

STATE OF TUBERCULOSIS

Tom Q Garvey Public Health Lecture

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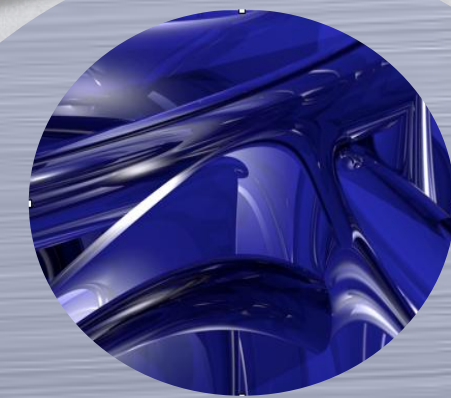
Associate Professor of Emergency Medicine

Boston Medical Center

Boston university Chobanian and Avadesian School of Medicine

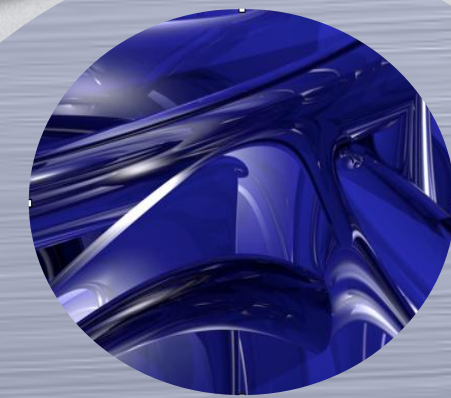
TOPICS OF DISCUSSION

- **Worldwide**
- **US/Massachusetts**
- **Emergency Department**



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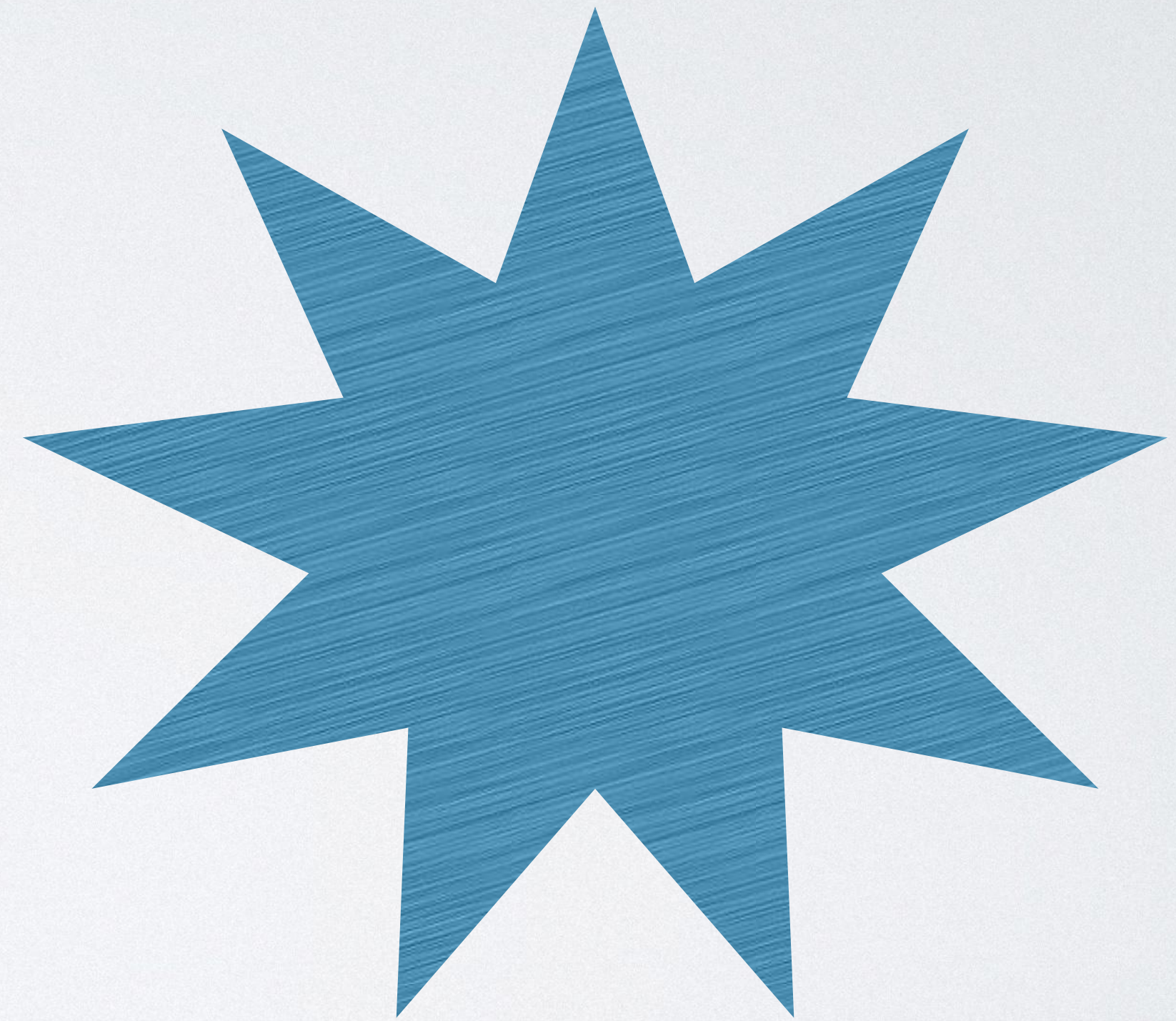


