



Epidemiology of Tuberculosis

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June 10, 2025

TB Intensive • June 10 – 12, 2025 • Dallas, Texas



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Has the following disclosures to make:

- No conflict of interests
- No relevant financial relationships with any commercial companies pertaining to this activity





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Epidemiology of Tuberculosis

TB Intensive Training
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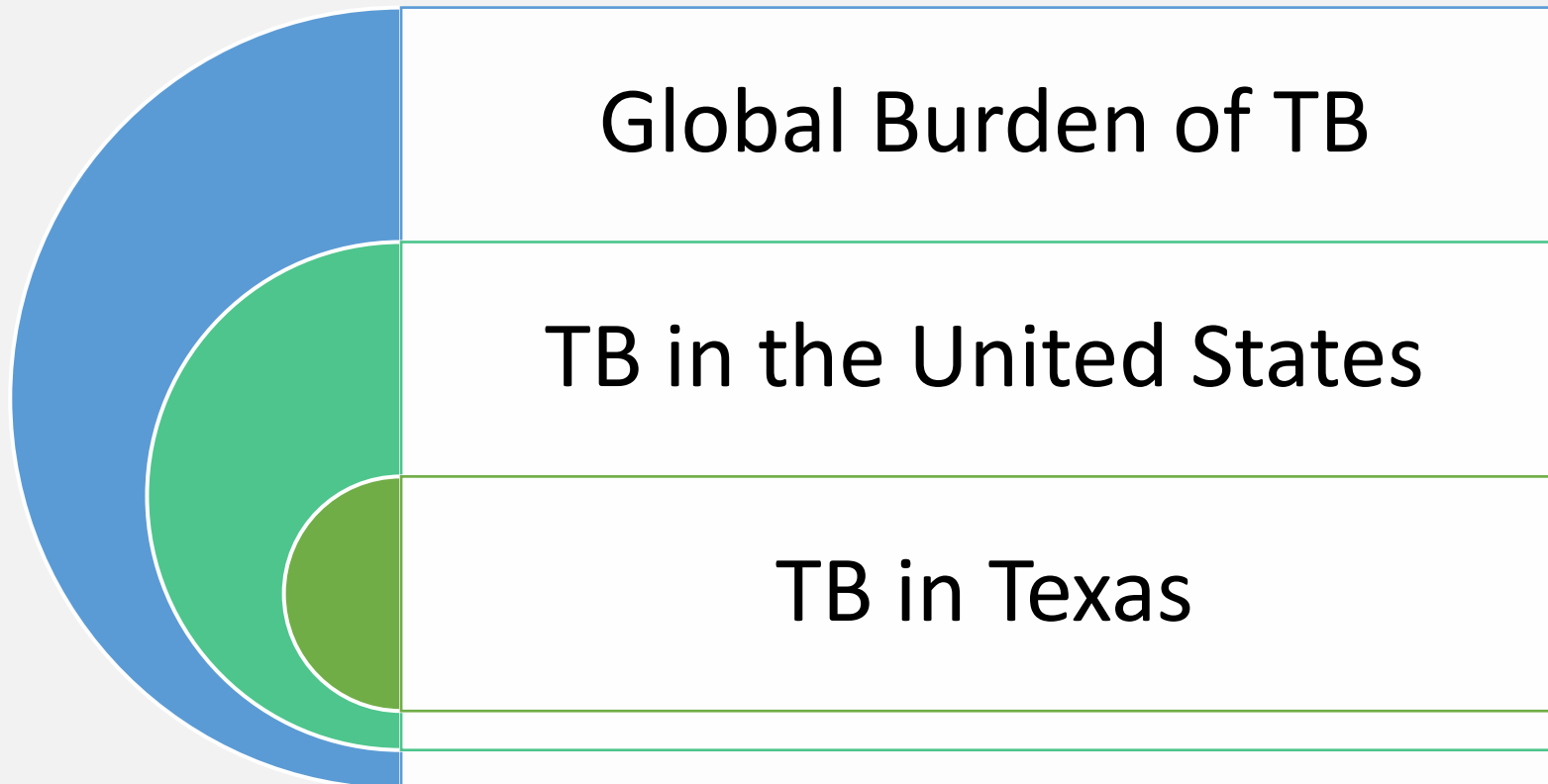
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Disclosures

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Objective

To describe the current epidemiology of tuberculosis (TB) globally, in the United States (U.S.), and in Texas.



Global Burden of TB



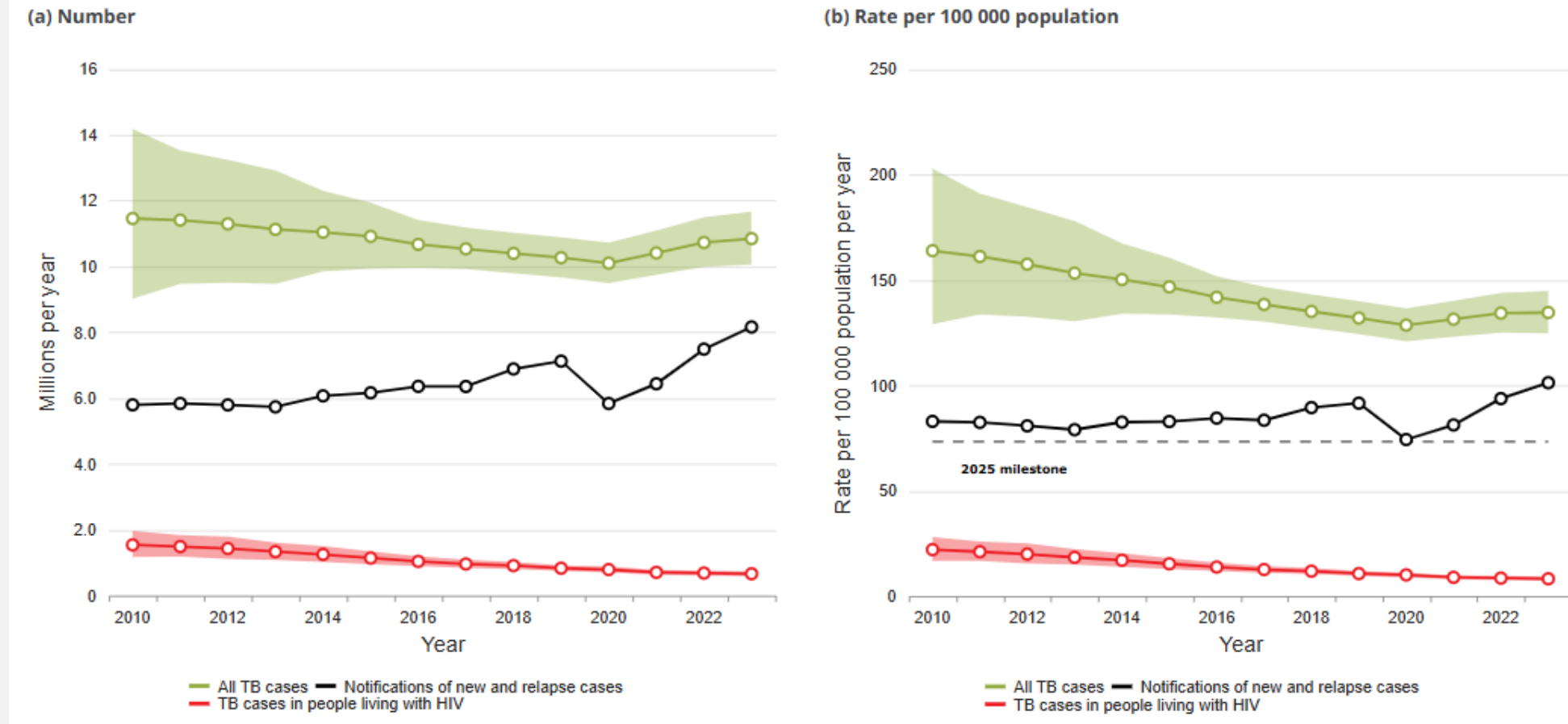
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Global Burden of TB

Fig. 1.1.1 Global trends in the estimated number of incident TB cases (a) and the incidence rate (b), 2010–2023

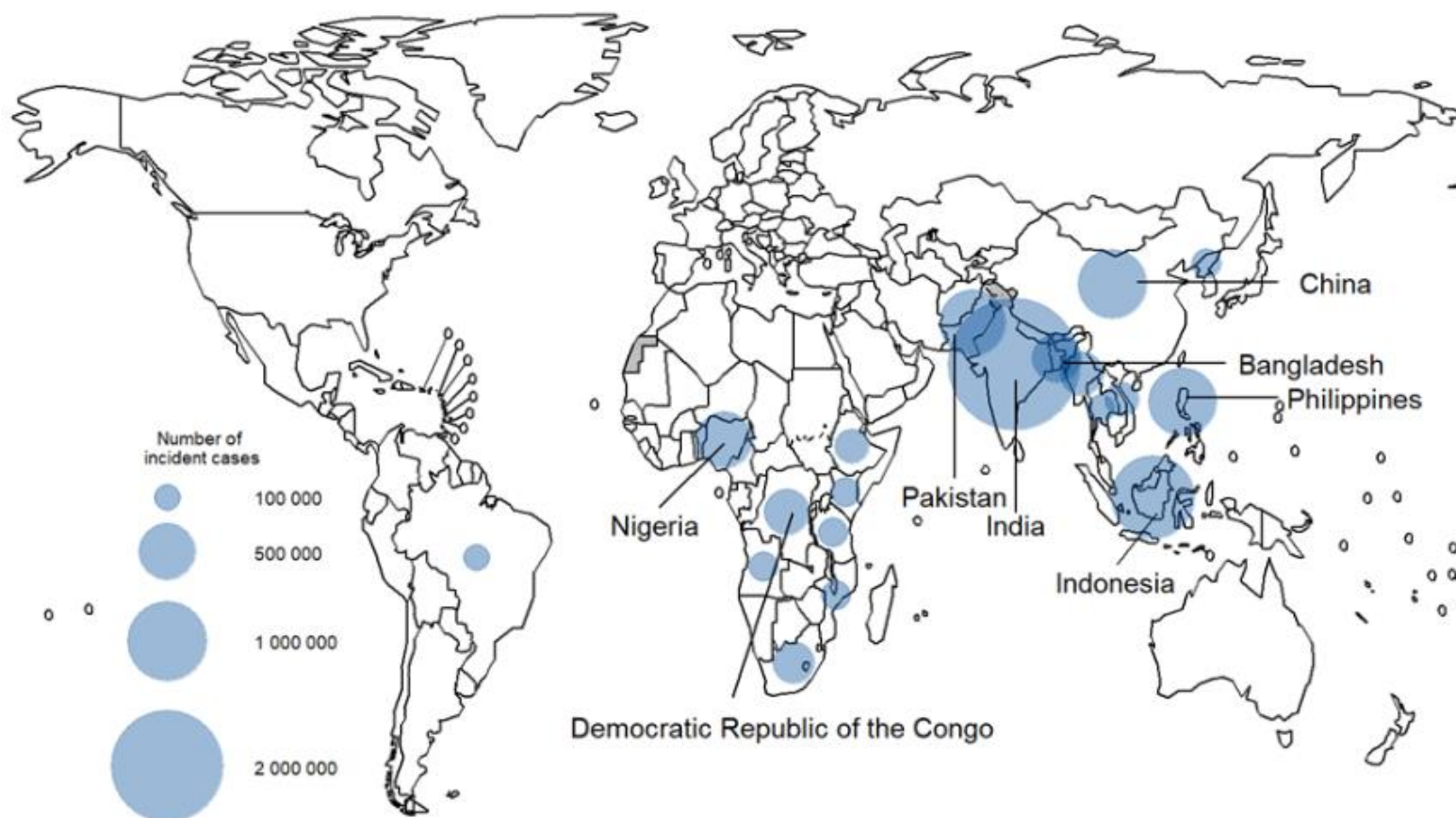
Shaded areas represent 95% uncertainty intervals. The horizontal dashed line shows the 2025 milestone of the End TB Strategy, which is a 50% reduction in the TB incidence rate between 2015 and 2025.



- **8.2 million newly diagnosed cases of TB globally in 2023**

Global Distribution of TB

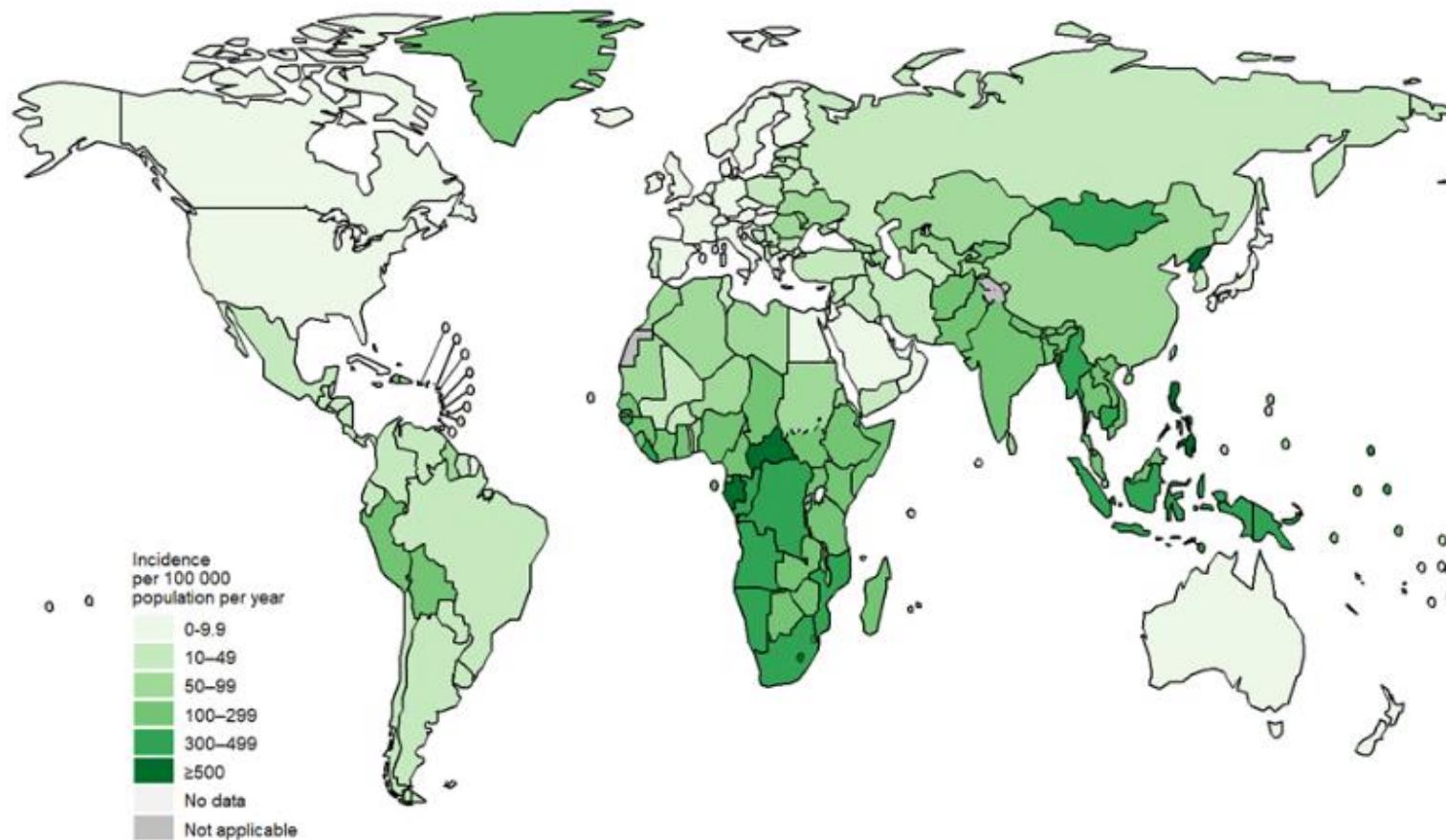
Fig. 1.1.2 Estimated number of incident TB cases in 2023, for countries with at least 100 000 incident cases



