

# **Tuberculosis Epidemiology**

## **Worldwide, United States, and Wisconsin**

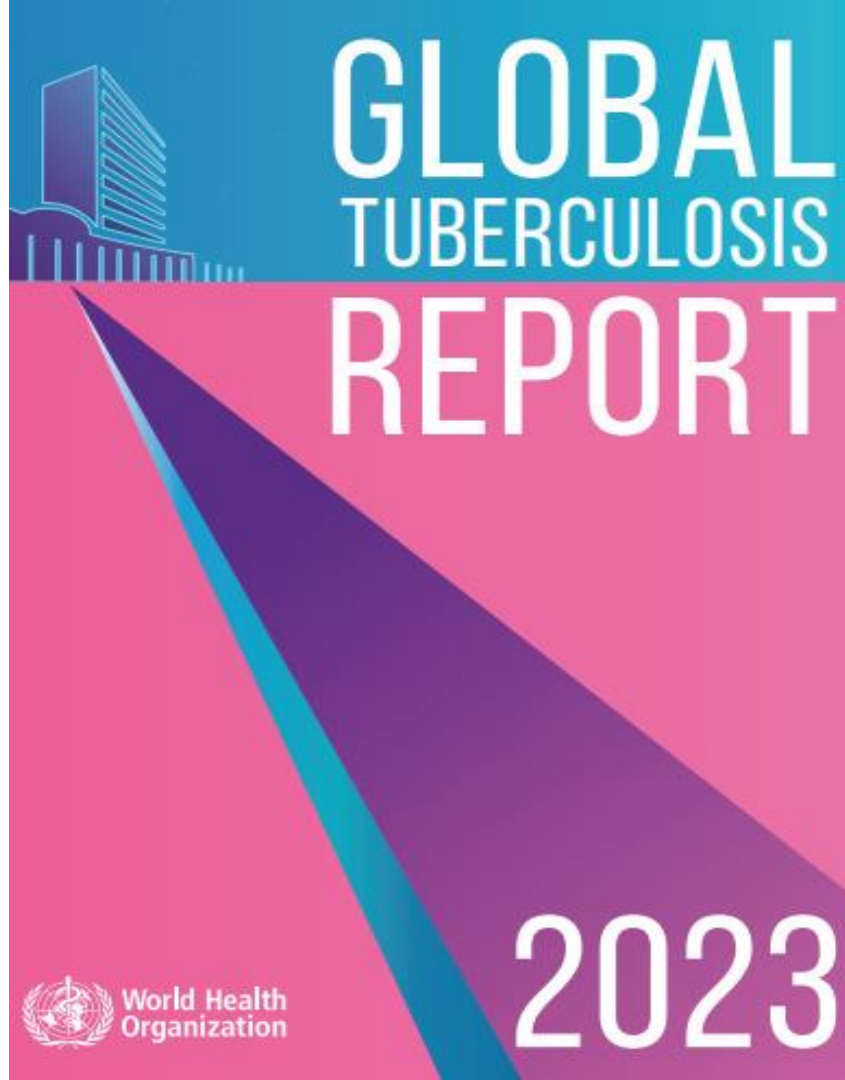
### **2022**



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TB nurse consultant  
April 2, 2024

# Worldwide Case Data

**Tuberculosis Epidemiology**



[Global Tuberculosis Report 2023 \(who.int\)](https://www.who.int/tb/global-tuberculosis-report-2023)

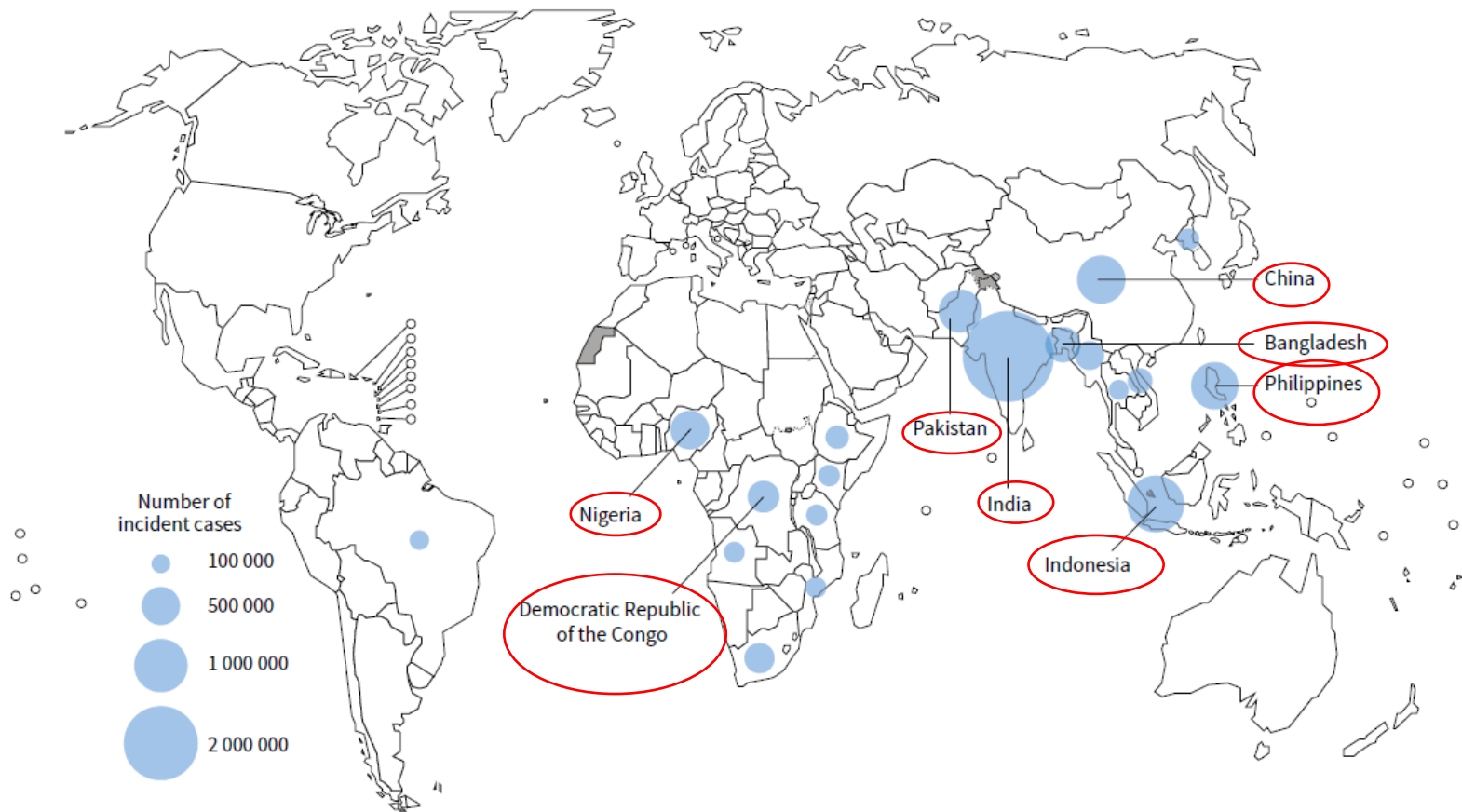
Thanks to Philip Wegner, MPH, RN (former WITB nurse consultant) for the updated WHO global report slides

# The Global Burden of TB 2022

	Estimated number of cases	Estimated number of deaths
All forms of TB	10.6 million 10.3 million last year	1.3 million* 1.4 million last year
HIV-associated TB	636,000 787,000 last year	167,000 196,000 last year
Multidrug-resistant TB & Rifampin resistance	410,000 420,000 last year	160,000 190,688 last year

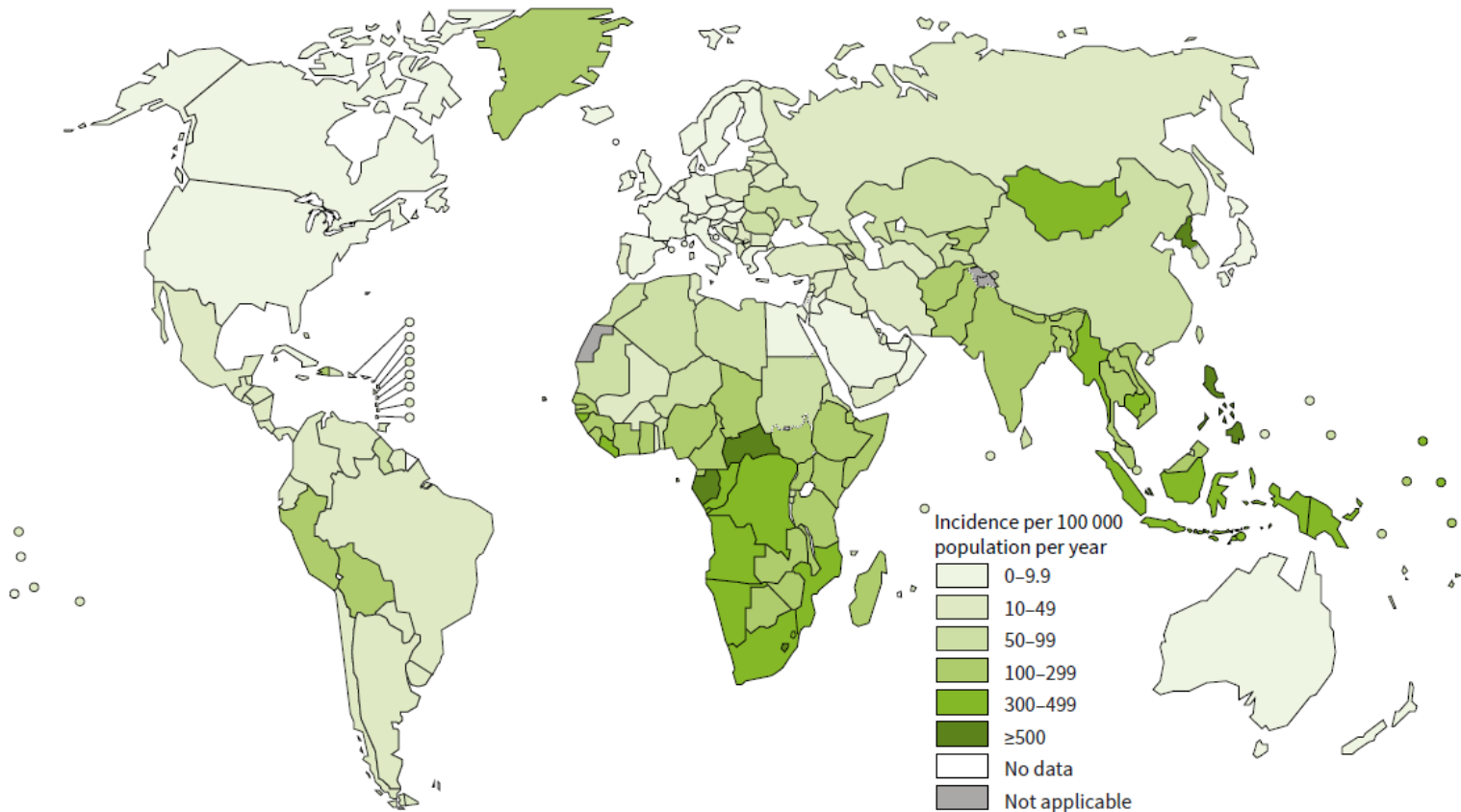
# The Global Burden of TB 2022

**Fig.12** Estimated TB incidence in 2022, for countries with at least 100,000 incident case



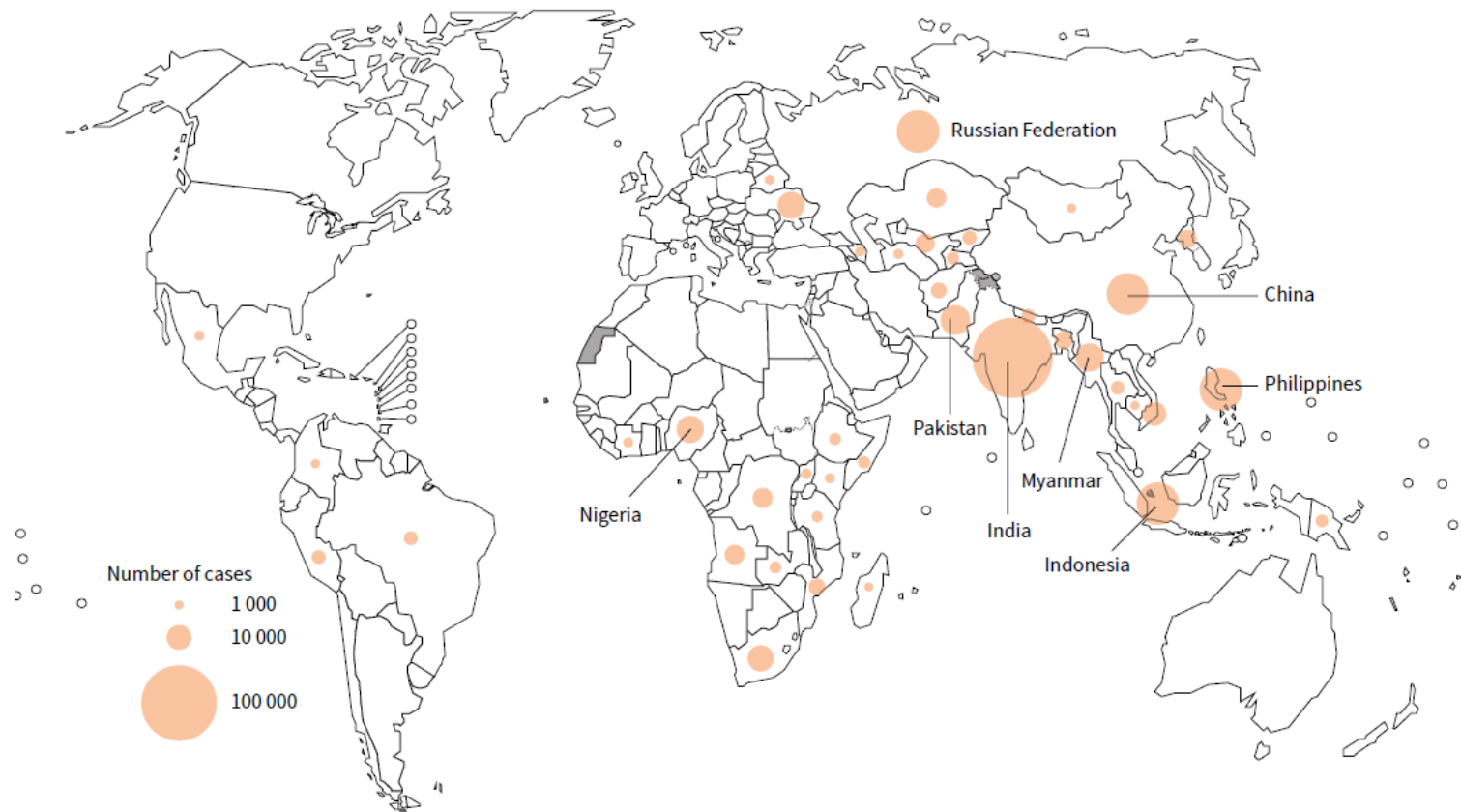
# The Global Burden of TB 2022

**Fig. 14** Estimated TB incidence rates, 2022



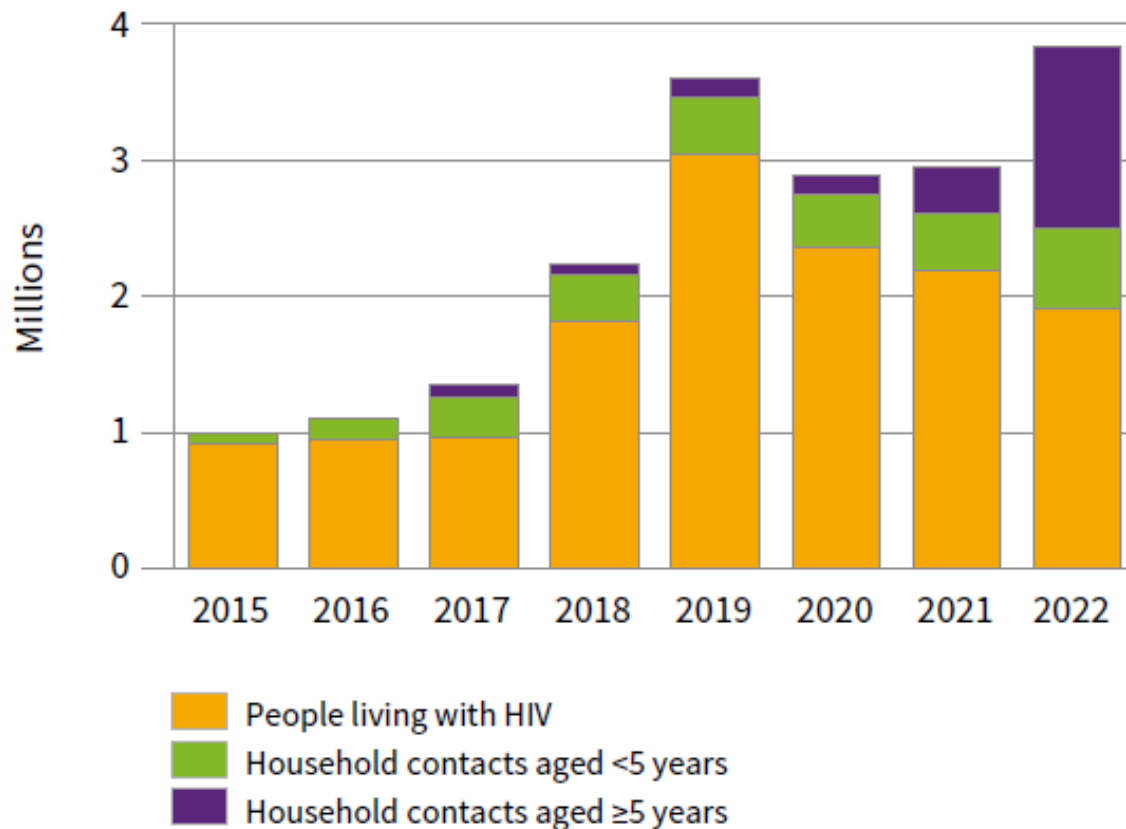
# The Global Burden of TB 2022

**Fig. 17** Estimated number of people who developed MDR/RR-TB (incident cases) in 2022, for countries with at least 1000 incident cases



# The Global Burden of TB 2022

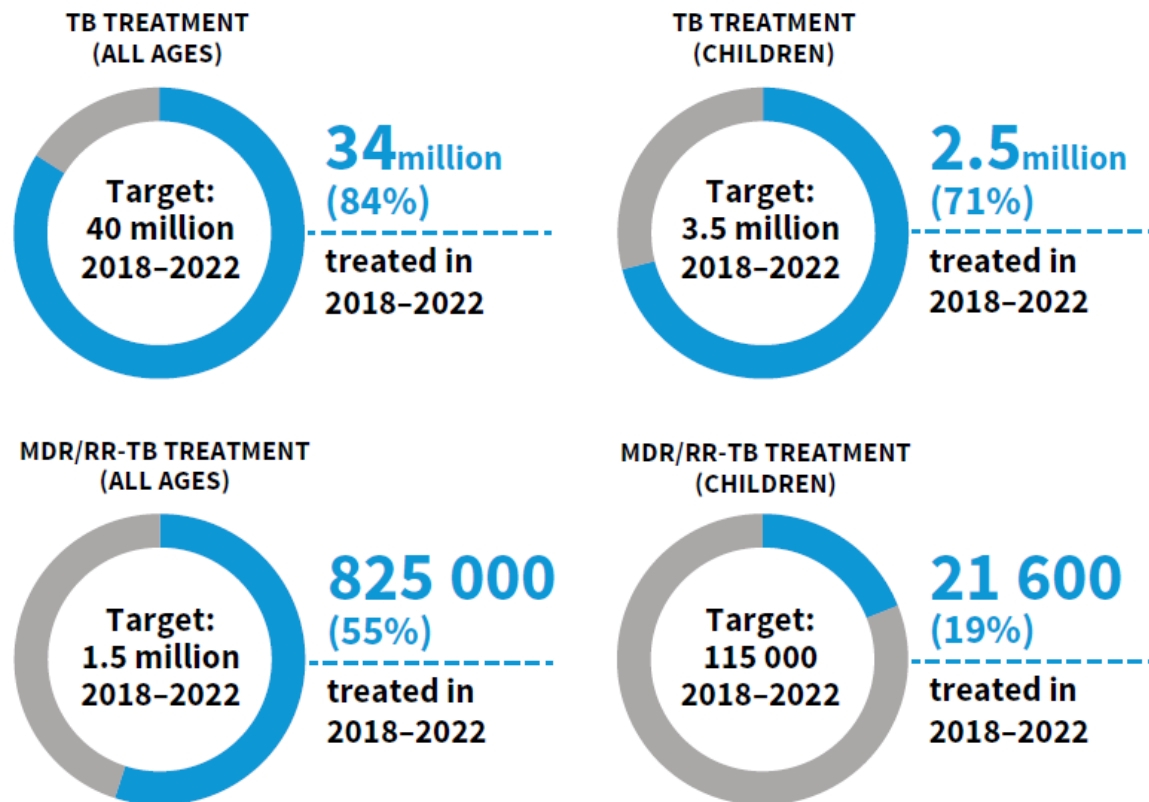
The global number of people provided with TB preventive treatment, 2015–2022





# The Global Burden of TB 2022

**Fig. 23** The global numbers of people treated for TB between 2018 and 2022, compared with targets set at the 2018 UN high-level meeting on TB