PREPARATION

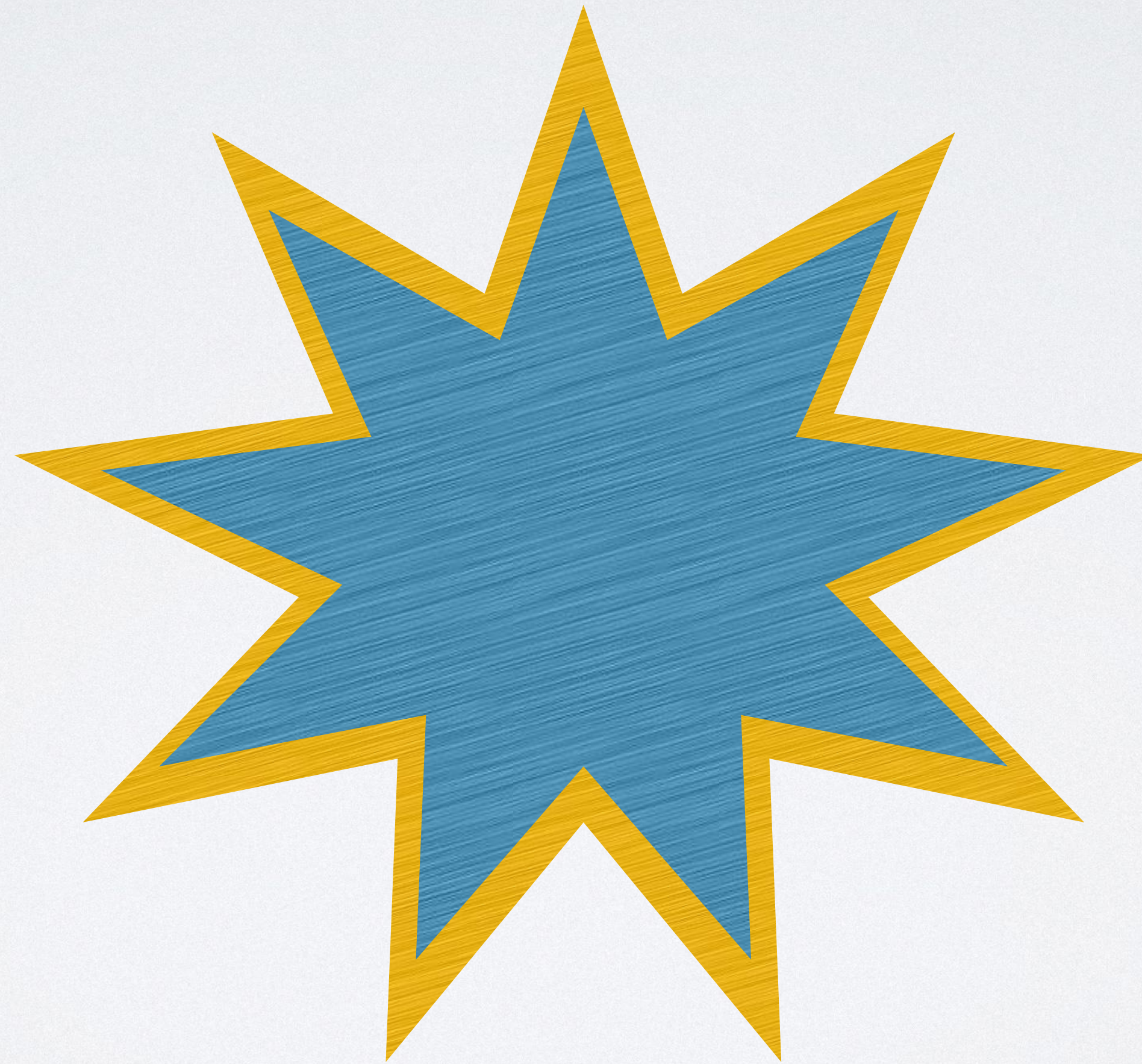
Watching prior
“State of TB”
lectures

WHERE WE WERE

- Underdiagnosing due to Covid
 - Starting to recover
- Climate Change
- Funding Challenges
- Good News
 - Survivor Voices
 - Rapid Diagnostics



AND NOW?



Global TB Report 2024

- The global rise in the number of people falling ill with TB each year has slowed and started to stabilize
- The global number of people dying from TB each year continues to fall