TB Incident Rates

Global Perspective

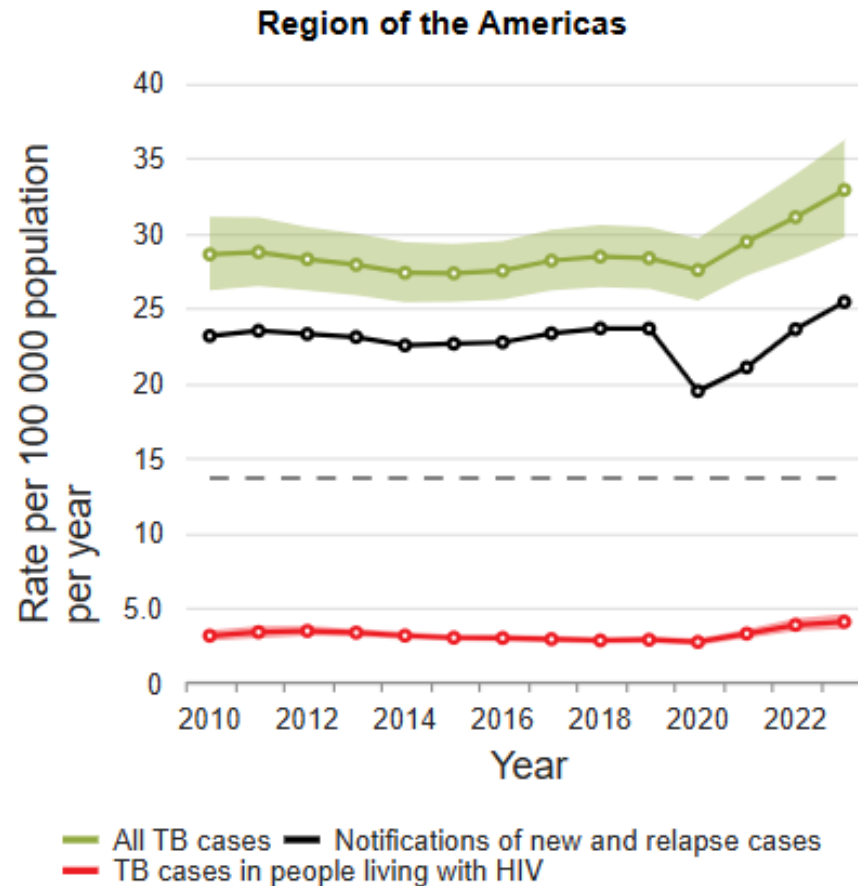
Fig. 1.1.3 Estimated TB incidence rates, 2022



Post Pandemic TB Incidence

Global Perspective

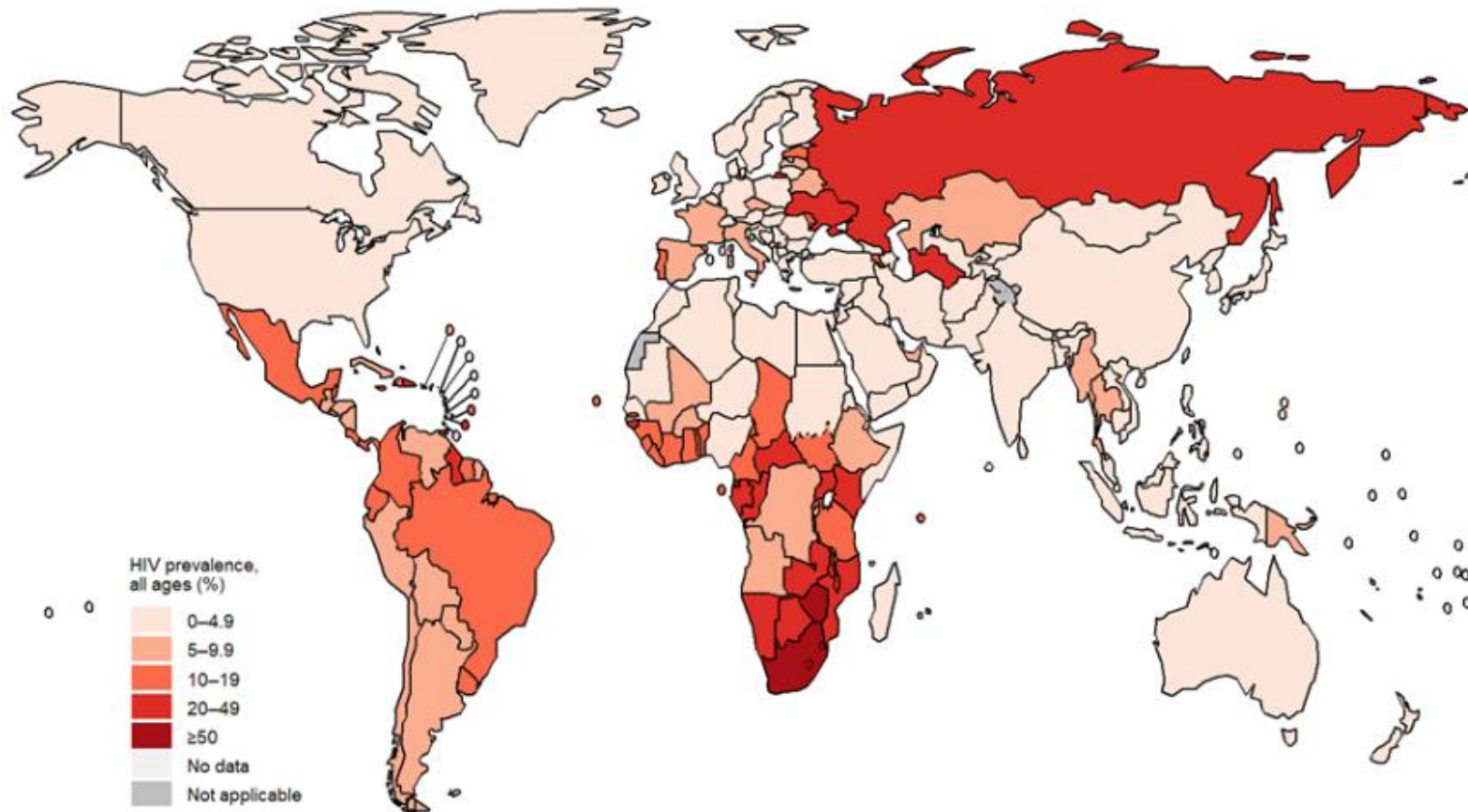
Fig. 1.1.7 Trends in estimated TB incidence rates by region, 2010–2023



TB among HIV-positive persons

Global Perspective

Fig. 1.1.4 Estimated HIV prevalence in people with a new episode of TB (new or relapse cases), 2023

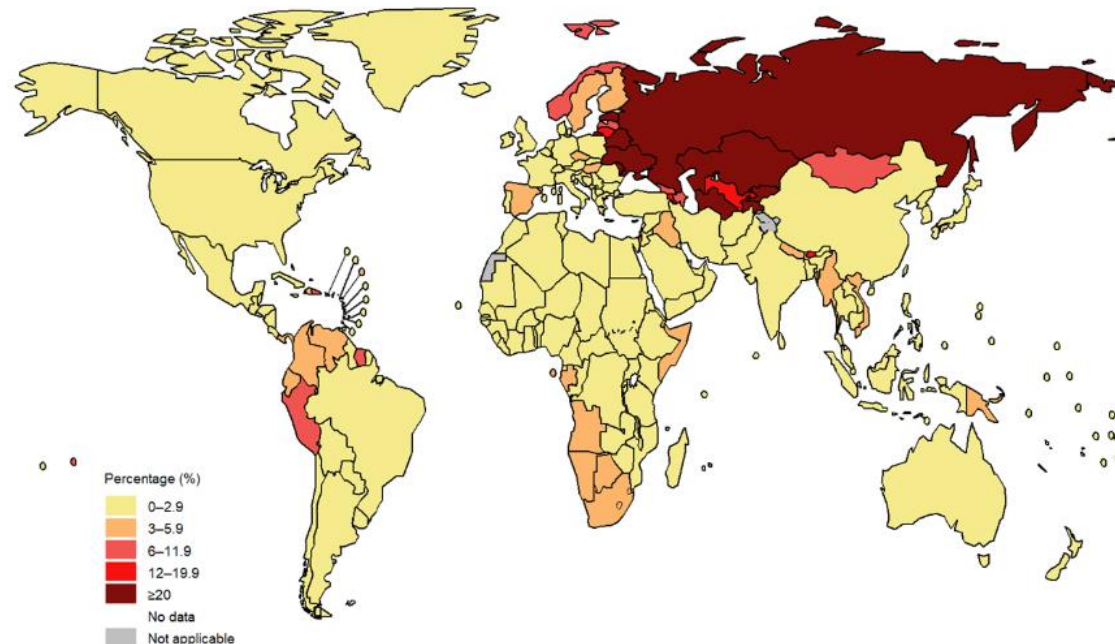


Drug Resistant TB

Global Perspective

- There were an estimated 400,000 cases of Multi-Drug Resistant/Rifampin Resistant (MDR/RR)-TB globally in 2023
 - ▶ 3.2% of newly diagnosed cases
 - ▶ 16% of previously treated cases
- Globally MDR/RR-TB caused an estimated **150,000 deaths** in 2023

Fig. 1.3.6 Percentage of people with TB who had MDR/RR-TB, for those with no previous history of TB treatment, 2023

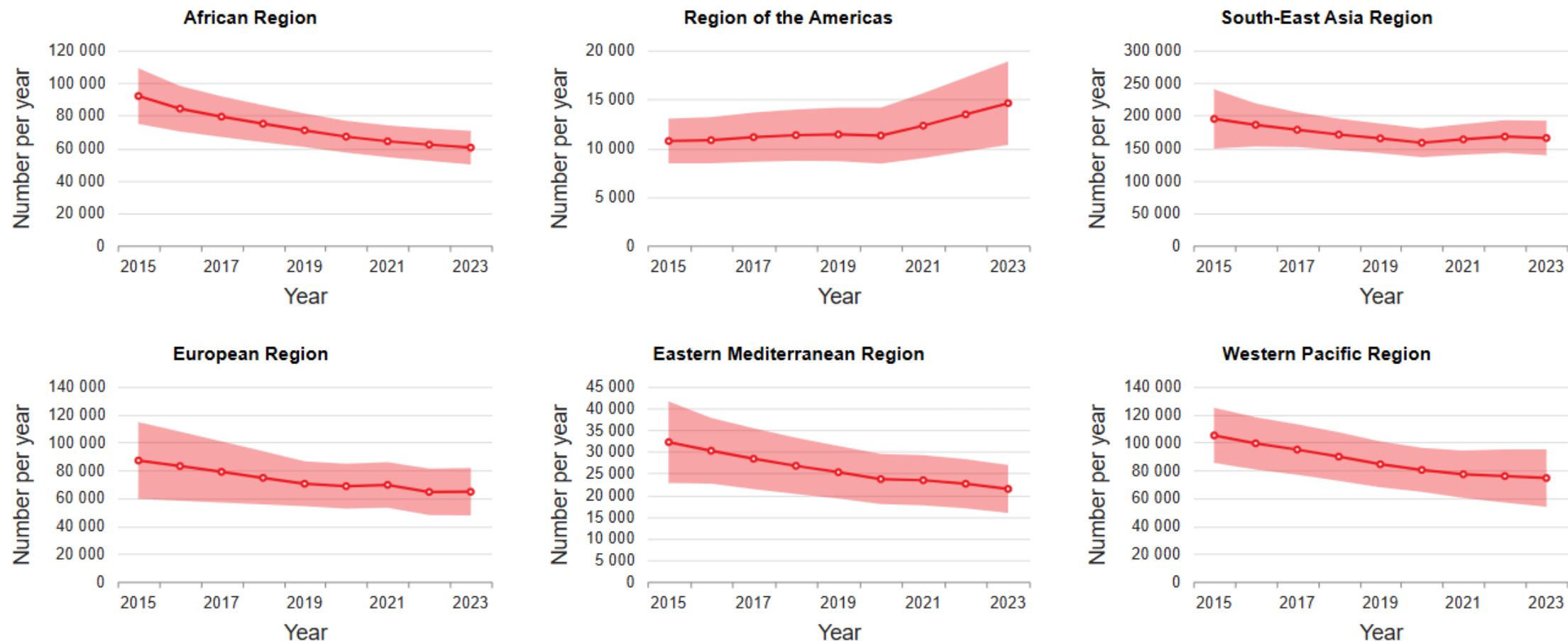


Drug Resistant TB

Global Perspective

Fig. 1.3.3 Regional trends in the estimated number of people who developed MDR/RR-TB (incident cases), 2015–2023

The shaded area represents the 95% uncertainty interval.