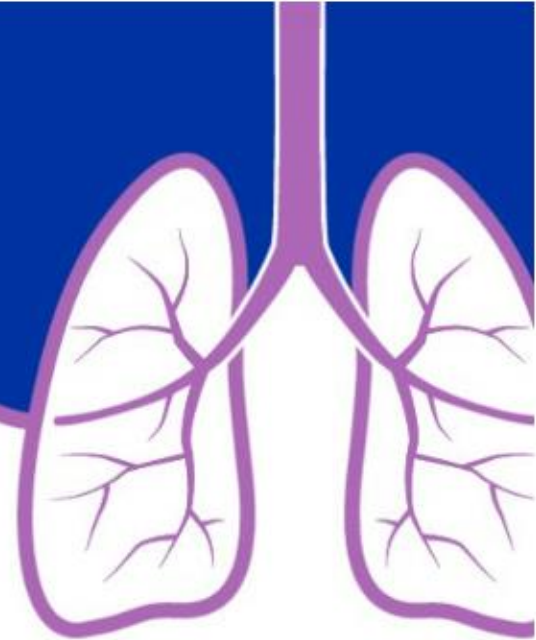


# United States Case Data

**Tuberculosis Epidemiology**

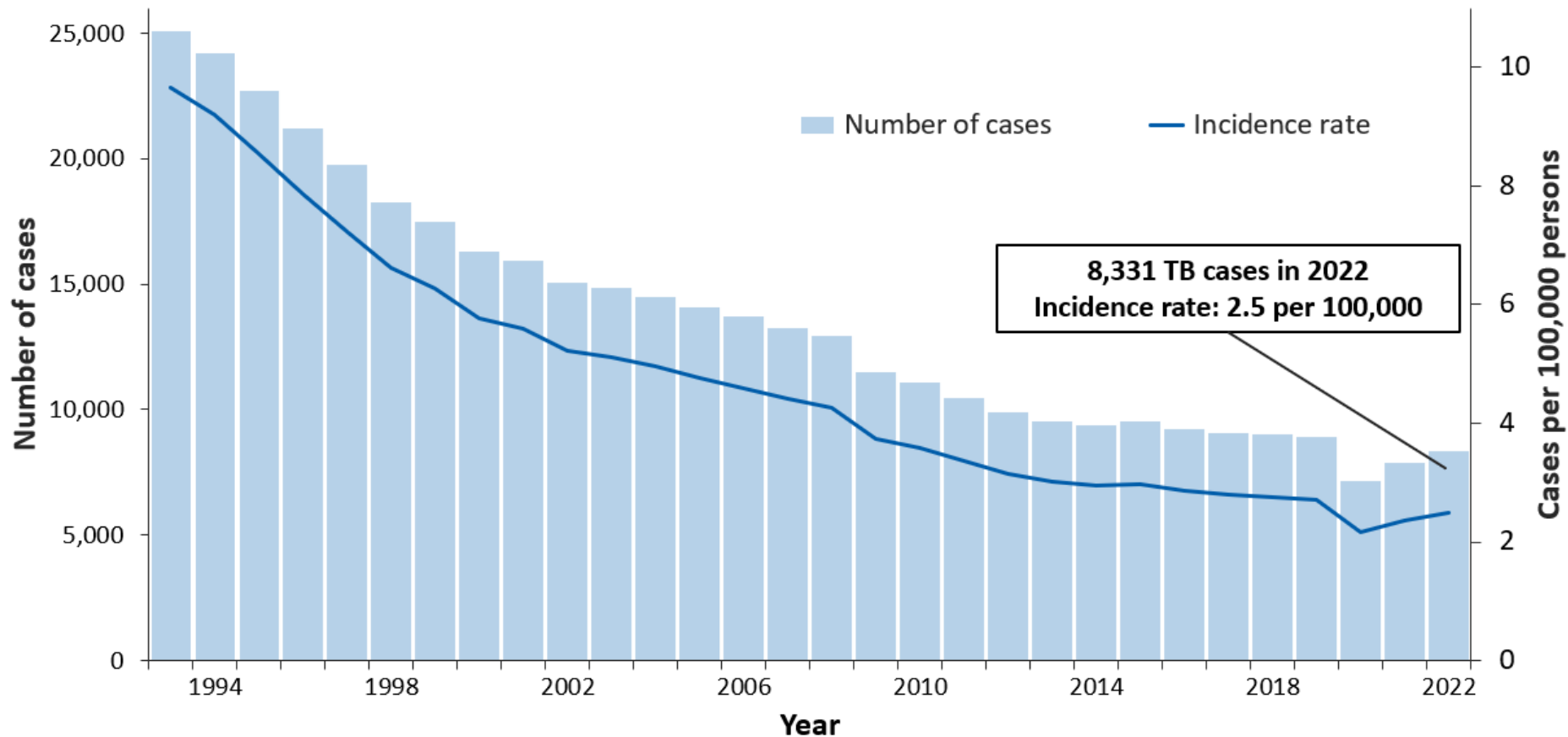
# Reported Tuberculosis in the United States

2022

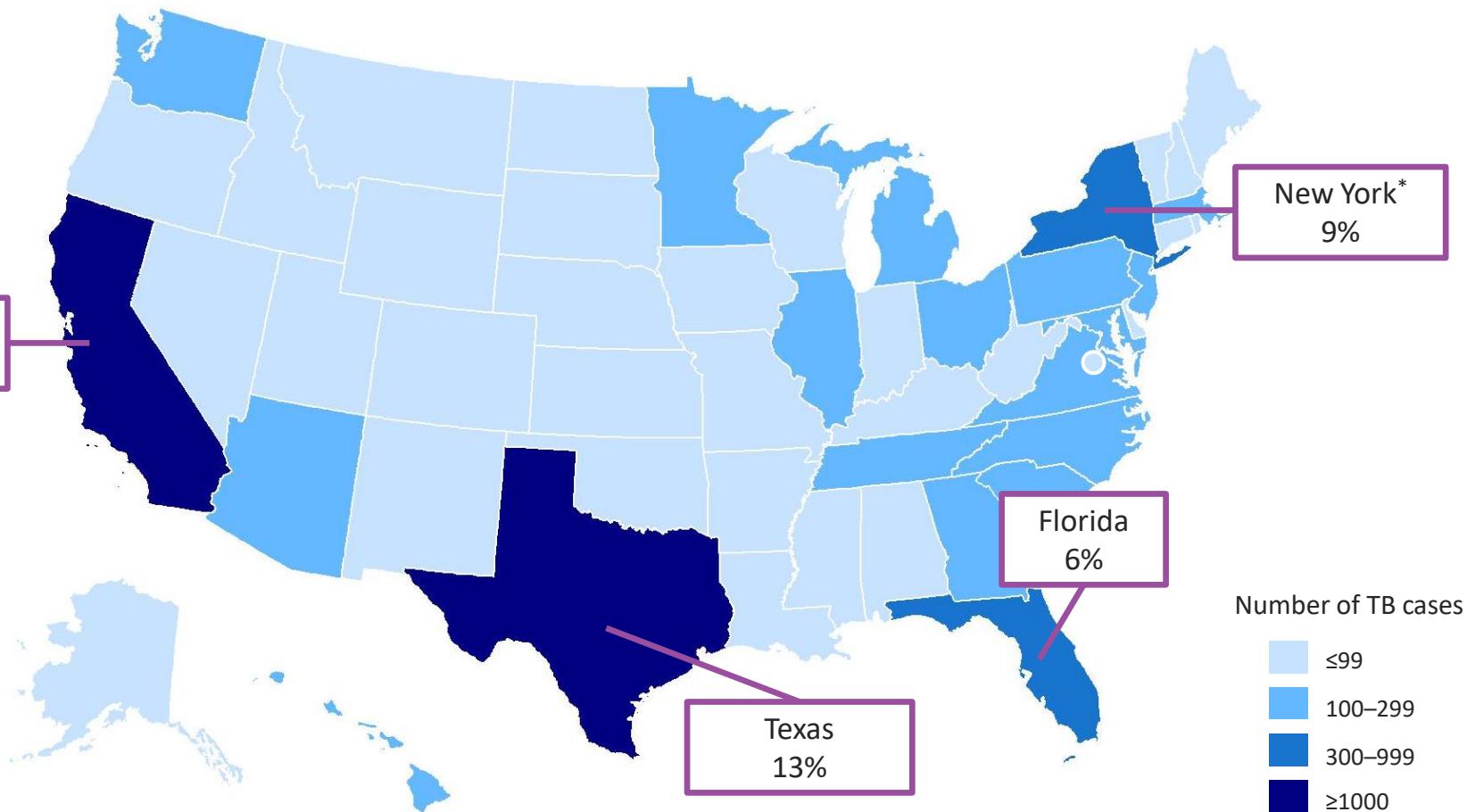


<https://www.cdc.gov/tb/statistics/default.htm>

## TB Cases and Incidence Rates, United States, 1993–2022

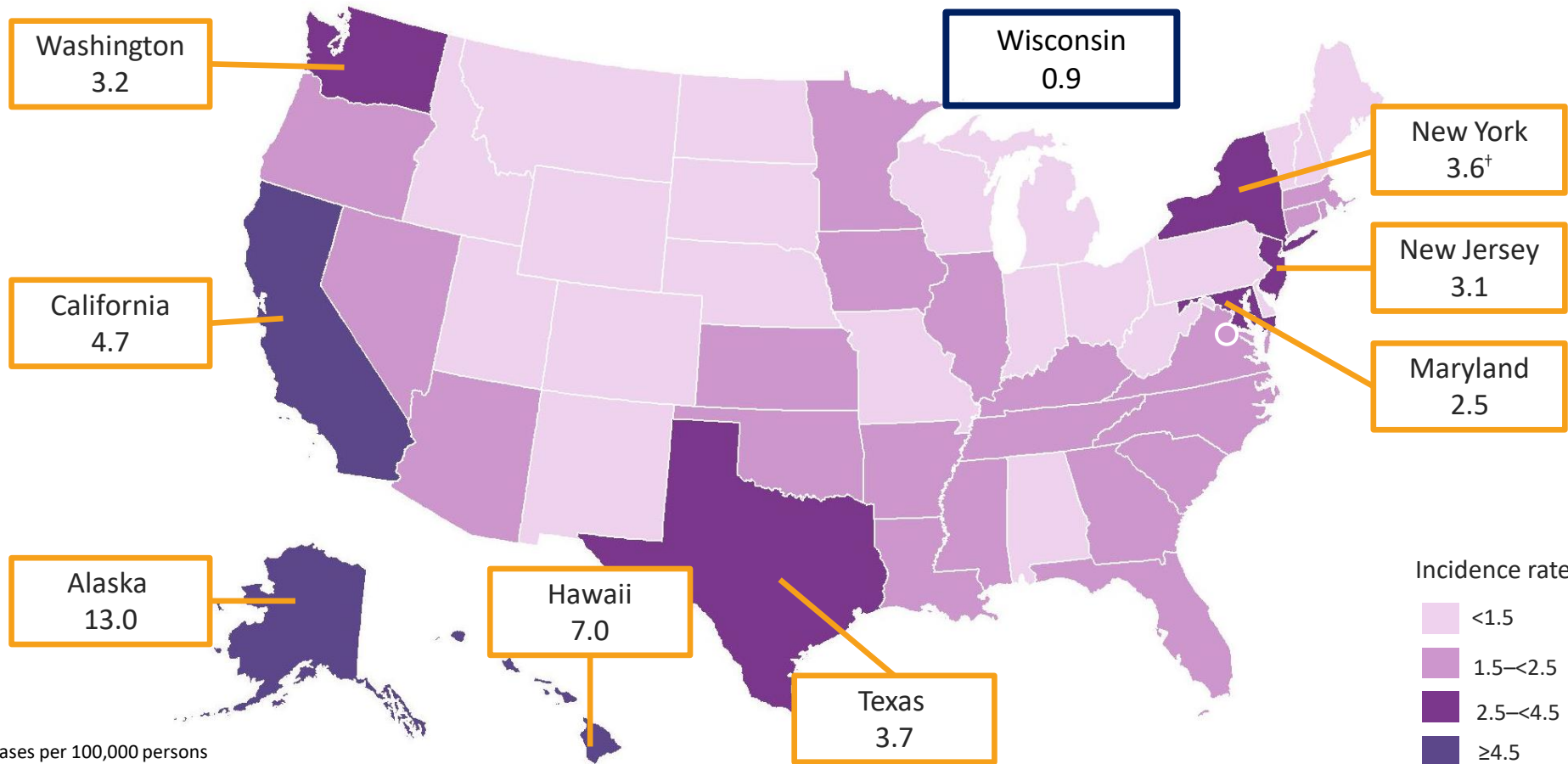


# TB Cases by Reporting Area, United States, 2022



\* Includes New York City

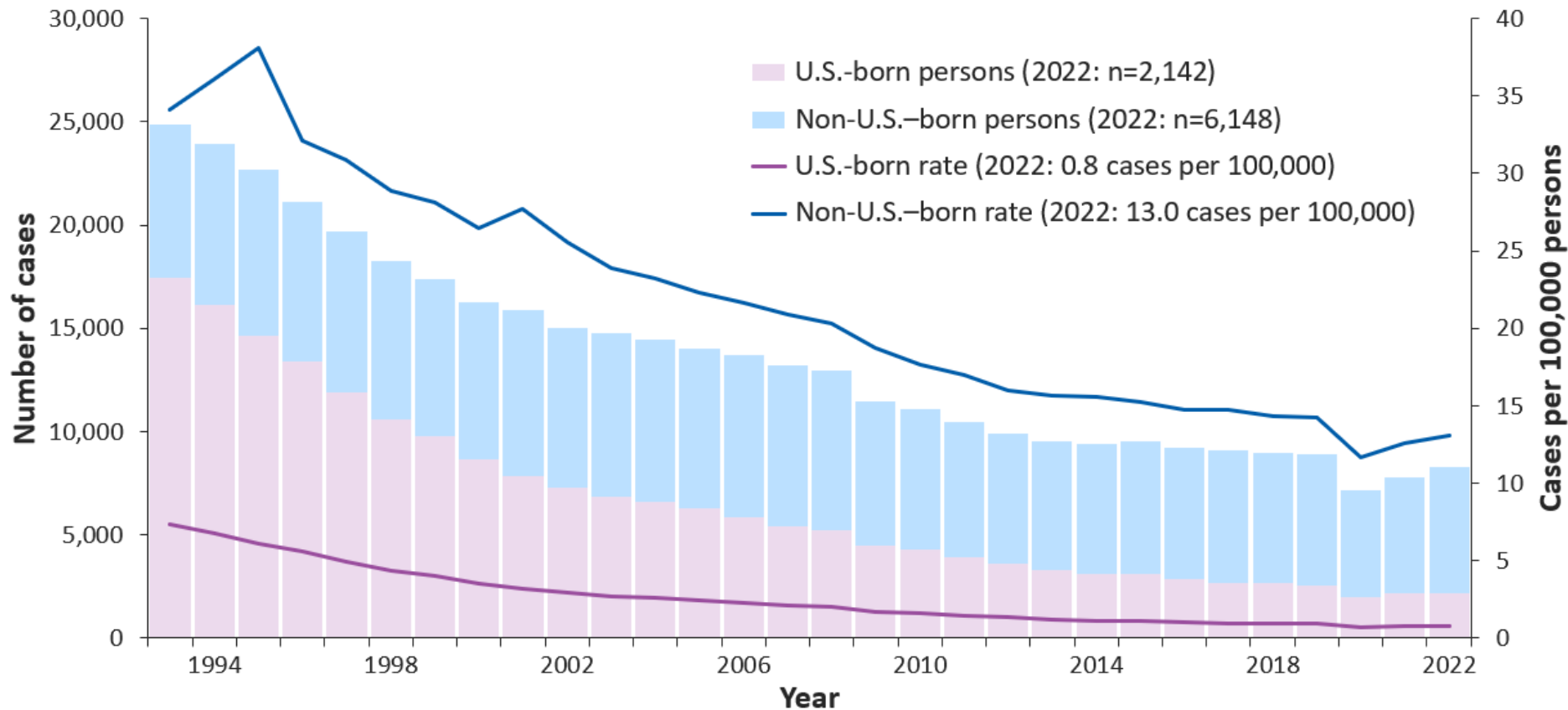
# TB Incidence Rates\* by Reporting Area, United States, 2022



\*Cases per 100,000 persons

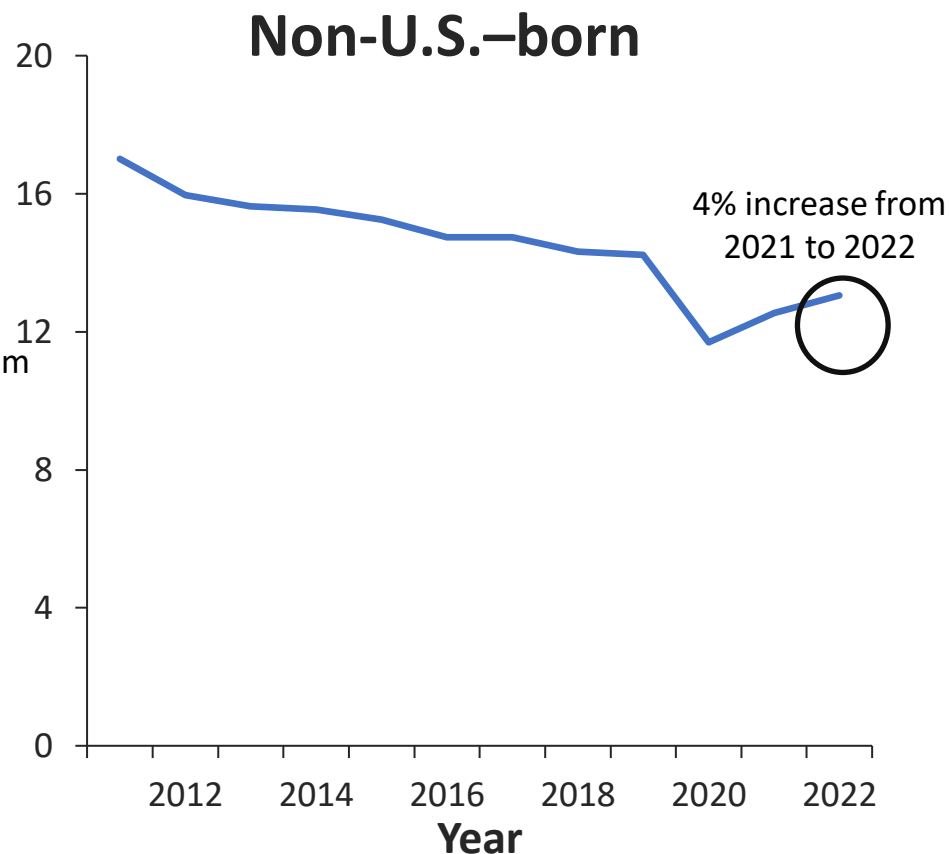
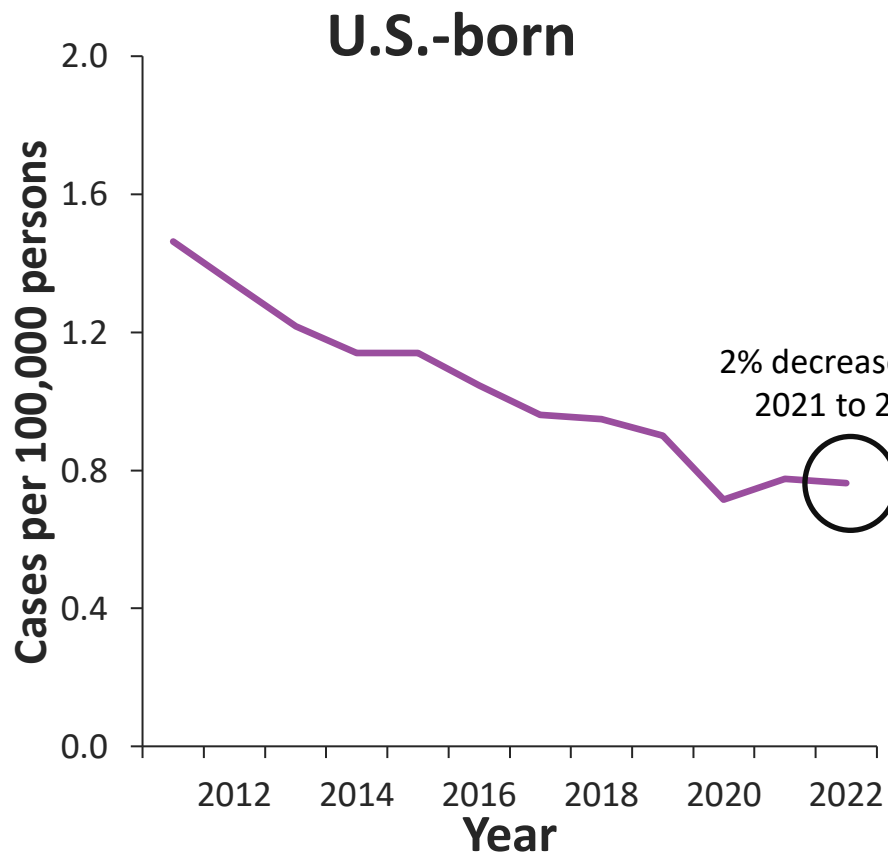
<sup>†</sup>Includes New York City

# TB Cases and Incidence Rates by Origin of Birth,\* United States, 1993–2022



\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

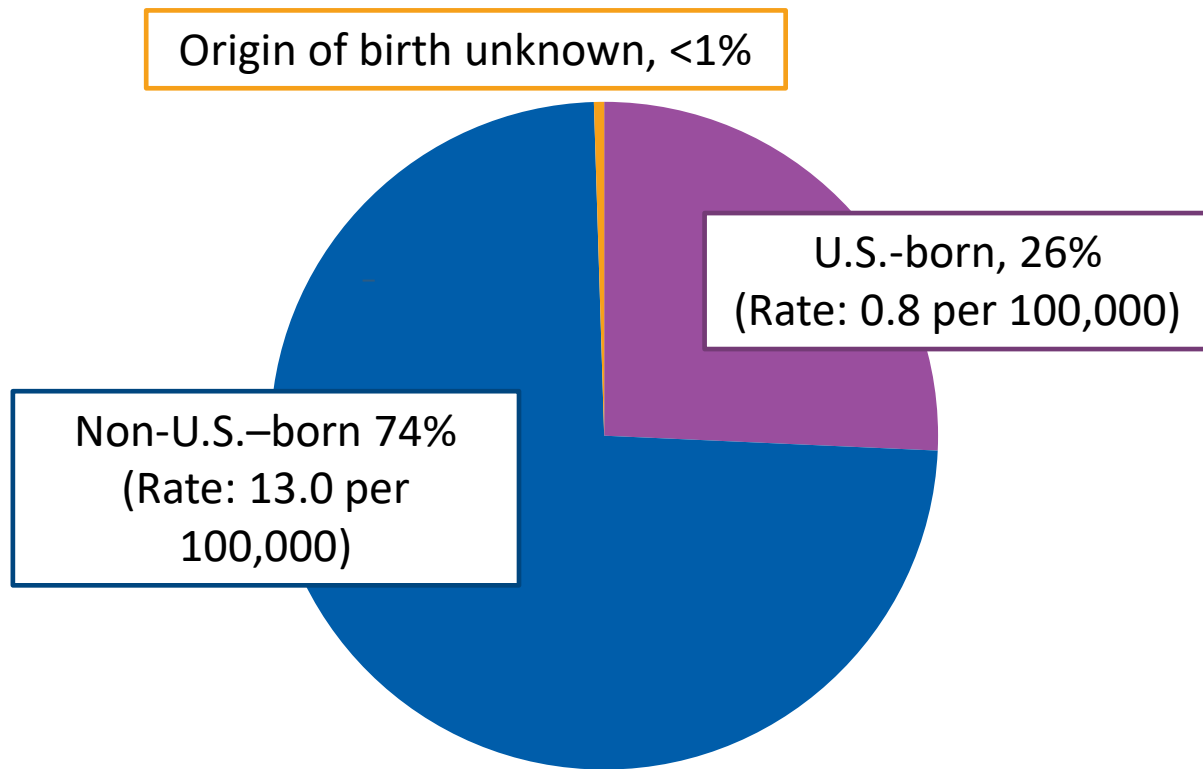
# TB Incidence Rates by Origin of Birth,\* United States, 2011–2022