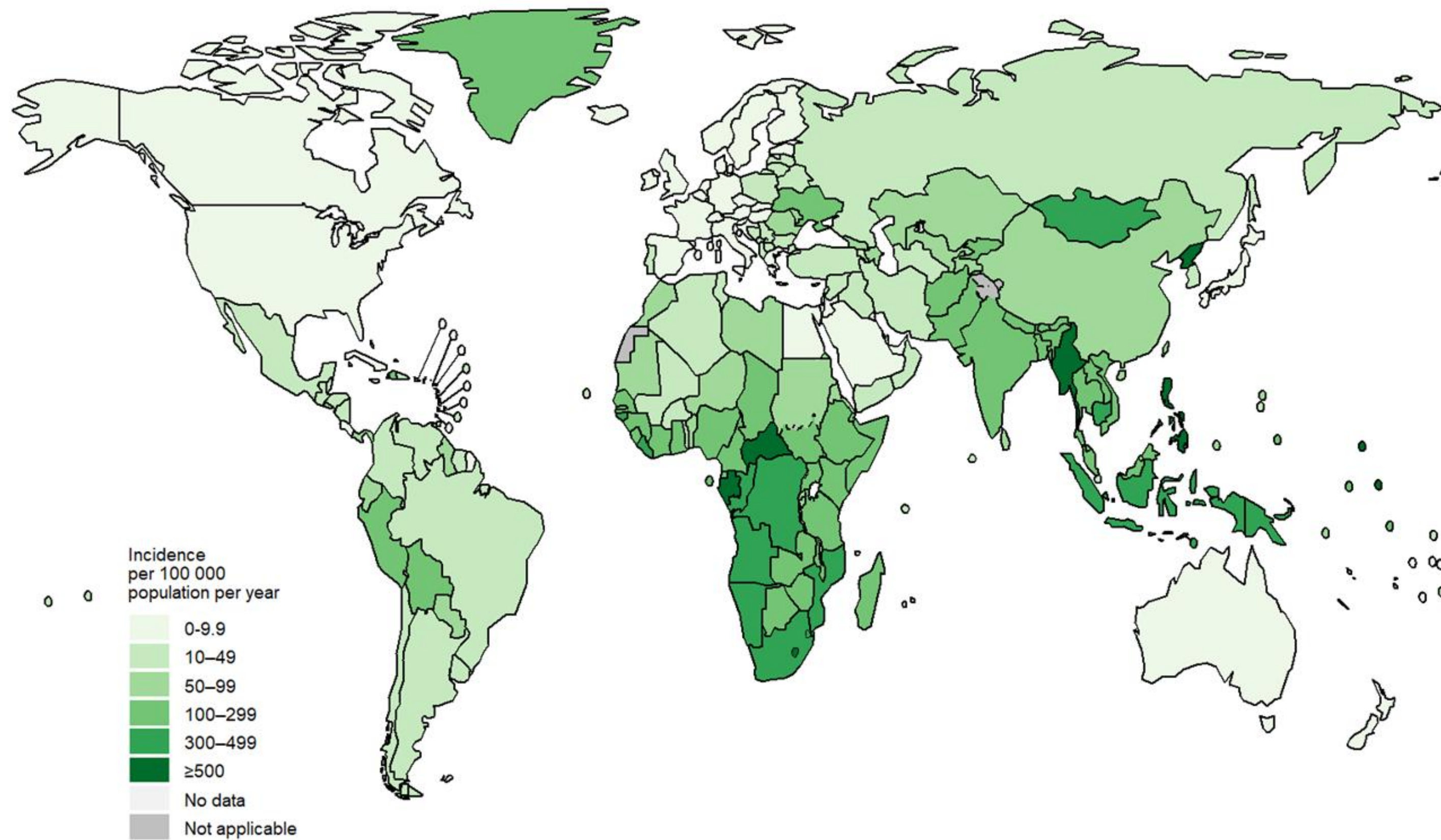
Global TB Report 2024

- More than 10 million people/year incident cases of tb

Global TB Report 2024

- TB has probably returned to being the world's leading infectious disease killer

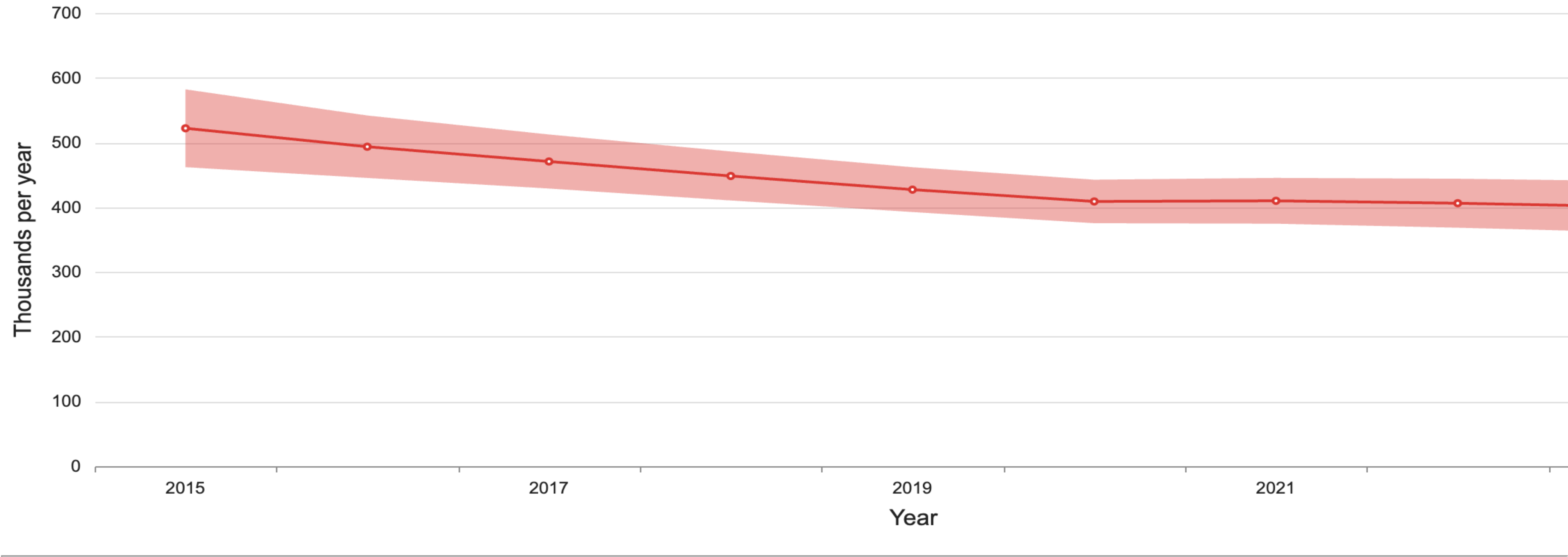
Global TB Report 2024



Global TB Report 2024

Fig. 1.3.1 Global trend in the estimated number of people who developed MDR/RR-TB (incident cases), 2015–2023

