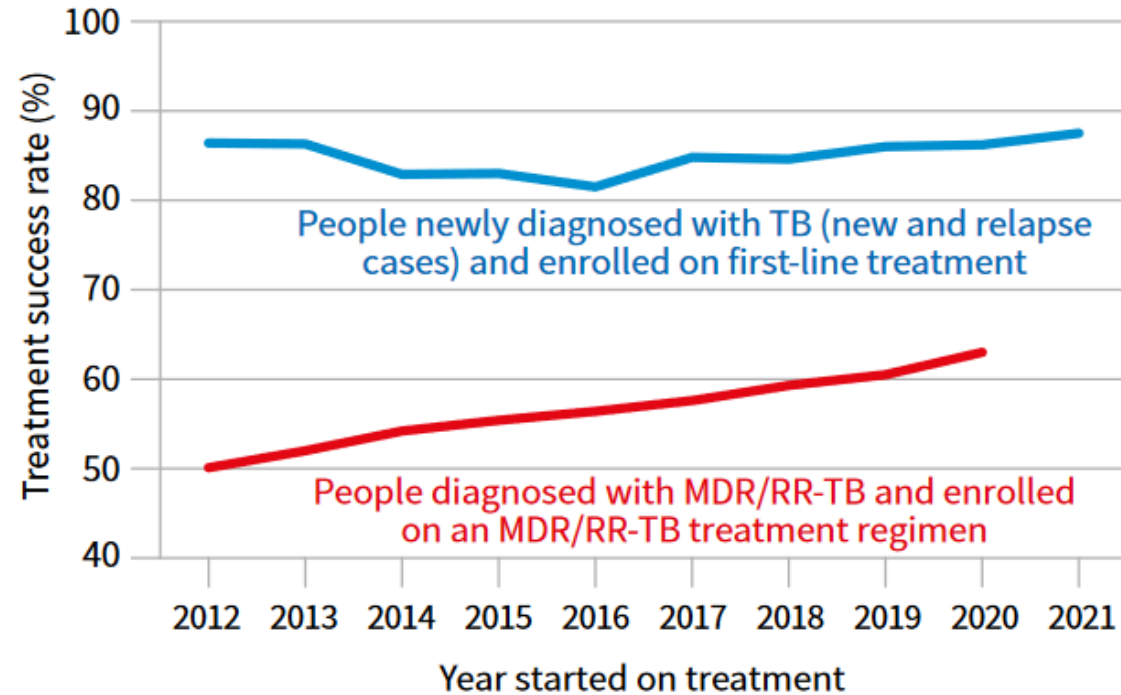
**Cumulative number of deaths averted by a) TB treatment as well as b) antiretroviral treatment for people diagnosed with TB who were also living with HIV, 2010–2022 (in millions), globally and by WHO region**

WHO REGION	PEOPLE WITHOUT HIV		PEOPLE WITH HIV <sup>a</sup>		TOTAL	
	BEST ESTIMATE	UNCERTAINTY INTERVAL	BEST ESTIMATE	UNCERTAINTY INTERVAL	BEST ESTIMATE	UNCERTAINTY INTERVAL
African Region	5.2	4.3–6.2	4.8	4.1–5.5	10	8.9–11
Region of the Americas	1.2	1.0–1.3	0.23	0.21–0.24	1.4	1.3–1.5
South-East Asia Region	18	15–21	0.85	0.53–1.2	19	16–22
European Region	1.1	0.95–1.2	0.21	0.18–0.25	1.3	1.2–1.4
Eastern Mediterranean Region	3.4	2.9–3.9	0.062	0.047–0.078	3.5	3.0–4.0
Western Pacific Region	9.0	8.0–10	0.32	0.26–0.37	9.3	8.3–10
<b>Global</b>	<b>38</b>	<b>33–43</b>	<b>6.4</b>	<b>5.5–7.3</b>	<b>44</b>	<b>39–49</b>

<sup>a</sup> Deaths from TB among people with HIV are officially classified as deaths caused by HIV/AIDS (with TB as a contributory cause). This is the reason why the estimates make a clear distinction between people with and without HIV.

# TB treatment success rates increasing

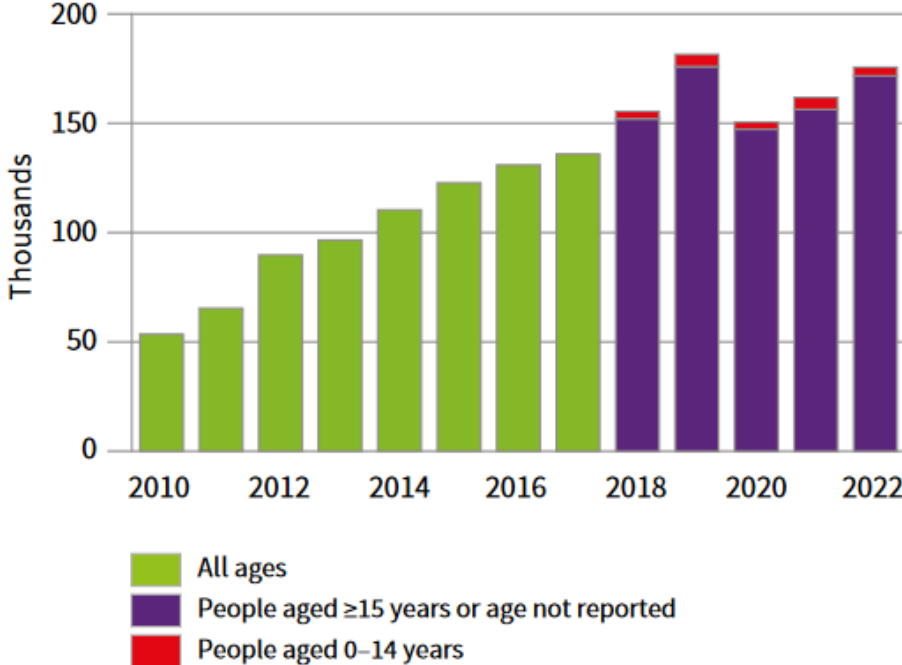
**Global success rates for people treated for TB, 2012–2021<sup>a</sup>**



<sup>a</sup> 2012 is the first year for which WHO collected data about treatment outcomes for MDR/RR-TB.

# MDR treatment increasing

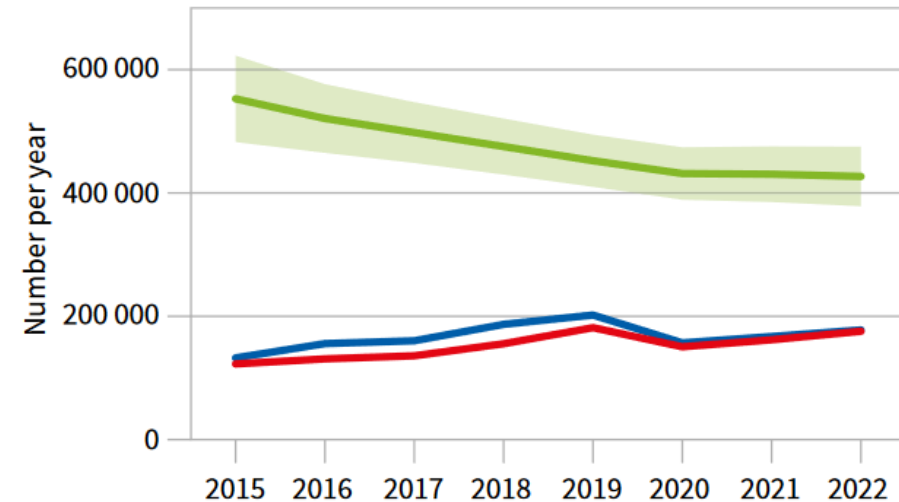
The global number of people reported to have been enrolled on treatment for MDR/RR-TB, 2010–2022<sup>a</sup>



<sup>a</sup> Global data disaggregated by age are not available for the years before 2018.