\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

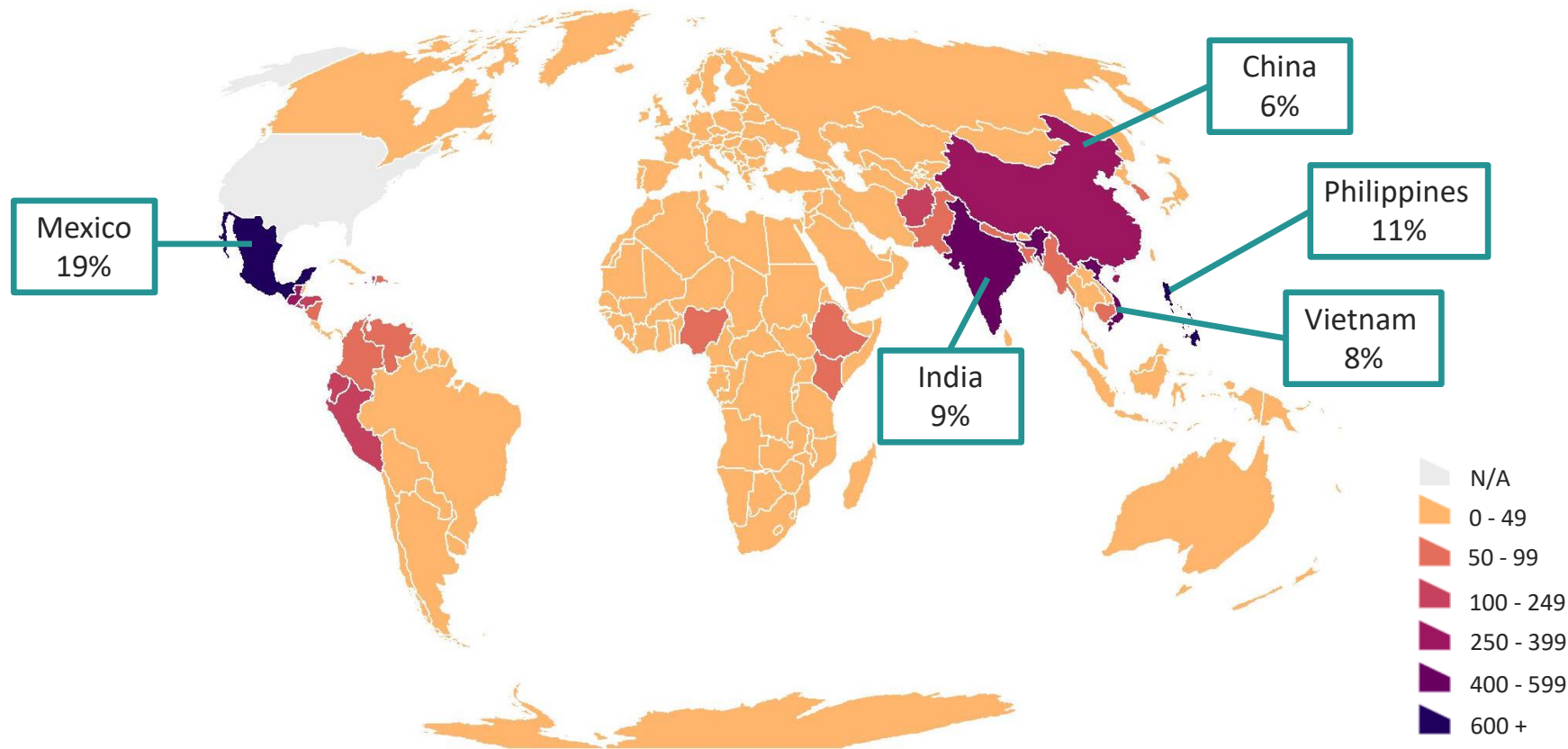


# TB Incidence Rates and Percentages by Origin of Birth,\* United States, 2022 (N=8,331)



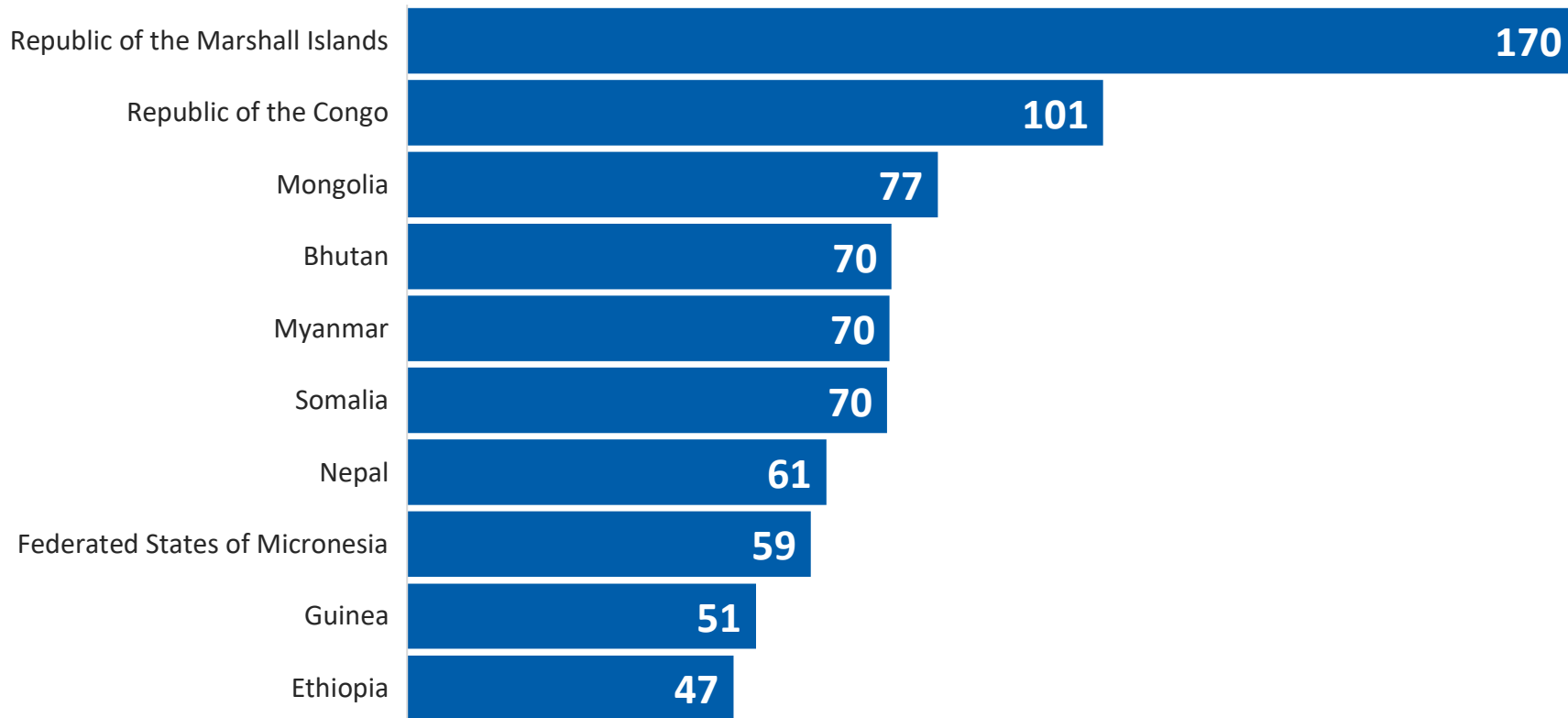
\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

# TB Cases by Countries of Birth Among Non-U.S.–Born\* Persons with TB, United States, 2022 (N=6,148)



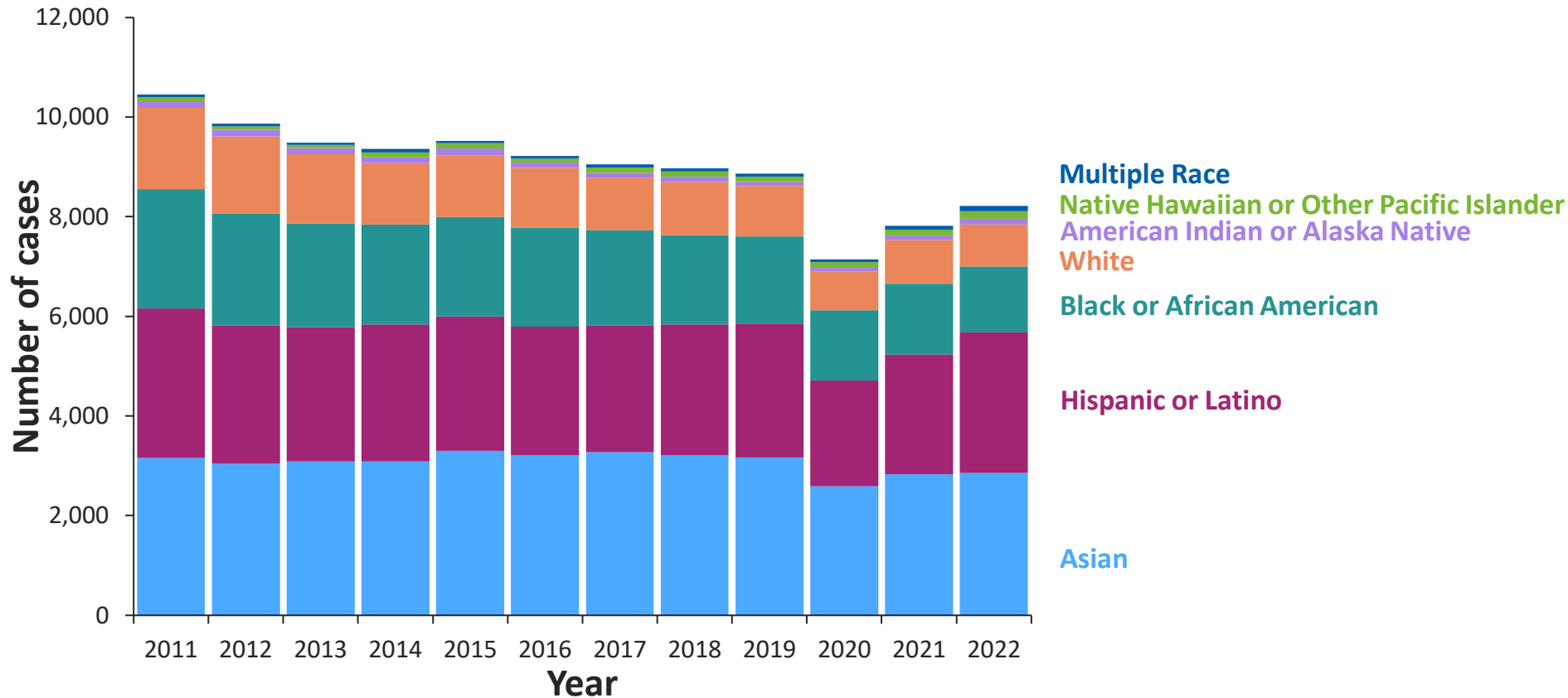
\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.–born.

## Top 10 TB Incidence Rates\* by Country of Birth, United States, 2017–2021



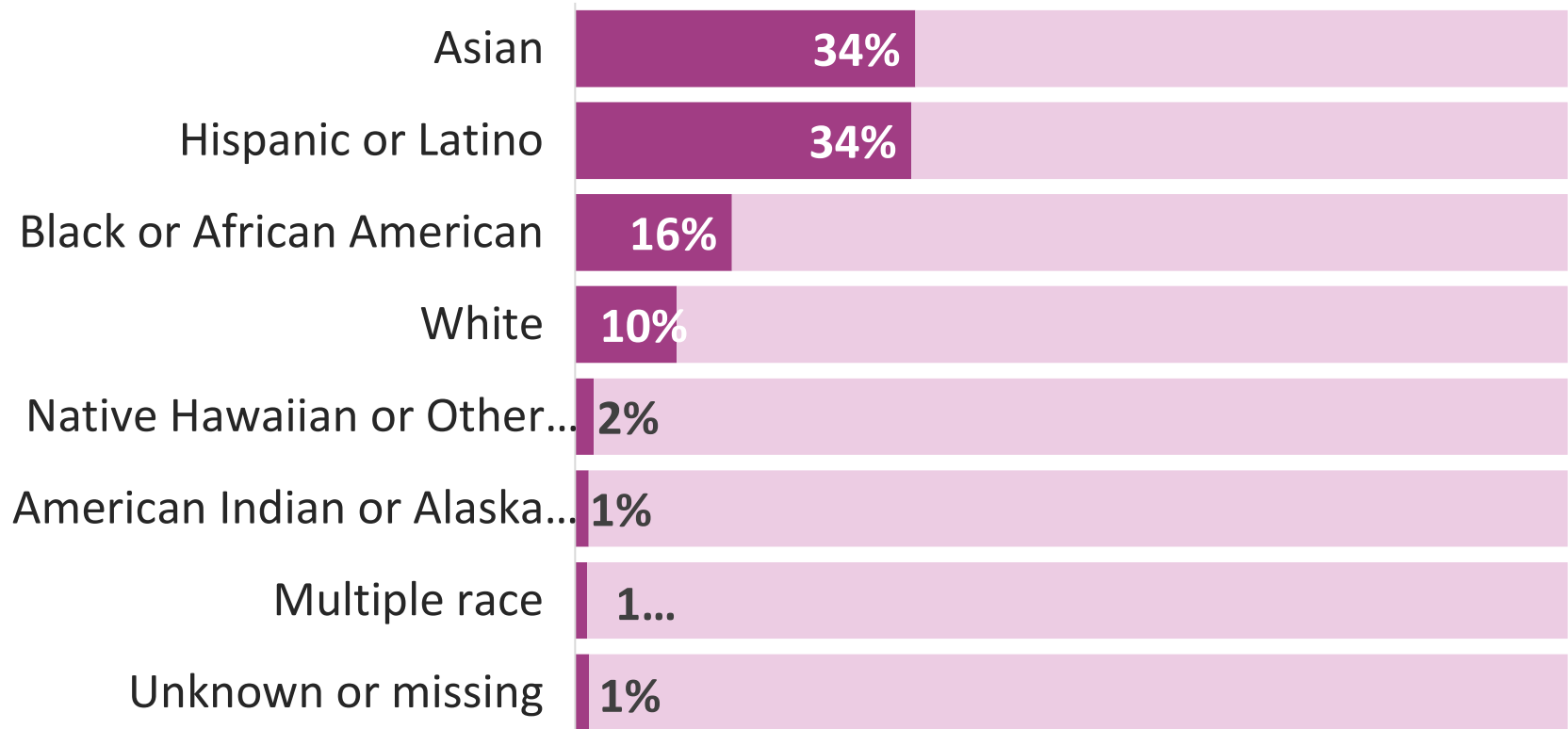
\* Cases per 100,000 persons

# TB Cases by Race/Ethnicity,\* United States, 2011–2022



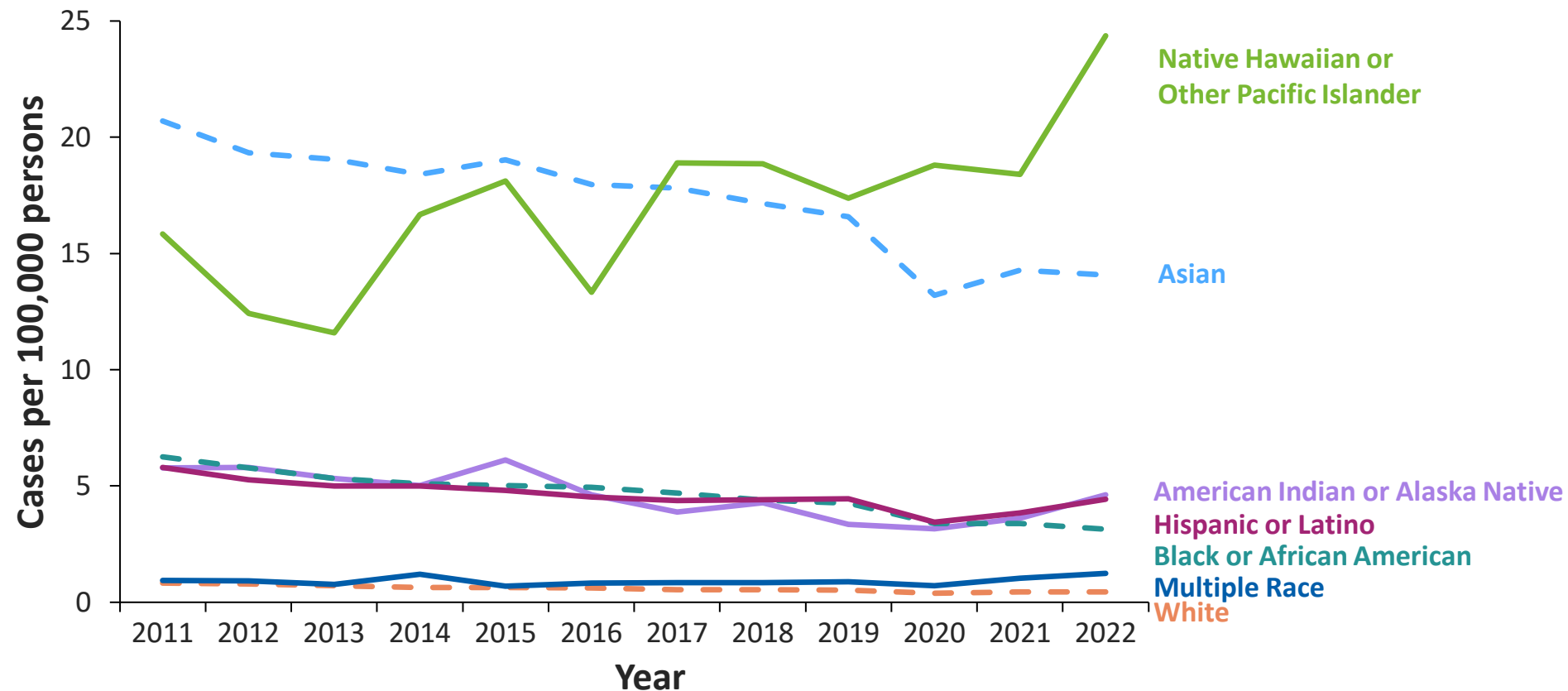
\*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

## Percentage of TB Cases by Race/Ethnicity,\* United States, 2022 (N=8,331)



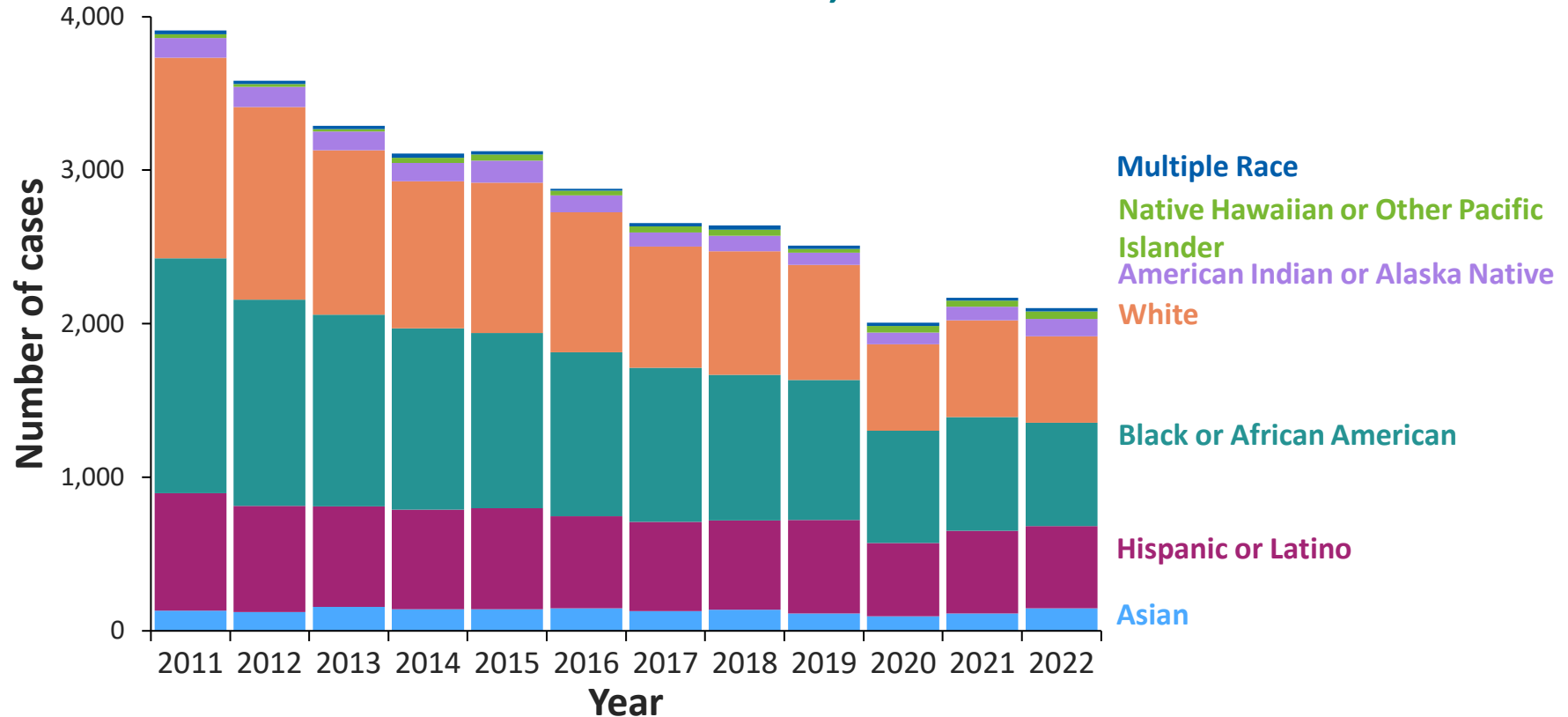
\*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

# TB Incidence Rates by Race/Ethnicity,\* United States, 2011–2022



\*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

# TB Cases Among U.S.-Born\* Persons by Race/Ethnicity,<sup>†</sup> United States, 2011–2022

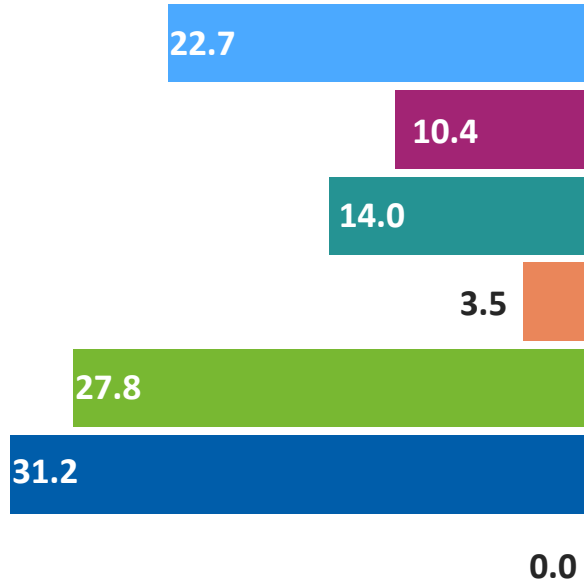


\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

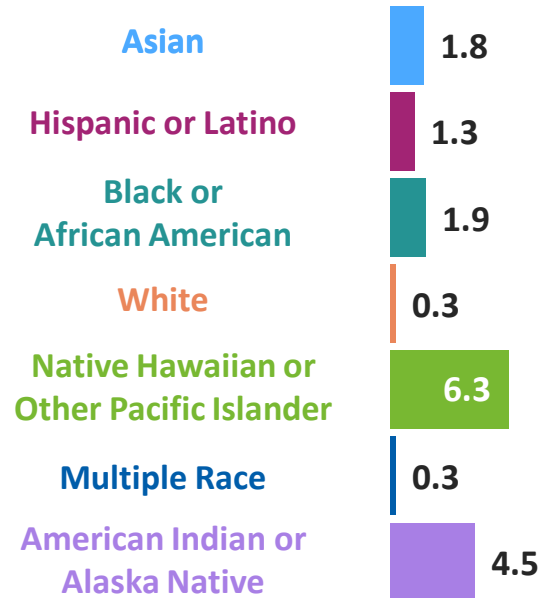
<sup>†</sup>Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