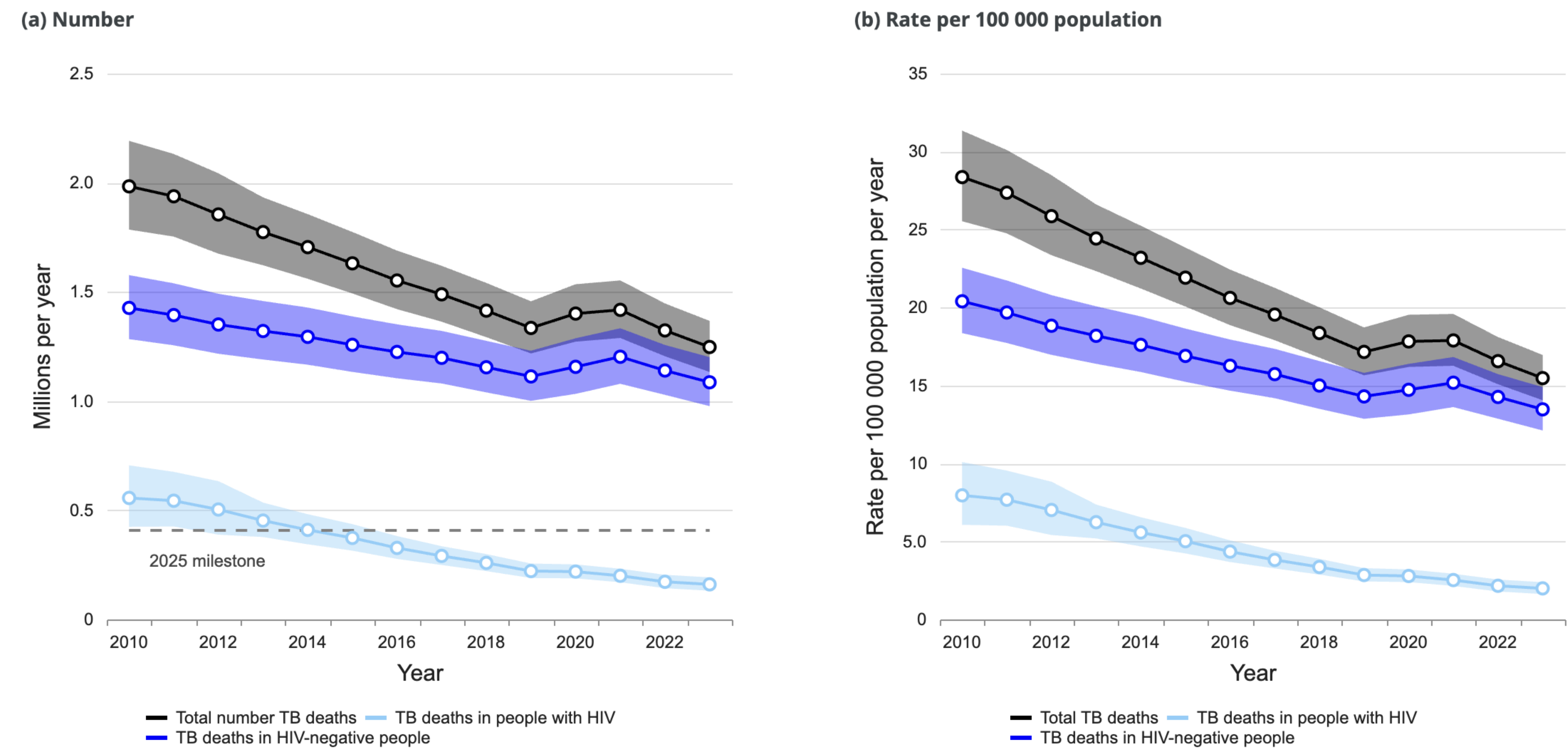
The shaded area represents the 95% uncertainty interval.



Global TB Report 2024

Fig. 1.2.1 Global trends in the estimated number of deaths caused by TB (a) and the TB mortality rate (b), 2010–2023