# But only about 2 in 5 (43%) people with resistant TB are on treatment

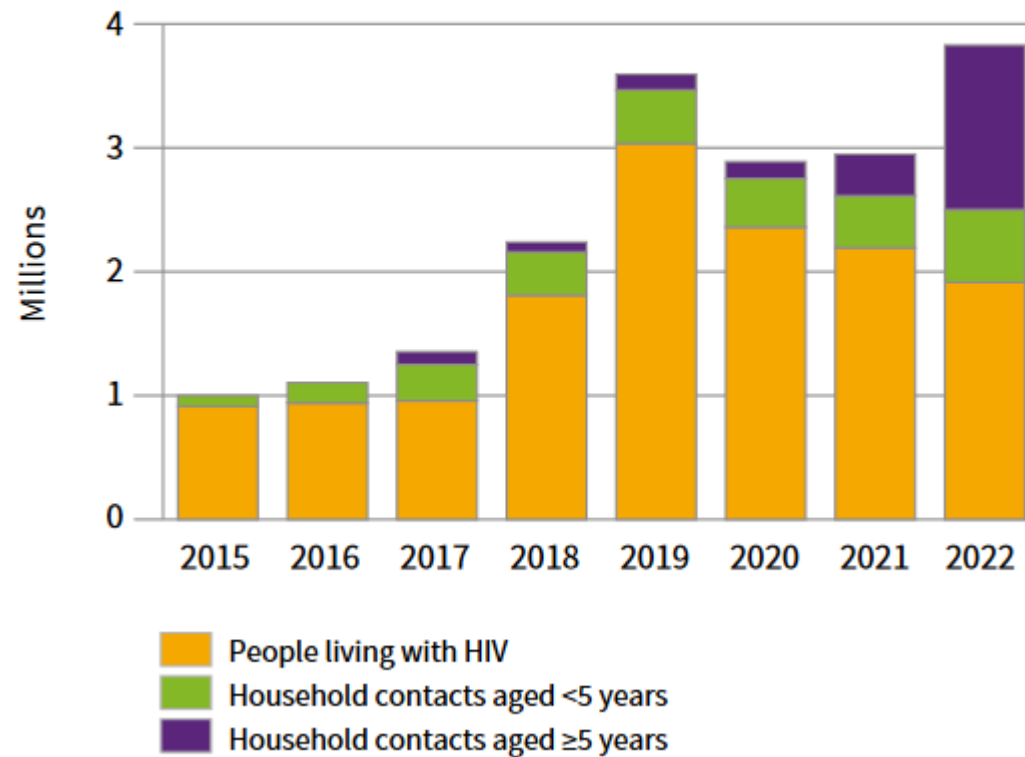
Global number of people diagnosed with MDR/RR-TB (blue) and number enrolled on an MDR-TB treatment regimen (red), compared with estimates of the global number of incident cases of MDR/RR-TB (95% uncertainty interval shown in green), 2015–2022<sup>a</sup>



<sup>a</sup> The time period corresponds to the period for which estimates of the incidence of MDR/RR-TB are available.

# Is anyone taking preventive treatment?

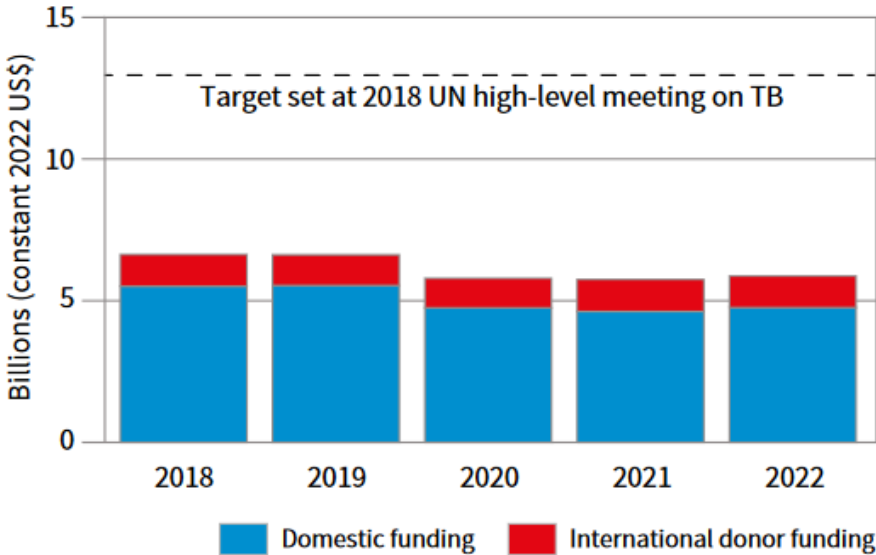
The global number of people provided with TB preventive treatment, 2015-2022



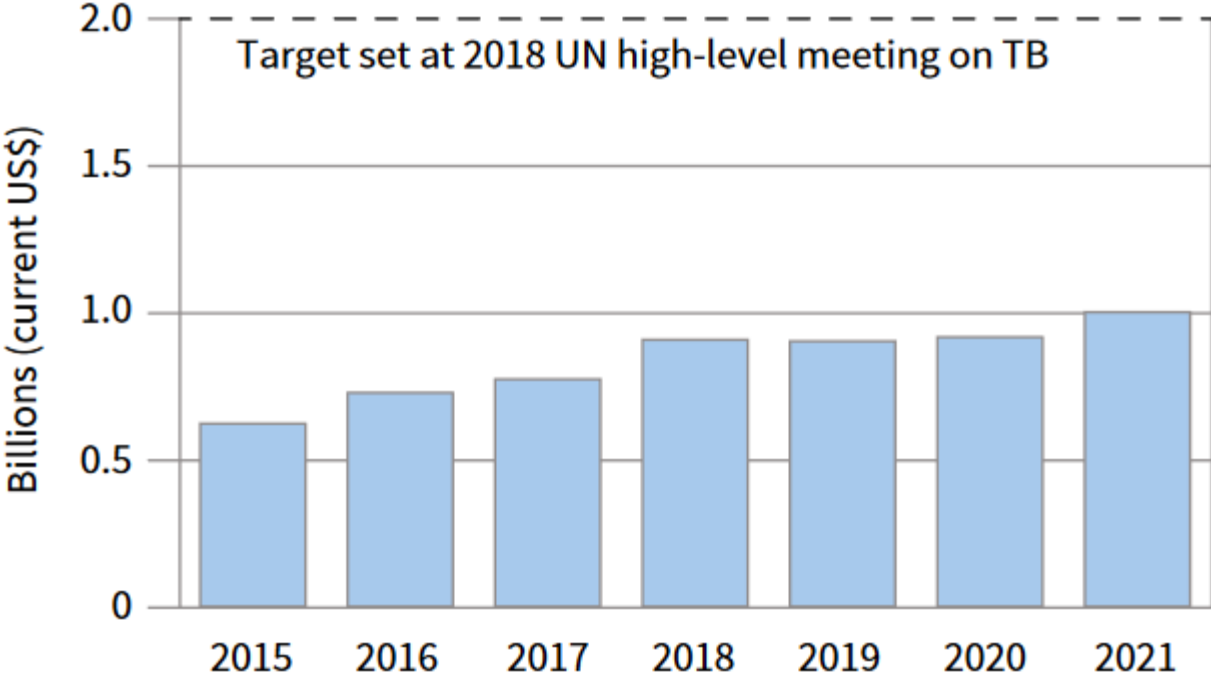


# Funding

Funding available for TB prevention, diagnostic and treatment services in 134 low- and middle-income countries compared with the global target set at the 2018 UN high-level meeting on TB of at least US\$ 13 billion per year, <sup>a,b,c,d</sup> 2018–2022