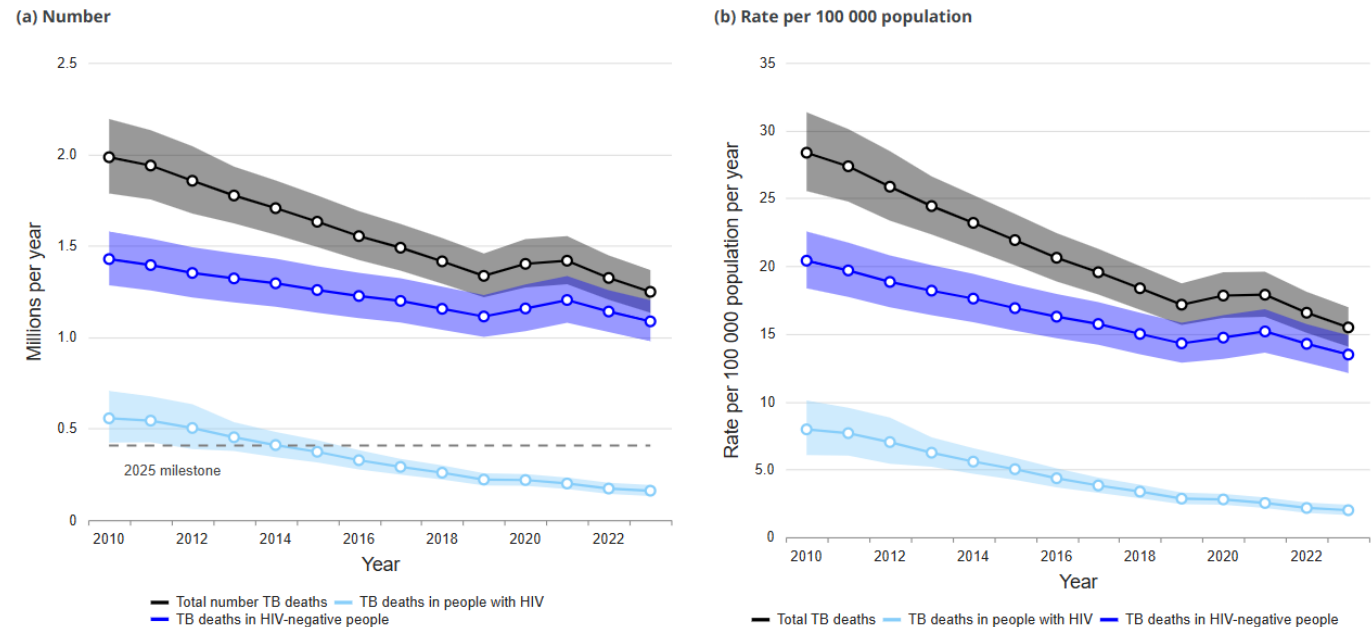
TB Mortality

Global Perspective

- There were an estimated **1.09 million** deaths among HIV-negative TB cases globally in 2023
- There were an estimated **161,000** deaths among HIV-positive TB cases globally in 2023
- The combined total of **1.25 million** is lower than the level of 2019 (1.34 million)

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

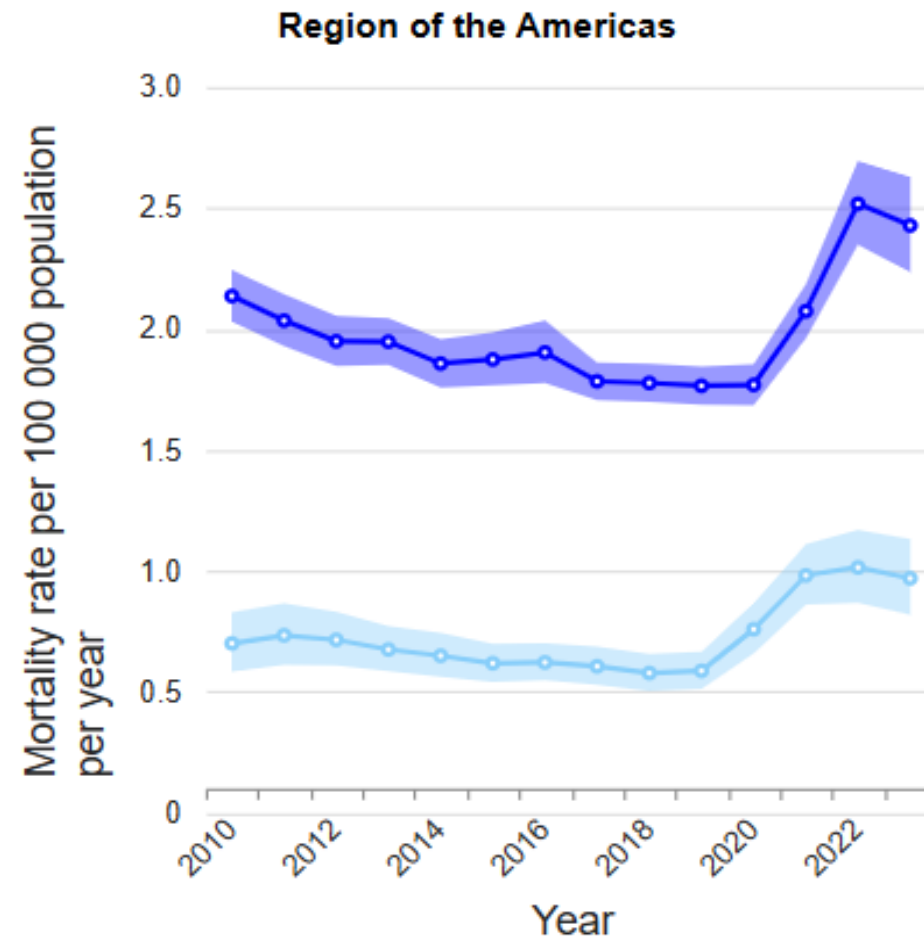
Shaded areas represent 95% uncertainty intervals. The horizontal dashed line shows the 2025 milestone of the End TB Strategy, which is a 75% reduction in the total number of deaths caused by TB between 2015 and 2025.



TB Mortality

Global Perspective

Fig. 1.2.7 Trends in estimated TB mortality rates by region, 2010–2023



TB in the United States



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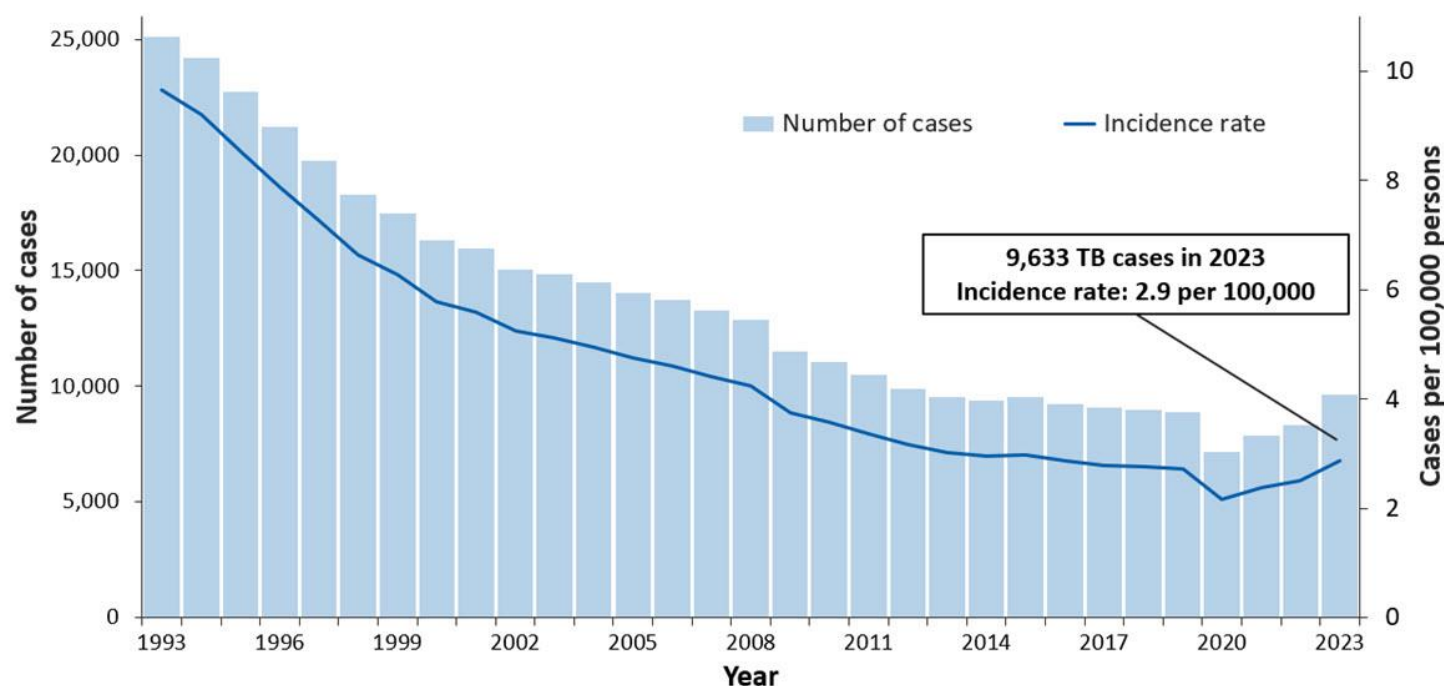
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TB in the United States

- The Centers for Disease Control and Prevention (CDC) provisionally reported 10,347 TB cases in 2024¹
- 9,633 TB cases were reported by the 50 U.S. states and the District of Columbia in 2023²
 - ▶ This represents a 15.6% increase from 2022
- Up to 13 million people are estimated to be living with TB infection in the US

Incidence of TB in the United States

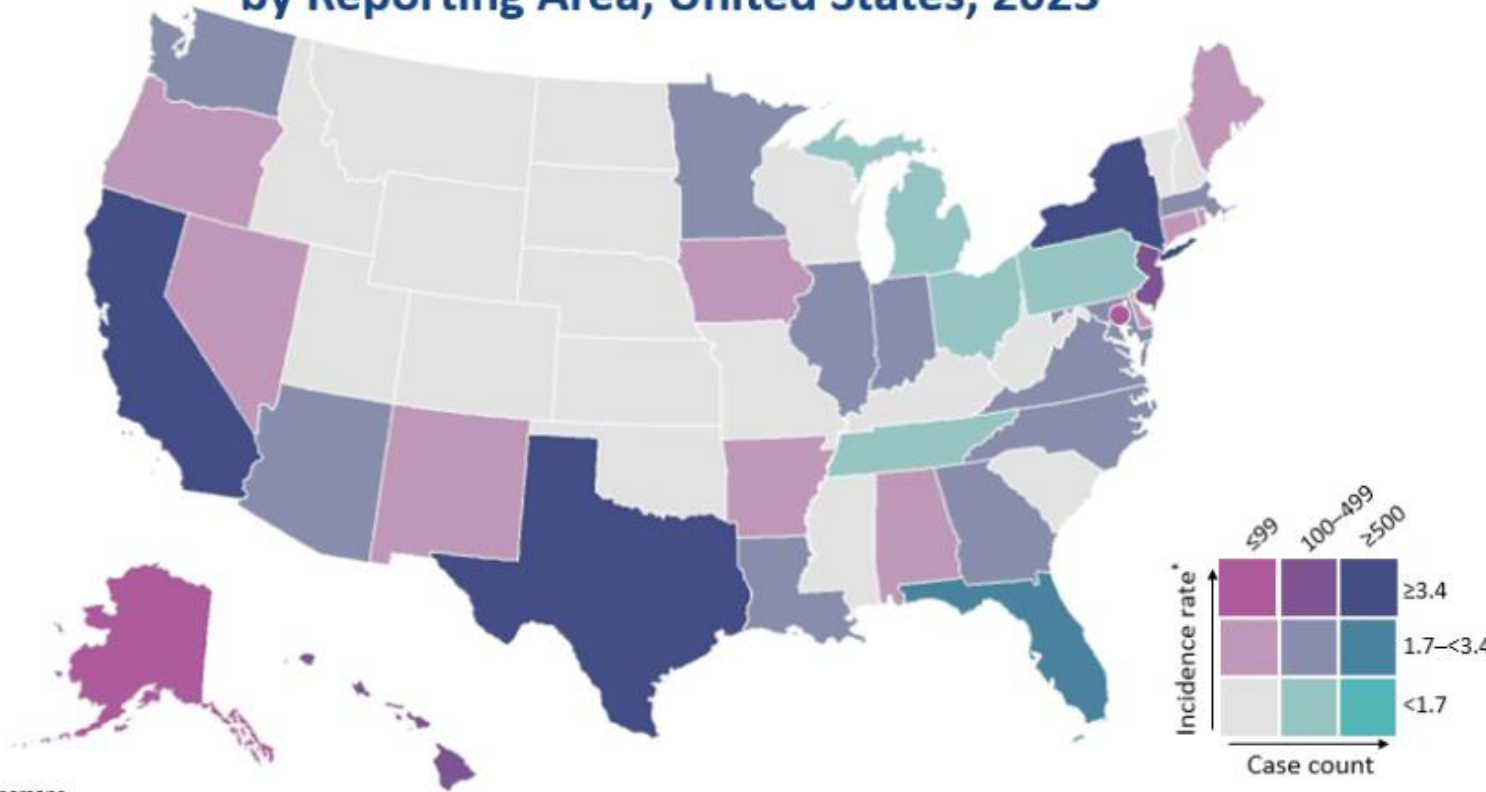
TB Cases and Incidence Rates, United States, 1993–2023



- **9,633** TB cases were reported in 2023 in the U.S.
- The U.S. is a low-incidence country with an incidence rate of **2.9 cases per 100,000** persons in 2023

Where is TB Found in the US?

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

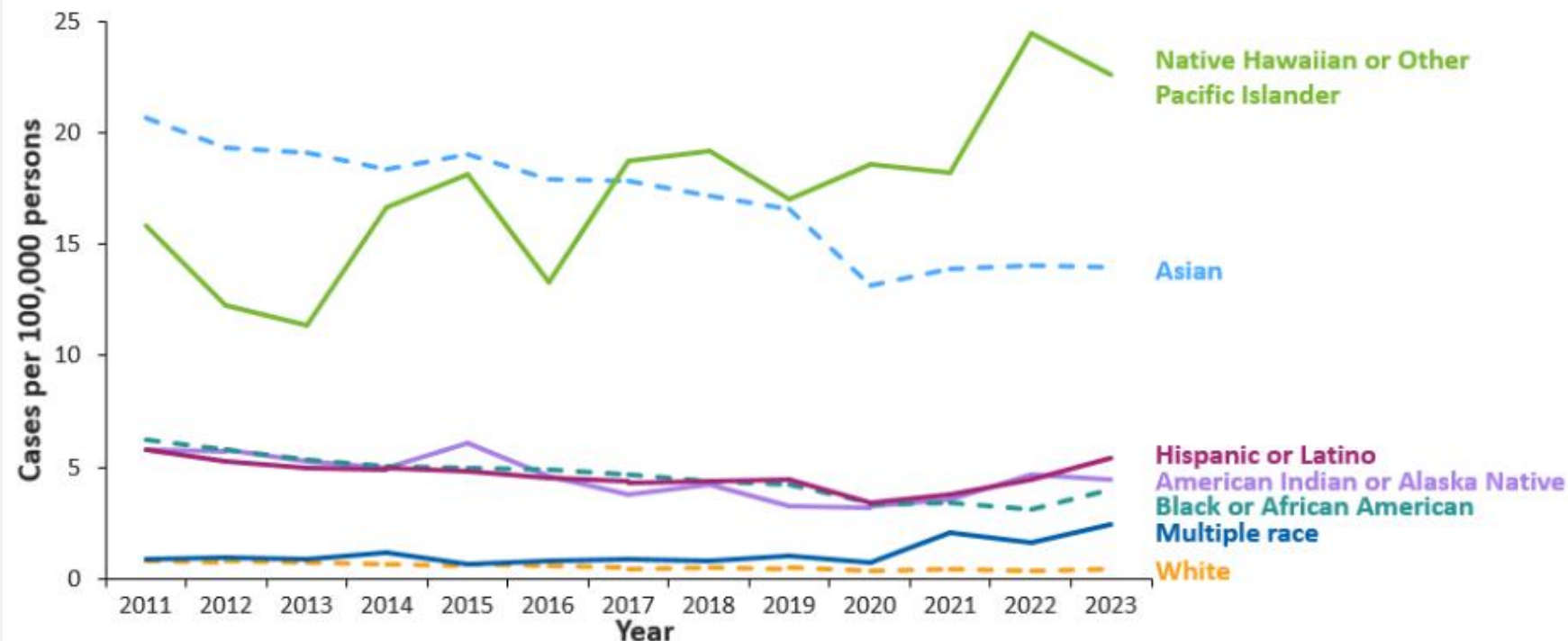


- California (22%), **Texas (13%)**, New York (9%), and Florida (6%) account for about half of all TB cases in the US
- **Eight** states, including Texas, and the District of Columbia have incidence rates higher than the national rate