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

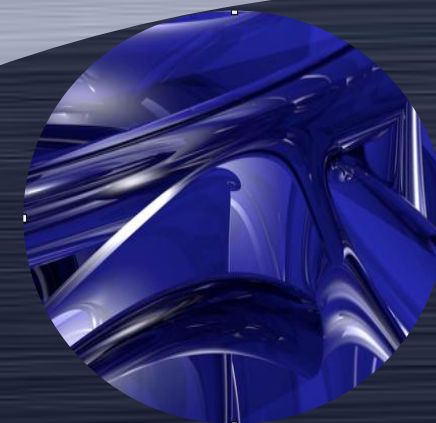


Global TB Report 2024

Global TB Report 2024

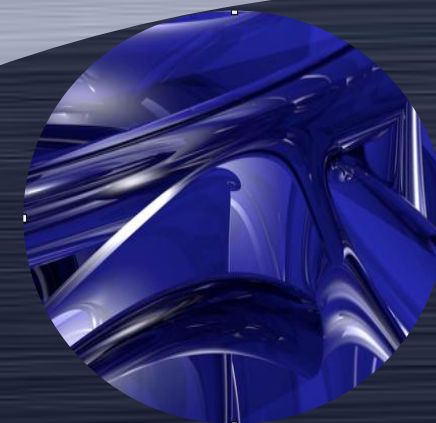
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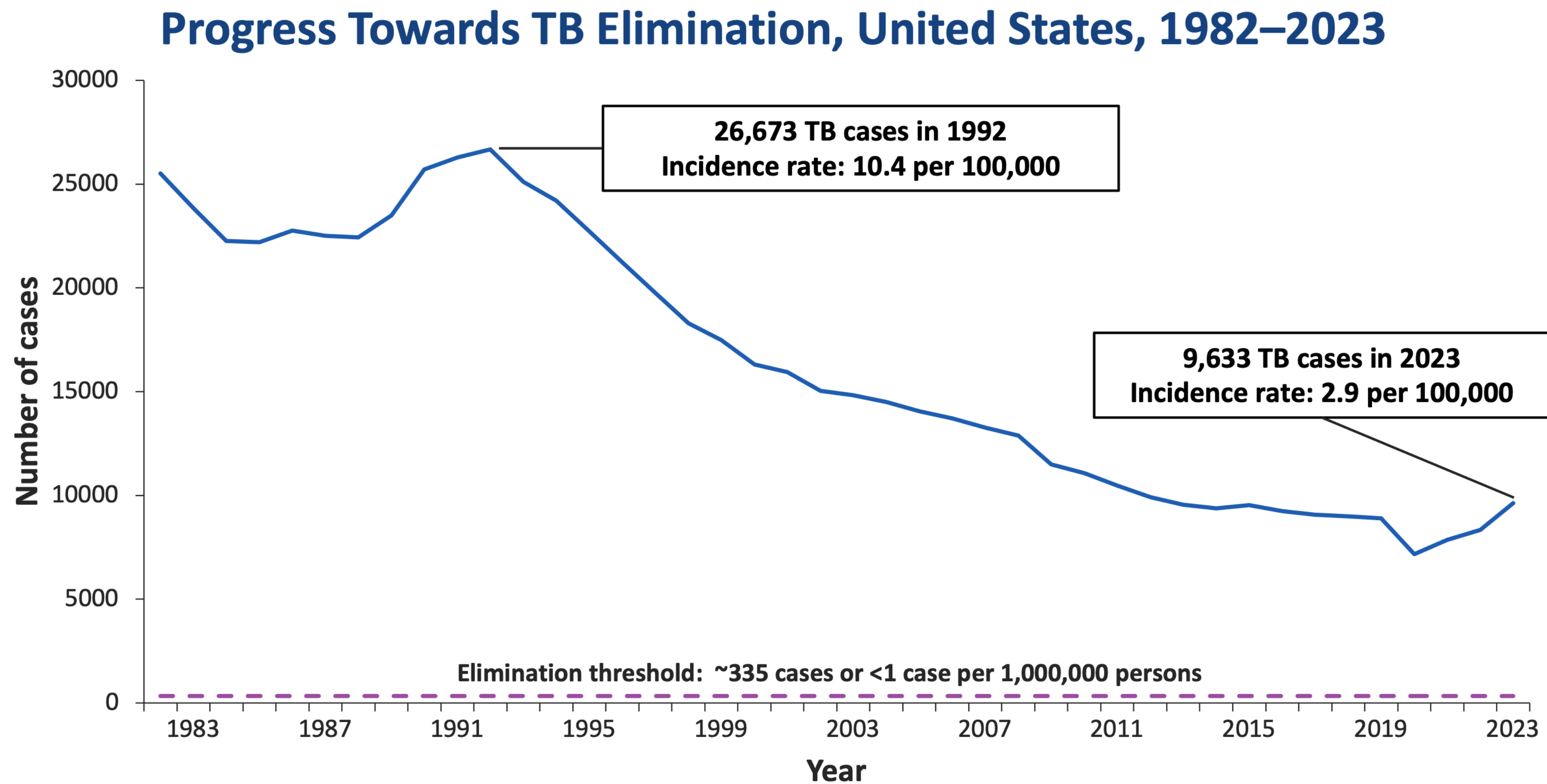


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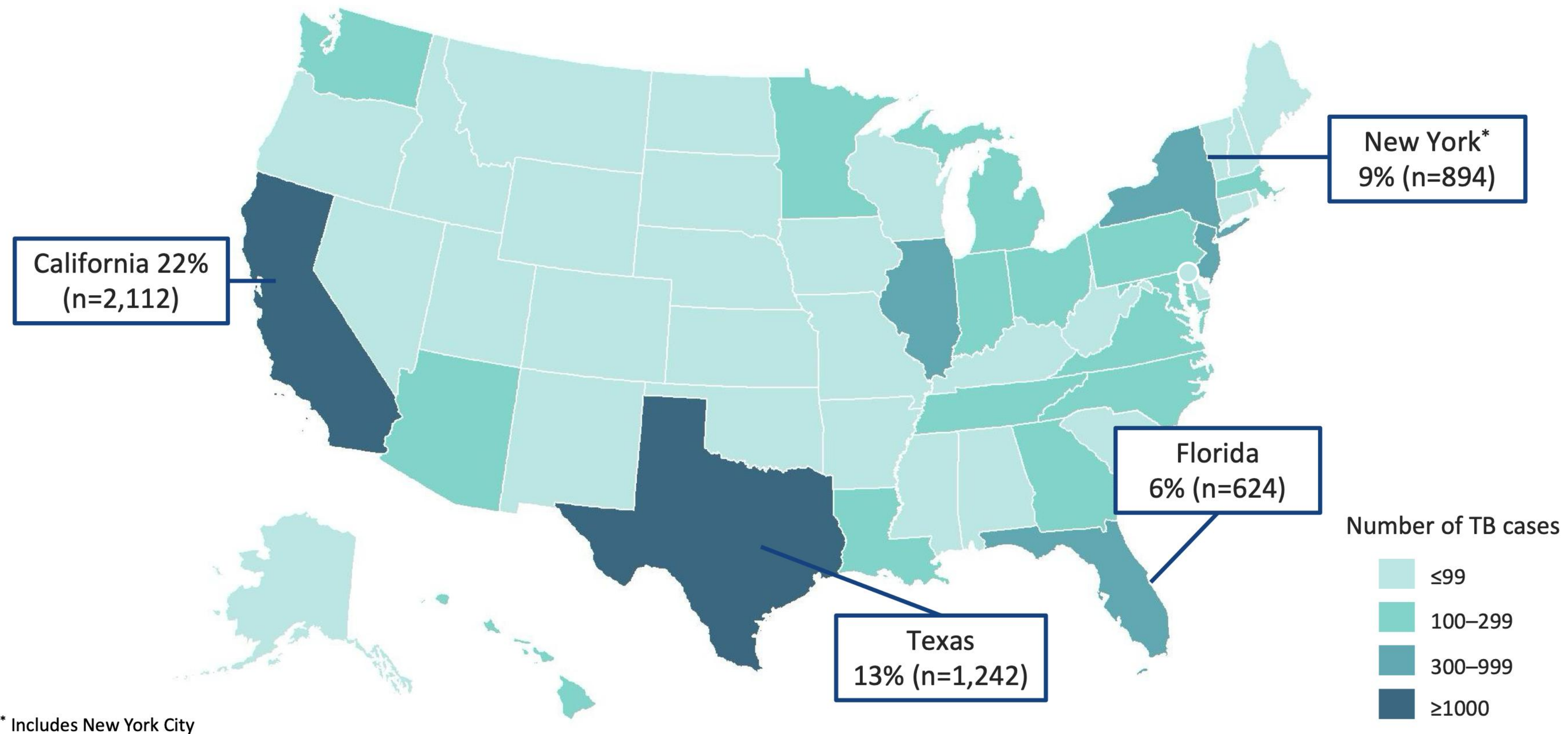