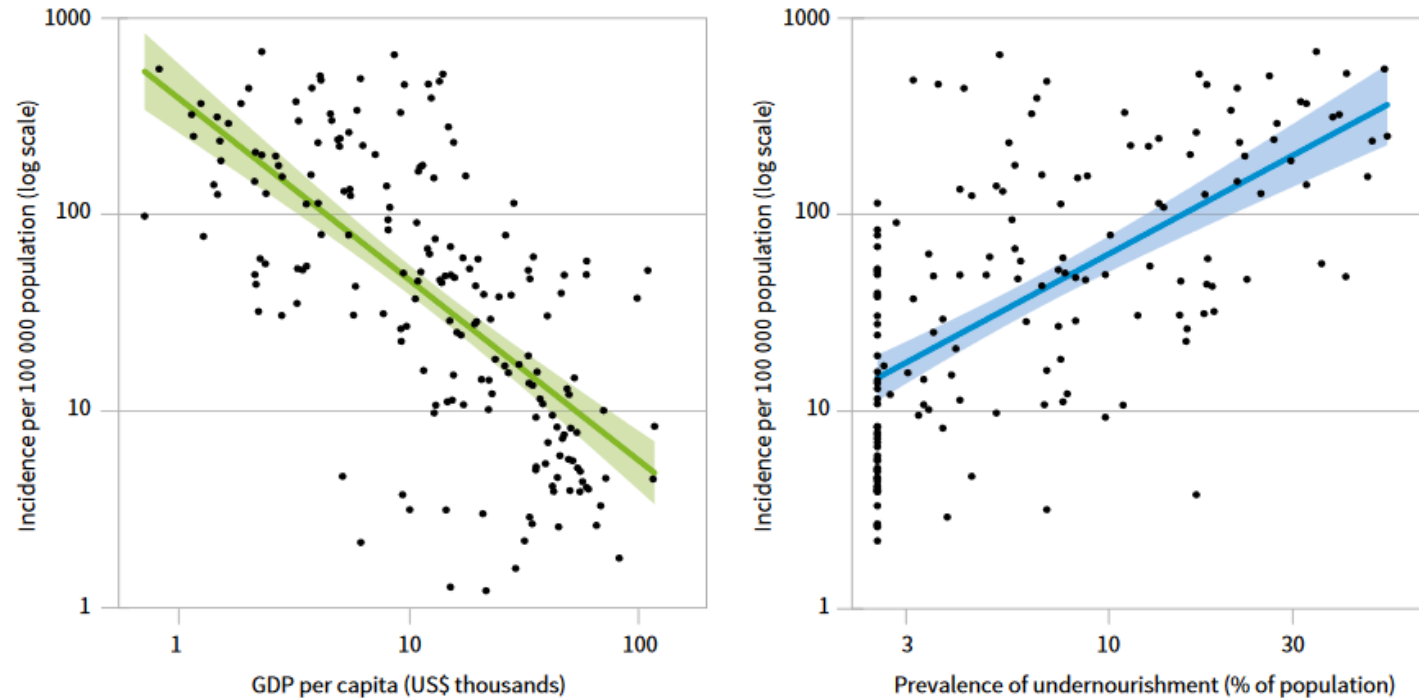
## Funding for TB research, 2015–2021



# Risk factor example – GDP and malnourishment

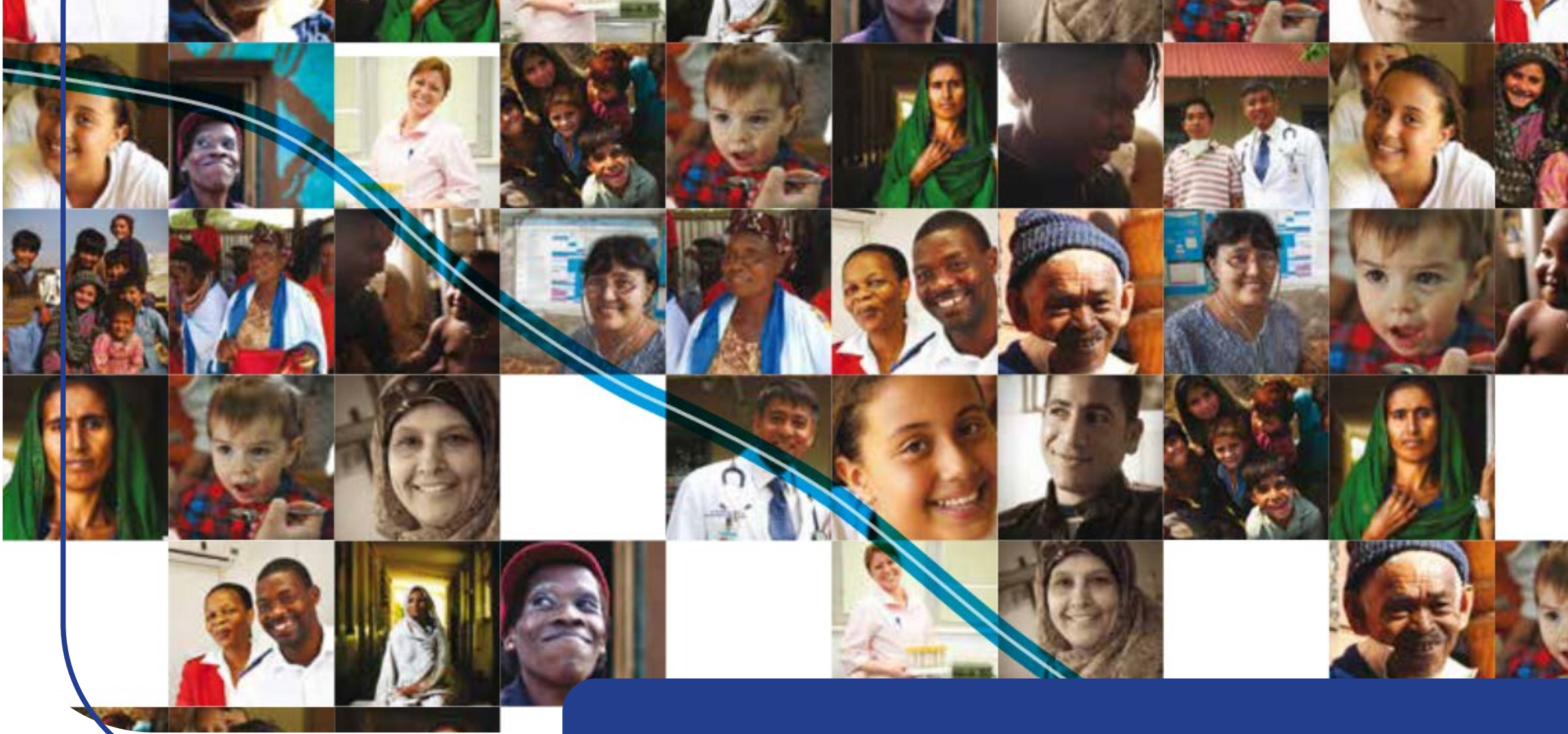
The relationship between GDP per capita and the prevalence of undernourishment,<sup>a</sup> and TB incidence per 100 000 population, 2022<sup>b</sup>

Each dot represents a country or area.



<sup>a</sup> Prevalence of undernourishment is the percentage of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life.

<sup>b</sup> The year of data used for GDP per capita and undernourishment is the latest year for which data are available in the World Bank (<https://data.worldbank.org>) and SDG (<https://unstats.un.org/sdgs/dataportal>) databases, respectively.



# TB Profile by WHO Region

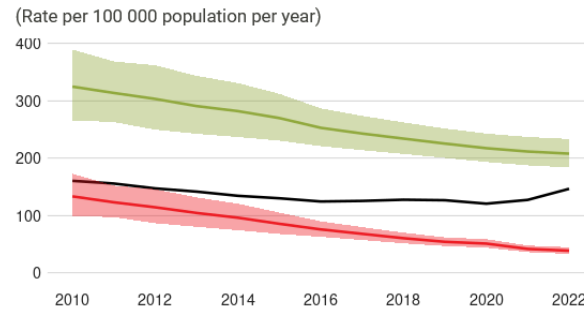


**Indiana**  
Department  
of  
**Health**

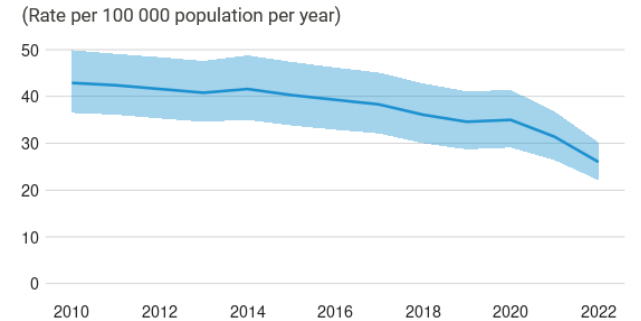
# African region<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 208
  - MDR/RR-TB – 5.2
  - HIV+ - 39
  - HIV-negative mortality – 26
  - HIV-positive mortality – 9.5
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 2.3
  - Previously treated – 12

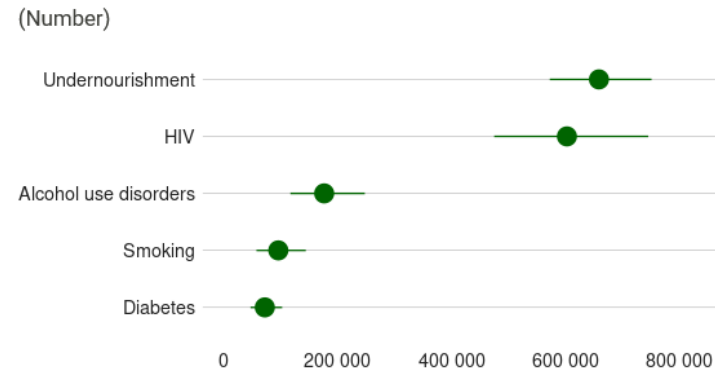
Incidence, New and relapse TB cases notified, HIV-positive TB incidence