TB Demographics in the United States

Race/Ethnicity

TB Incidence Rates by Race/Ethnicity,* United States, 2011–2023



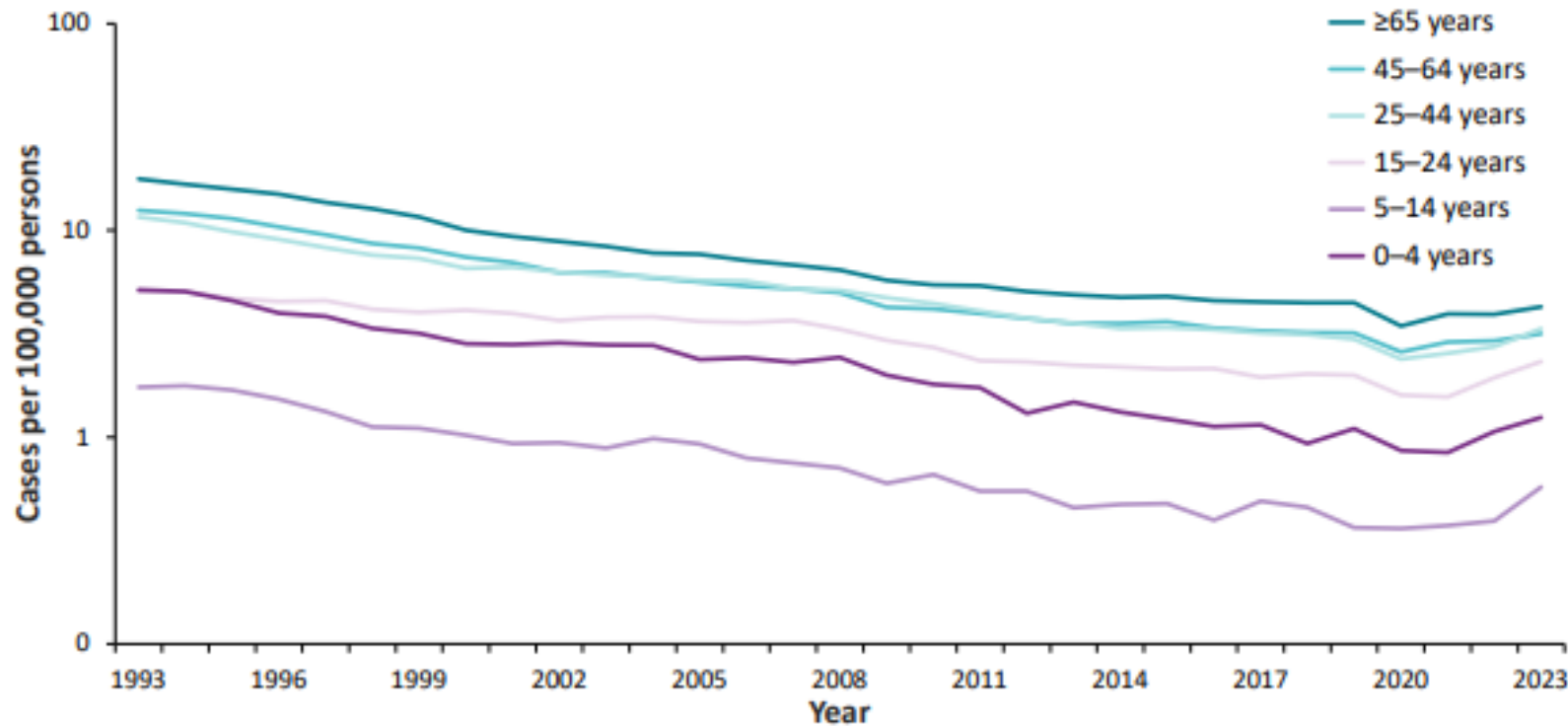
*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race." Population data for "Other race" were not available.
Note: The increase in numbers and percentages of persons identified as "Multiple race" might be related to changes in processing and transmission of race data for 2023 cases as compared to previous years.

- Hispanic or Latino persons of all races (**37%**) and Non-Hispanic Asian persons (**30%**) represent the largest proportion of TB cases in the U.S.
- In the U.S., incidence of TB is highest among Native Hawaiian or Other Pacific Islander (**22.6** cases per 100,000 persons) and Asian persons (**14.0** cases per 100,000 persons)

TB Demographics in the United States

Age

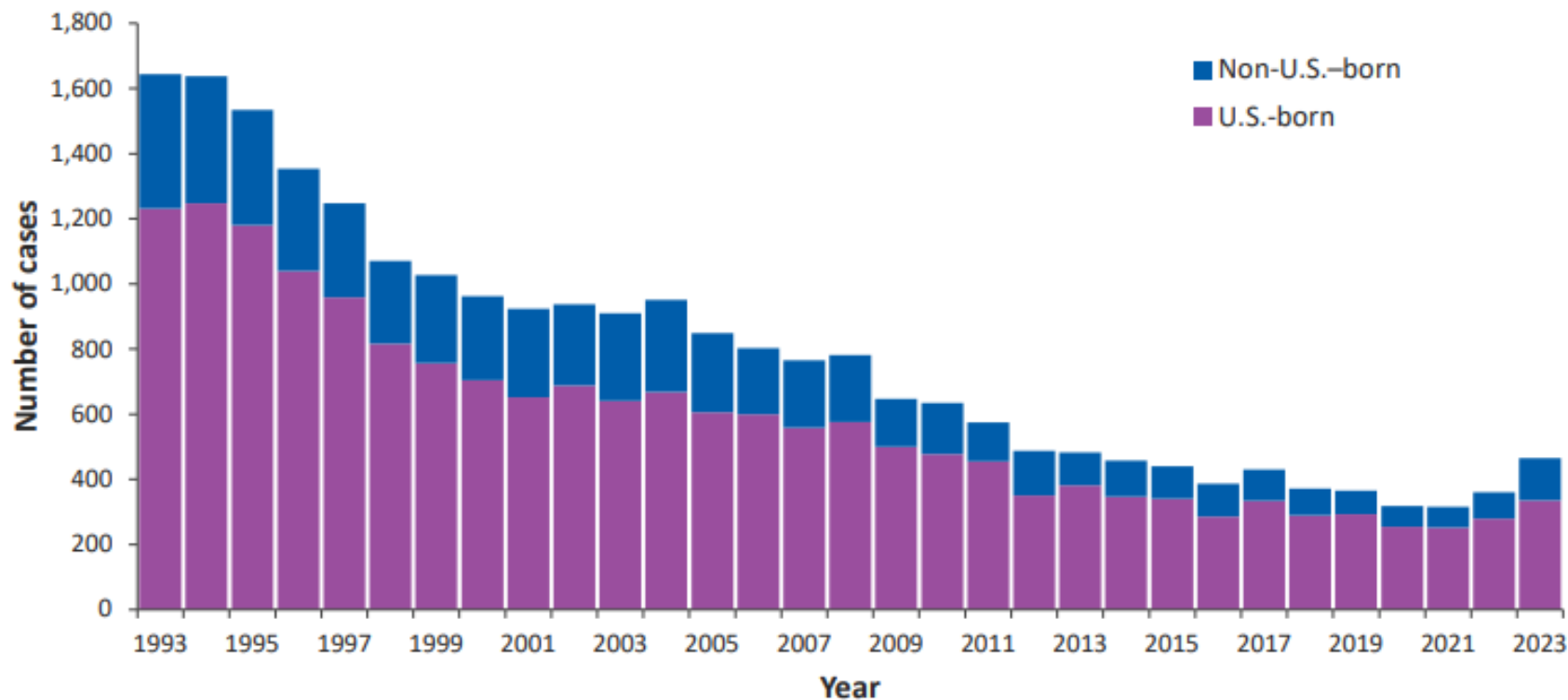
TB Incidence Rates by Age Group, United States, 1993–2023



- Adults aged 25-64 years accounted for nearly **60%** of all TB cases in 2023
- Incidence rate is highest among adults 65 years of age or older (**4.3** cases per 100,000 persons)

Pediatric TB in the United States

Pediatric* TB Cases by Origin of Birth,† United States, 1993–2023



* Children aged less than 15 years

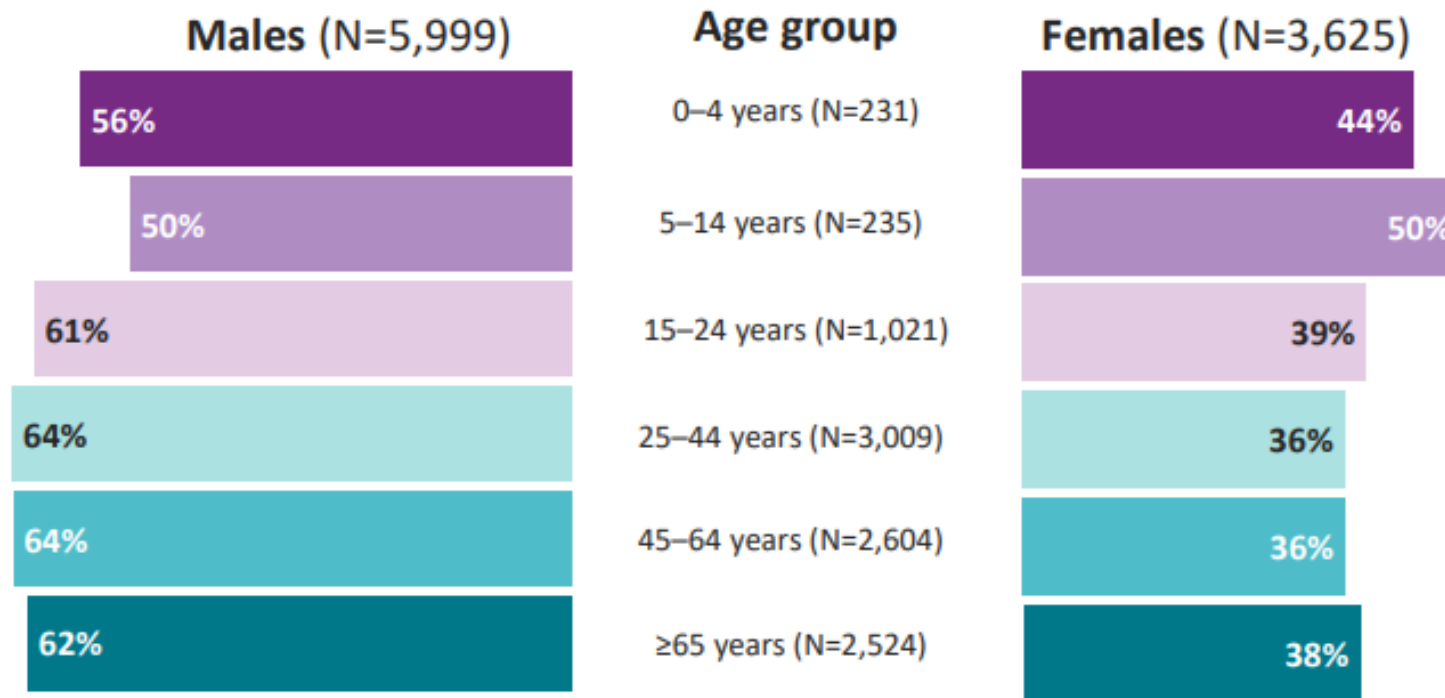
† Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

- TB disease in children under 15 years of age (pediatric TB) is a marker for recent transmission
- **50%** of all pediatric cases in 2023 occurred in children 0-4 years of age
- **27.7%** of pediatric cases occurred in non-U.S.-born children under 15 years of age

