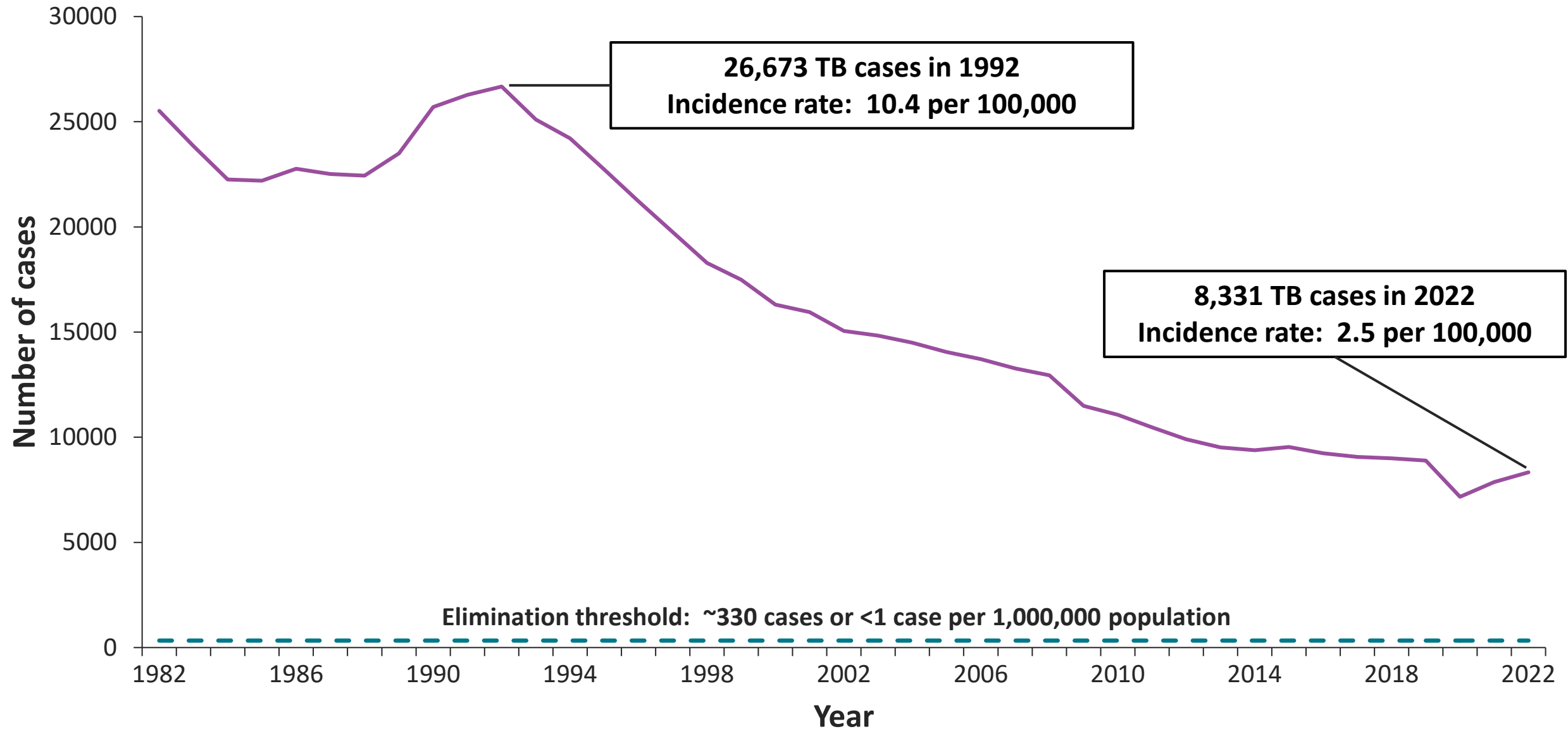




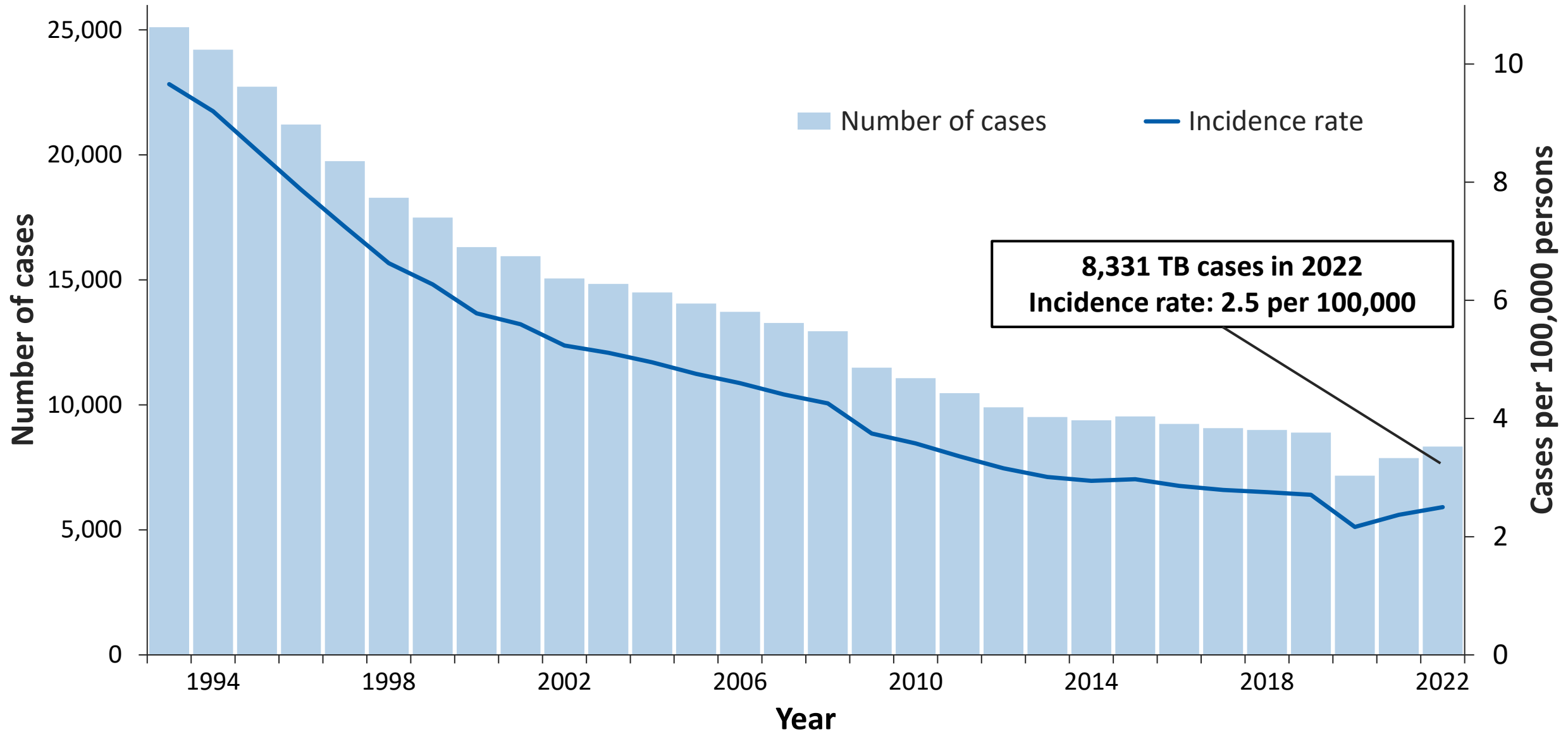
Tuberculosis (TB) in the United States 1993–2022*