HIV-negative TB mortality

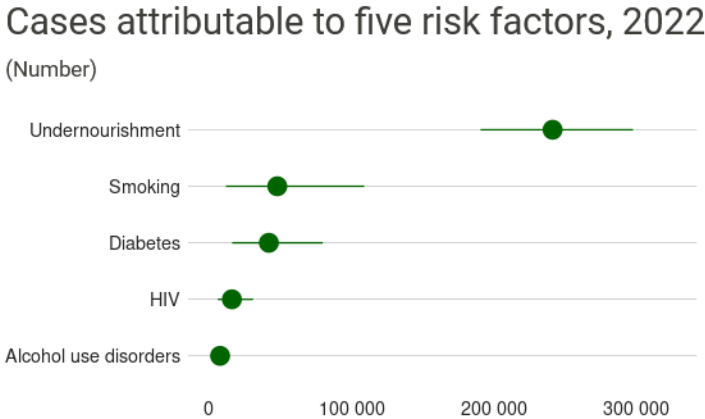
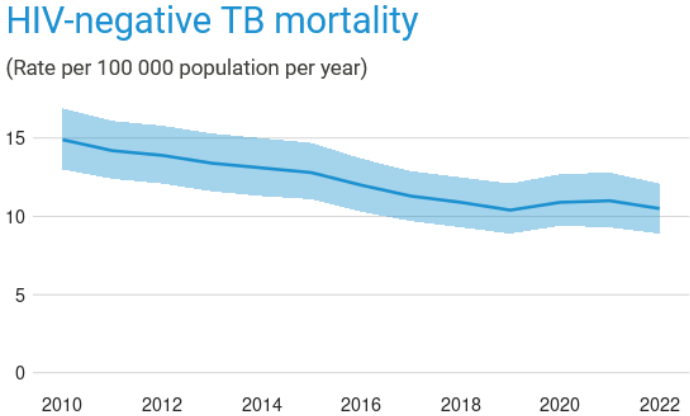
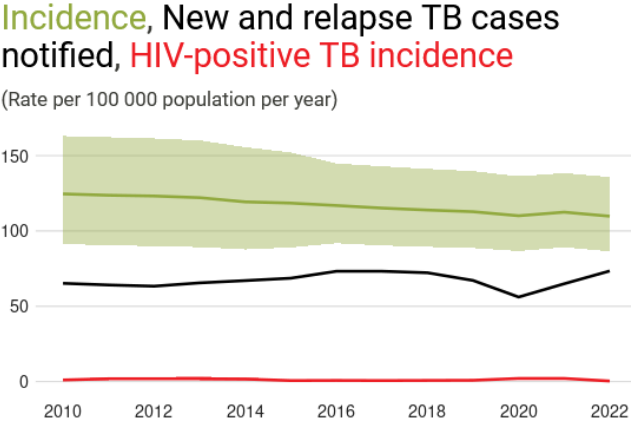


Cases attributable to five risk factors, 2022



# Eastern Mediterranean region<sup>2</sup>

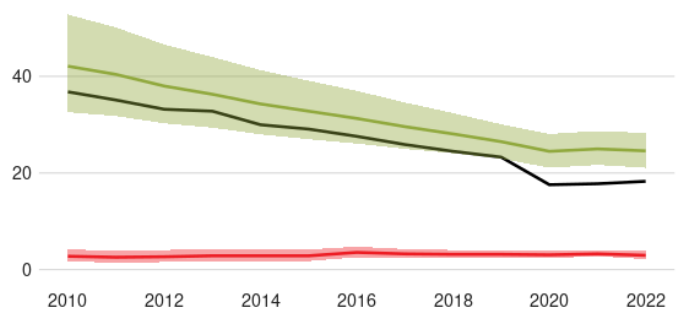
- Incidence rates (per 100,000)
  - Total – 110
  - MDR/RR-TB – 3
  - HIV+ - 0.54
  - HIV-negative mortality – 10
  - HIV-positive mortality – 0.27
  
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 2.7
  - Previously treated – 8.4



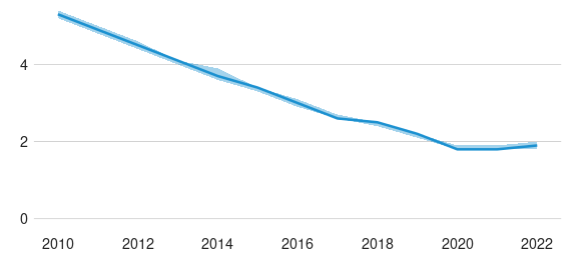
# European region<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 25
  - MDR/RR-TB – 7.2
  - HIV+ - 3
  - HIV-negative mortality – 1.9
  - HIV-positive mortality – 0.68
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 24
  - Previously treated – 54

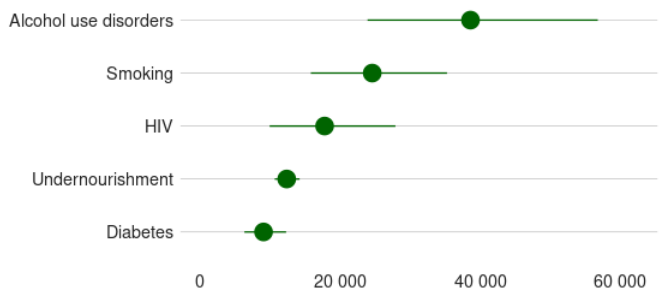
Incidence, New and relapse TB cases notified, HIV-positive TB incidence  
(Rate per 100 000 population per year)



HIV-negative TB mortality  
(Rate per 100 000 population per year)



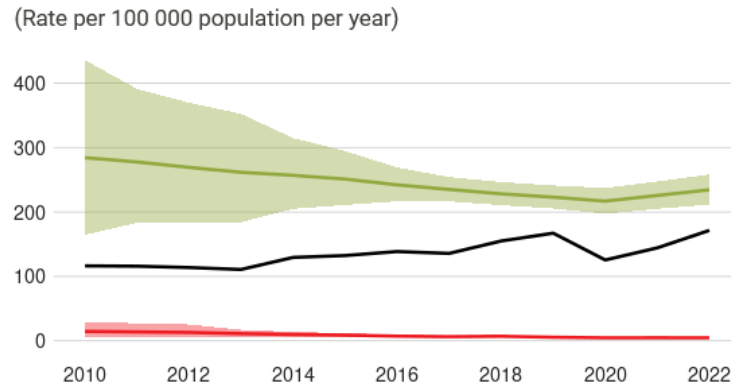
Cases attributable to five risk factors, 2022  
(Number)



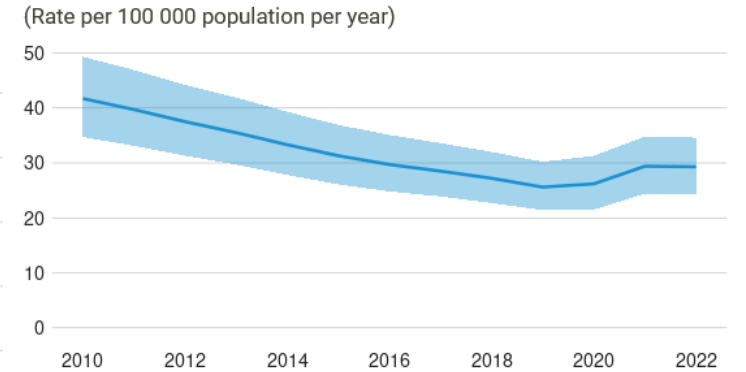
# South-East Asia region<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 234
  - MDR/RR-TB – 8.3
  - HIV+ - 4.8
  - HIV-negative mortality – 29
  - HIV-positive mortality – 1.3
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 2.9
  - Previously treated – 14

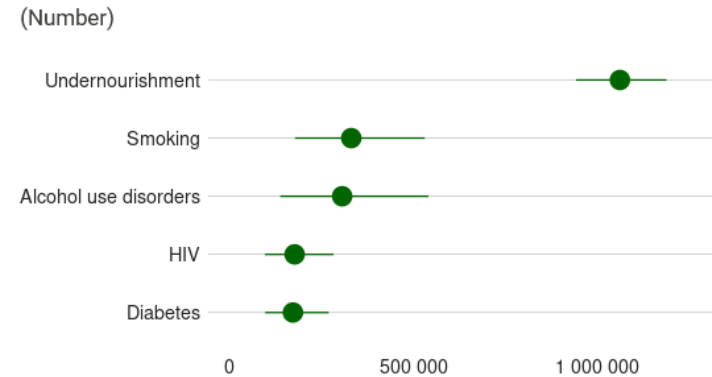
Incidence, New and relapse TB cases notified, HIV-positive TB incidence



HIV-negative TB mortality



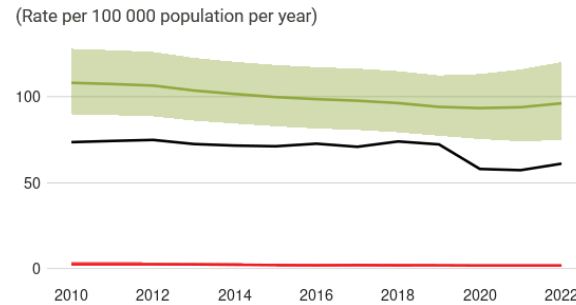
Cases attributable to five risk factors, 2022



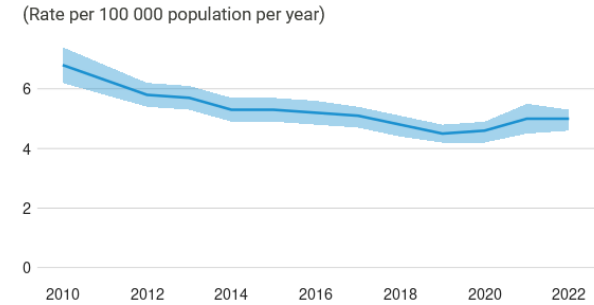
# Western Pacific region<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 96
  - MDR/RR-TB – 3.9
  - HIV+ - 1.9
  - HIV-negative mortality – 5
  - HIV-positive mortality – 0.39
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 3.8
  - Previously treated – 20