# TB Incidence Rates\* by Origin† and Race/Ethnicity,§ United States, 2022

## Non-U.S.–born persons (N=6,148)



## U.S.-born persons (N=2,142)



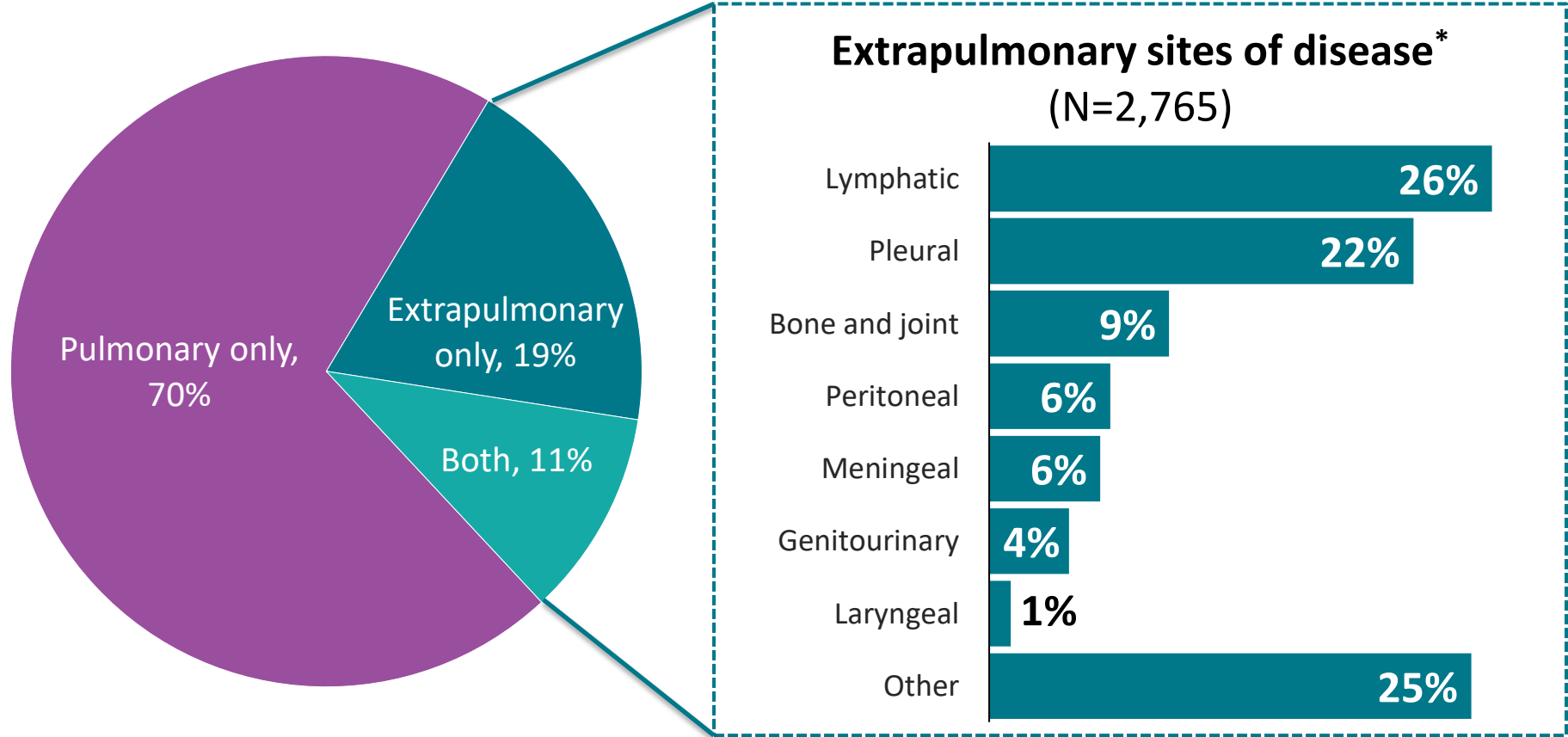
\*Cases per 100,000 persons

†Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.–born.

§Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

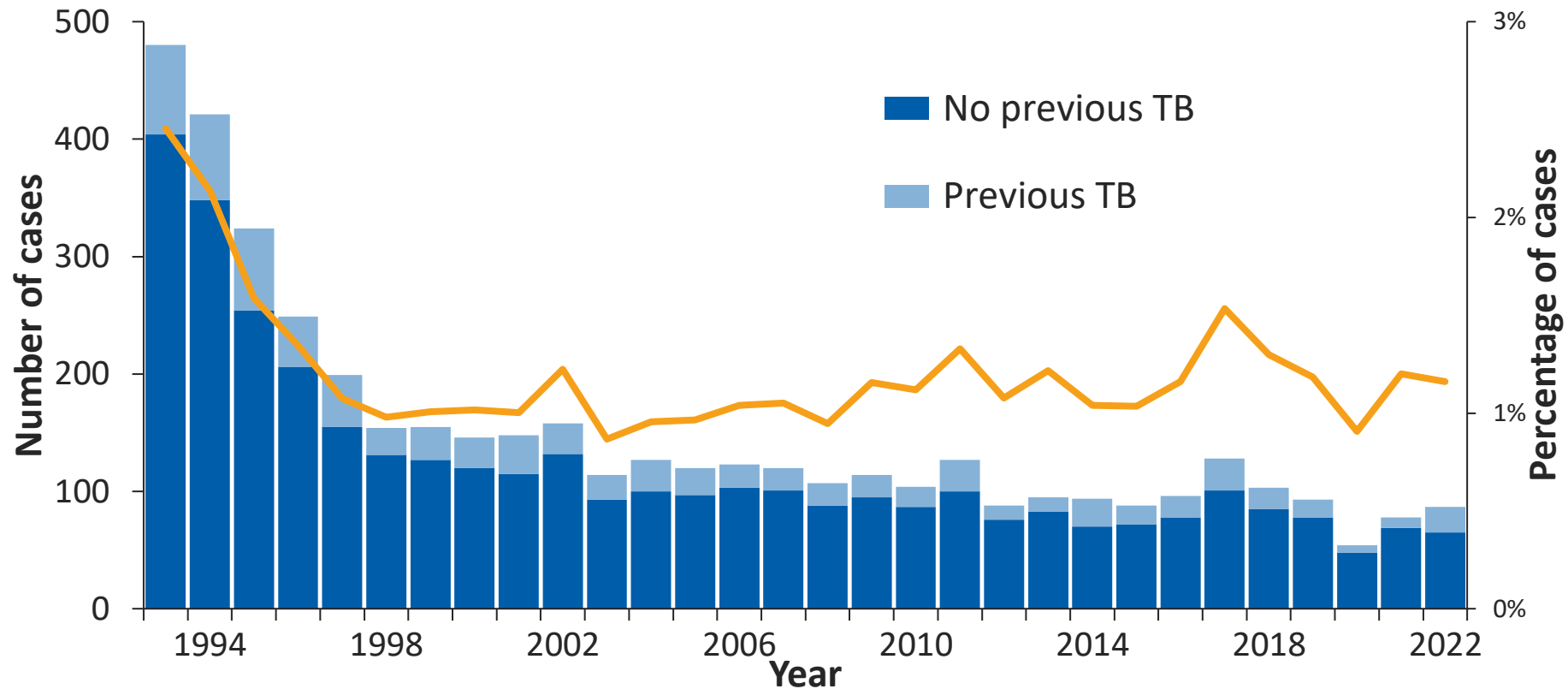


# Percentage of TB Cases by Site of Disease, United States, 2022



\*Persons might have more than one extrapulmonary site of disease.

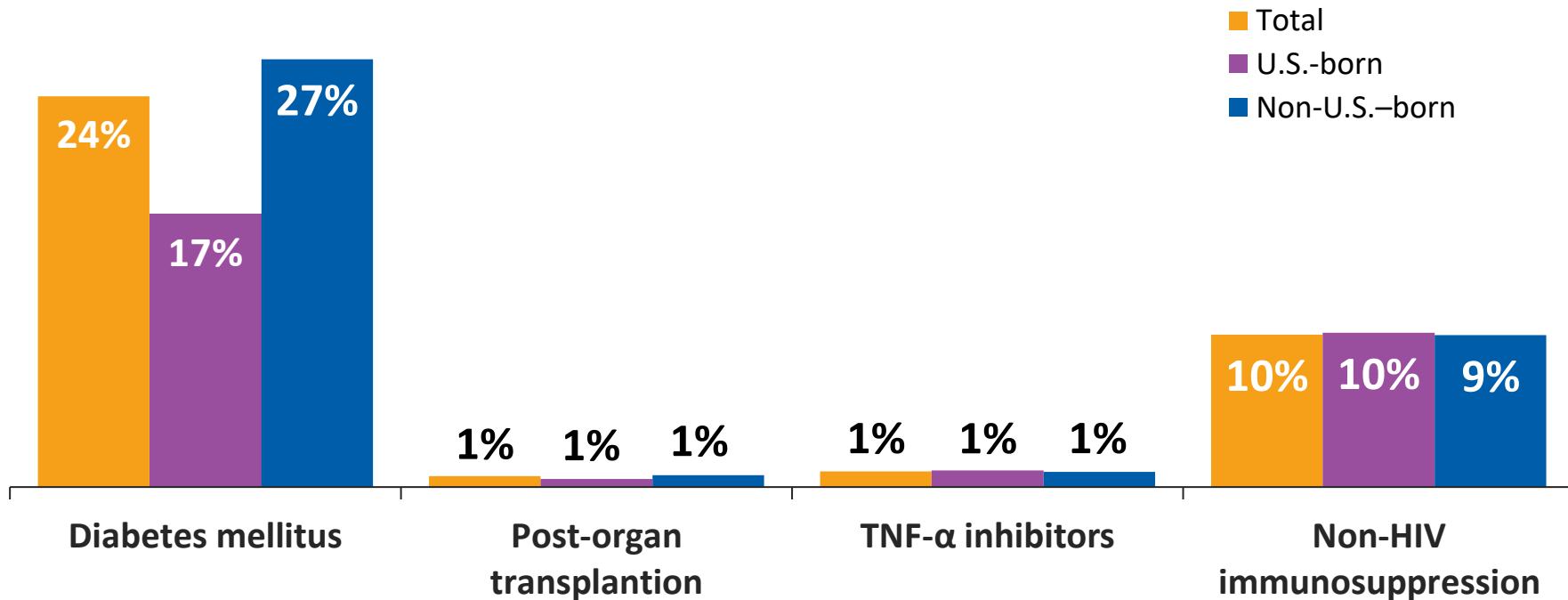
# Number and Percentage of Multidrug-Resistant (MDR)\* TB Cases† by History of TB, United States, 1993–2022



\*Persons with isolates resistant to at least isoniazid among persons with isolates tested with at least isoniazid and rifampin

†Excludes persons with unknown origin of birth

# Percentage of Selected Risk Factors Among Persons with TB by Origin of Birth,\* United States, 2022

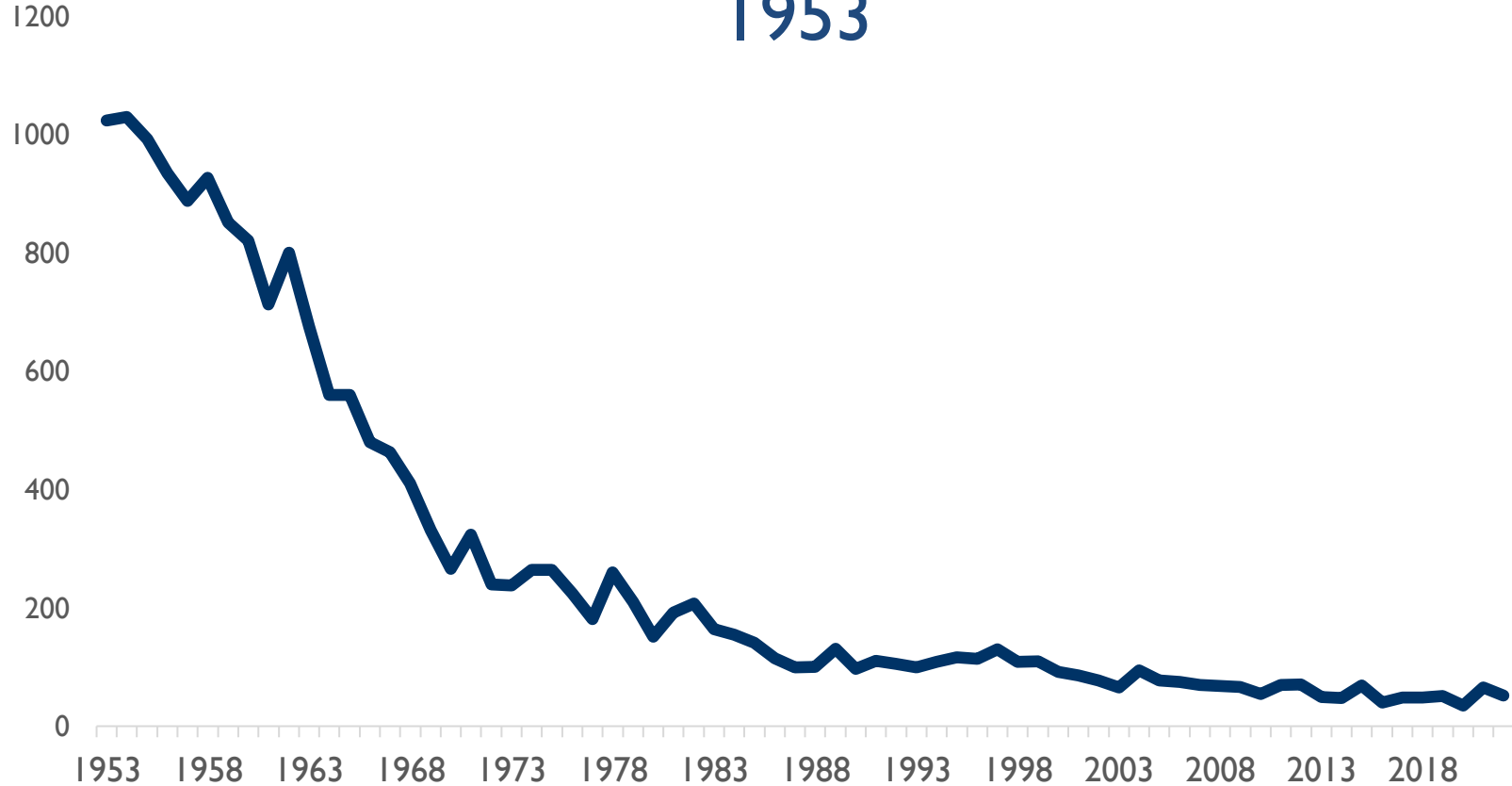


\*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

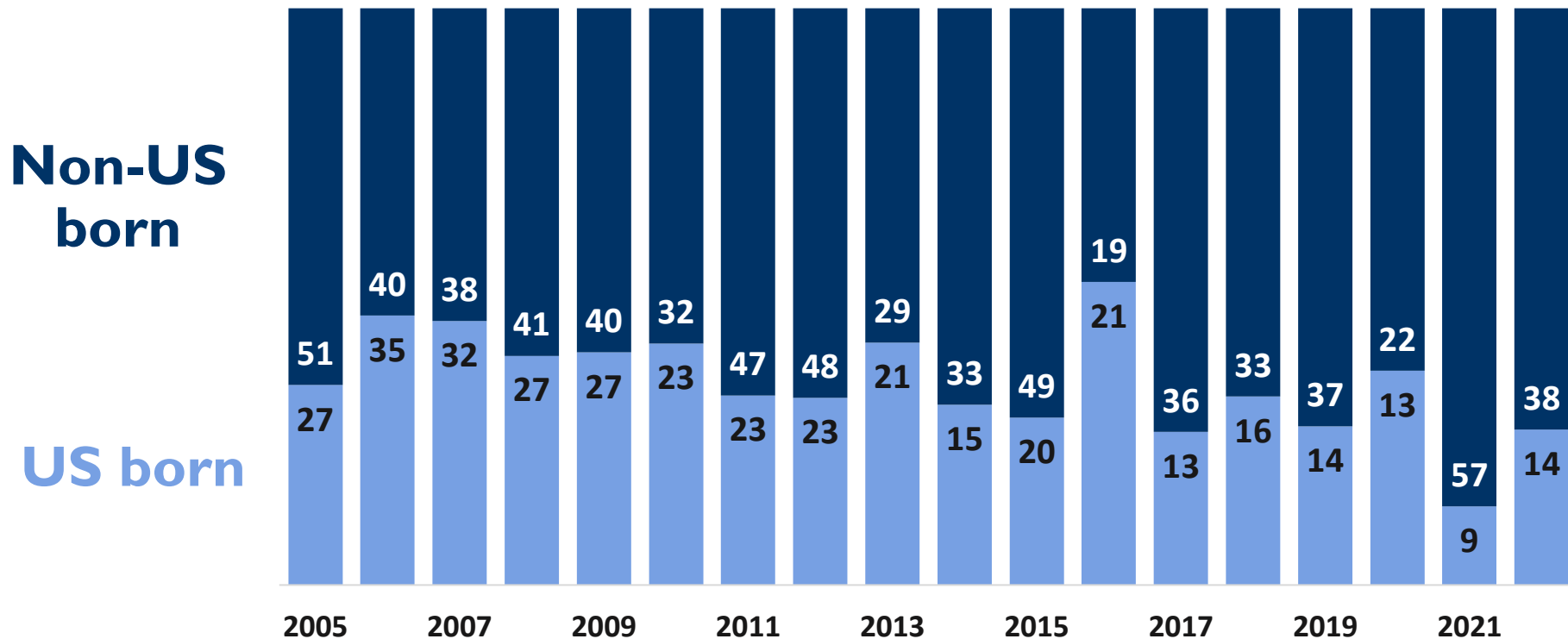
# Wisconsin Case Data

**Tuberculosis Epidemiology**

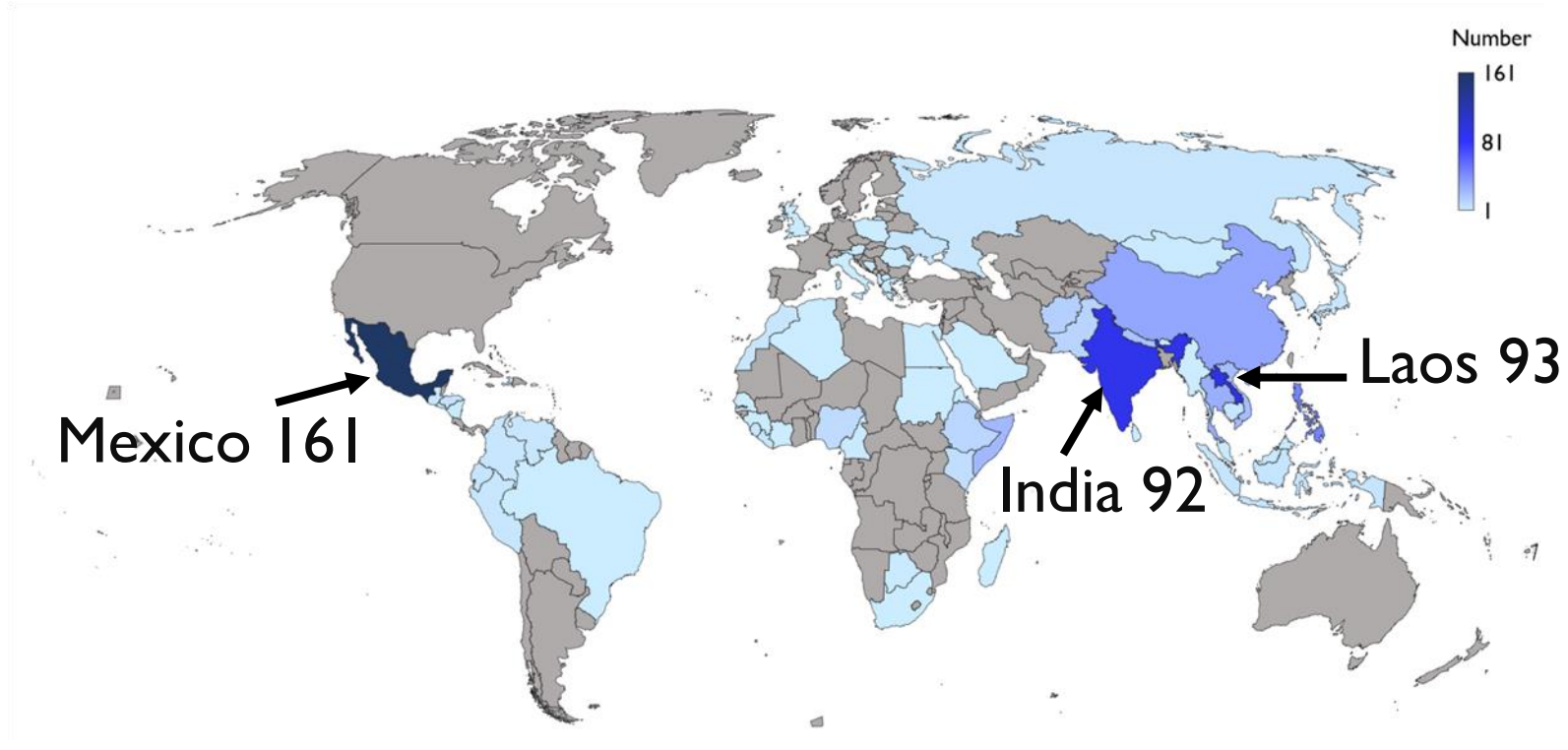
# Reported cases of TB have decreased dramatically since 1953