TB Demographics in the United States

Sex

Percentage of TB Cases by Sex and Age Group, United States, 2023

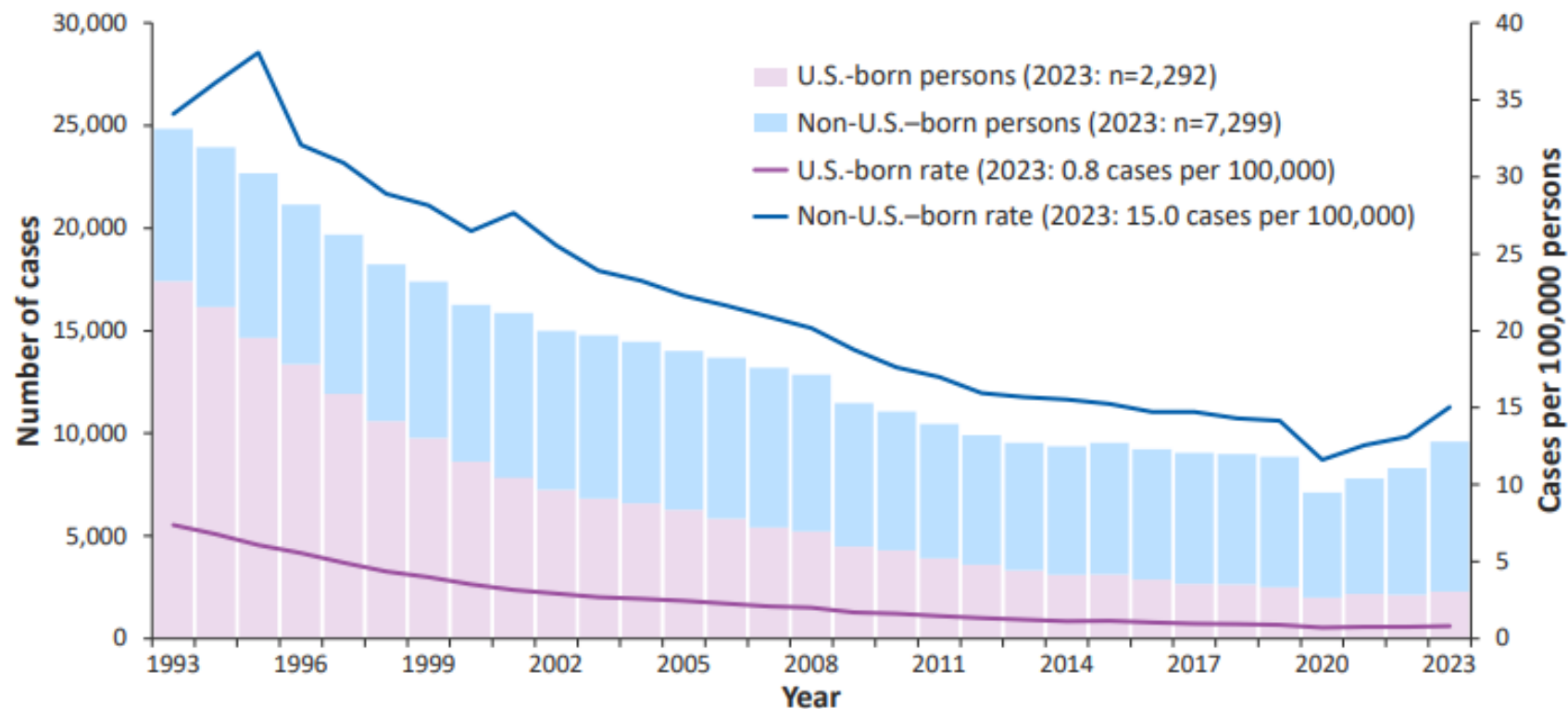


- In 2023, persons with male sex at birth accounted for **62.3%** of TB cases

TB Demographics in the United States

Origin of Birth

TB Cases and Incidence Rates by Origin of Birth,^{*}
United States, 1993–2023



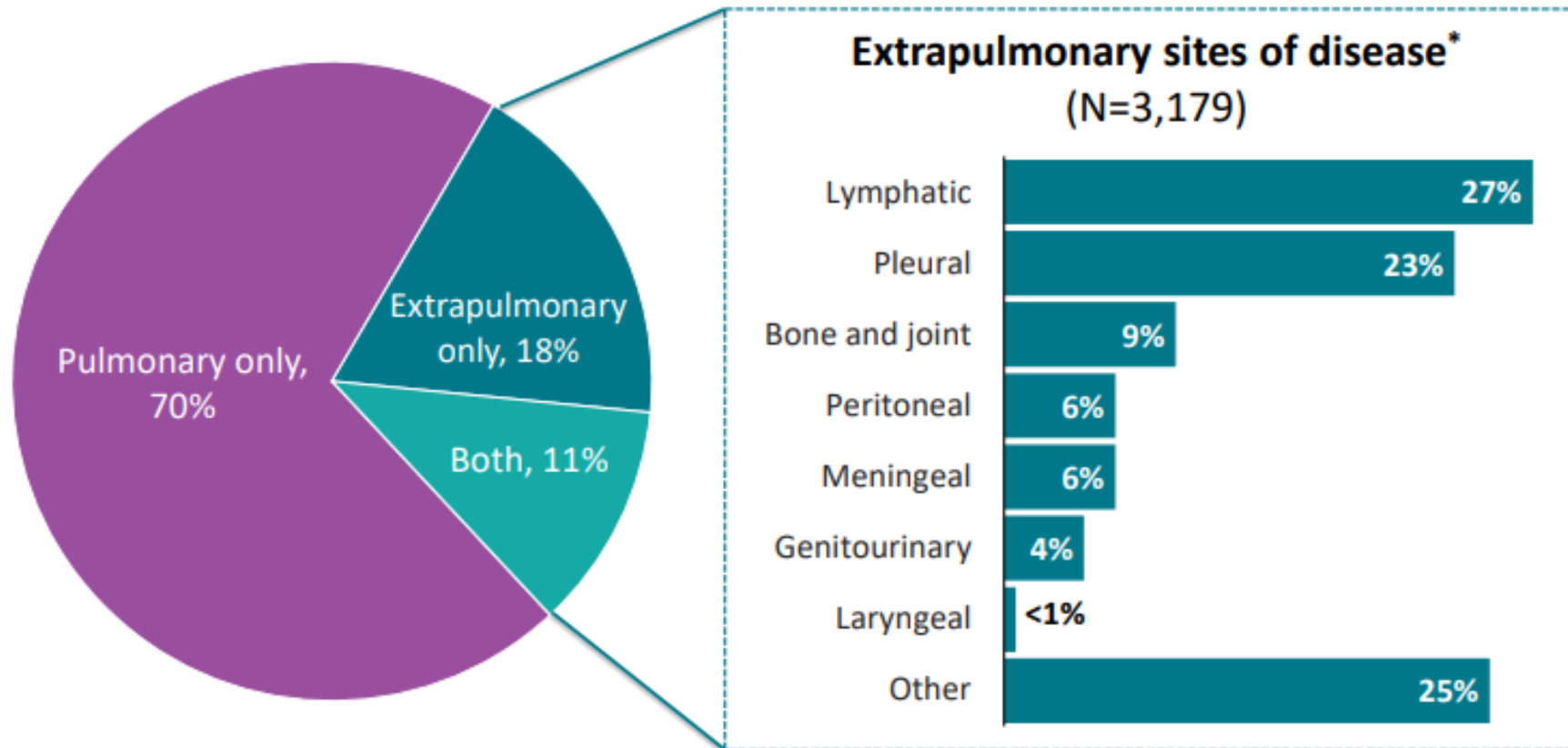
- **75.8%** of TB cases in 2023 were among non-U.S.-born persons
- In 2023, the incidence rate among non-U.S.-born persons was **15.0** compared to **0.8** cases per 100,000 population among U.S.-born persons
- **47.6%** of non-U.S. born cases in 2023 were born in Mexico, the Philippines, India, Vietnam, and China

^{*}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 Demographics in the United States

Site of Disease

Percentage of TB Cases by Site of Disease, United States, 2023



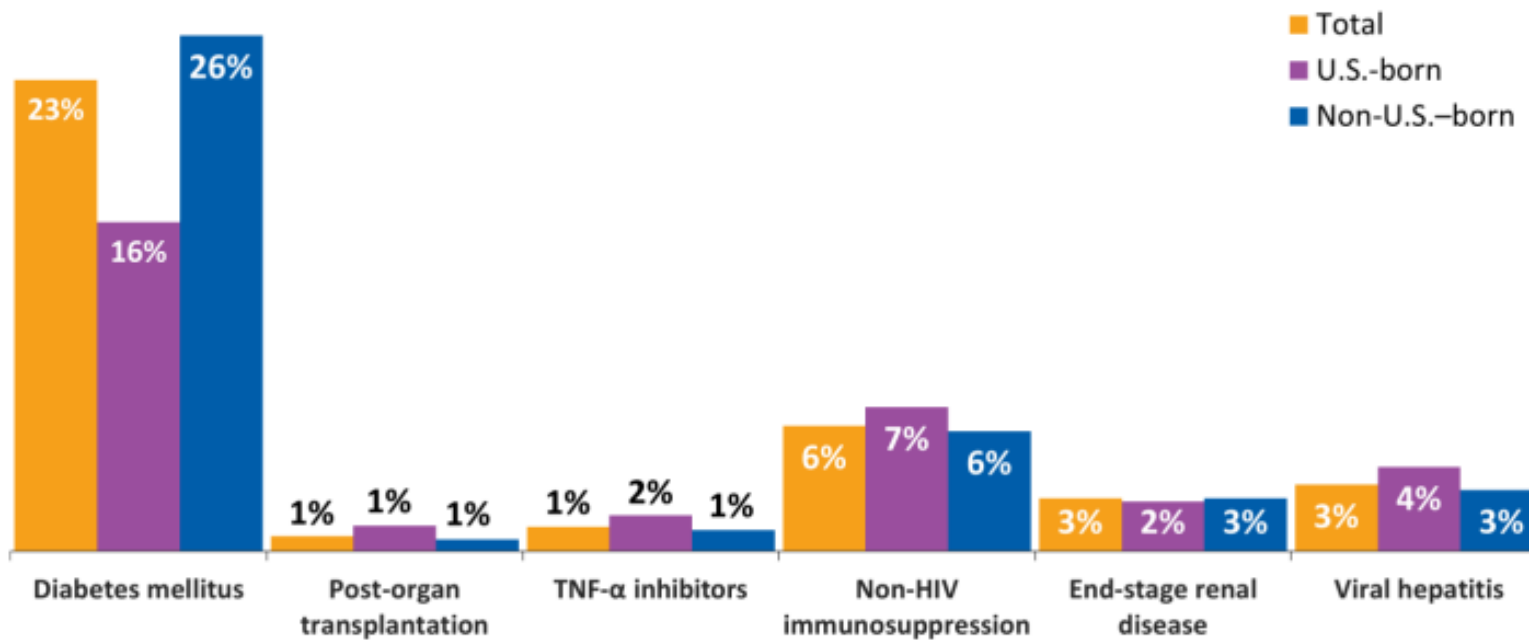
- **70%** of TB cases in 2023 had pulmonary TB only
- Among TB cases with extrapulmonary disease, there were a total of 3,179 extrapulmonary disease sites reported

*Persons might have more than one extrapulmonary site of disease

TB Demographics in the United States

Risk Factors

Percentage of Selected Risk Factors Among Persons with TB by Origin of Birth,* United States, 2023

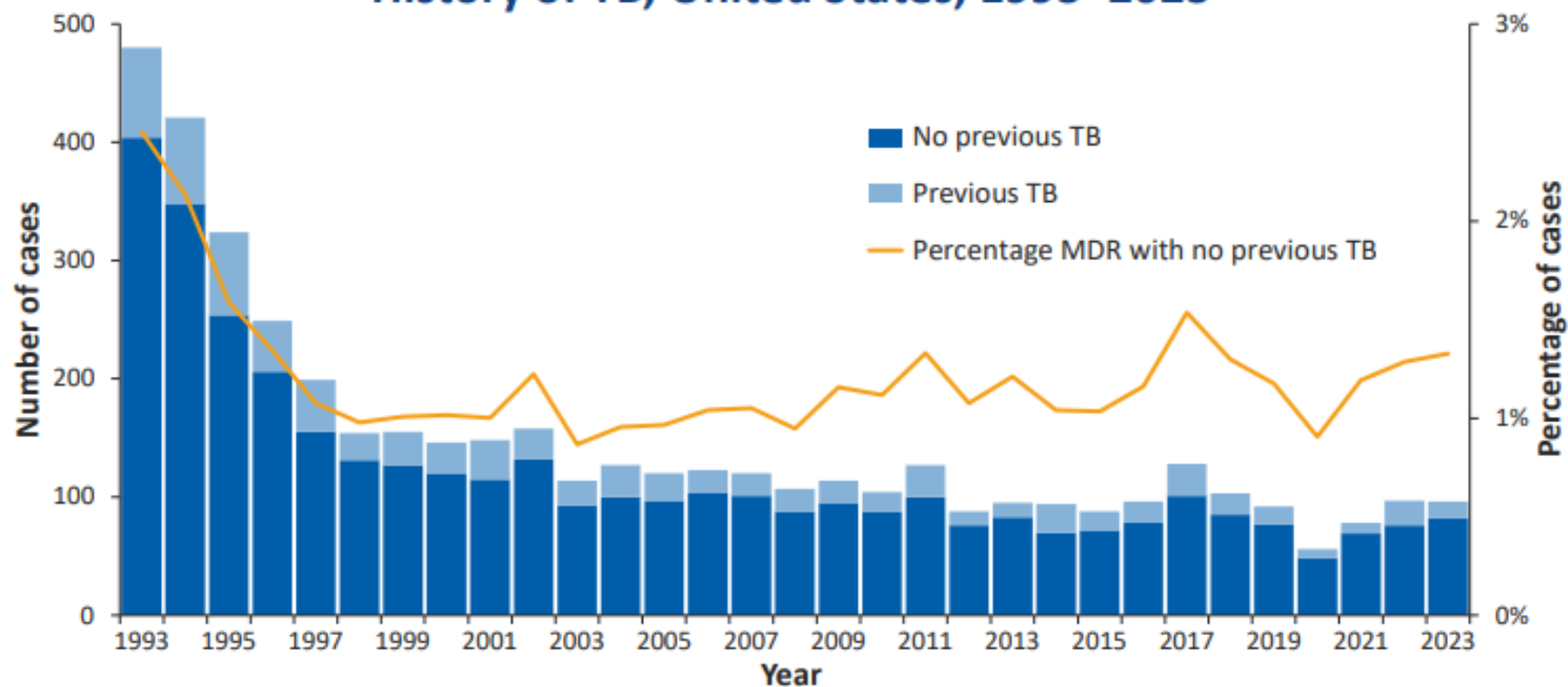


* Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

- Diabetes mellitus remains the most common medical risk factor among all TB cases in the U.S.

Drug-Resistant TB in the United States

Number and Percentage of Multidrug-Resistant (MDR)* TB Cases† by History of TB, United States, 1993–2023



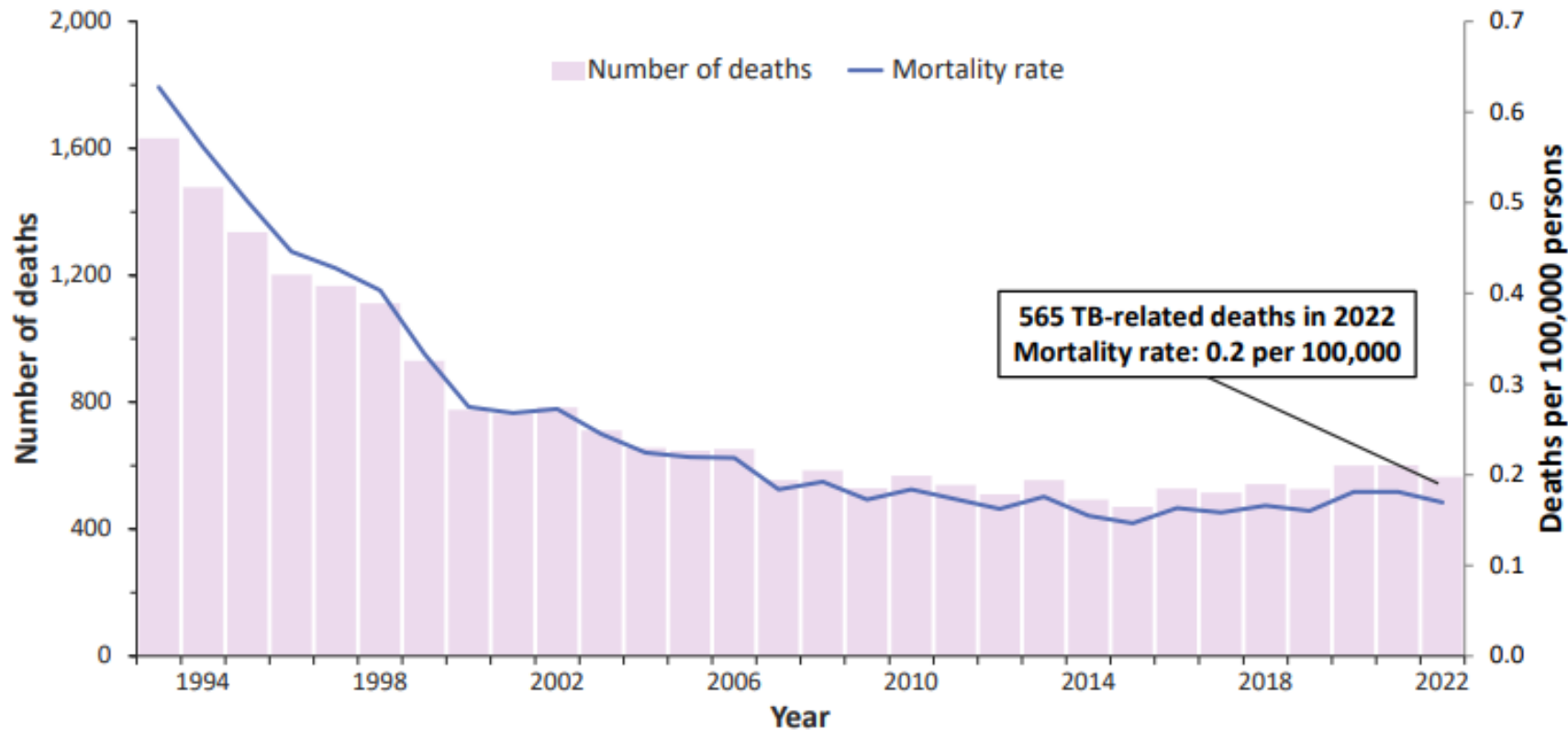
- **100** TB cases were reported as MDR TB in 2023

*Starting in 2023, information on drug resistance included results of molecular drug susceptibility testing in addition to growth-based susceptibility testing for isoniazid and rifampin. An isolate is considered resistant to isoniazid or rifampin if either the growth-based test or molecular test detects resistance.