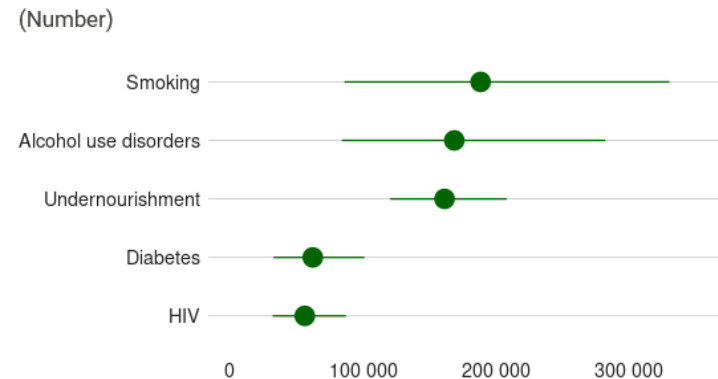
Incidence, New and relapse TB cases notified, HIV-positive TB incidence



HIV-negative TB mortality



Cases attributable to five risk factors, 2022

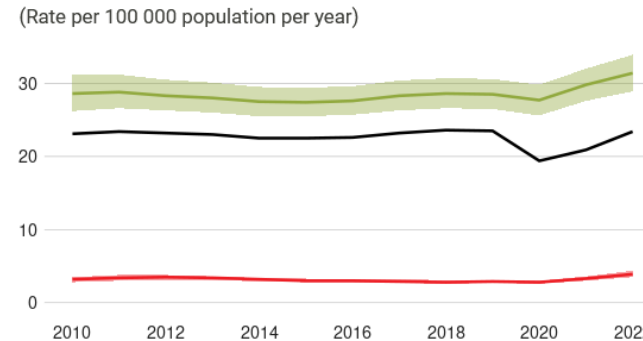




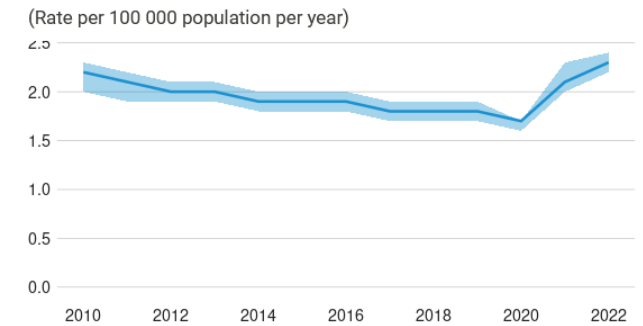
# Americas region<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 31
  - MDR/RR-TB – 1.1
  - HIV+ - 3.9
  - HIV-negative mortality – 2.3
  - HIV-positive mortality – 1.1
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 3.2
  - Previously treated – 8.6

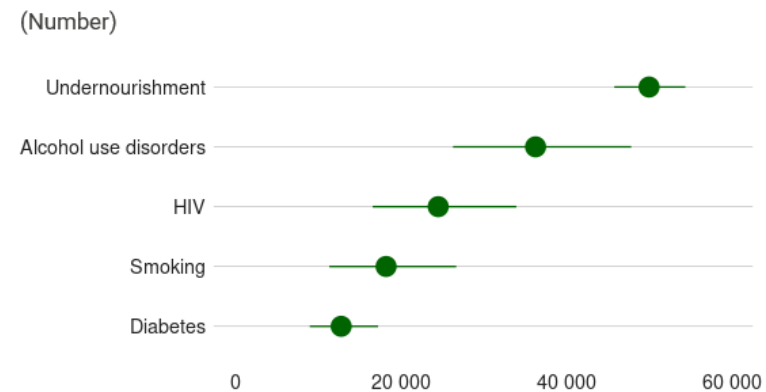
Incidence, New and relapse TB cases notified, HIV-positive TB incidence