National TB Surveillance Data 2024



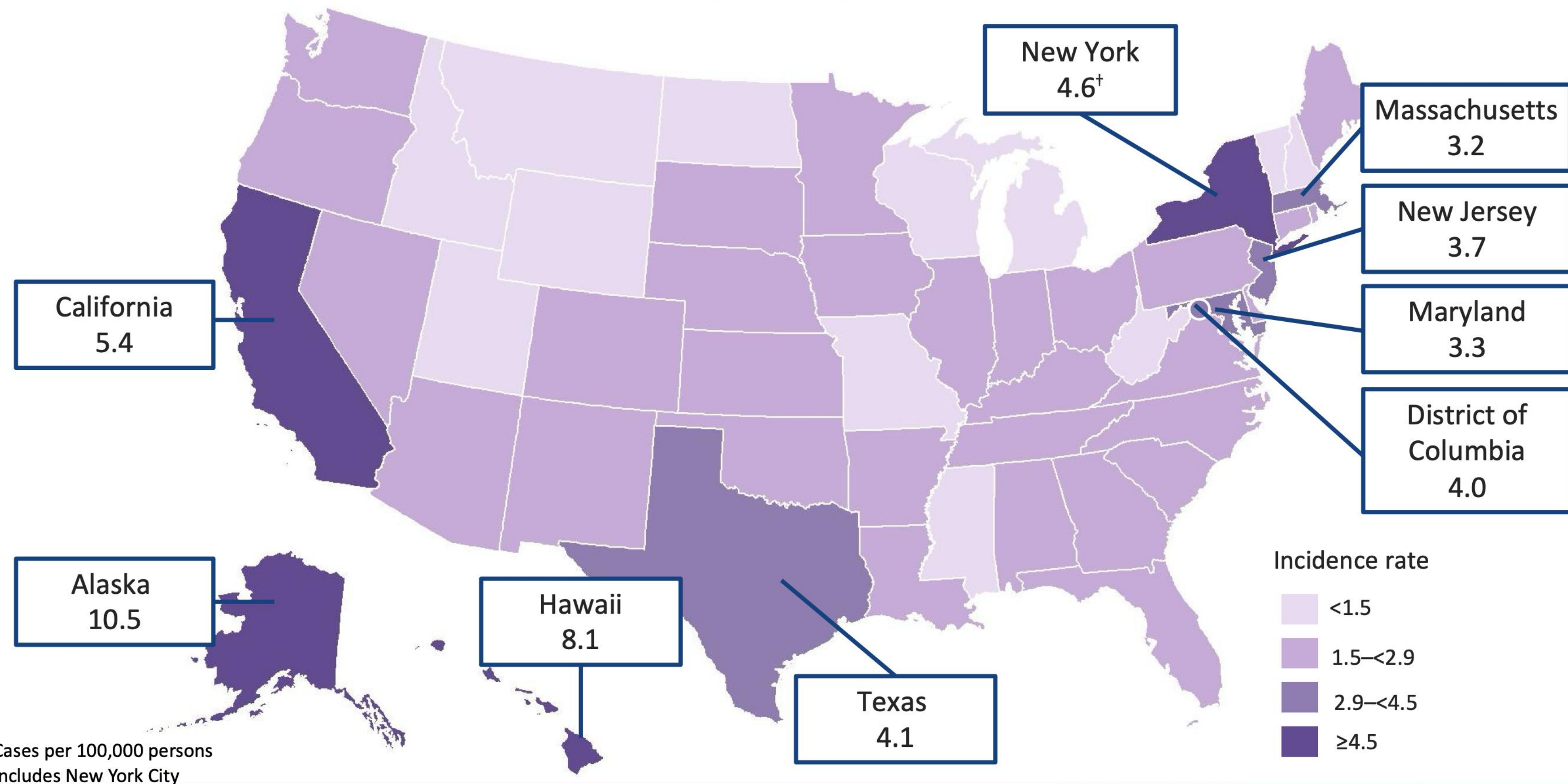
National TB Surveillance Data 2024

TB Cases and Percentages by Reporting Area, United States, 2023 (N=9,633)