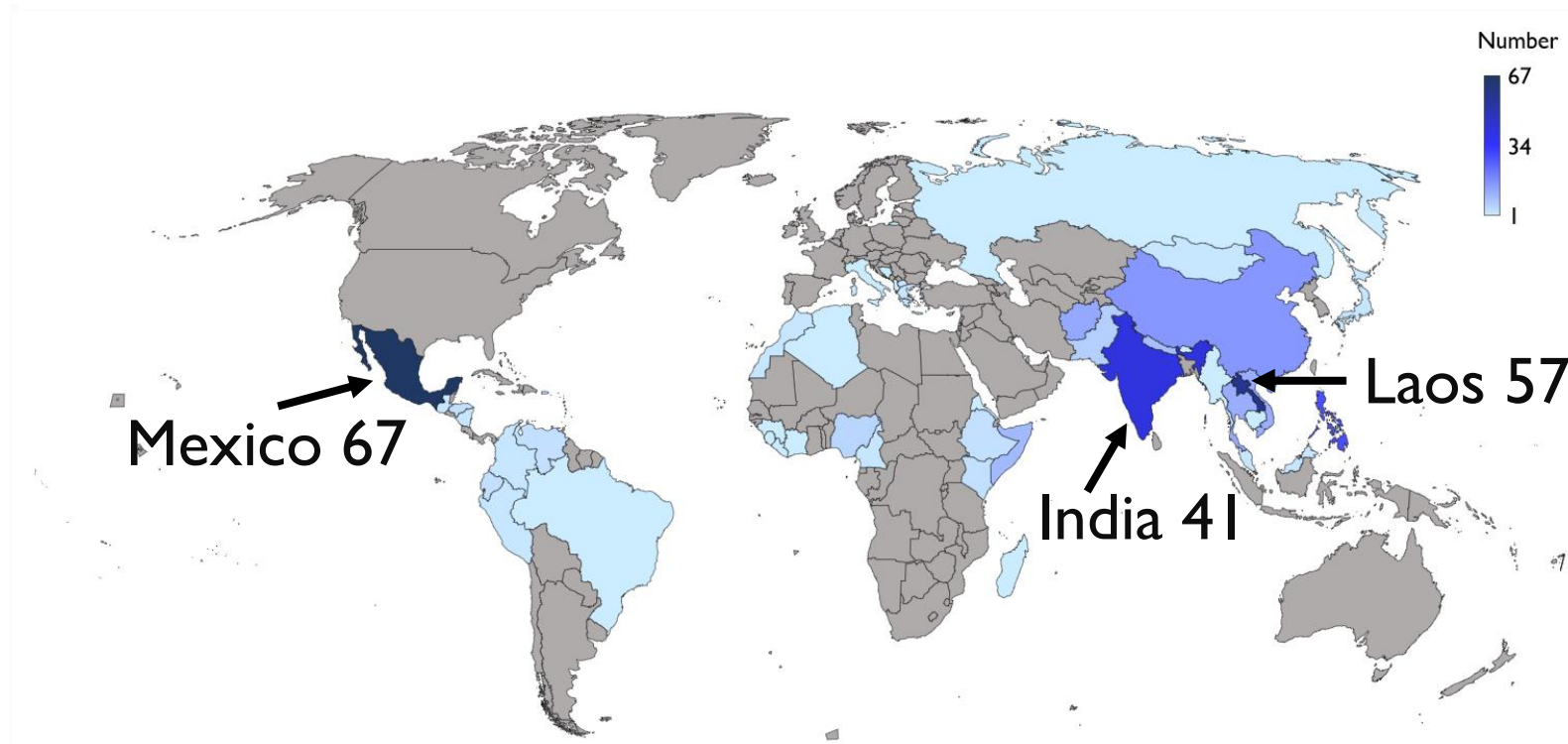
# The proportion of people diagnosed with TB who were born outside the US is increasing



# Mexico, Laos, and India are the most common countries of birth for Wisconsin TB cases between 2005 and 2022



# Mexico, Laos, and India are the most common countries of birth for Wisconsin TB cases between 2013 and 2022

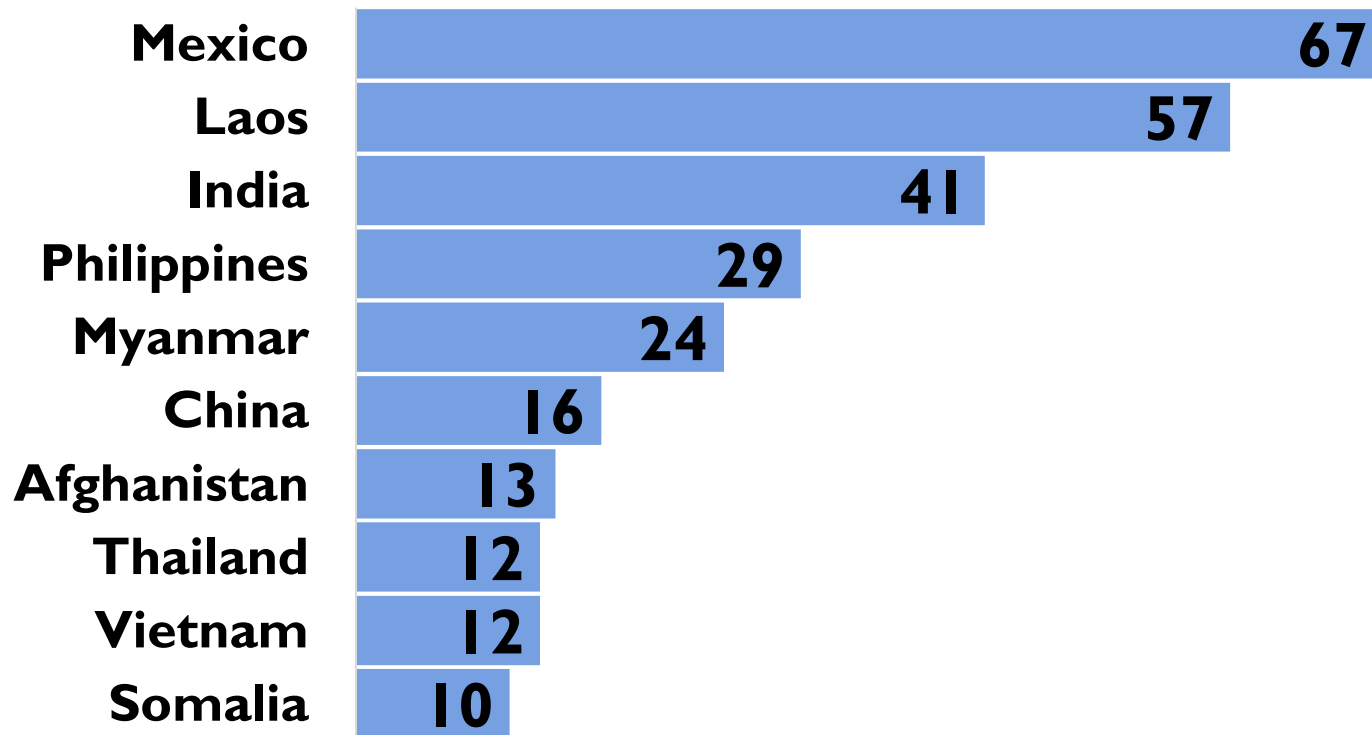




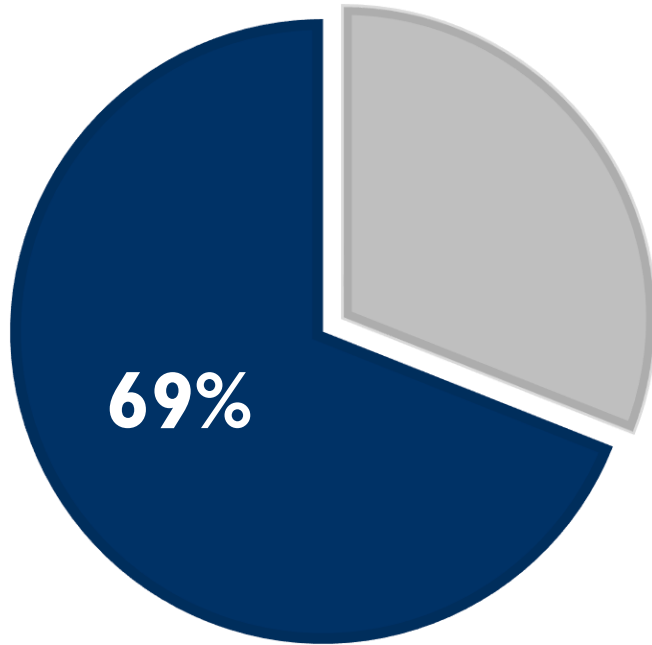
# Mexico, Philippines, and Laos are the most common countries of birth for Wisconsin TB cases in 2022



# Top Countries of Birth Among Non-US Born People with TB 2013–2022



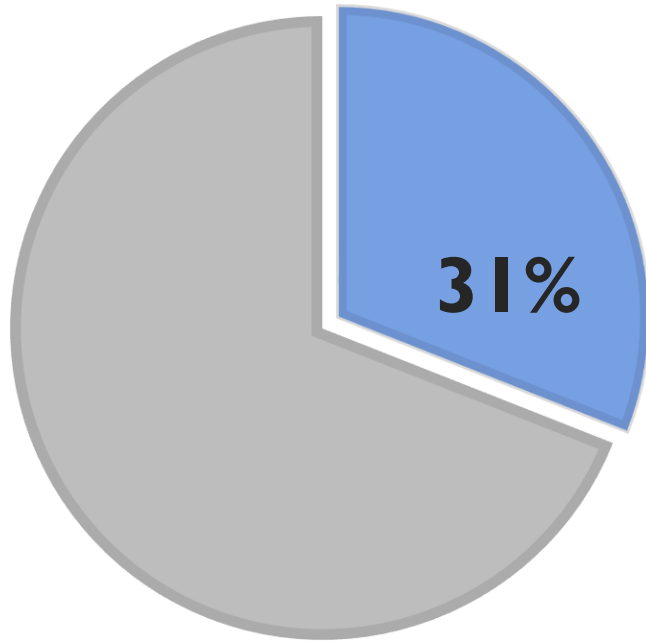
In the last 10 years, 69% of people with TB were non-US born



**Non-US born  
rate\* 12.1**

\*Rates per 100,000  
population calculated using  
US Census Bureau  
American Community  
Survey population estimates

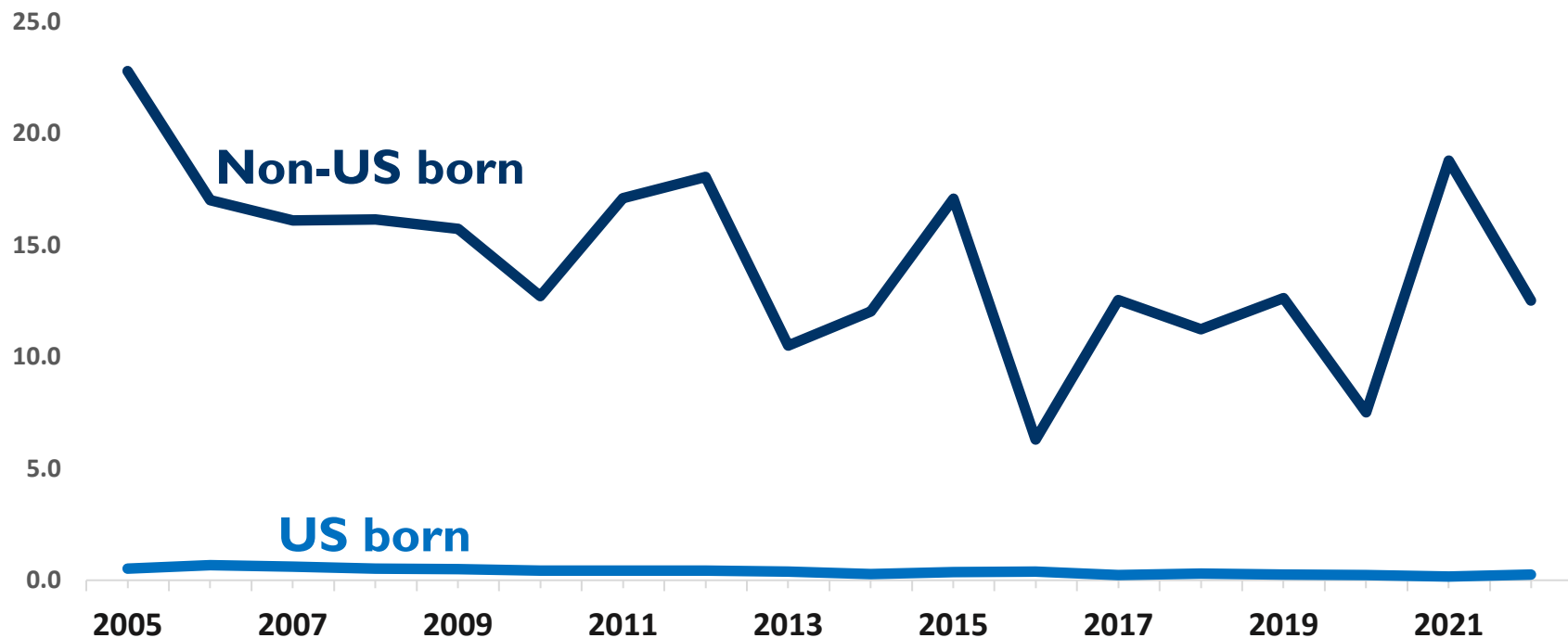
In the last 10 years, 31% of people with TB were US born



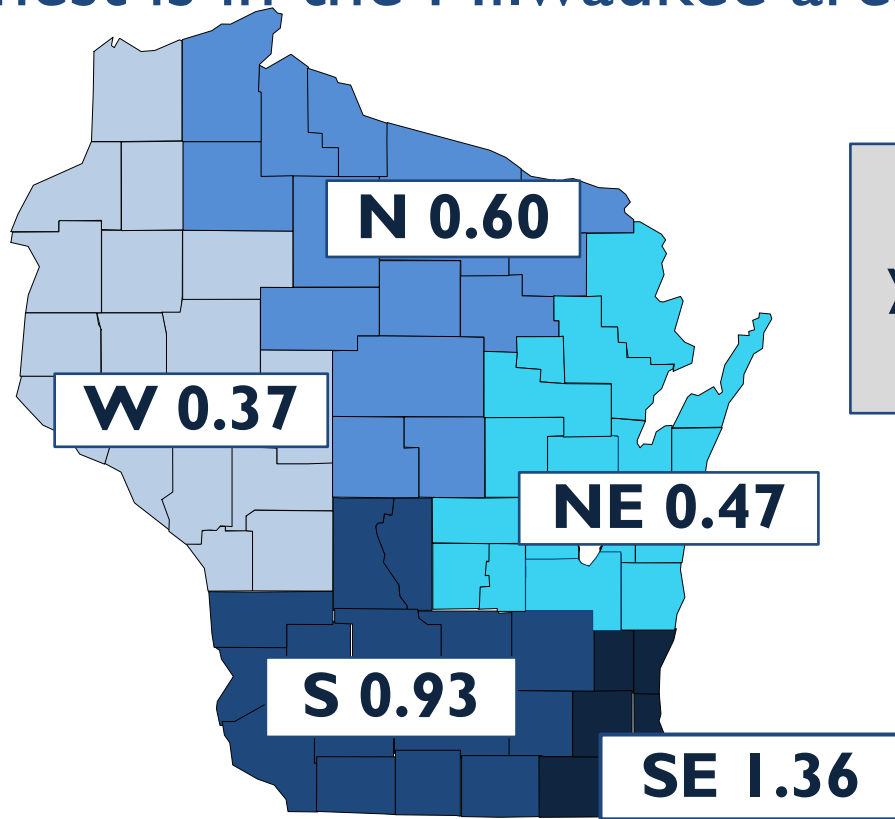
**US Born  
Rate\* 0.3**

\*Rates per 100,000  
population calculated using  
US Census Bureau  
American Community  
Survey population estimates

# The incidence rate for non-US born people is significantly higher than US born people



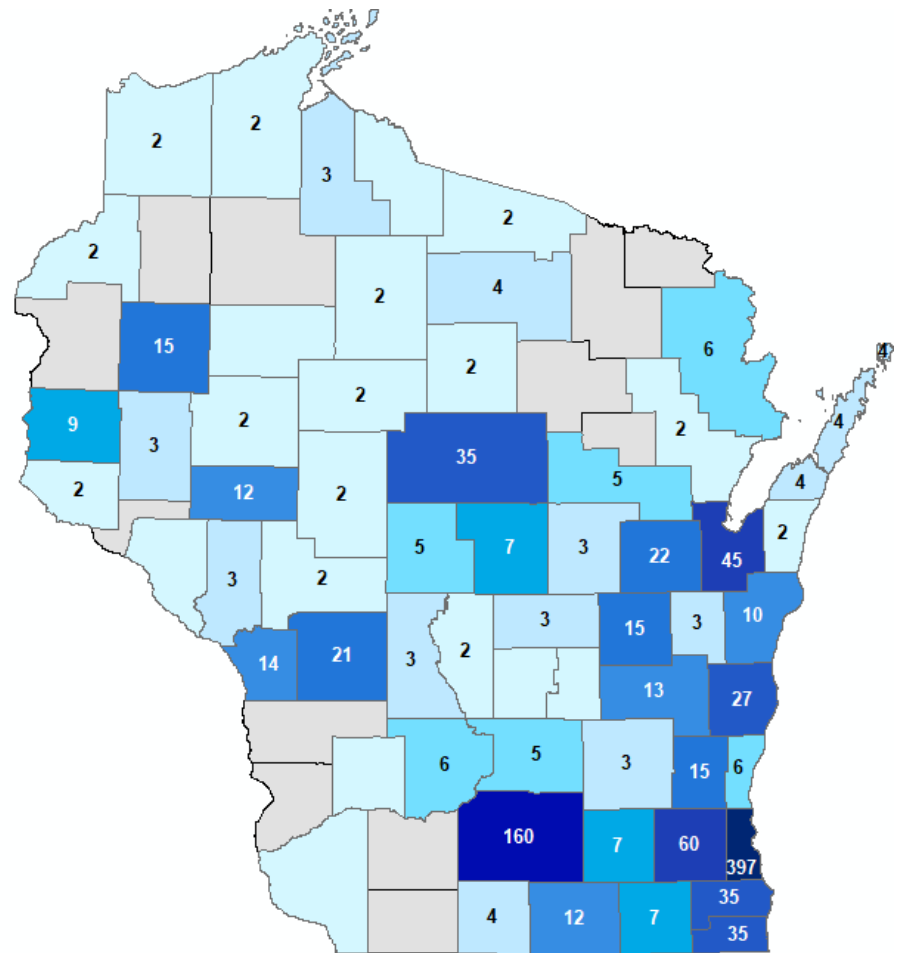
# Incidence rate by state public health region varies, the highest is in the Milwaukee area



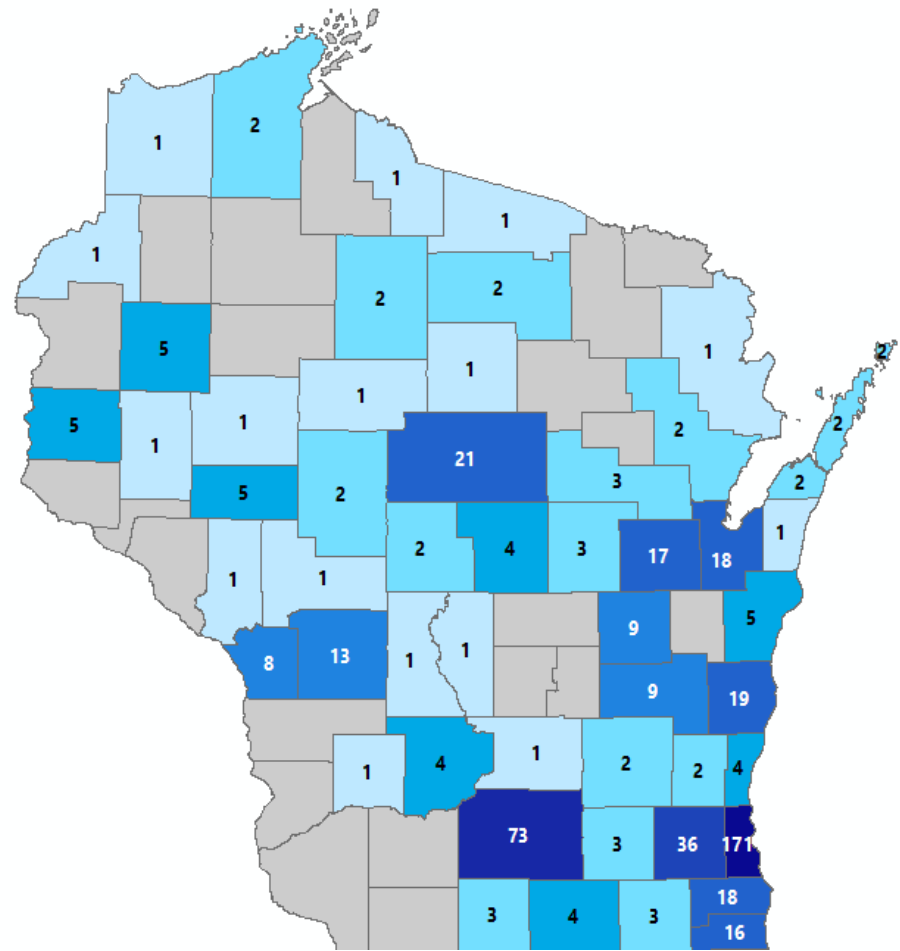
Average 10-year incidence rate\*: 0.87

\*Rates per 100,000 population on this slide calculated using Wisconsin DOA annual population estimates