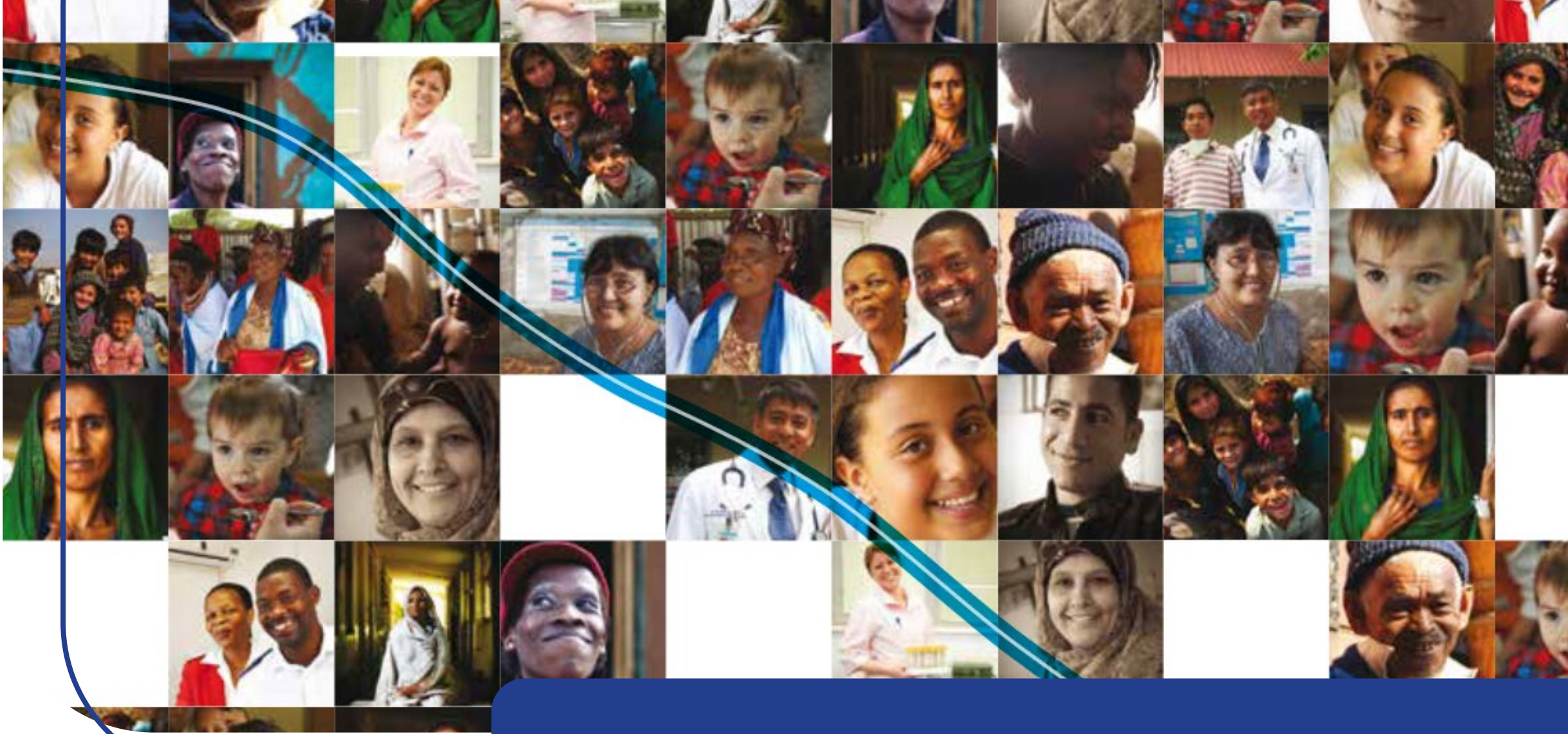


HIV-negative TB mortality



Cases attributable to five risk factors, 2022



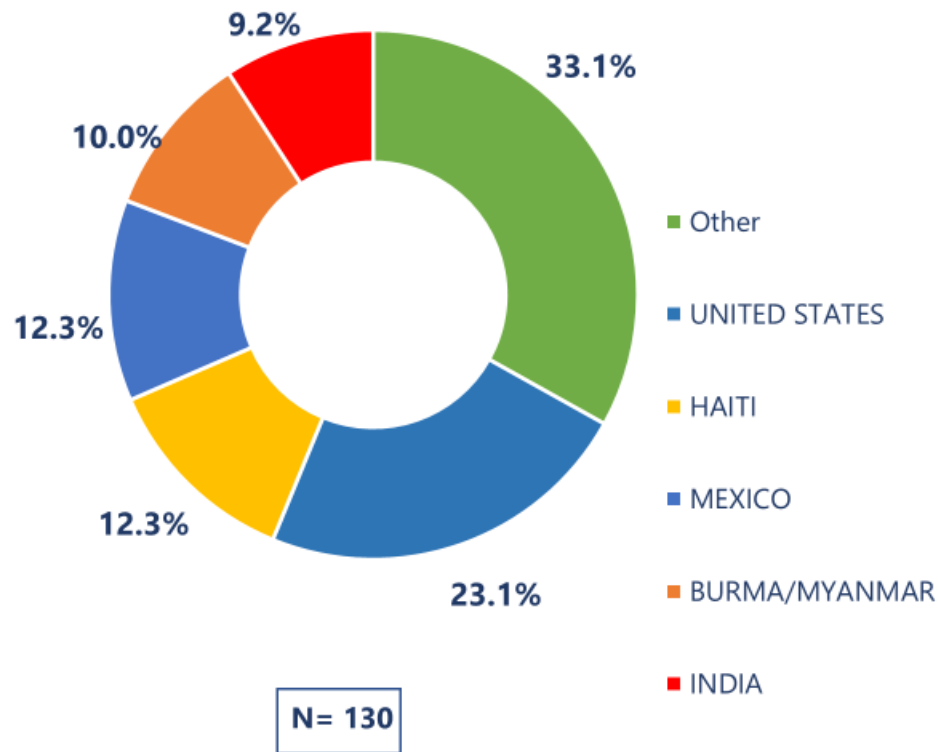


# Global impacts on Indiana



**Indiana**  
Department  
of  
**Health**

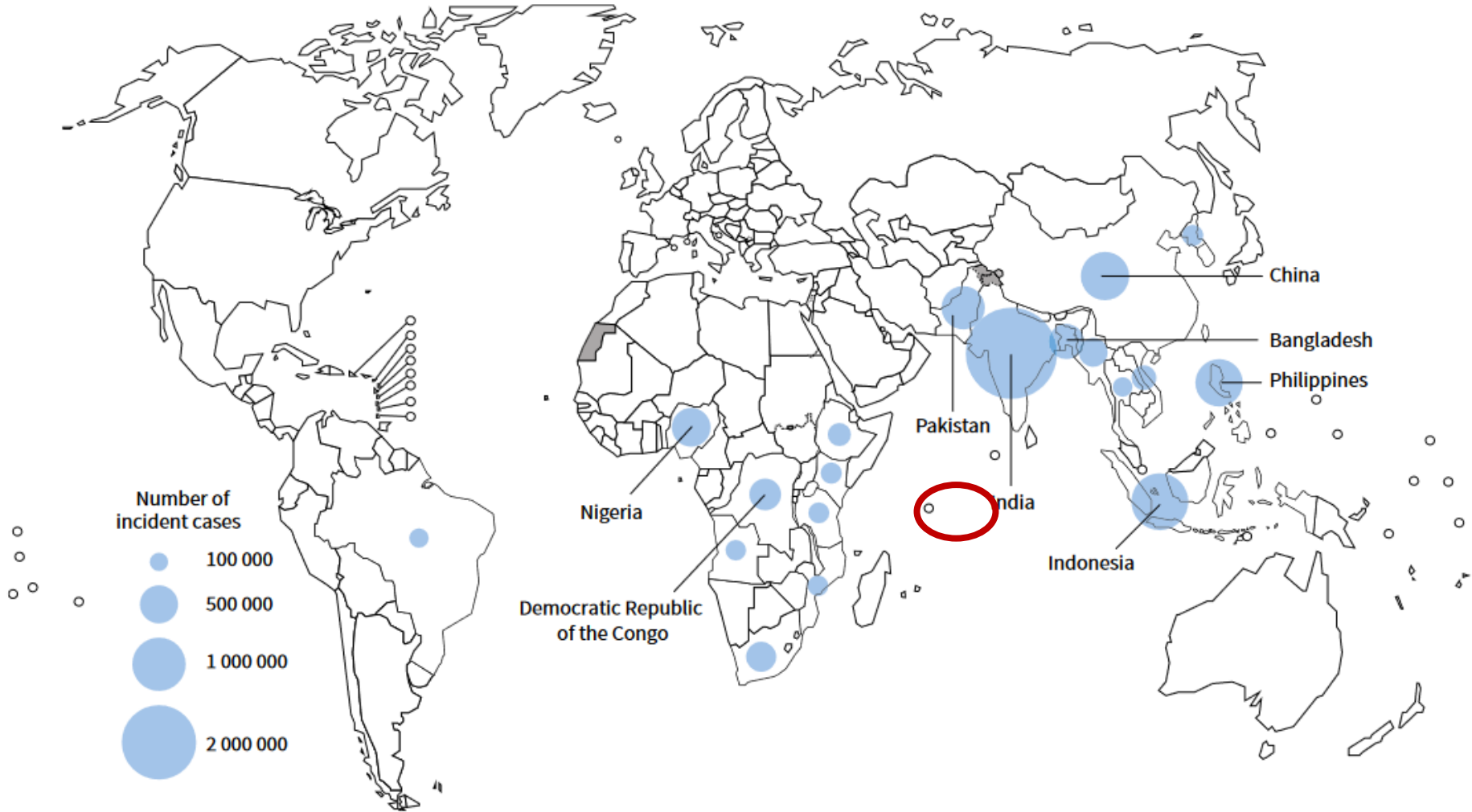
# TB Cases by Country of Birth, Indiana, 2023



## Other

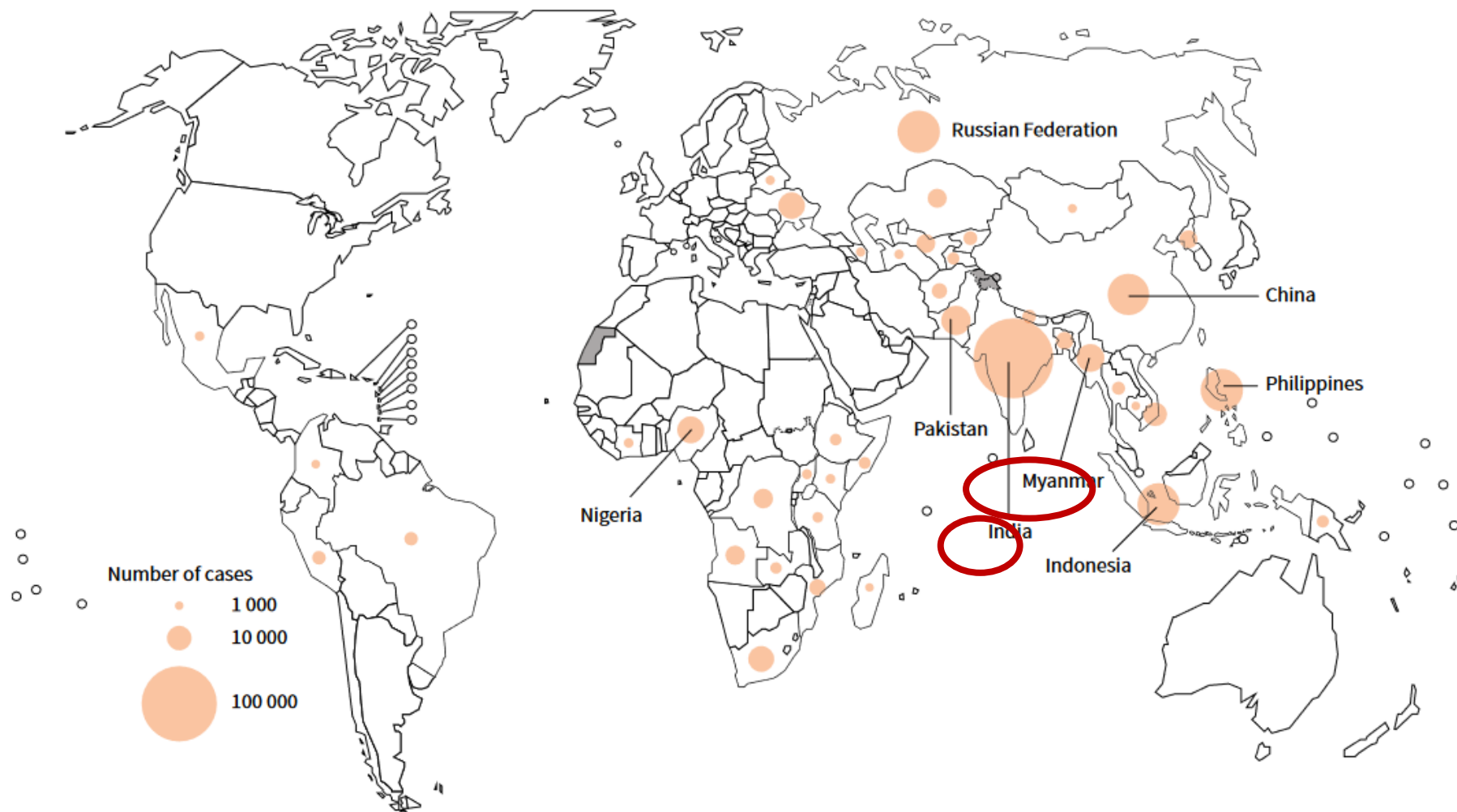
- Guatemala
- Nicaragua
- Philippines
- Eritrea
- Marshall Islands,
- Pakistan
- Senegal
- Sudan
- Venezuela

## Estimated number of incident TB cases in 2022, for countries with at least 100 000 incident cases<sup>a</sup>



<sup>a</sup> The eight countries ranked in order from first to last in terms of numbers of cases, and that accounted for about two thirds of global cases in 2022, are India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and the Democratic Republic of the Congo.