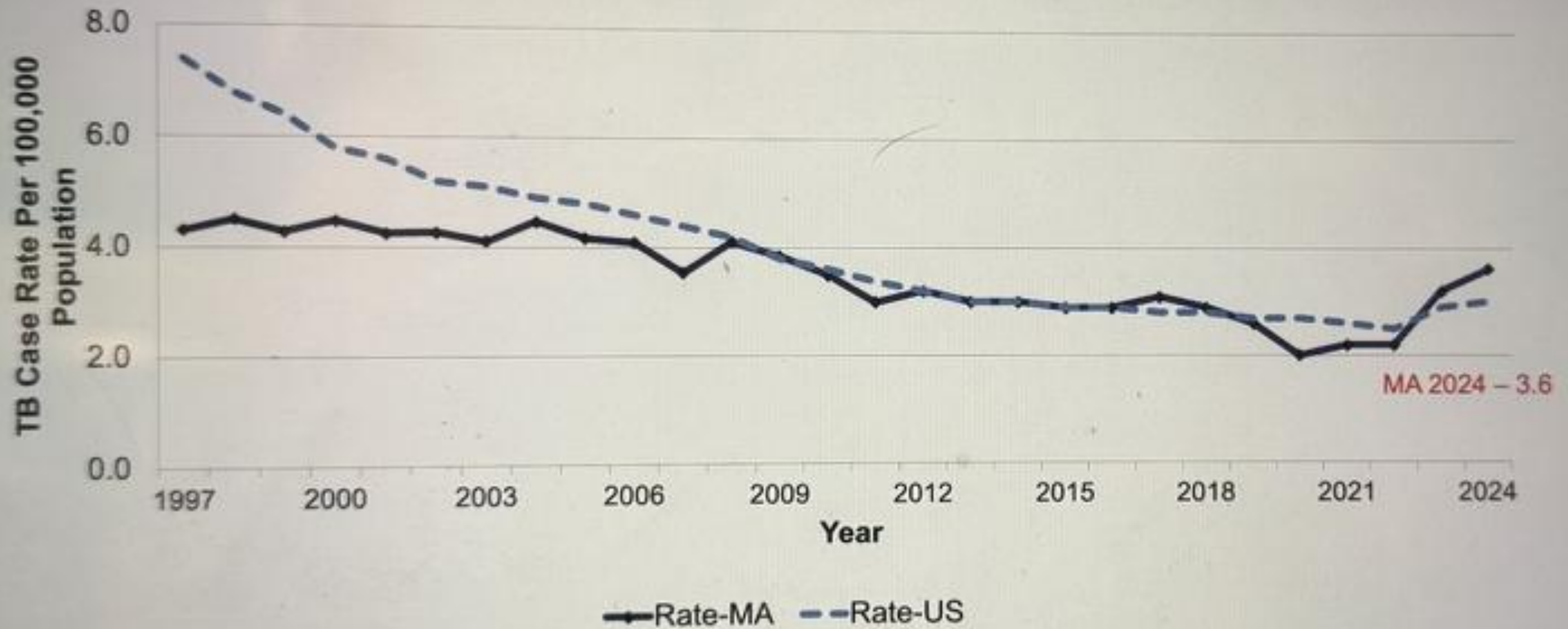
National TB Surveillance Data 2024

TB Incidence Rates* by Reporting Area, United States, 2023



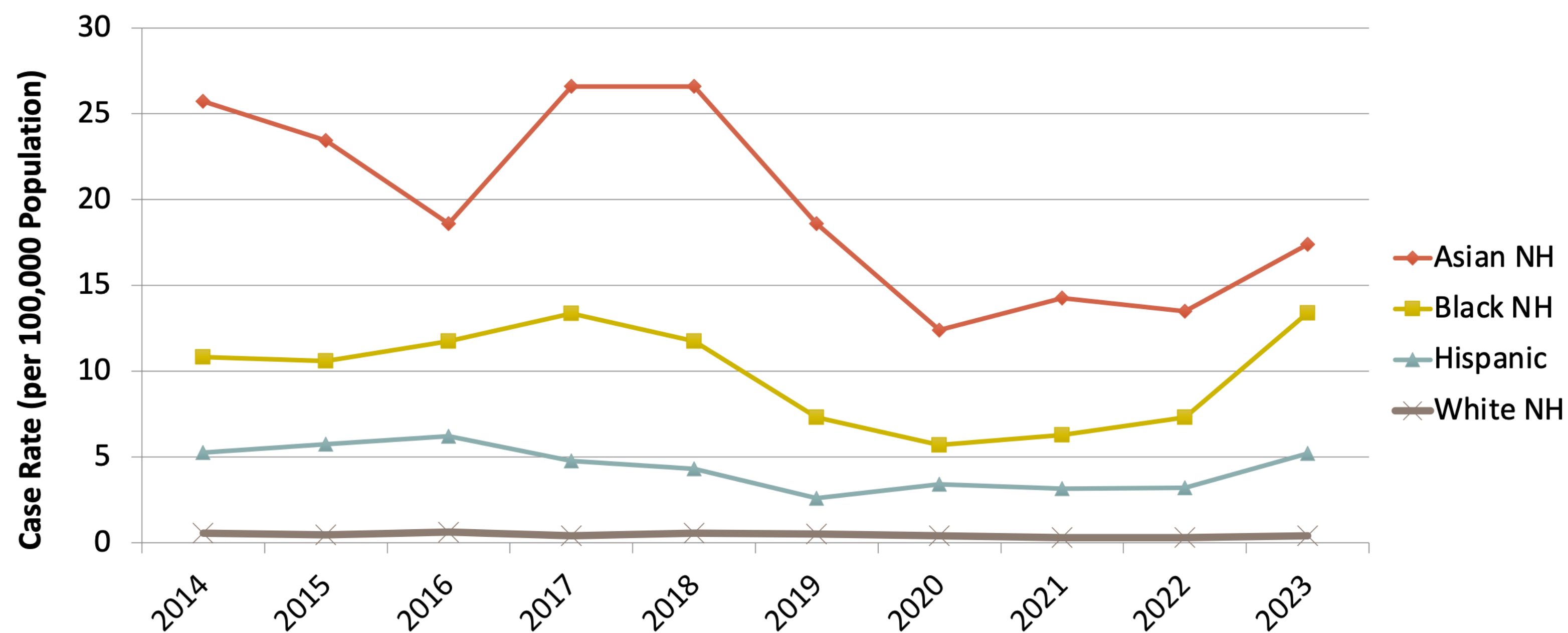
MA DPH Data 2024

Rate of Tuberculosis Cases, United States and Massachusetts, 1997-2024



MA DPH Data 2024

Rate of Tuberculosis Cases by Race/Ethnicity Massachusetts 2014-2023

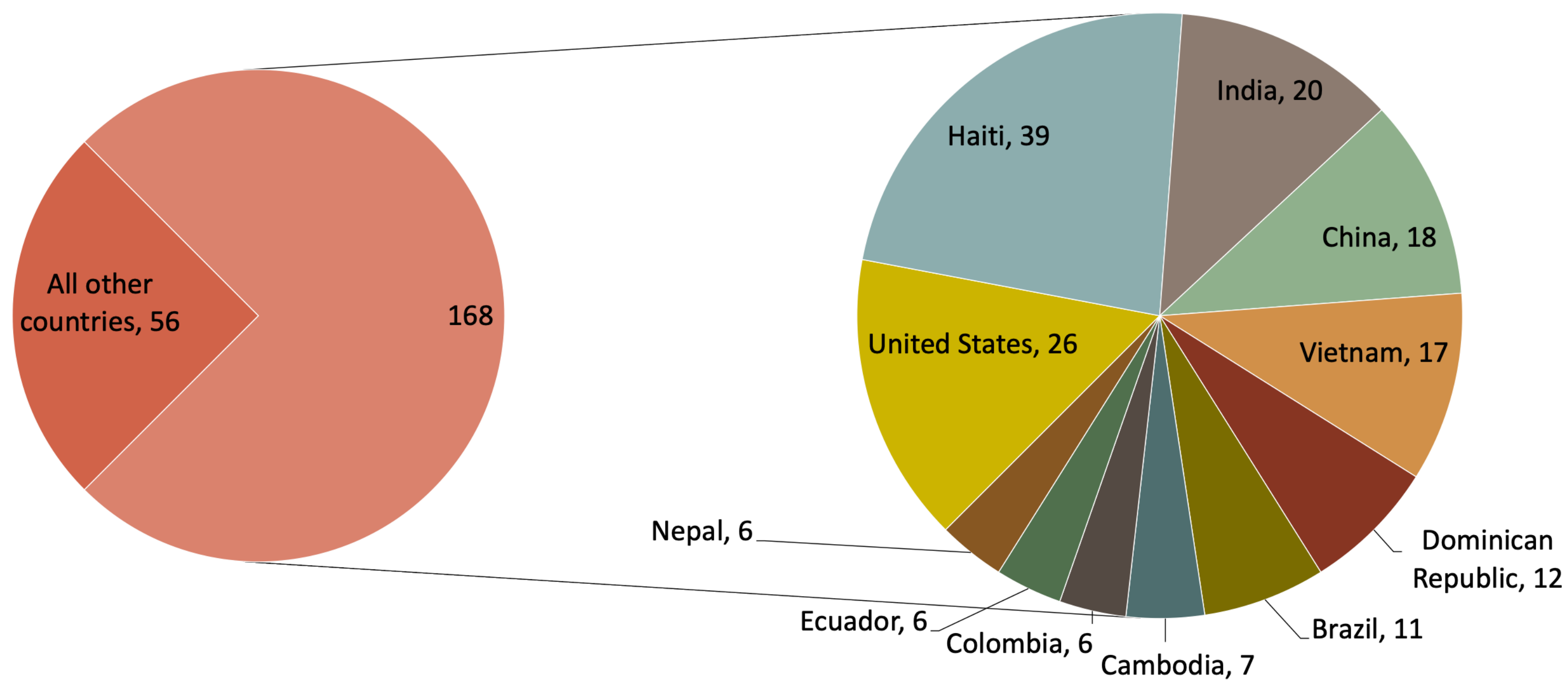


Data current as of 15 March 2024
Data gathered from Massachusetts Virtual Epidemiologic Network

*NH – Non-Hispanic

MA DPH Data 2024

2023 Cases by Country of Birth



Data current as of 15 March 2024
Data gathered from Massachusetts Virtual Epidemiologic Network

Massachusetts Department of Public Health
Bureau of Infectious Disease and Laboratory Sciences

MA DPH Data 2024

Number and Percentage of Tuberculosis Cases by Select Characteristics*, Massachusetts, 2023

Risk Factor*	Number of Cases	Percent of Cases
Non-US born	198	88%
Elderly age ≥ 65	56	25%
Substance use	19	9%
Co-Infected HIV	8	5%
Homelessness	6	3%
Incarceration	0	0%
Children <15	9	4%
Contact to previous MA case	6	3%

(N=224)

Data current as of 18 March 2024
Data gathered from Massachusetts Virtual Epidemiologic Network

*Categories are not mutually exclusive

MA DPH Data 2024

Number and Rate of Tuberculosis Cases by Susceptibility Test Result, Massachusetts, 2023

Bacteriologically* Confirmed Cases	199 (89 % of 224)