†Excludes persons with unknown origin of birth.

TB Mortality in the United States

TB-Related Deaths* and Mortality Rates, United States, 1993–2022



*National Vital Statistics System Underlying Cause of Death (based on deaths reported through 2022)

- **565** TB-related deaths were reported in the U.S. in 2022
- This represents a **6.1% decrease** from 2021

TB in Texas



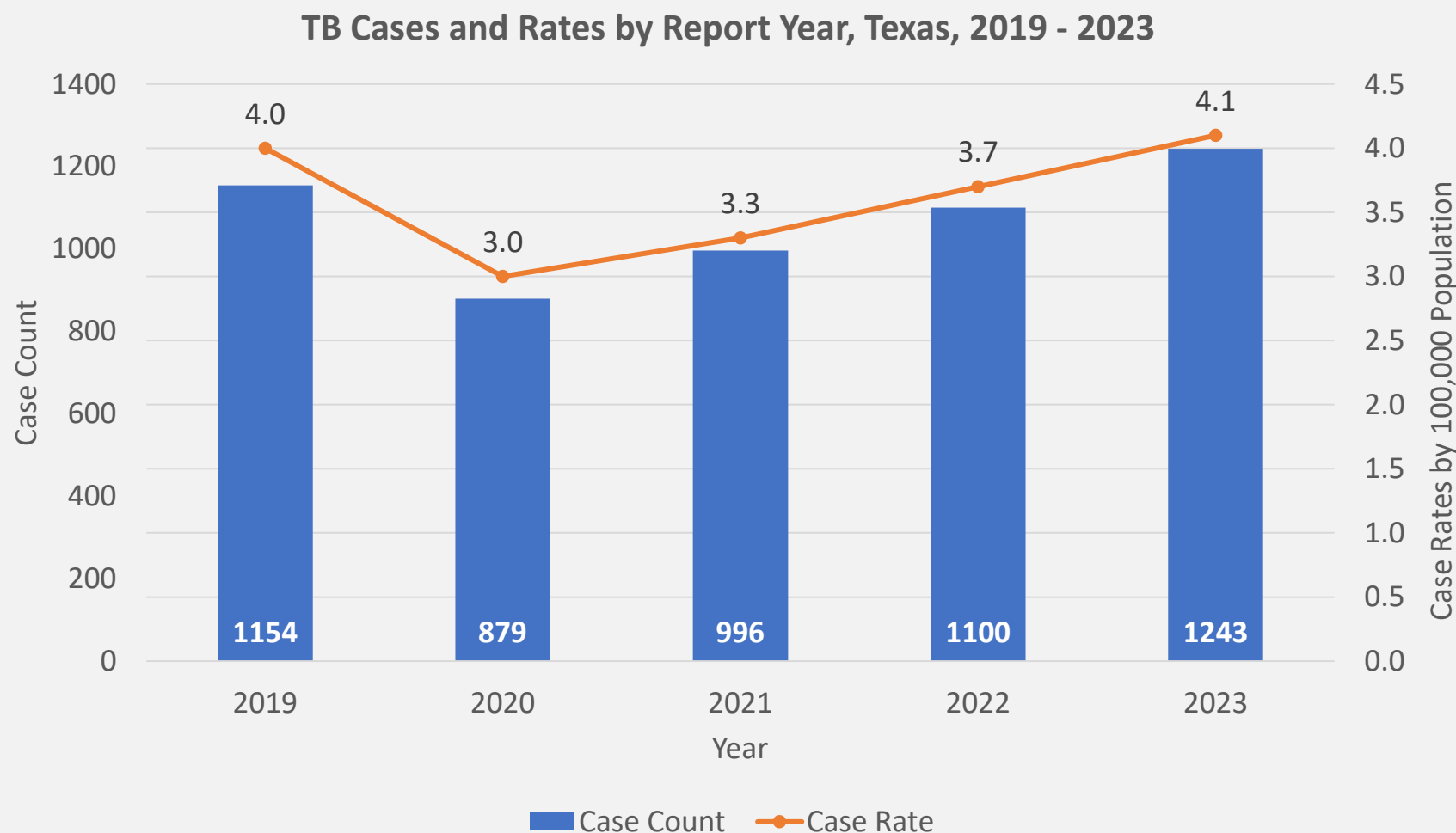
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TB in Texas

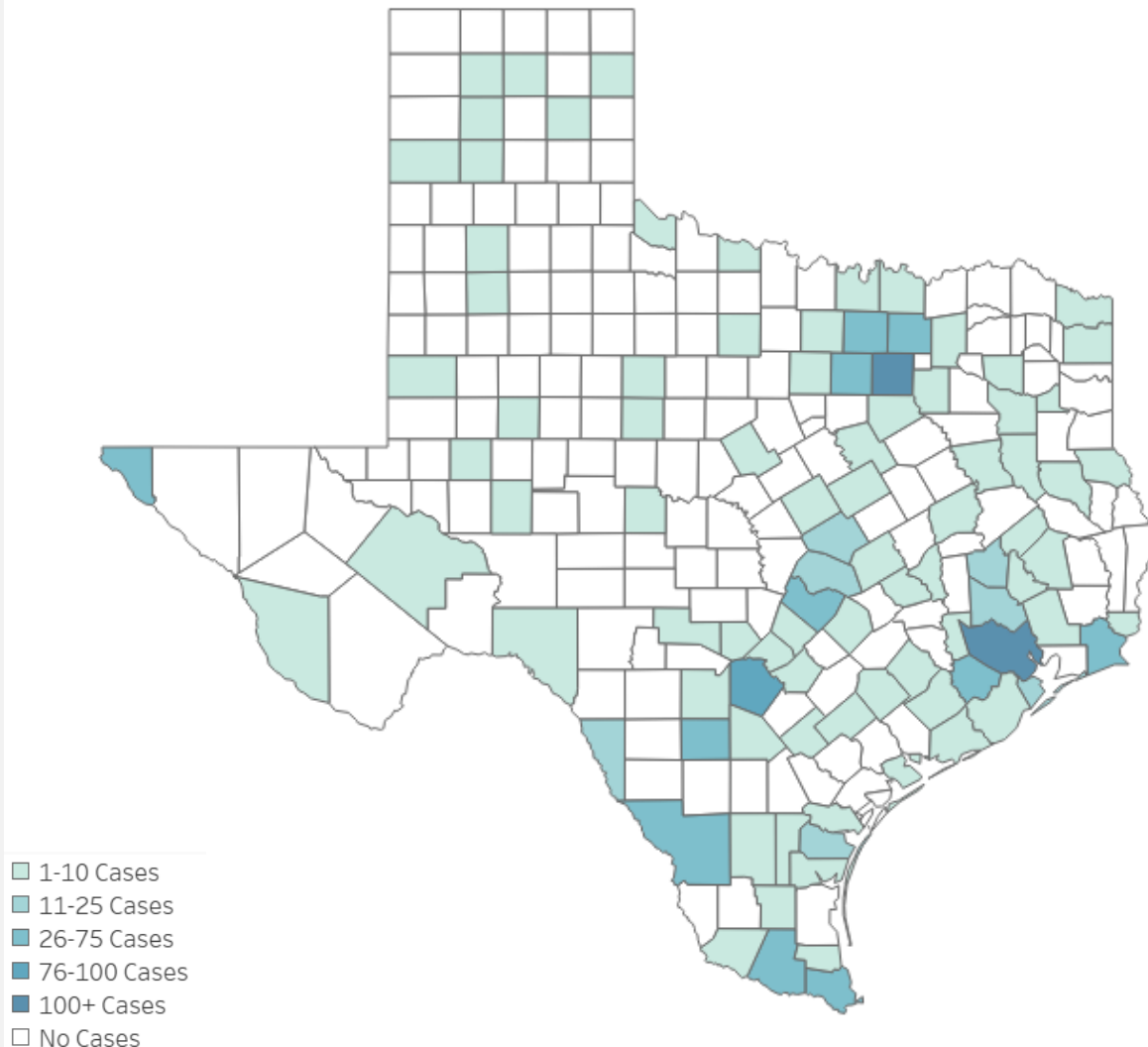
- Texas provisionally reported 1,266 cases in 2024
- Texas has the second highest number of TB cases in the U.S.¹
 - ▶ 1,243 cases reported in 2023
- Texas has the fifth highest incidence of TB in the U.S.¹
 - ▶ 4.1 cases per 100,000 population in 2023
- Prevalence of TB infection in Texas is estimated to be 1.08 million people²

Incidence of TB in Texas, 2019 – 2023



- TB case counts and rates in 2020 were impacted by the COVID-19 pandemic
- In 2023 the case count and rate surpassed pre-pandemic levels

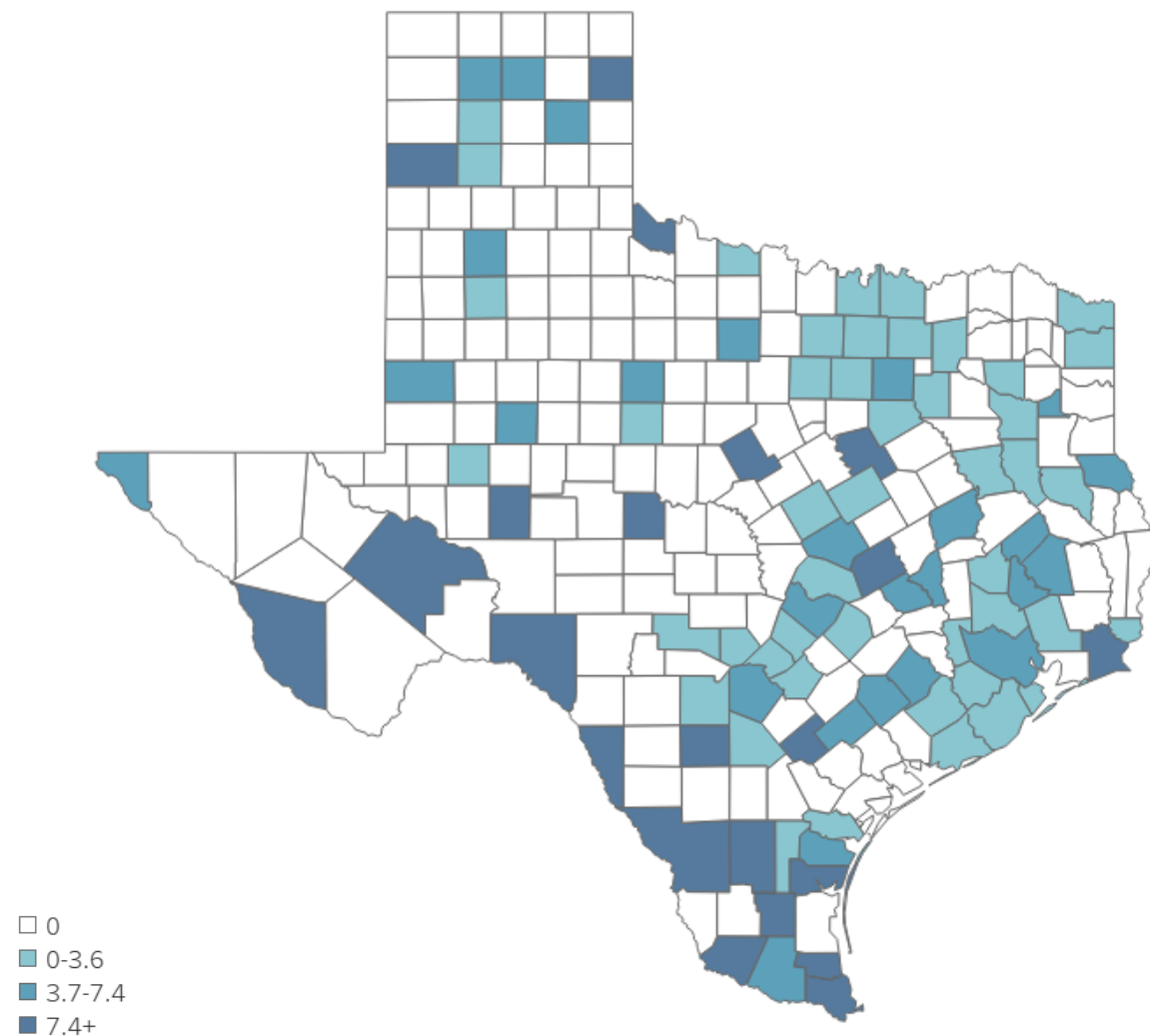
Where is TB Found in Texas?



County	Case Count, 2023
Harris	269
Dallas	129
Bexar	79
Cameron	71
Tarrant	59
Hidalgo	55
Travis	51
El Paso	43
Webb	42
Frio	40