# Cases per WI County 2005- 2022

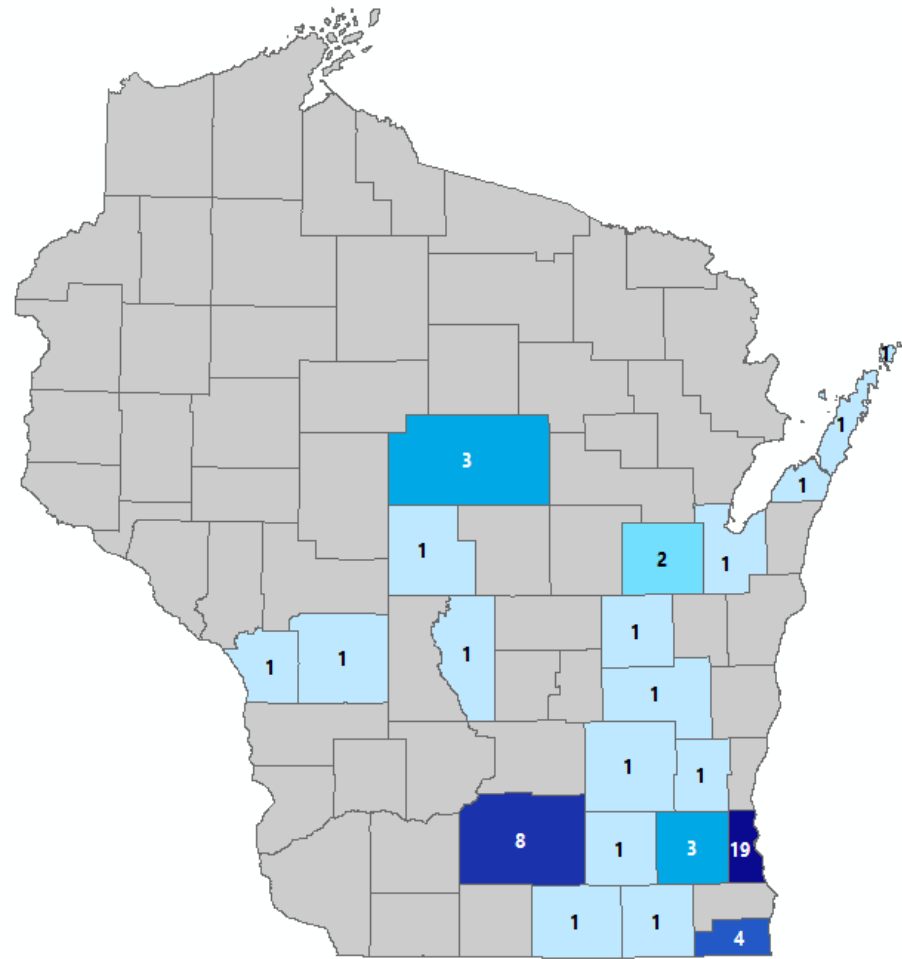


# Cases per WI County 2013- 2022

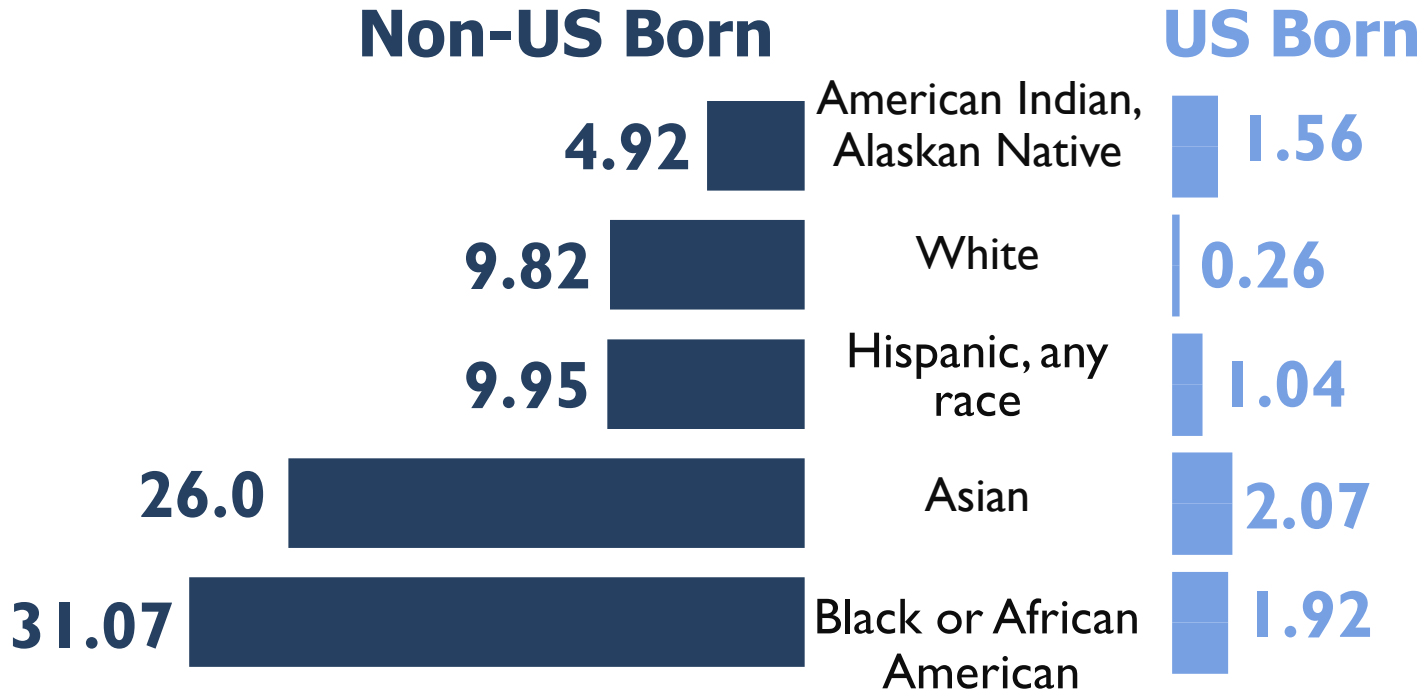




# Cases per WI County 2022

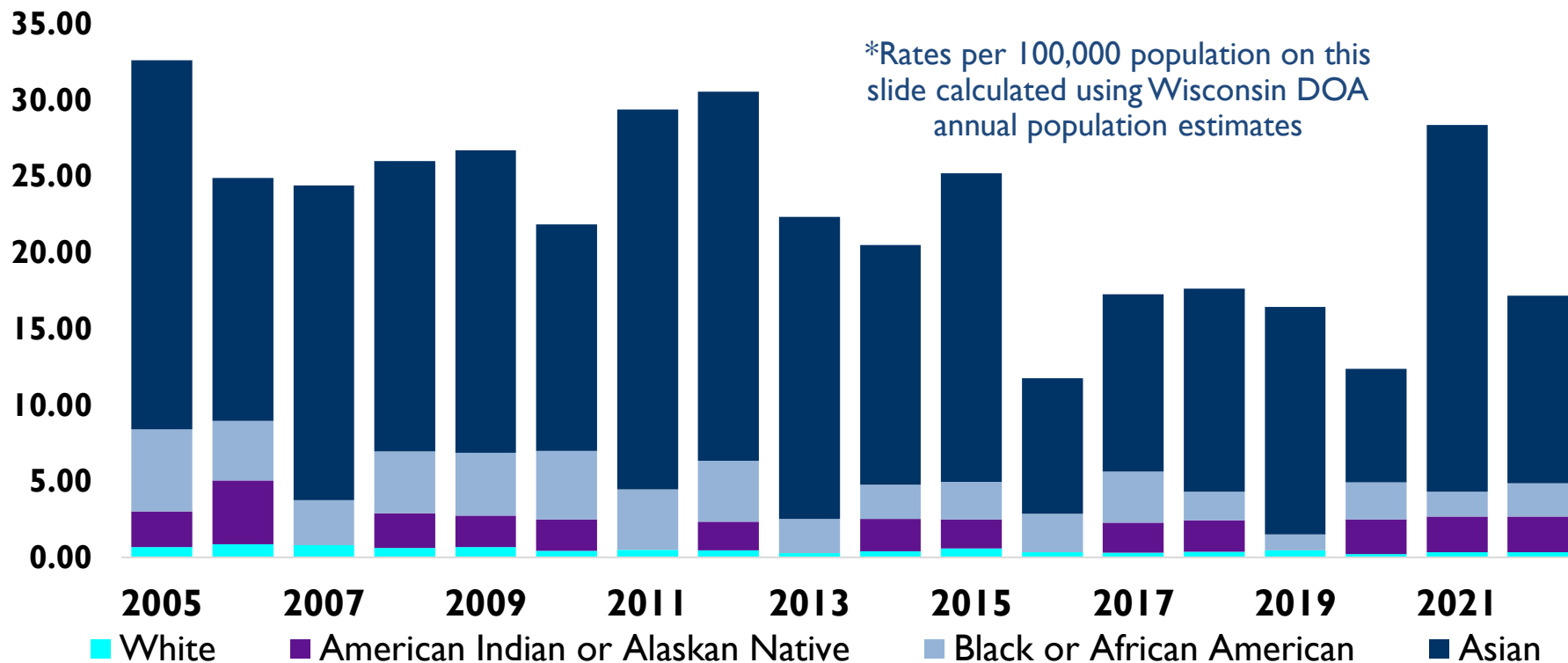


# Rates by race and ethnicity are higher in those not born in the US, 2005–2022

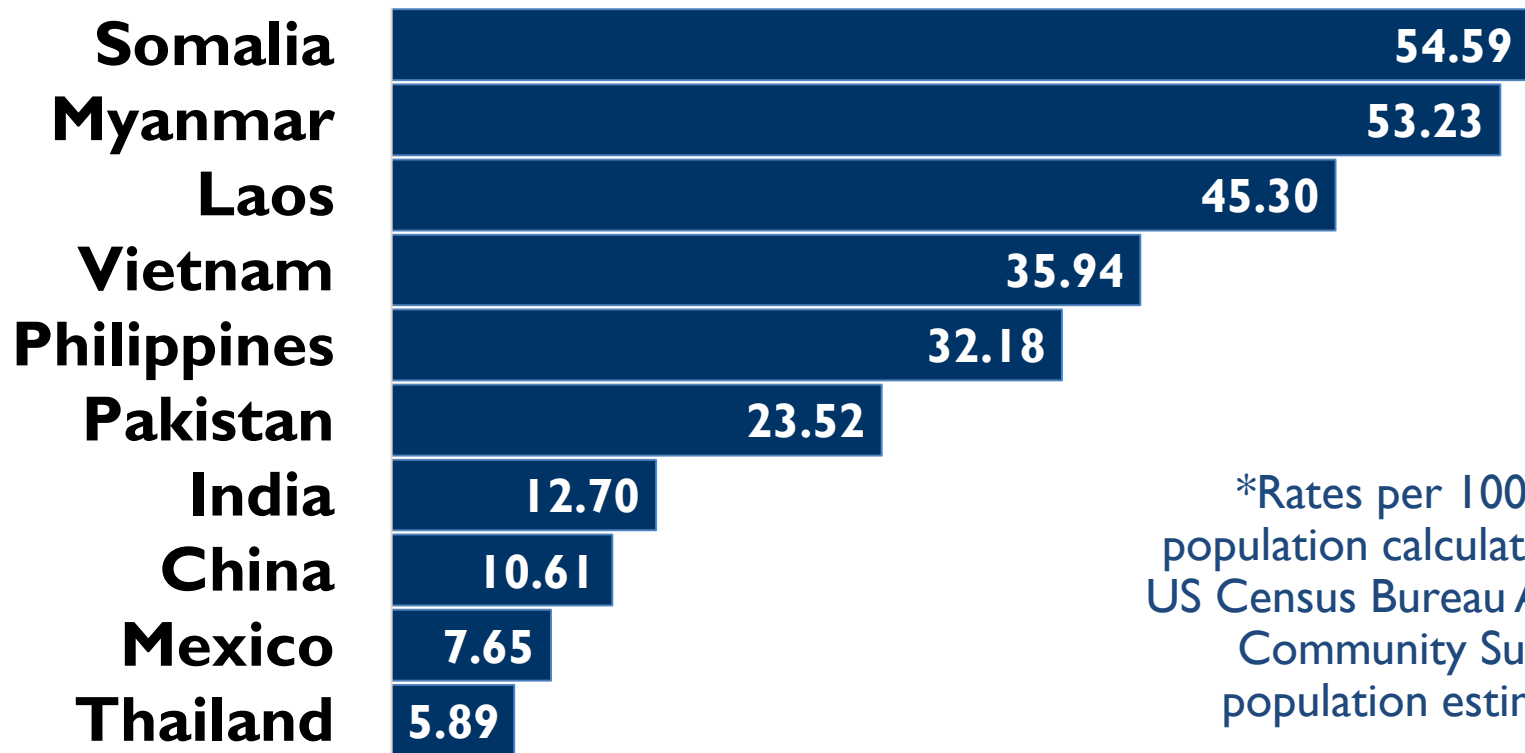


\*Rates per 100,000  
population calculated using  
US Census Bureau  
American Community  
Survey population estimates

# The rate\* of TB regardless of country of birth is highest in those identifying as Asian



# Somalia, Myanmar, and Laos have the highest rates by country of birth, 2017–2022

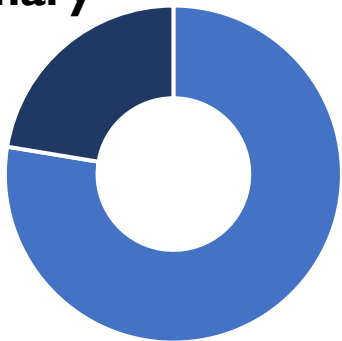


\*Rates per 100,000  
population calculated using  
US Census Bureau American  
Community Survey  
population estimates

# More non-US born people had extrapulmonary TB than US born people, 2005-2022

## US born

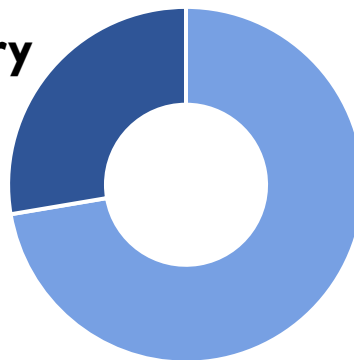
Extrapulmonary  
22%



Pulmonary  
78%

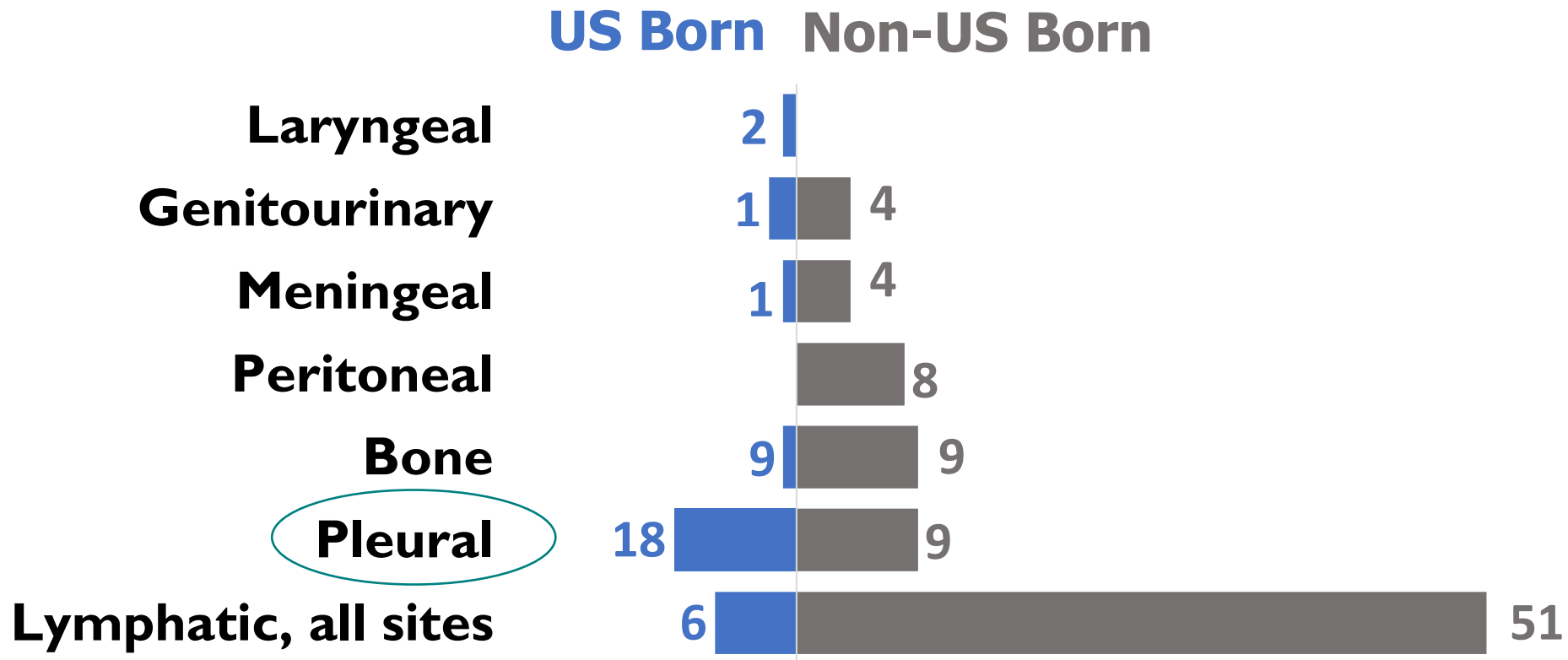
## Non-US born

Extrapulmonary  
28%

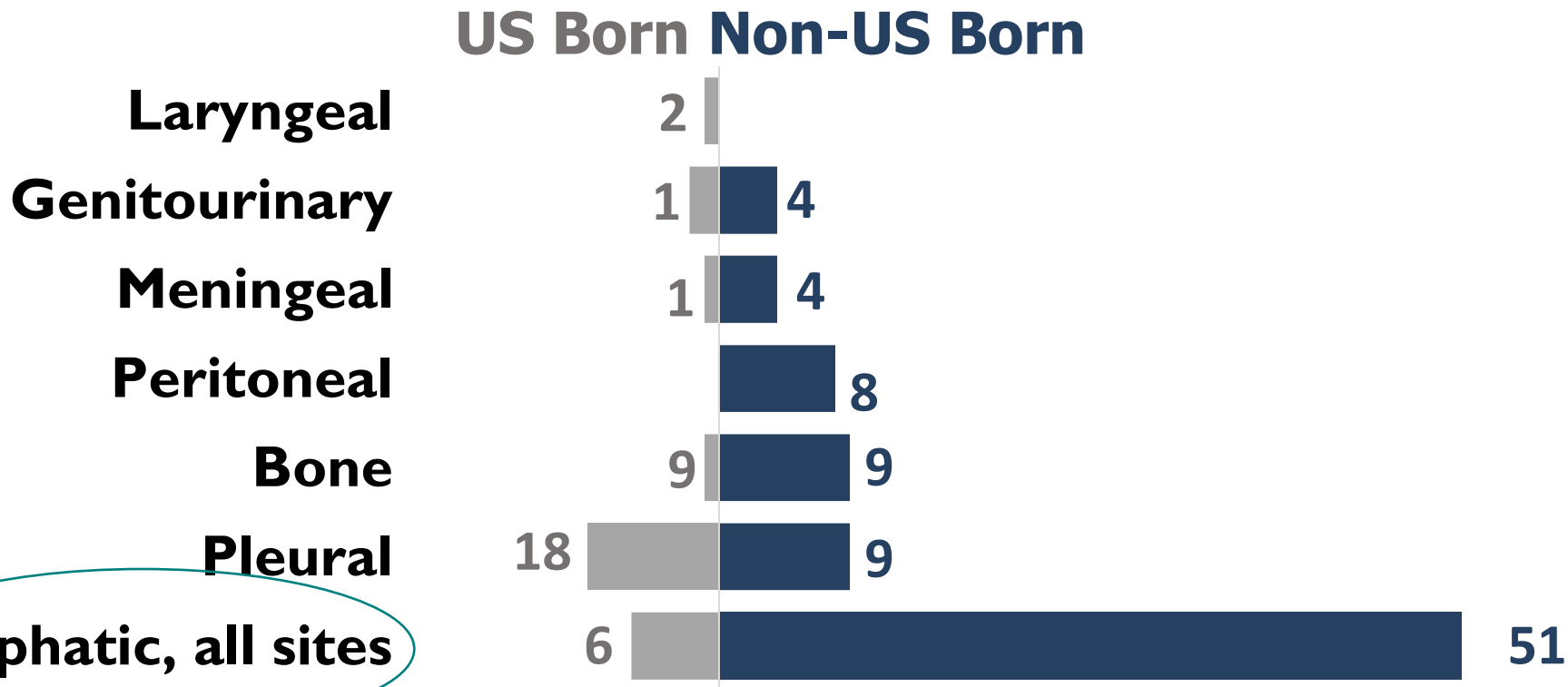


Pulmonary  
72%

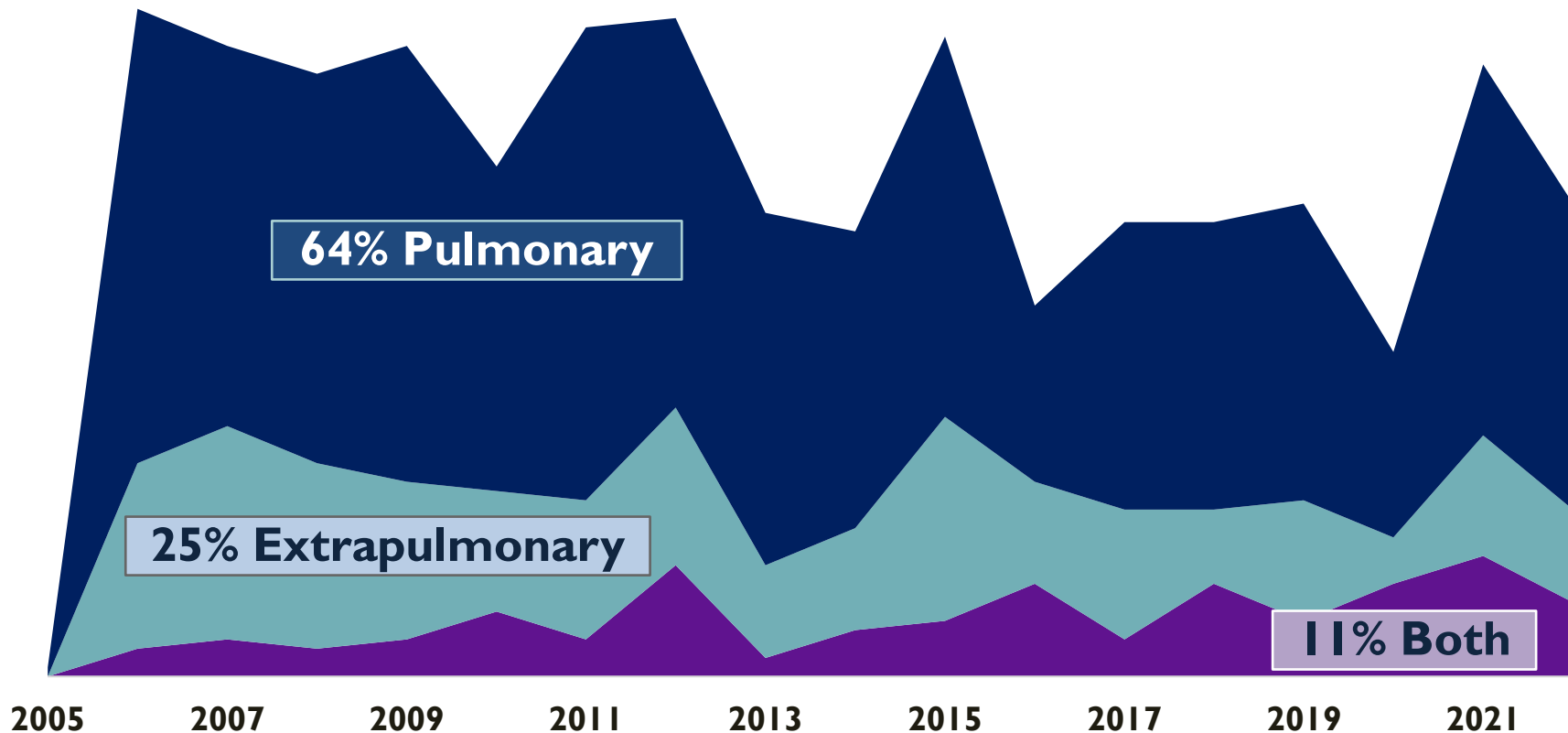
# Pleural TB is the most common EPTB location for those born in the US, 2013–2022