Drug susceptibility tests performed	197 (99%)
Resistance to any anti-TB drug	48 (24%)
Resistant to isoniazid (alone or in combination with other)	16 (8%)
Resistant to at least isoniazid and rifampin (MDR-TB)	5 (3%)
Resistant to at least isoniazid and rifampin, plus any fluoroquinolone and at least one of the three injectable second-line drugs (XDR-TB)	0 (0%)

Data current as of 19 March 2024
Data gathered from Massachusetts Virtual Epidemiologic Network

*TB cases with either a positive sputum culture or a positive culture of tissue/other body fluids

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WHAT WE DO

- Some missed cases of TB
- But also in the business of diagnosing TB



EMERGENCY DEPARTMENTS

- Safety Net

BOSTON CLUSTER

- City/State Response

MASSACHUSETTS

- Safety Net State

Challenges

Ahead



TB IMPACT COUNTER

Estimated impact associated with the funding discontinuation
between January 24th, 2025 at 12:00 PM EST and present

Additional TB Deaths
9,117
Incrementing every 7.72 minutes

Additional TB Cases
11,576
Incrementing every 6.08 minutes

	1-Year	2025-2030
If funding resumes within 3 months	Deaths: 28,936 Cases: 51,458	Deaths: 99,860 Cases: 634,736
If funding resumes within 1 year	Deaths: 55,342 Cases: 79,014	Deaths: 268,579 Cases: 1,660,036
If funding is never resumed	Deaths: 71,348 Cases: 92,279	Deaths: 2,243,717 Cases: 10,676,456

ACKNOWLEDGEMENTS

THE END