Source: DSHS Tuberculosis and Hansen's Disease Unit

Incidence of TB in Texas Counties, 2023

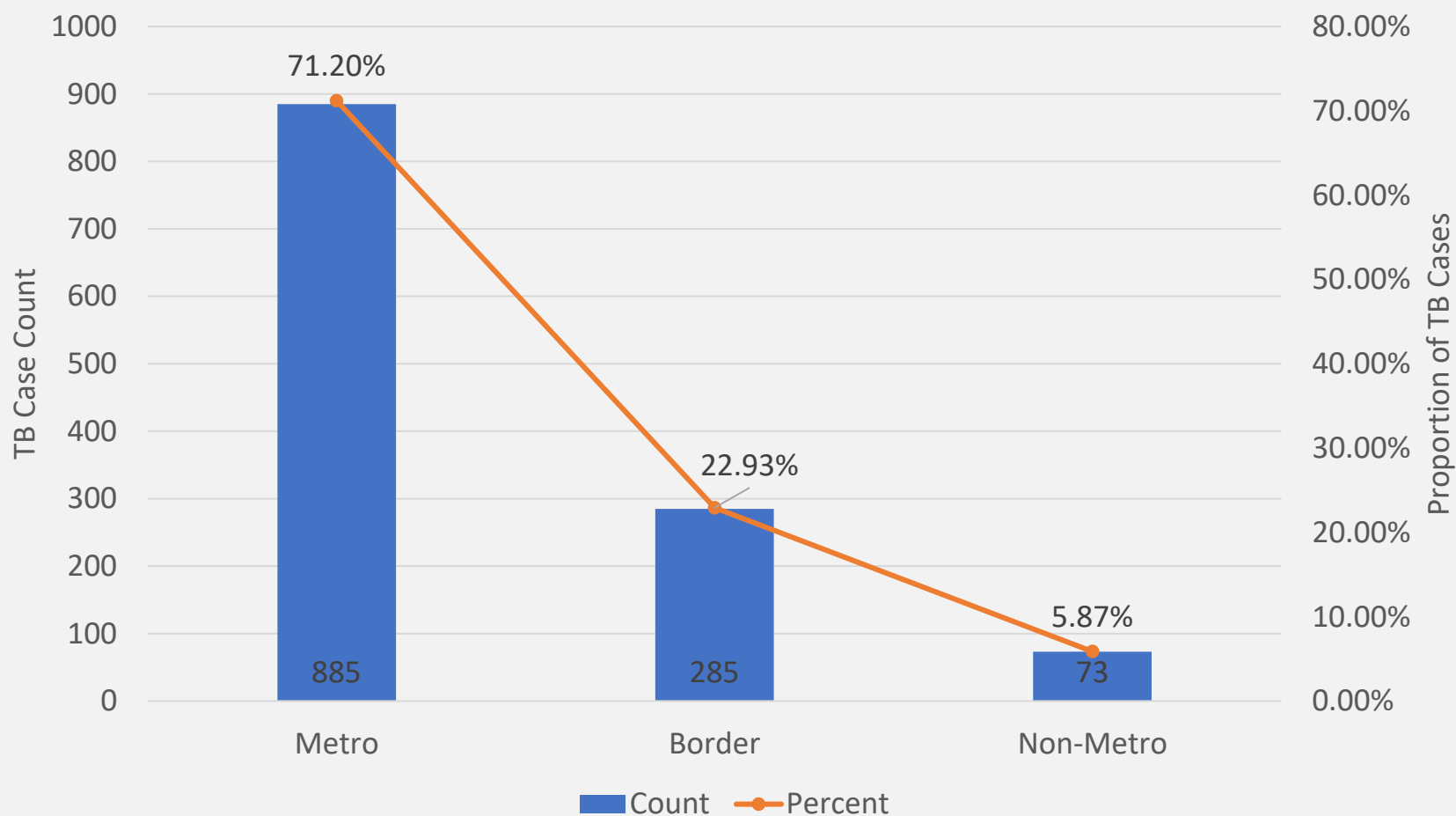


County	Case Count	Rate per 100,000 Population
Frio	40	222.4
Concho	2	60.7
Karnes	9	59.9
Reagan	1	31.8
Hemphill	1	31.4
Hardeman	1	28.7
Maverick	15	26
Willacy	4	20
Presidio	1	17.3
Cameron	71	16.6

TB in Texas

Geographic Area

TB Case Counts and Proportion by Geographic Area, Texas, 2023

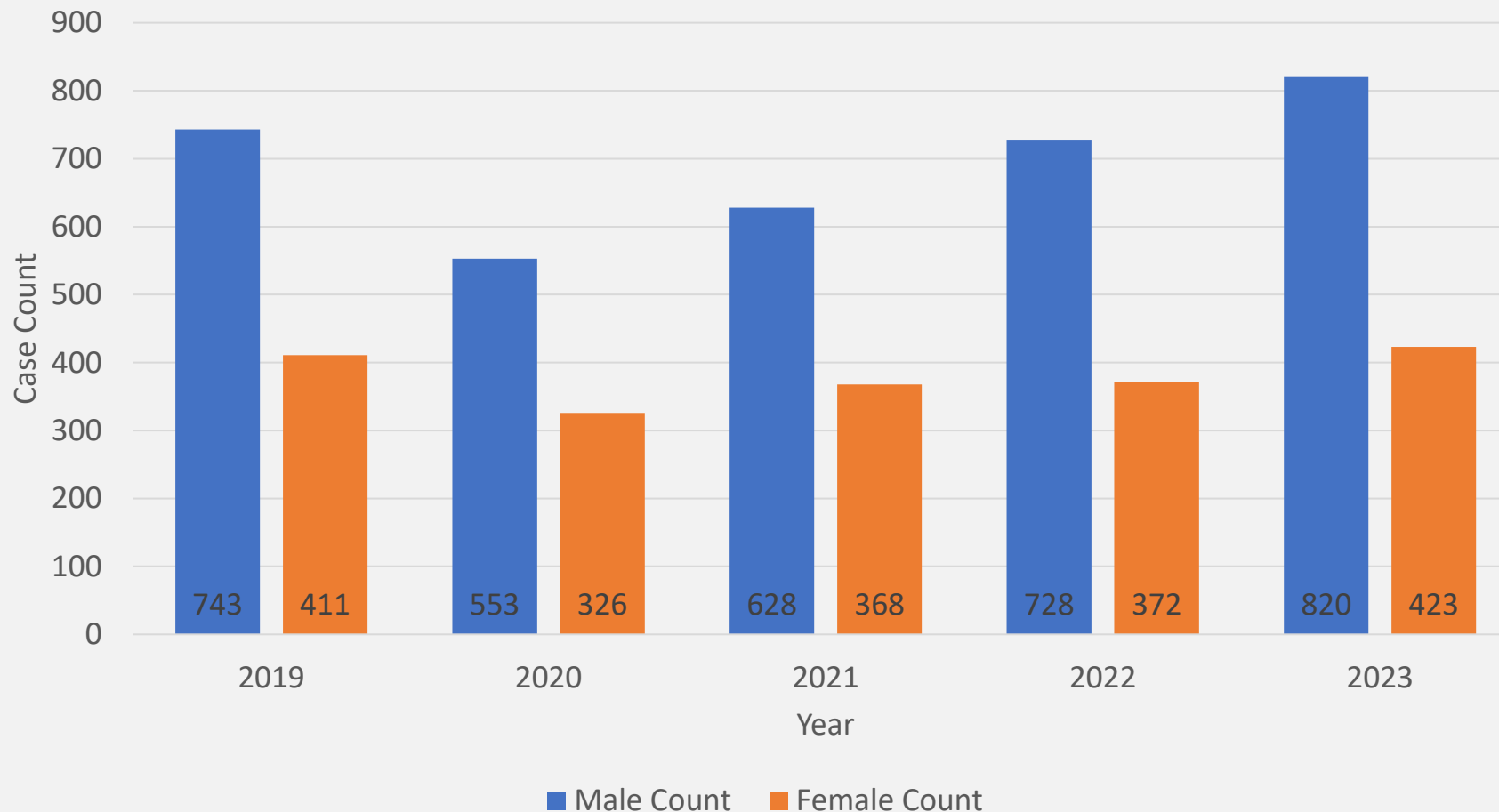


- The majority of TB cases in Texas are reported from large metropolitan areas
- TB case rates are higher in counties along the Texas - Mexico border region

TB Demographics in Texas

Sex at Birth

TB Case Counts by Sex at Birth, Texas, 2019-2023

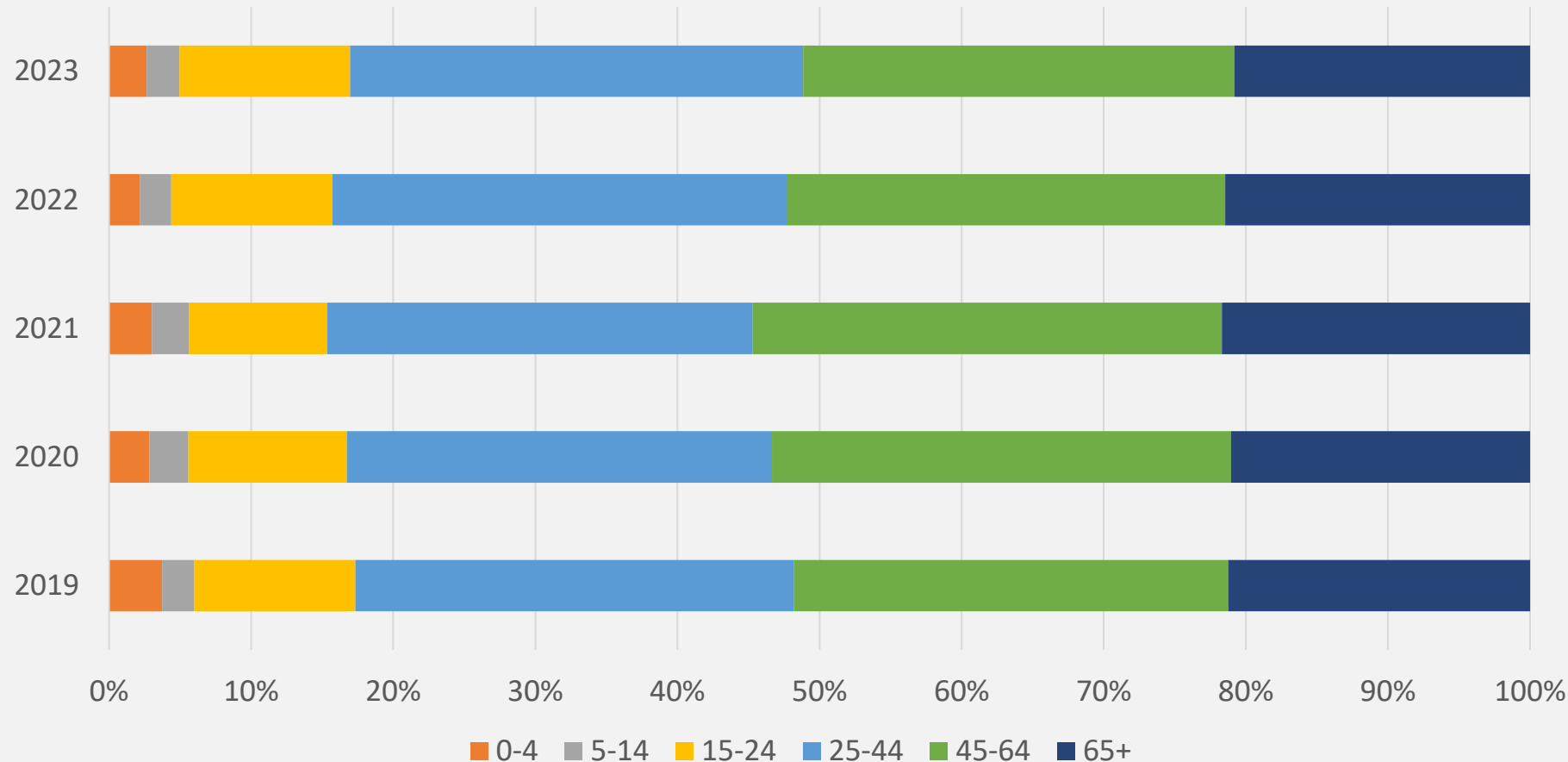


- **66%** of 2023 TB cases in Texas were among persons with male sex at birth
- This trend is consistent among all age groups

TB Demographics in Texas

Age

Percent of TB Cases by Age Group (in Years) at Diagnosis, Texas, 2019-2023

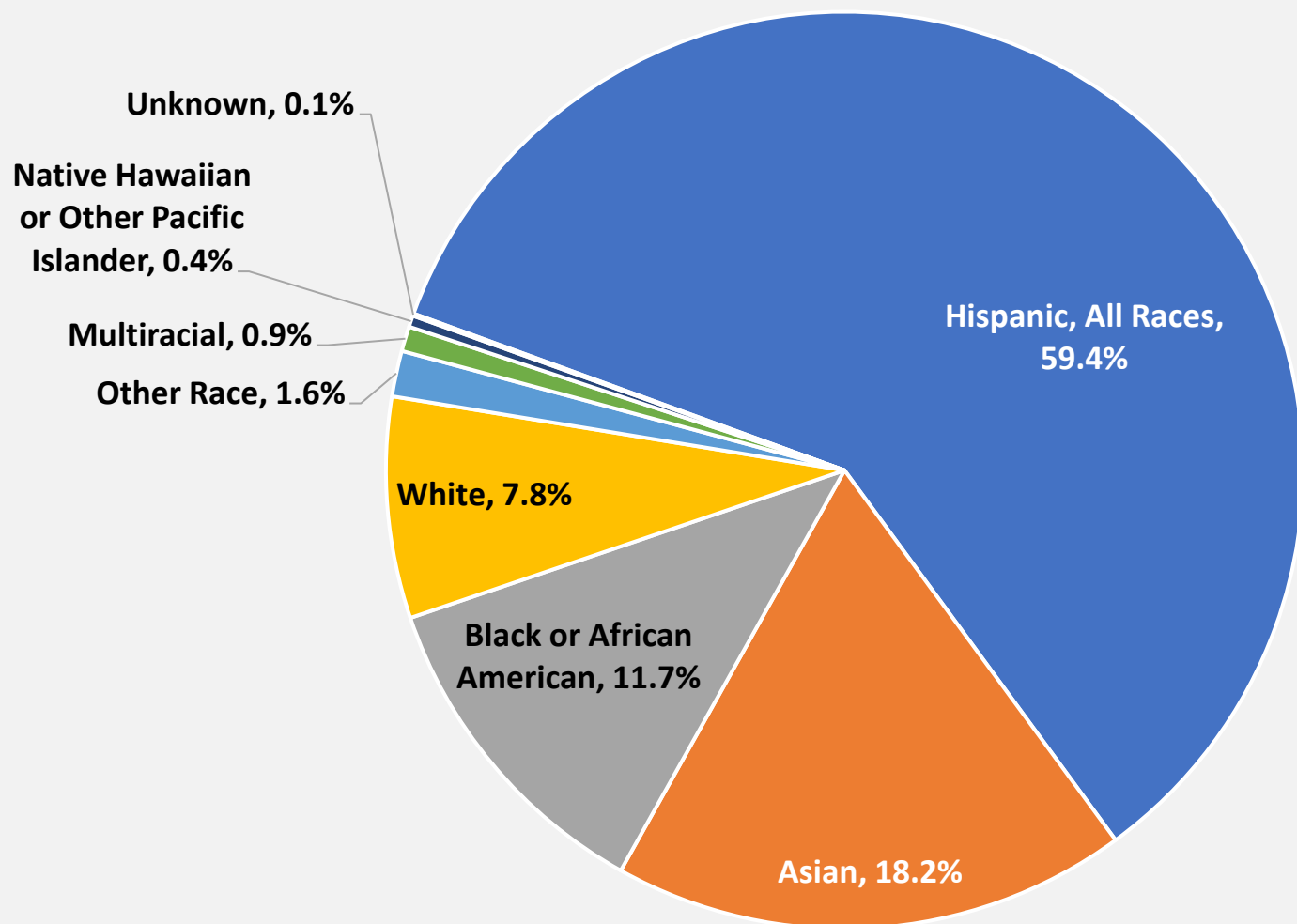


- Adults aged 25-64 years represent the largest proportion (64.0%) of TB cases in Texas
- **2.3%** of TB cases in 2023 were among those age 0-4 years old

TB Demographics in Texas, 2023

Race/ Ethnicity

Percent of TB Cases by Race/Ethnicity, Texas, 2023



- Hispanic or Latino persons of all races (**59.4%**) and Non-Hispanic Asian persons (**18.2%**) represent the largest proportion of TB cases in Texas