## Estimated number of people who developed MDR/RR-TB (incident cases) in 2022, for countries with at least 1000 incident cases<sup>a</sup>



<sup>a</sup> The eight countries ranked in descending order of the total number of RR-TB incident cases in 2022 are India, the Philippines, the Russian Federation, Indonesia, China, Pakistan, Myanmar and Nigeria.

# India<sup>2</sup>

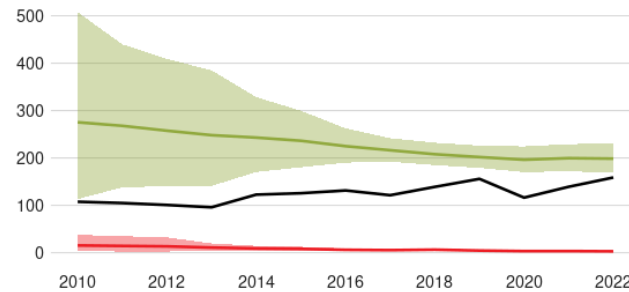
## India had highest number of TB cases globally in 2022: WHO

According to the report, India recorded 2.8 million (28.2 lakh) TB cases in 2022, with a case fatality ratio of 12 per cent. Officials stated that “The best estimate of the number of deaths in India from TB was 3,42,000 (3,31,000 among HIV-negative people and 11,000 among those with HIV).”

<https://indianexpress.com/article/cities/pune/india-had-highest-number-of-tb-cases-globally-in-2022-who-9018116/>

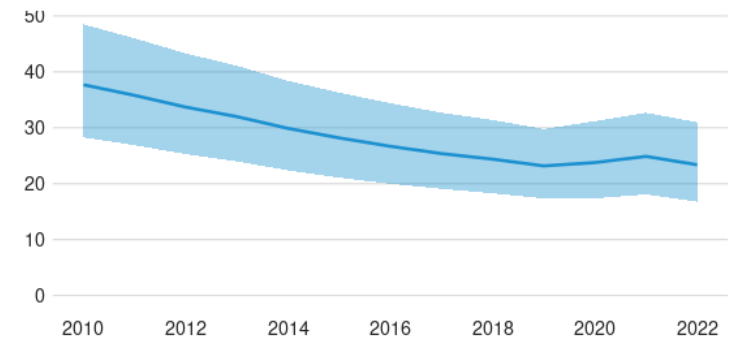
- >2 million infected
- Incidence rates (per 100,000)
  - Total – 199
  - MDR/RR-TB – 8
  - HIV+ - 3.4
  - HIV-negative mortality – 23
  - HIV-positive mortality – 0.76
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 2.5
  - Previously treated – 13

**Incidence, New and relapse TB cases notified, HIV-positive TB incidence**  
(Rate per 100 000 population per year)



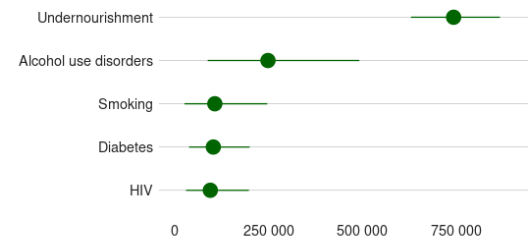
**HIV-negative TB mortality**

(Rate per 100 000 population per year)



**Cases attributable to five risk factors, 2022**

(Number)



# Efforts and challenges in India

---

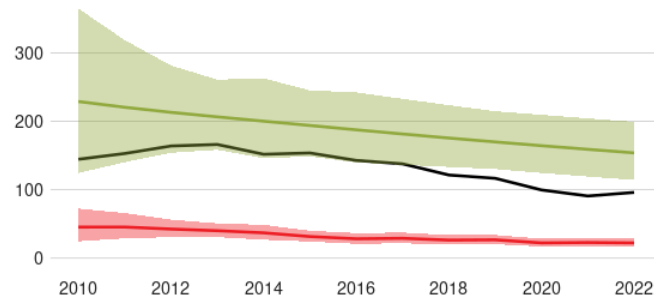
- National Tuberculosis Elimination Program (NTEP) started in 1962<sup>3</sup>
  - National Strategic Plan started in 2017, revised in 2020<sup>3</sup>
    - Plan includes things such as increased access to diagnosis, full community ownership, investment in surveillance, using novel regimens in high-risk groups, increasing use of preventives
- Challenges<sup>2,3</sup>
  - Highest burden in the world, high rate of MDR
  - Large # of LTBI
  - Pollution, overcrowding, malnourishment, other risk factors
  - Many with incomplete treatment. Public vs private sector care
  - Of all global deaths from TB in those without HIV, India alone has 29%

# Haiti<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 154
  - MDR/RR-TB – 7.4
  - HIV+ - 22
  - HIV-negative mortality – 8.2
  - HIV-positive mortality – 9.4
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 2.5
  - Previously treated – 18

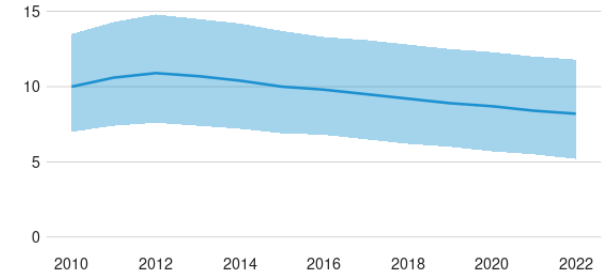
Incidence, New and relapse TB cases notified, HIV-positive TB incidence

(Rate per 100 000 population per year)



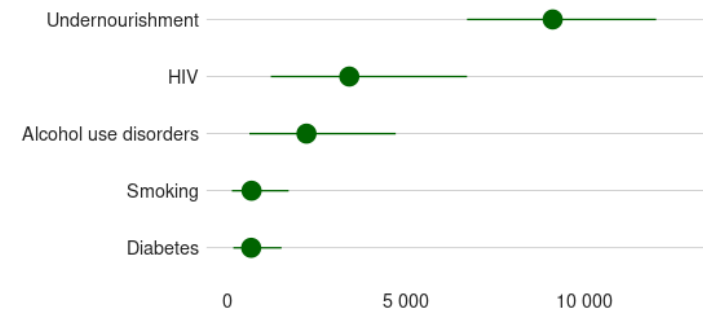
HIV-negative TB mortality

(Rate per 100 000 population per year)



Cases attributable to five risk factors, 2022

(Number)





# Challenges and efforts

- Haiti has one of, if not the, highest rates of TB in the Western Hemisphere<sup>5</sup>
- Challenges
  - Poverty, malnourishment, high rates of HIV, ongoing violence within country
- Efforts include data consolidation, coordination with CDC and USAID to support the Haitian government and Ministry of Health

NEWS — March 17, 2024

## Humanitarian crisis growing in Haiti amid political violence

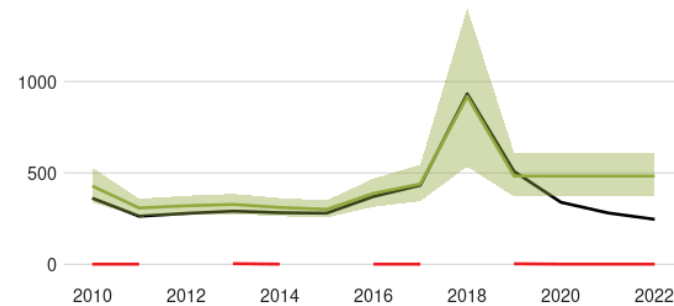
ABC News' Matt Rivers reports on the growing humanitarian crisis in Haiti as aid groups warn that roughly a million people are at risk of starvation amid political chaos and violence by armed groups.