# Lymphatic TB is the most common EPTB location for those not born in the US, 2013–2022

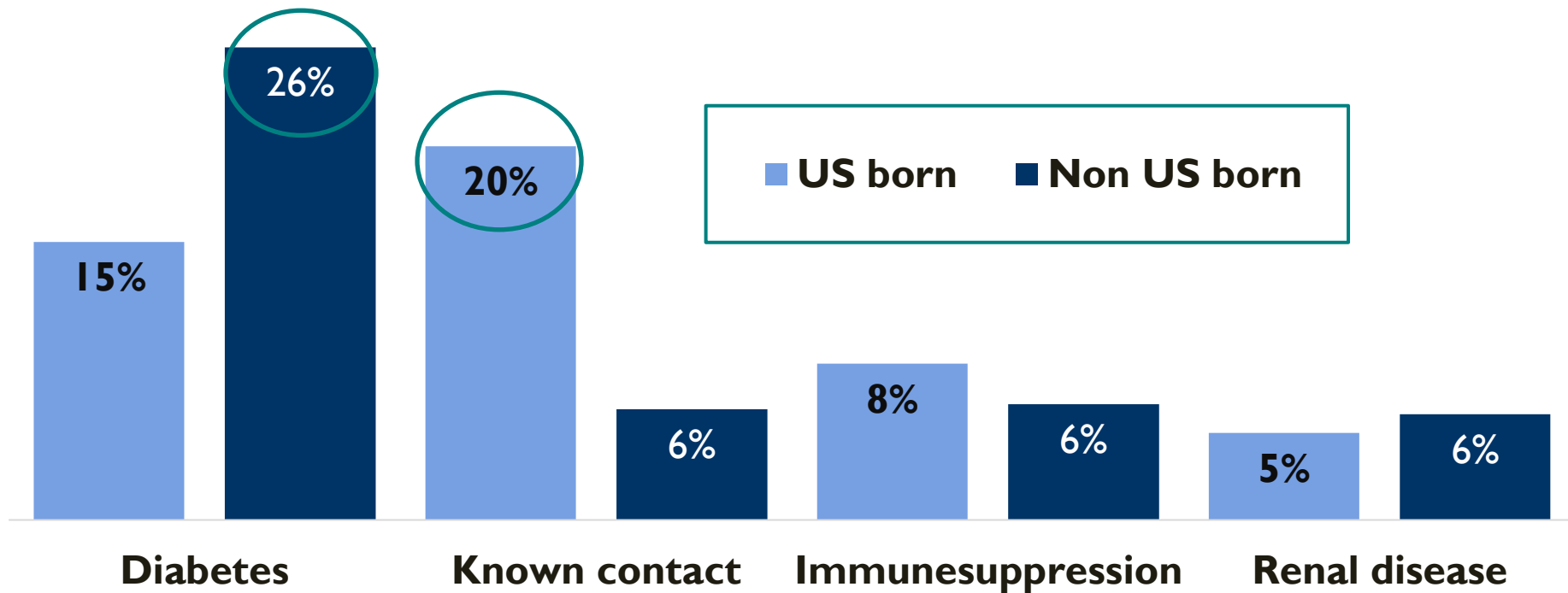


# Most people with TB had pulmonary involvement alone





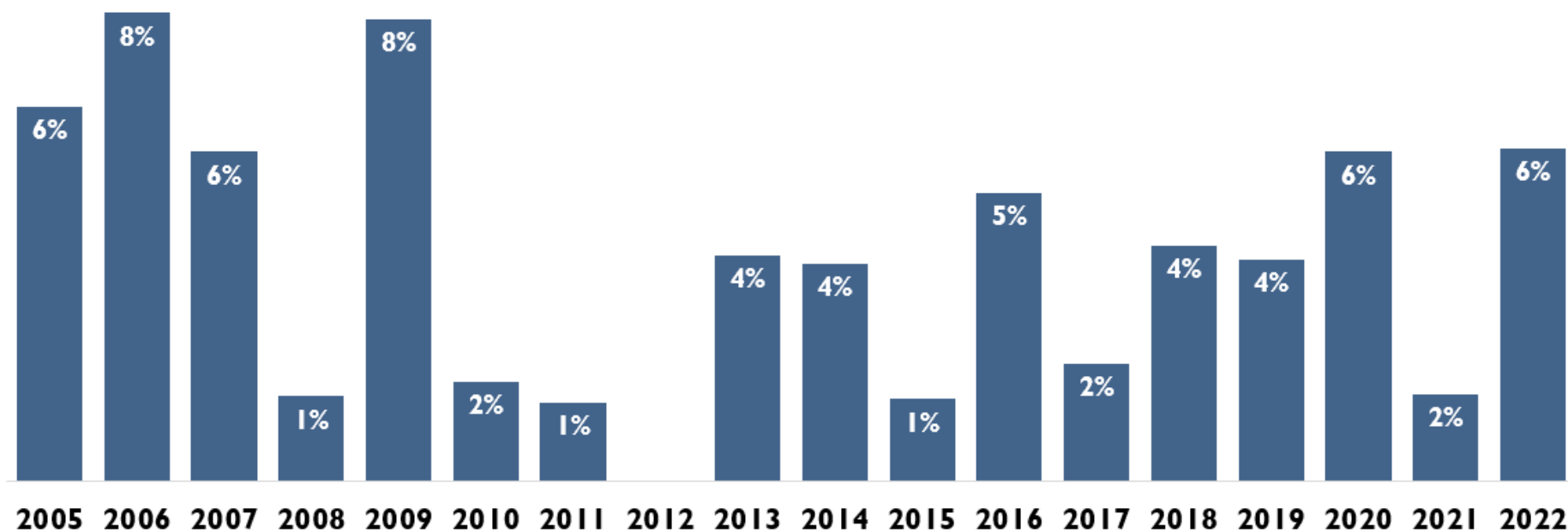
# Risk factors vary by US or non-US born individuals 2005–2022



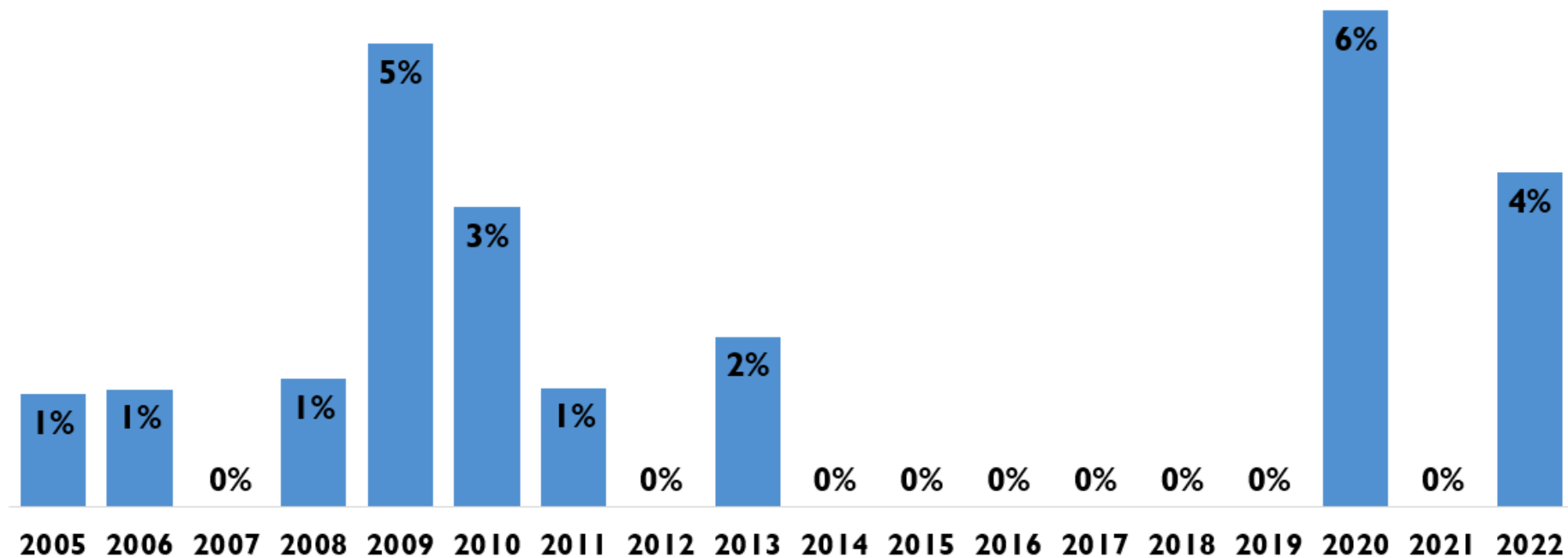
# Housing and Living Situation



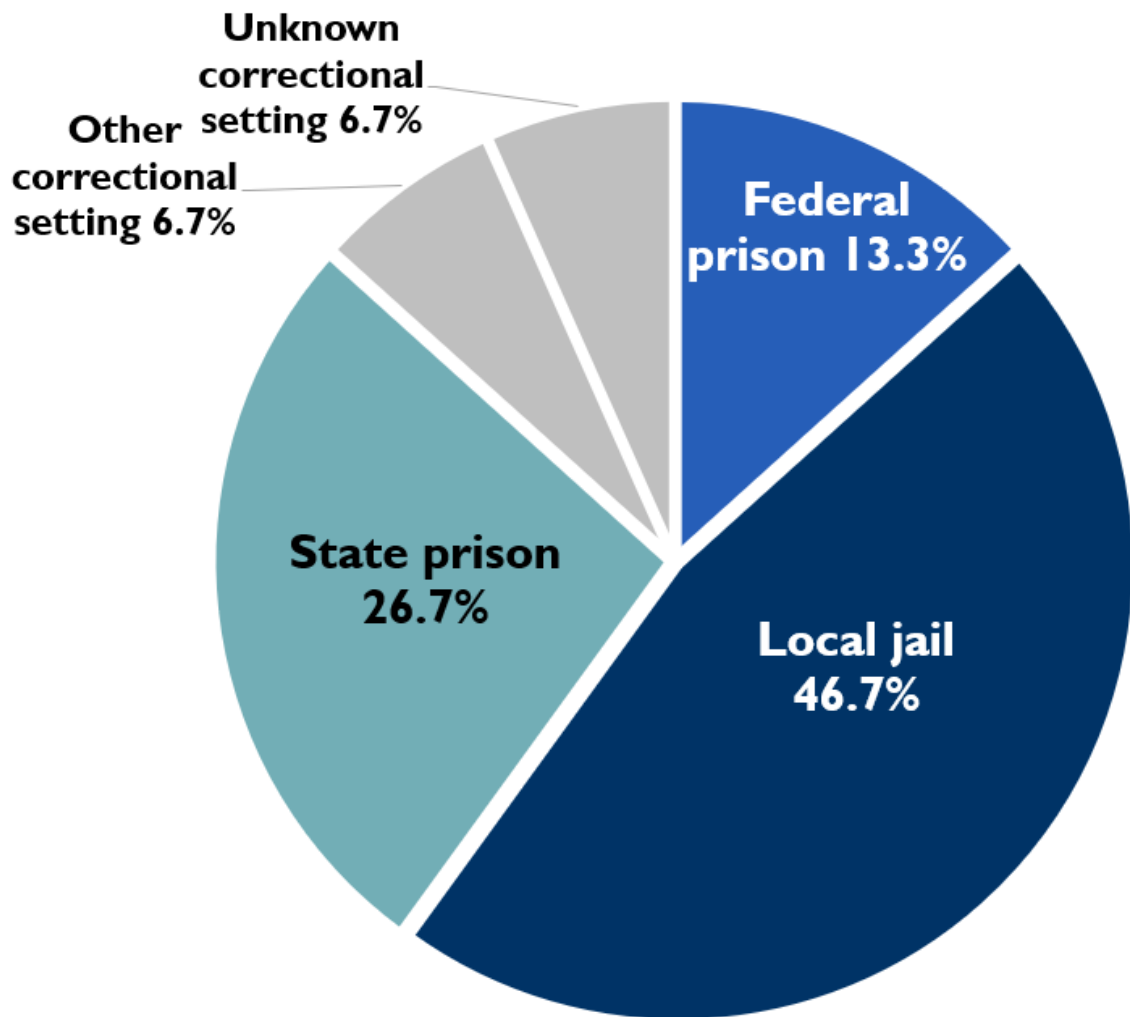
## 3.9% of people with TB reported recent or current housing instability



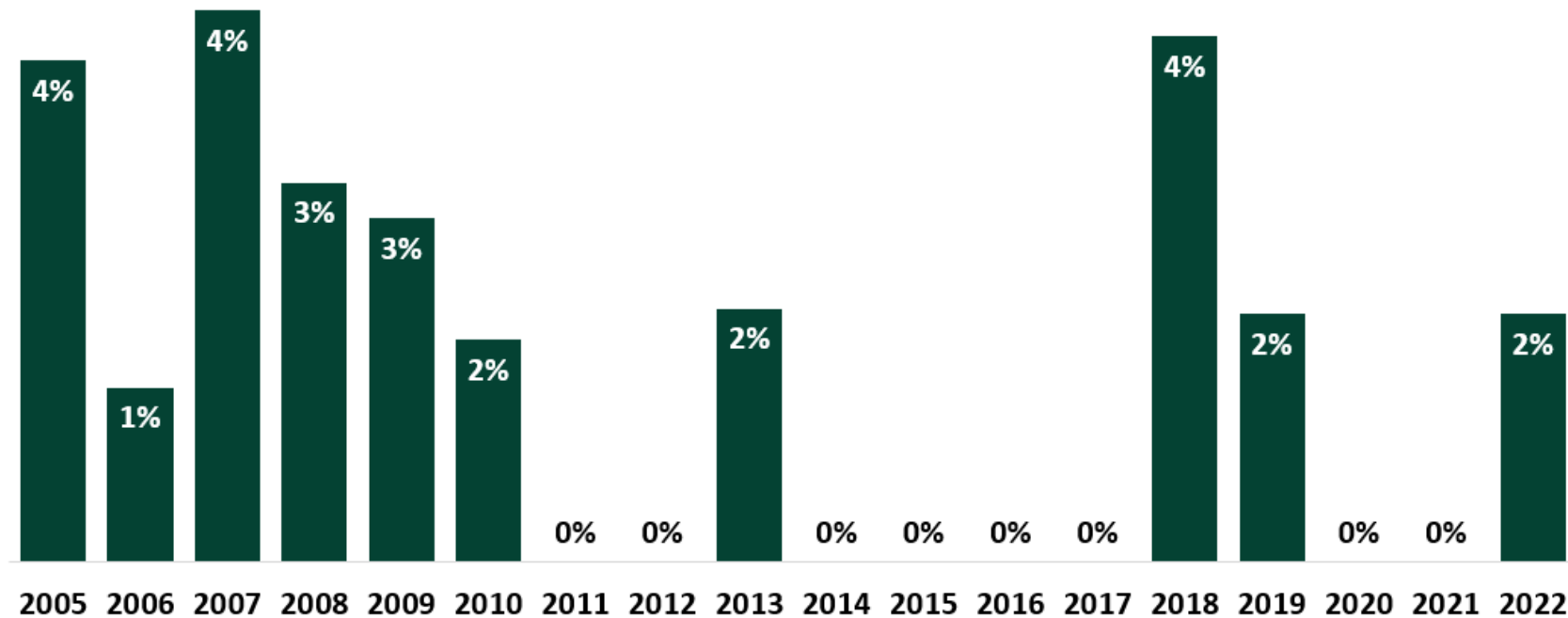
The percent of **people with TB residing in correctional settings** at time of diagnostic workup is **low**



# Percent of people with TB by correctional facility type 2005-2022



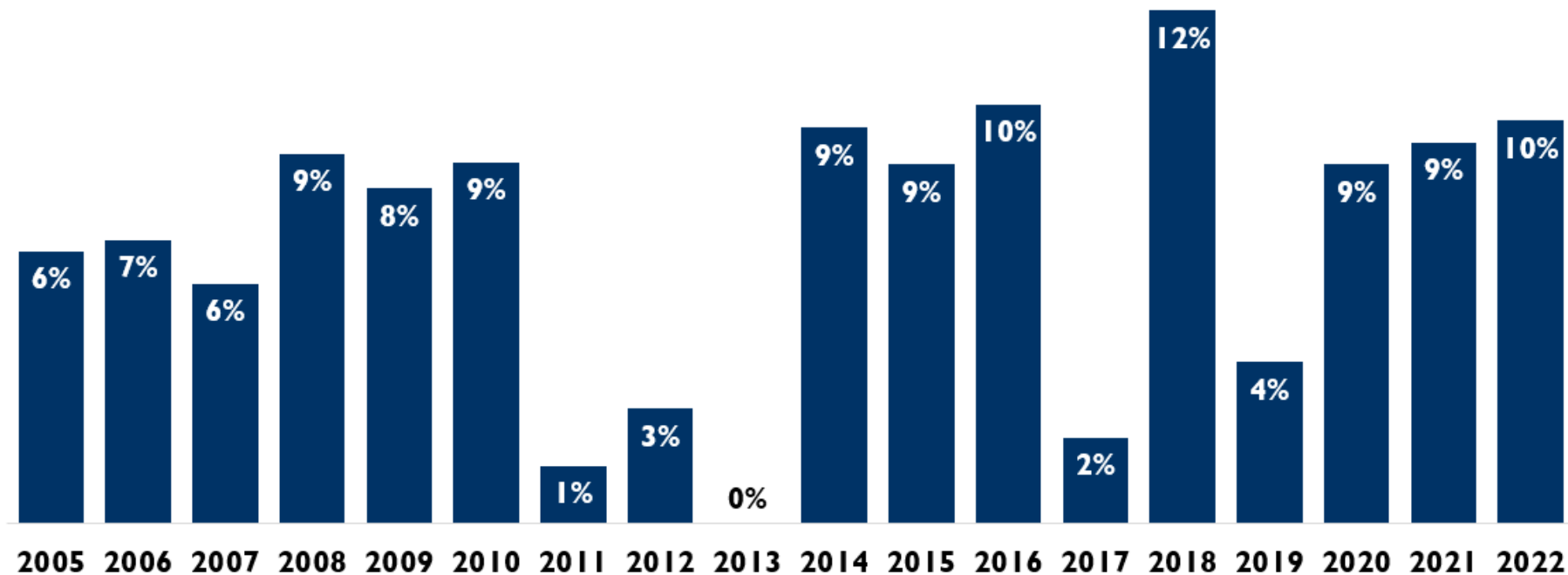
## People with TB residing in LTCFs at time of diagnostic evaluation has remained low



# Mortality Review

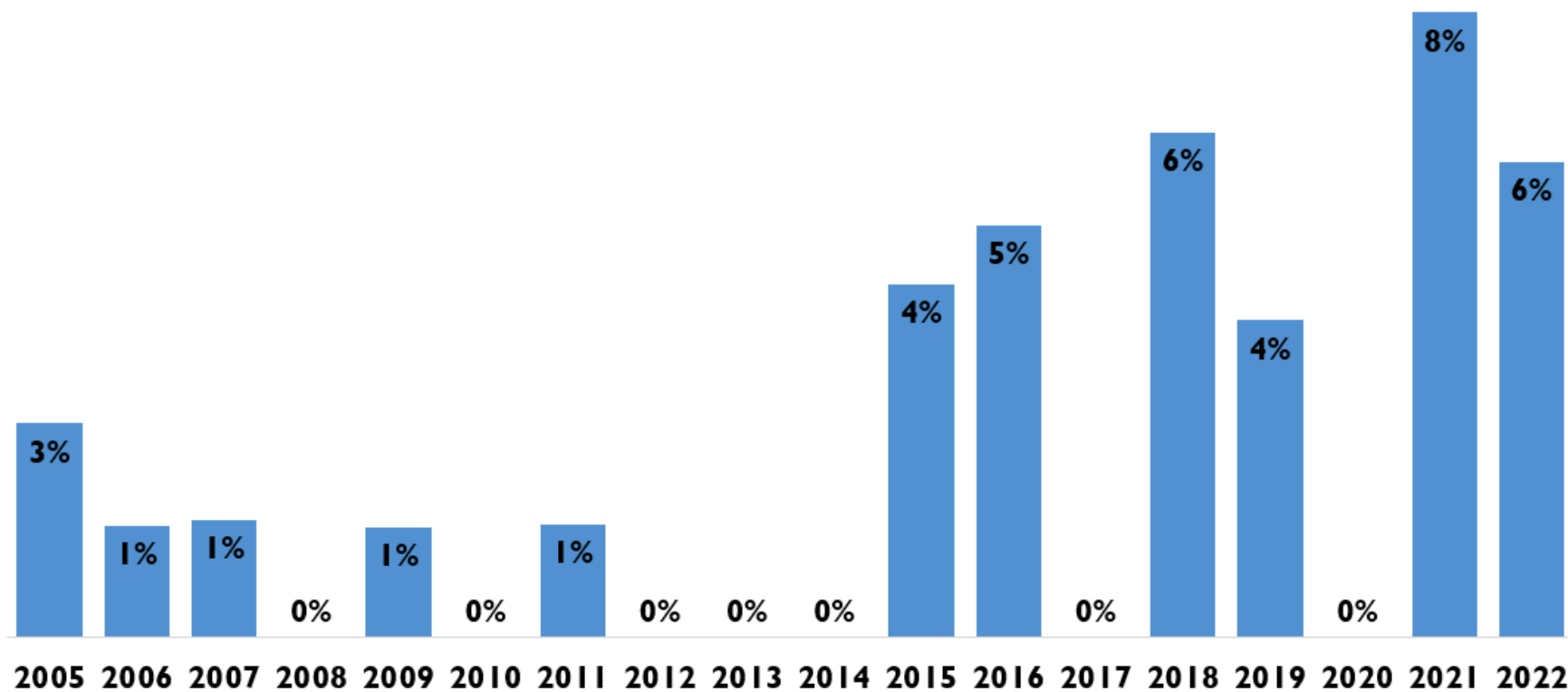


An average of **four people with TB died from TB** disease or therapy each year (2005-2022), averaging **6.6%** per year.