TB Demographics in Texas, 2023

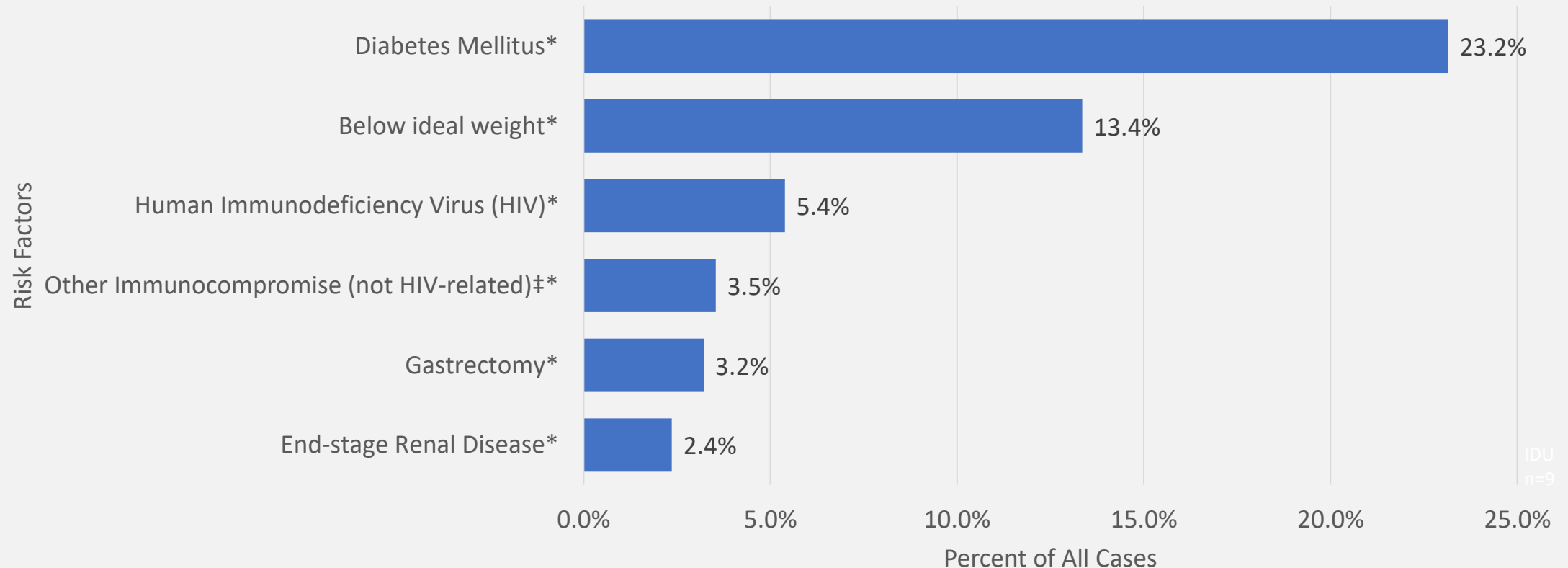
Origin of Birth

- In 2023, **70.1%** of Texas TB cases were born outside the U.S.
- Nearly **60 different countries** were represented among Texas TB cases in 2023

Country of Birth	Case Count	Percent
Mexico	297	24.03
Vietnam	80	6.47
Venezuela	63	5.1
Honduras	61	4.94
India	60	4.85
Guatemala	46	3.72
Philippines	32	2.59
El Salvador	25	2.02
Nepal	23	1.86
Colombia	17	1.38

Medical Risk Factors for TB in Texas, 2023

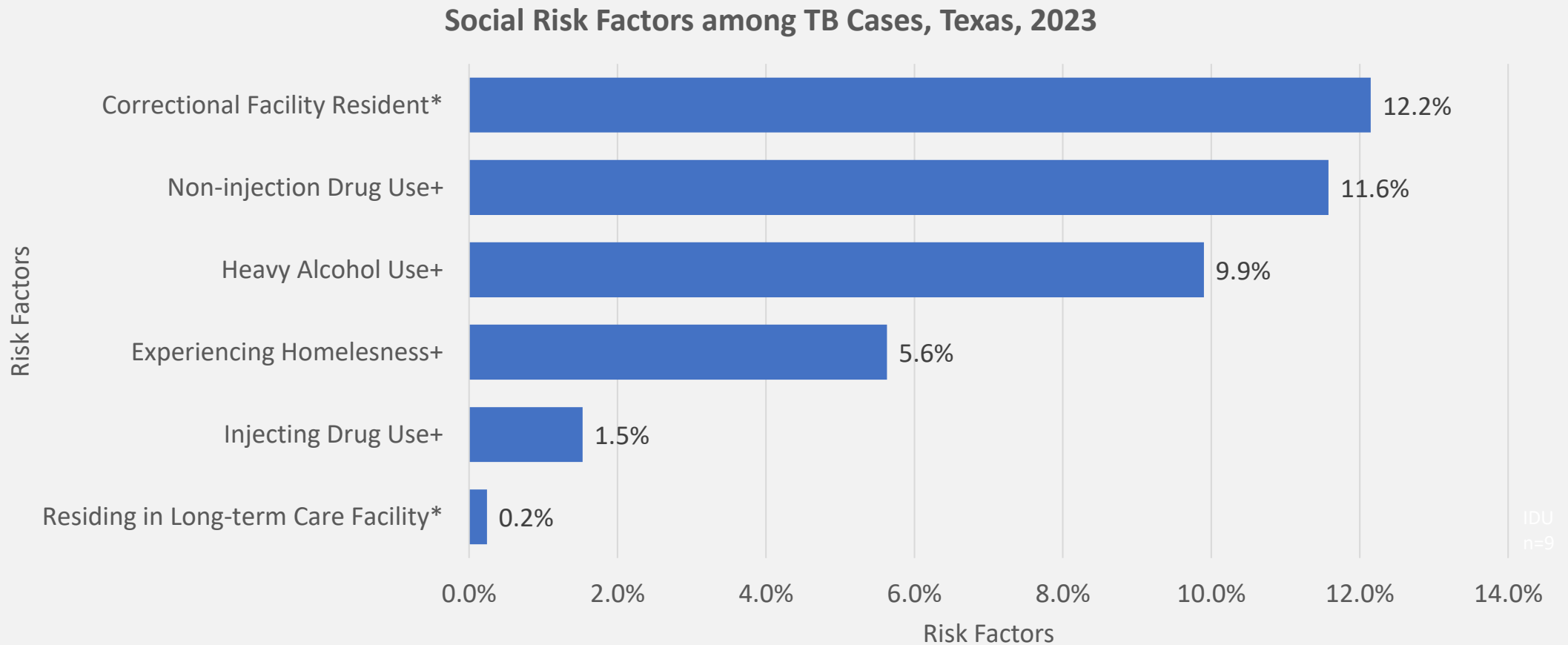
Medical Risk Factors among TB Cases, Texas, 2023



*At the time of TB diagnosis

‡Includes persons immunocompromised because of either a medical condition or immunosuppressive therapy, persons on TNF- α antagonist therapy, and persons who have ever received a solid organ transplant

Social Risk Factors for TB in Texas, 2023



+ Within 12 months prior to TB diagnosis

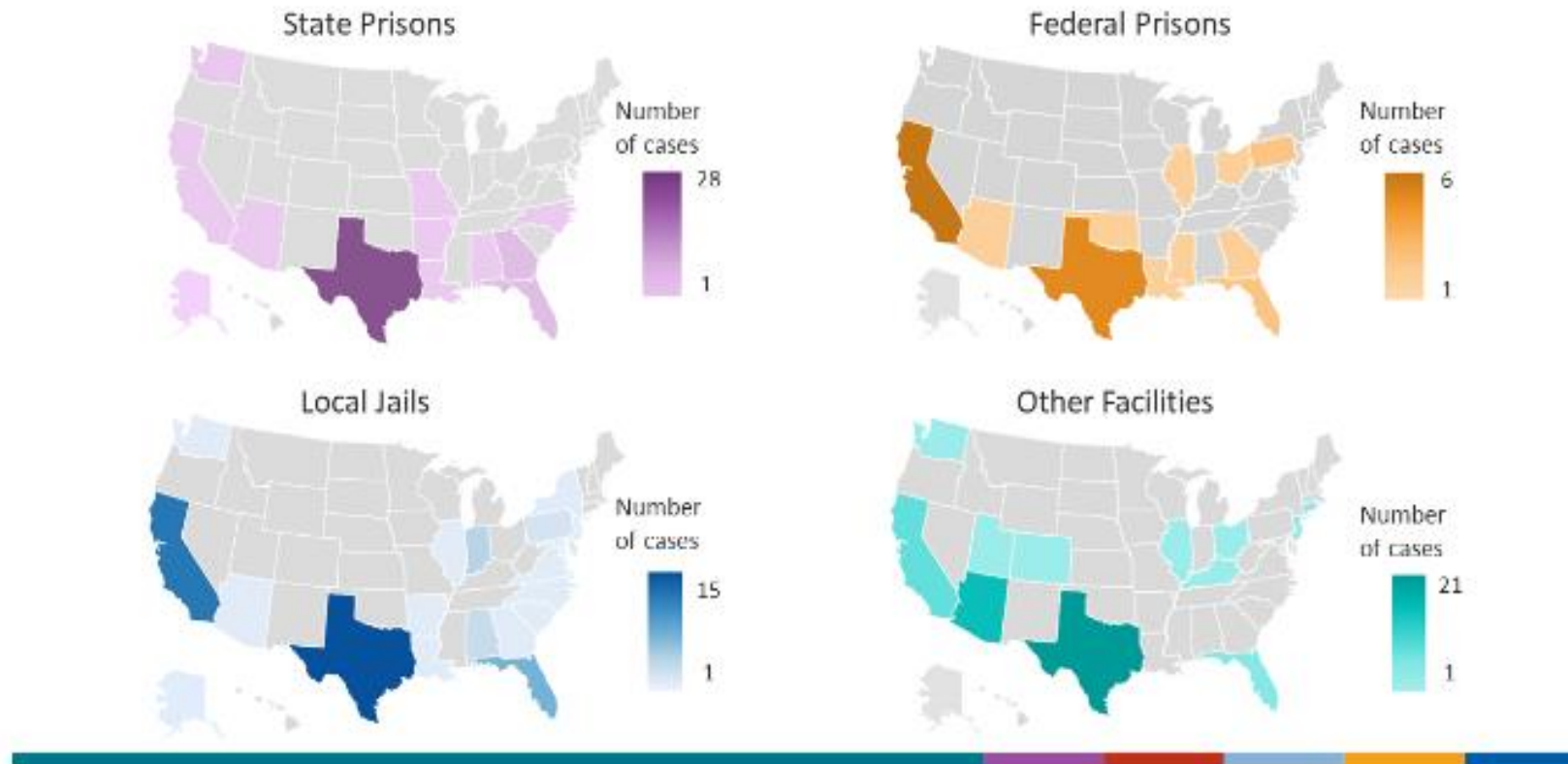
*At the time of TB diagnosis

TB in Correctional Settings in Texas, 2023

- Individuals residing in a correctional facility at diagnosis accounted for **12.2%** of TB cases in Texas in 2023
- **151** out of 1,243 cases were identified in a correctional facility at the time of diagnosis
- Types of correctional facilities include federal prison, state prison, local jails, juvenile correctional facilities, and Immigration and Customs Enforcement (ICE) detention centers

TB in Correctional Settings in the U.S., 2021

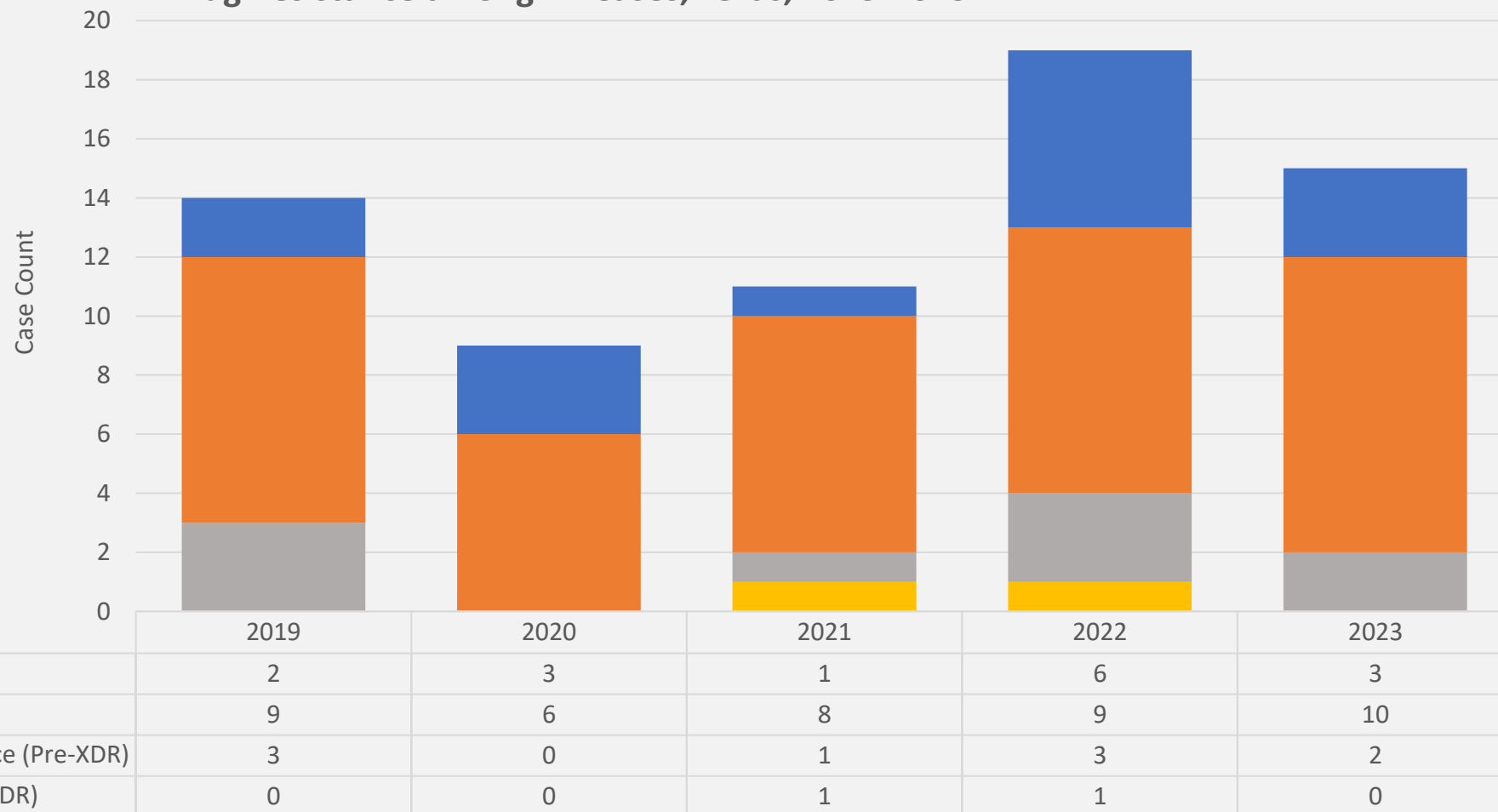
TB Cases Among Correctional Facility Residents Aged ≥15 Years
by Type of Facility, United States, 2021



- Texas accounted for **38.1%** of all TB cases reported from correctional facilities in the U.S. in 2021

Drug Resistant TB in Texas, 2019-2023

Drug Resistance among TB Cases, Texas, 2019-2023



For More Information



Global TB: Global Tuberculosis Report, 2024



TB in the US: CDC Reported Tuberculosis in the United States, 2023



TB in Texas: Visit our website www.texastb.org or email TBEpi@dshs.Texas.gov

Questions?

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