# Marshall Islands<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 483 (per CDC, 252.1)
  - MDR/RR-TB – 8.8
  - HIV+ - 0
  - HIV-negative mortality – 109
  - HIV-positive mortality – 0
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 1.4
  - Previously treated – 15

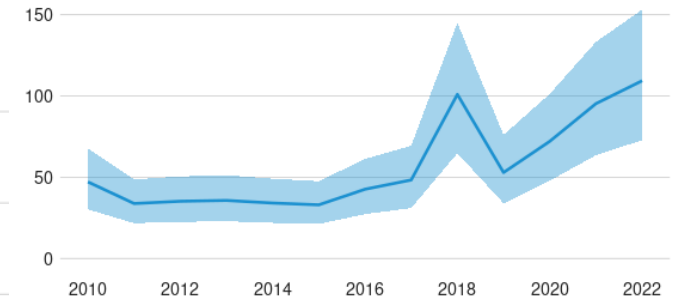
Incidence, New and relapse TB cases notified, HIV-positive TB incidence

(Rate per 100 000 population per year)



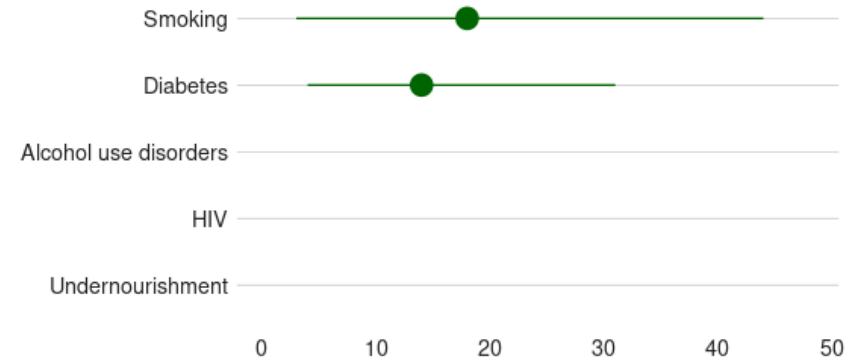
HIV-negative TB mortality

(Rate per 100 000 population per year)



Cases attributable to five risk factors, 2022

(Number)



# Challenges and efforts in the Marshall Islands

- Challenges:
  - Overcrowding, diabetes, cost of treatment, access to medication, delays in diagnosis
- Efforts
  - Global partners, CDC, USPHS, others partnering to assist.
  - Pacific Partnership 2024
    - USA and Marshallese working together to address TB

The Marshall Islands' struggle to defeat tuberculosis once and for all

<https://www.pacificislandtimes.com/post/the-marshall-islands-struggle-to-defeat-tuberculosis-once-and-for-all>



**Pacific Partnership 2024-1; U.S. and Marshallese Medical Team Eradicate Tuberculosis in Outer Islands**

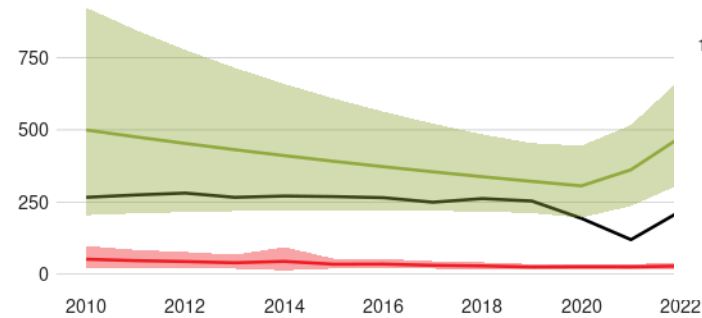
<https://www.navy.mil/DesktopModules/ArticleCS/Print.aspx?PortalId=1&ModuleId=523&Article=3590524>

# Myanmar<sup>2</sup>

- Incidence rates (per 100,000)
  - Total – 475
  - MDR/RR-TB – 24
  - HIV+ - 29
  - HIV-negative mortality – 80
  - HIV-positive mortality – 11
- Proportion of TB cases with MDR/RR-TB (%)
  - New cases – 4.1
  - Previously treated – 19

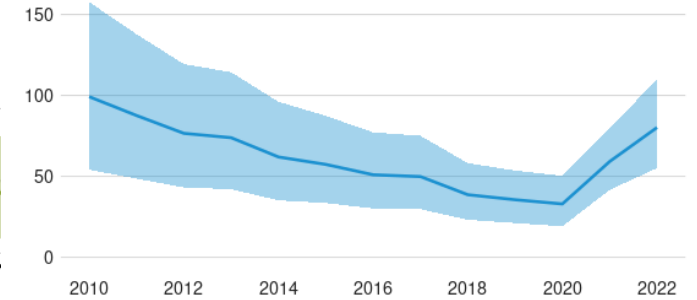
Incidence, New and relapse TB cases notified, HIV-positive TB incidence

(Rate per 100 000 population per year)



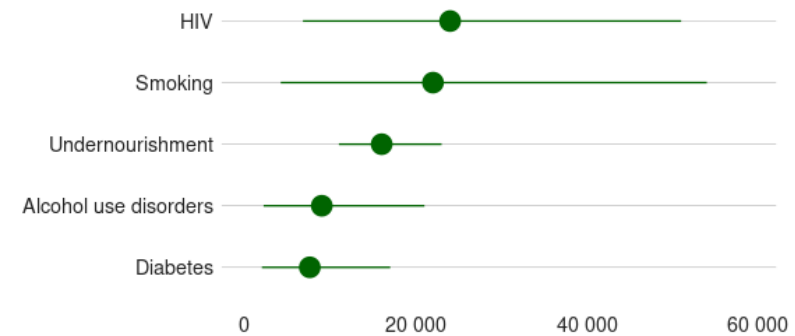
HIV-negative TB mortality

(Rate per 100 000 population per year)



Cases attributable to five risk factors, 2022

(Number)



# Myanmar challenges and efforts

- Efforts<sup>4</sup>
  - See →
  - National Strategic Plan for NTP and Myanmar Health Sector Coordination Committee
- Challenges<sup>4</sup>
  - One of the 30 highest burden countries for TB disease and MDR
  - Similar to India
    - Crowding, high rates of LTBI, HIV high smoking rates/malnutrition/other risk factors, public vs private health systems

## How Myanmar achieved the 2020 milestone of reducing TB disease burden

27 February 2023

- Myanmar is the only country in the Region to achieve the 2020 deadline for the SDG target of 20% reduction of TB incidence from the 2015 baseline.
- Collaboration of the public and private sectors has played an important role in the efforts to control TB.
- An increase in government spending on TB, newer diagnostic tools, use of mobile clinics, and making treatment affordable are some of the key elements of Myanmar's approach to combat TB

# How did Myanmar have success previously?

## Key interventions:

1. Drug shops/pharmacies assisted with screening presumptive TB cases and make referrals to public health clinics
  - 51,259 cases referred from pharmacies from 2015-2018
    - Of those, 12,404 (24%) cases were diagnosed as having TB
2. Mobile clinic operations
  - Increasing funding and use. 2011-17, total of 21,115 TB cases ID'd and treated with mobile units
  - In 2018, 439 mobile team visits conducted in urban sites, hard to reach areas, prisons and their worksites, industrial sites, and camps for internally displaced persons (IDP)
3. Newer tools and diagnostics
  - Lab network set up closer to communities, increased microscopy (esp. w/fluorescence)
4. Making treatment affordable
  - Drugs available free of charge
5. TB funding and government spending increased annually from 2014



In Conclusion



Indiana  
Department  
of  
Health

# YES! WE CAN #ENDTB!

*It will take an incredible amount of effort, but we have a historic opportunity to free the world of TB and write the final chapter in its existence.*



Indiana  
Department  
of  
Health



# World TB Day Video Message

## Dr Teresa Kasaeva, Director, WHO Global TB Programme



<https://www.youtube.com/watch?v=njXd0y3wvho>

# References

---

1. World Health Organization. (n.d.). Global Tuberculosis Report 2023. [https://apps.who.int/iris/bitstream/handle/10665/112642/9789241564748\\_eng.pdf;jsessionid=3DFA76135096412FF7041954E144562E?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/112642/9789241564748_eng.pdf;jsessionid=3DFA76135096412FF7041954E144562E?sequence=1)
2. *Tuberculosis Profile*. TB profile. (2024a, March 18). [https://worldhealthorg.shinyapps.io/tb\\_profiles/?inputs &group code=%22AFR%22&entity type=%22group%22&lan=%22EN%22](https://worldhealthorg.shinyapps.io/tb_profiles/?inputs%20group%20code=%22AFR%22&entity%20type=%22group%22&lan=%22EN%22)
3. Khanna, A., Saha, R., & Ahmad, N. (2022). National TB Elimination Programme - what has changed. *Indian Journal of Medical Microbiology*, 42, 103–107. <https://doi.org/10.1016/j.ijmmb.2022.10.008>
4. World Health Organization. (2023, February 27). *How Myanmar achieved the 2020 Milestone of reducing TB disease burden*. World Health Organization. <https://www.who.int/southeastasia/news/feature-stories/detail/how-myanmar-achieved-the-2020-milestone-of-reducing-TB-disease-burden>
5. *Haiti*. endTB. (2018, June 30). <https://endtb.org/haiti>

# Questions?

## CONTACT:

**Guy Crowder, MD, MPHTM**

Chief Medical Officer

Indiana Department of Health

[Gcrowder@health.in.gov](mailto:Gcrowder@health.in.gov)