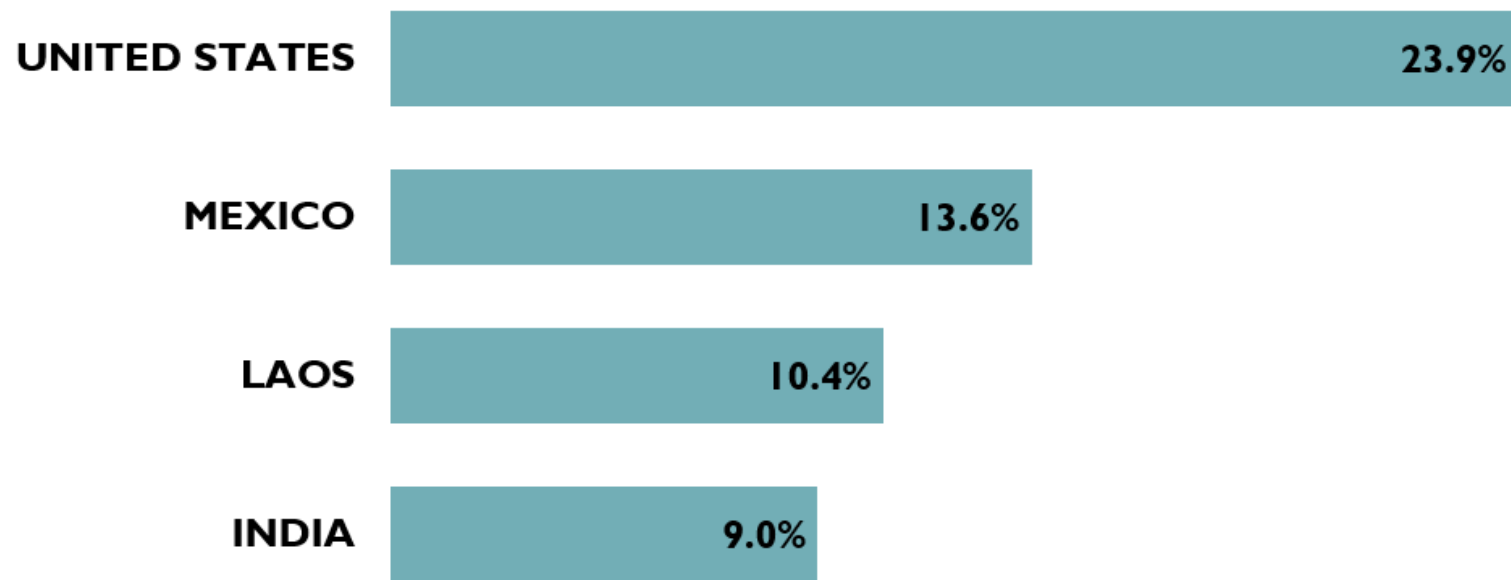




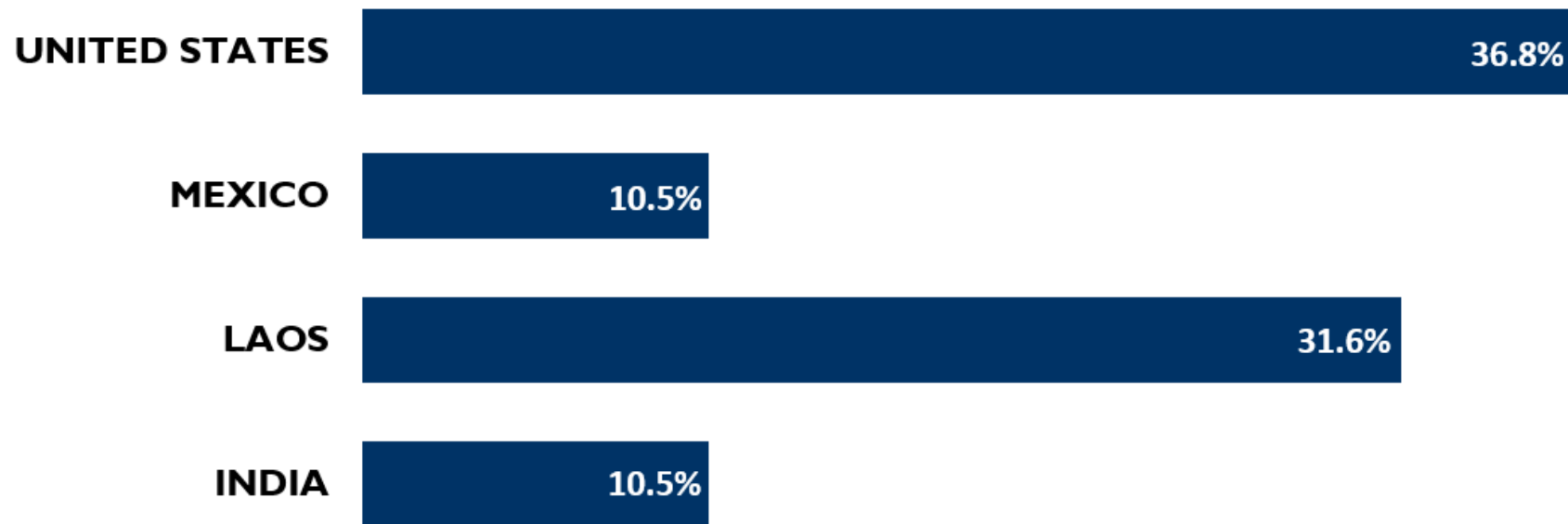
An average of **one person died before being diagnosed** with TB each year (2005-2022), averaging **2.2%** per year.



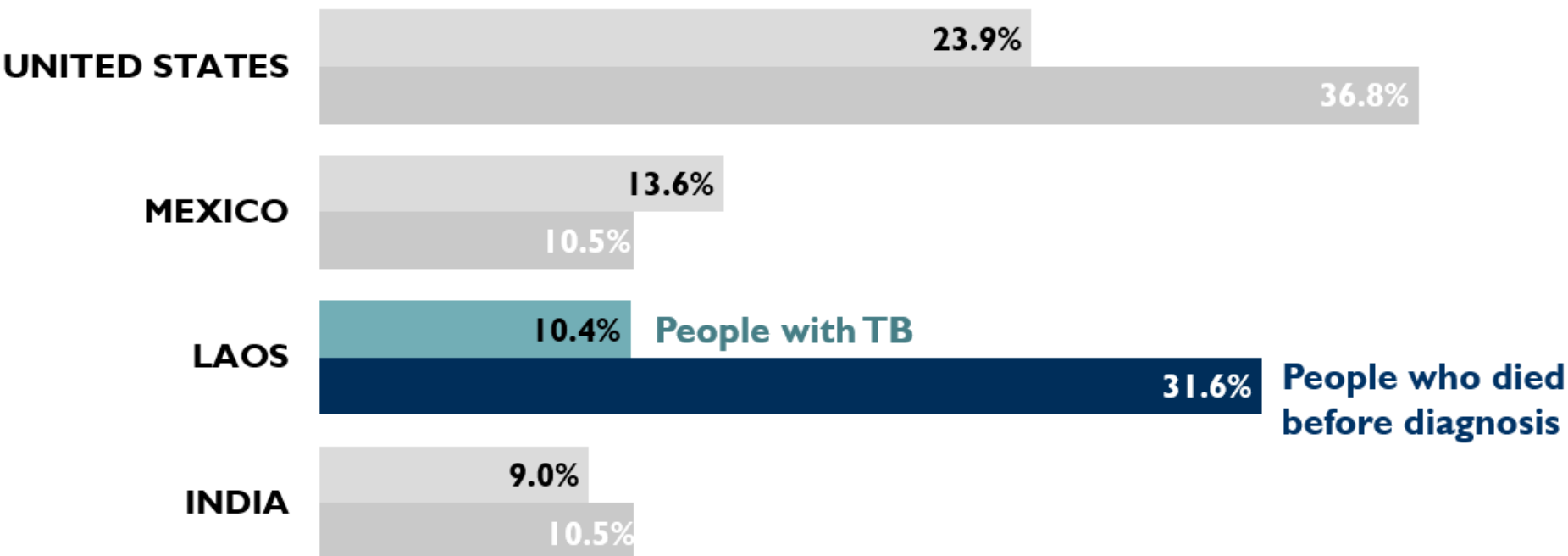
## Percent of people with TB **by country of birth** (2009-2022)



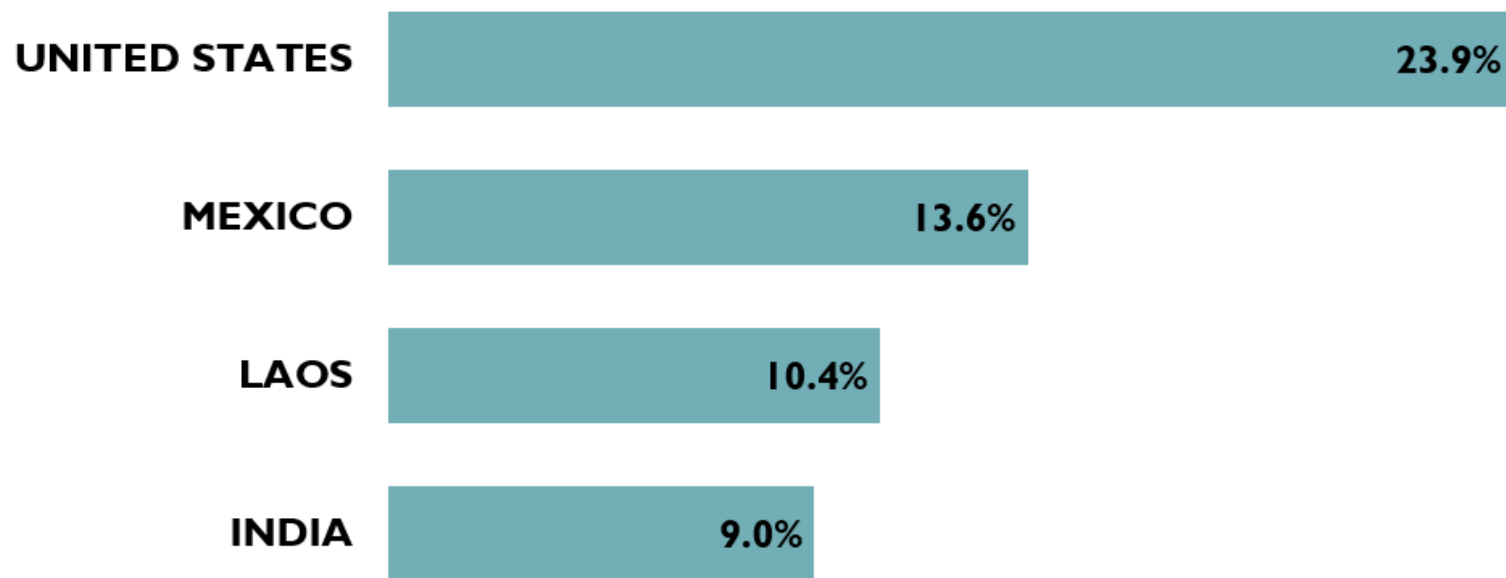
## Percent of **people with TB who died prior to diagnosis** by country of birth (2009-2022)



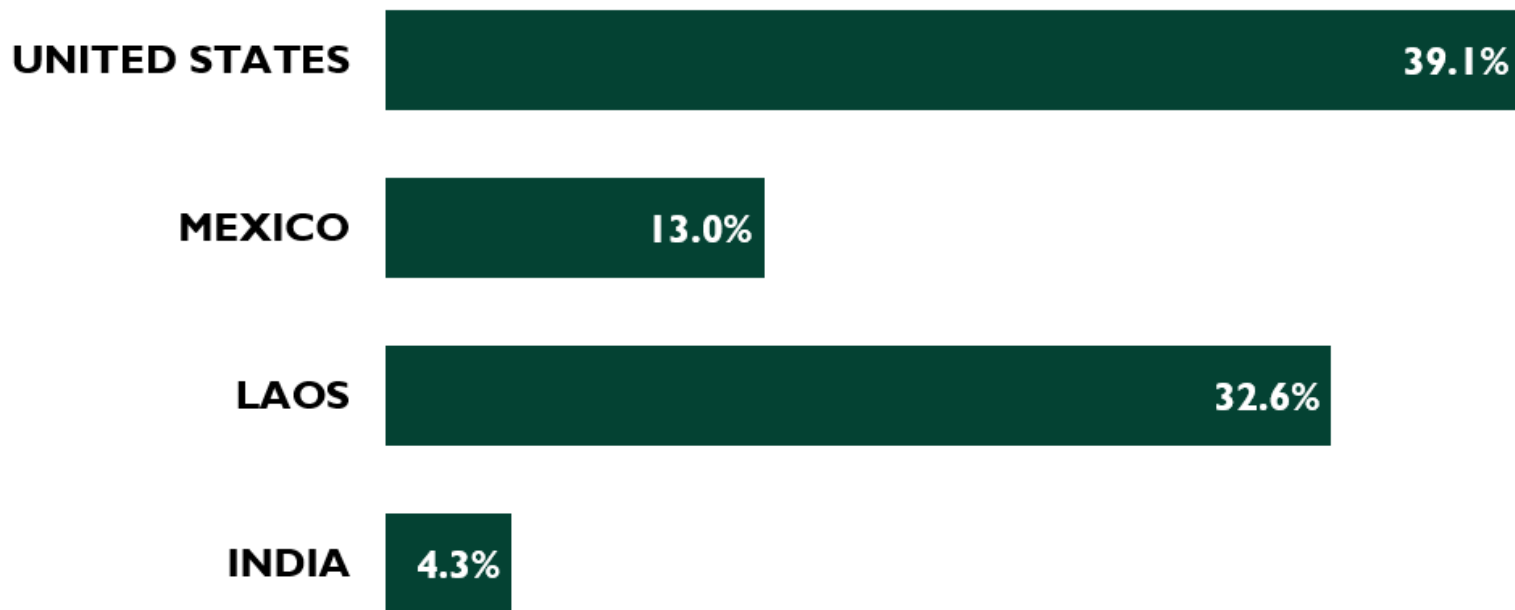
People from **Laos** are **diagnosed with TB postmortem at a disproportionate rate** compared to other countries.



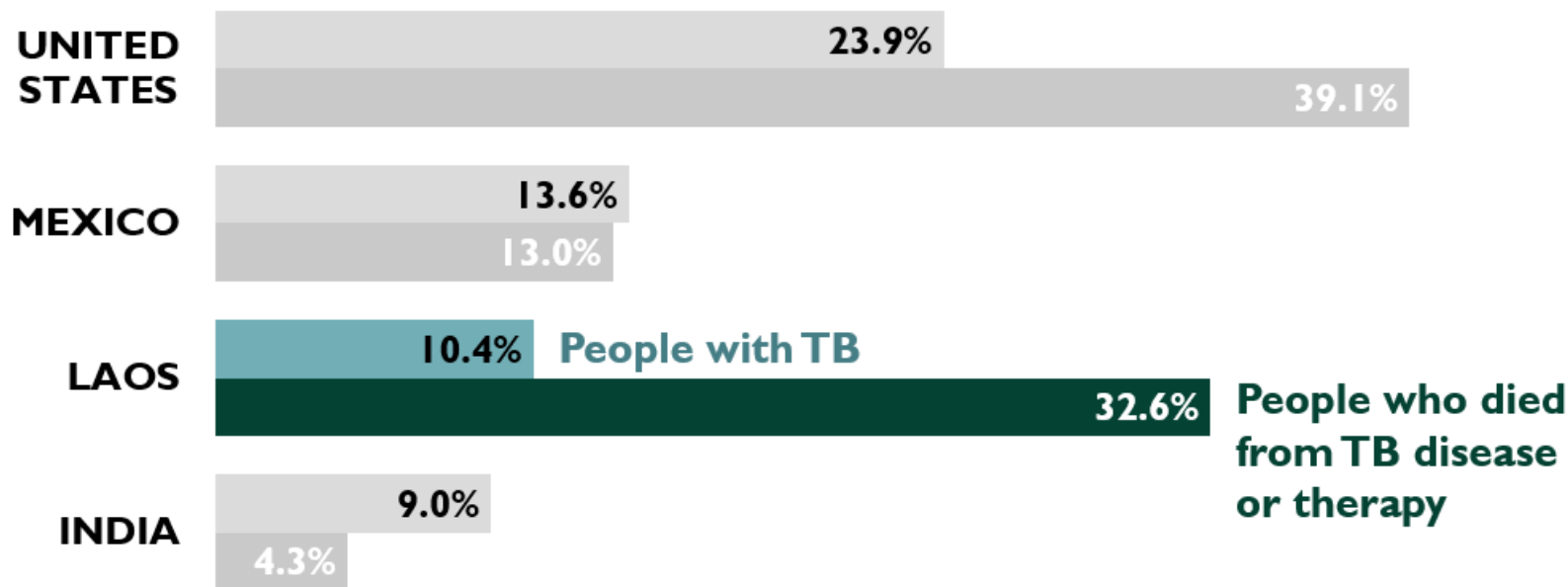
## Percent of people with TB **by country of birth** (2009-2022)



Percent of Wisconsin TB cases by country of birth that **died from TB disease or therapy** (2009-2022)



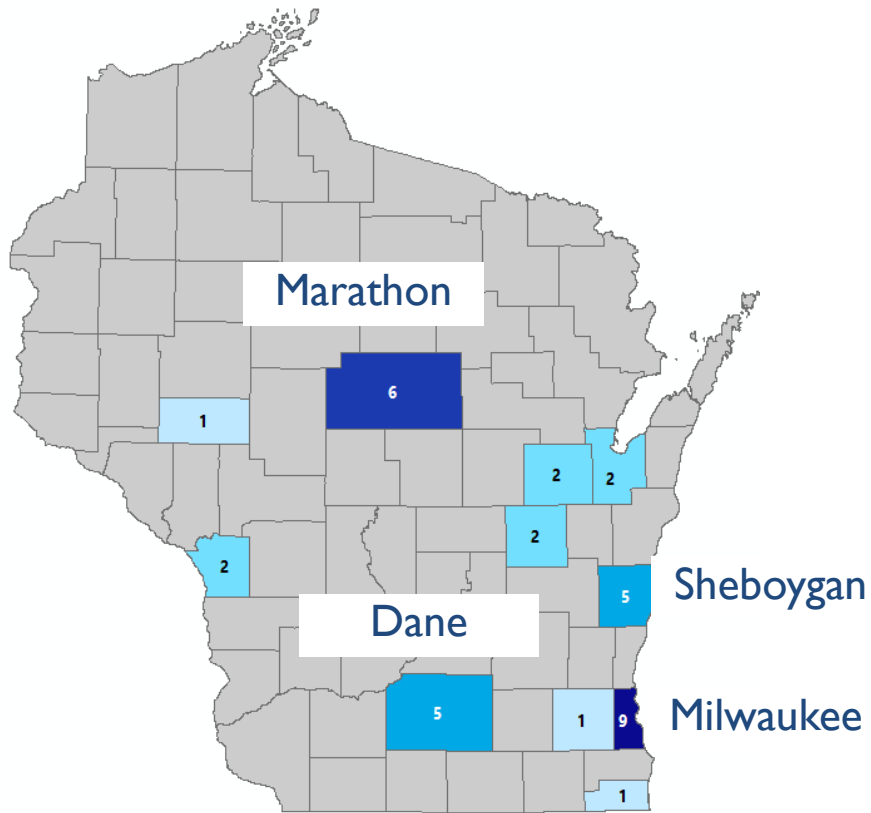
People from **Laos** are **dying from TB disease or therapy** at a disproportionate rate compared to people born in other countries



# Multidrug Resistant TB





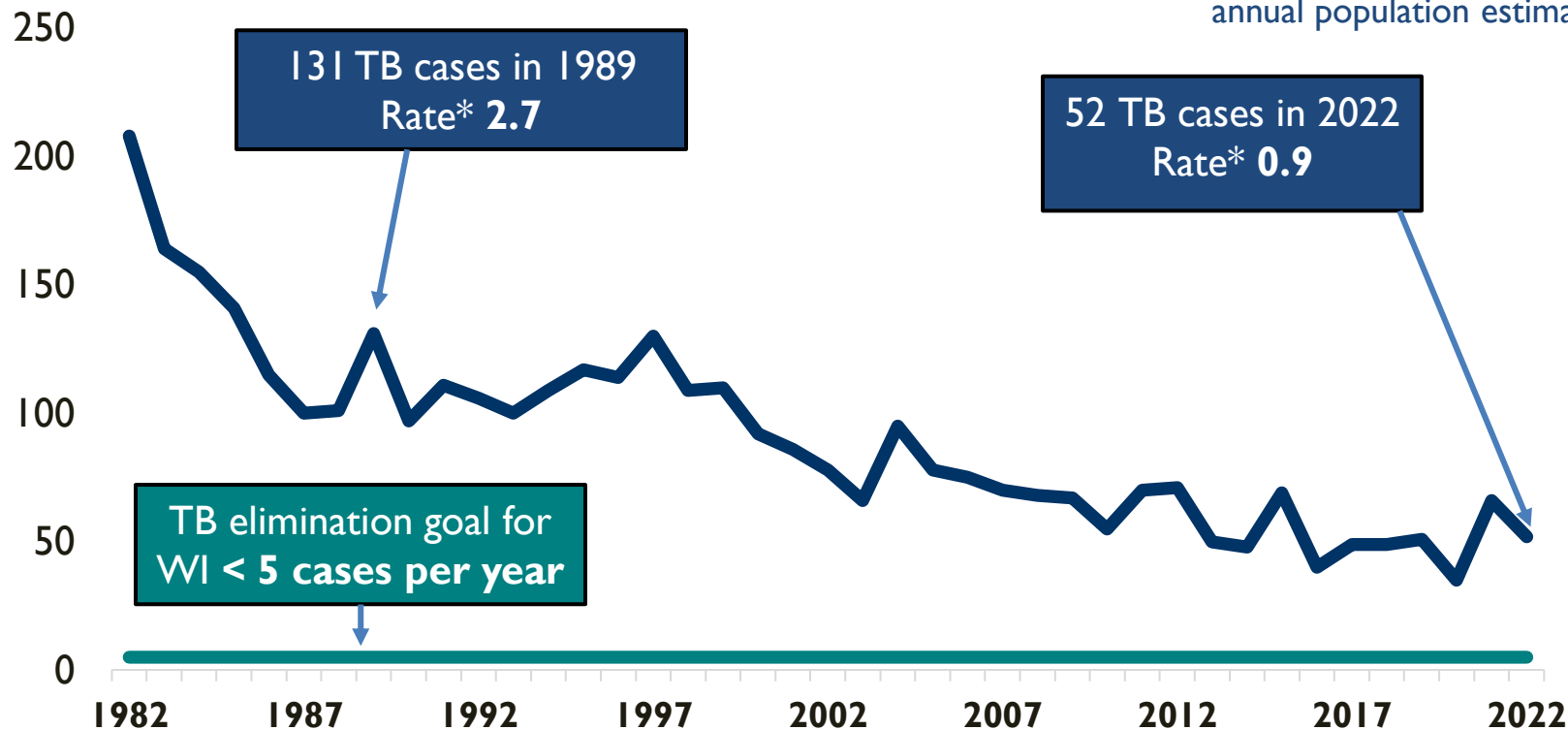


While MDR-TB makes up 3% of total cases, people with MDR-TB are concentrated in a few counties

# Progress Toward TB Elimination

## 1982–2022

\*Rates per 100,000 population on this slide calculated using Wisconsin DOA annual population estimates



# Contact info for questions

Thank you!

Wisconsin TB Program  
DHSWITBProgram@DHS.wisconsin.gov



## SESSION EVALUATION

Please complete the session evaluation using the QR Code or link below.

We appreciate your feedback!



<http://tinyurl.com/WITBApril2>