Division of Tuberculosis Elimination
National Tuberculosis Surveillance System

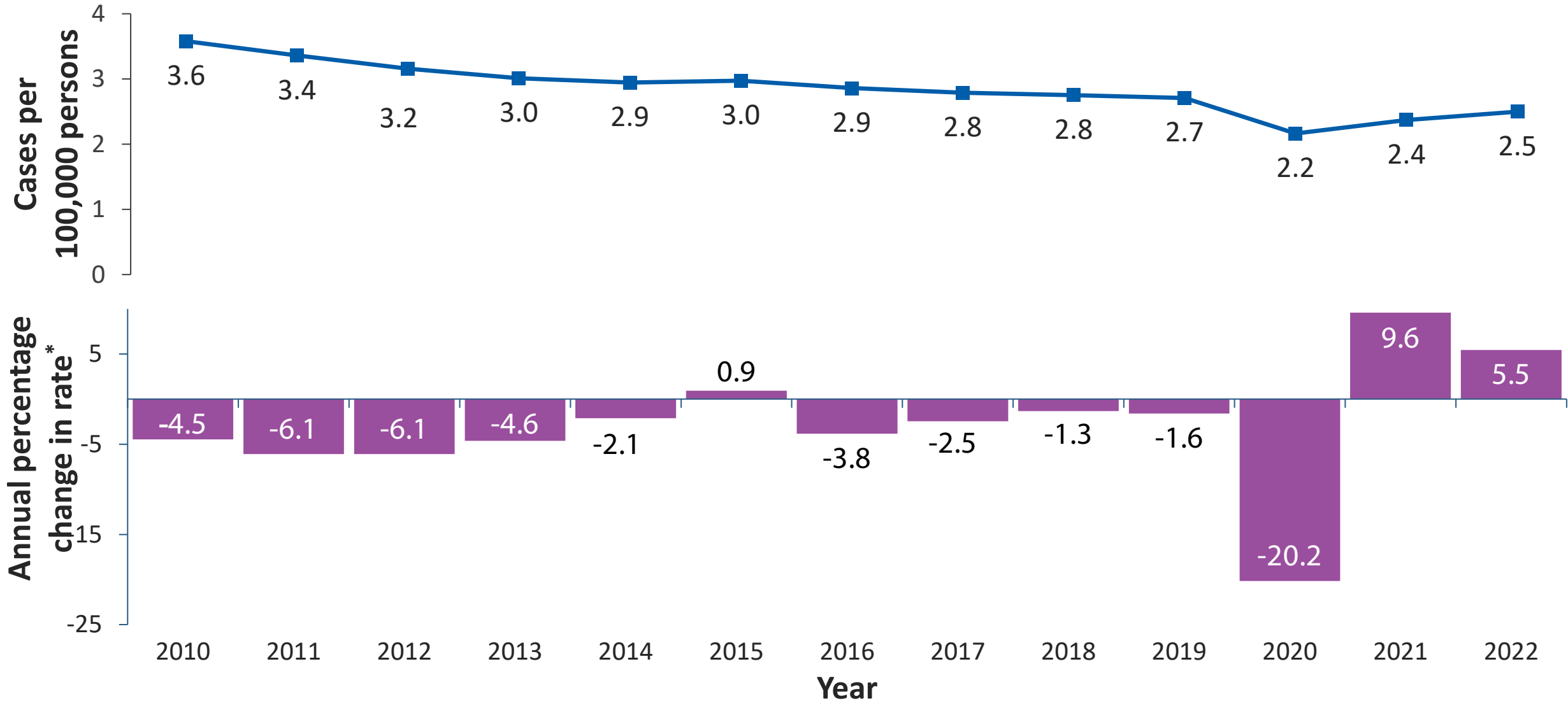
Progress Towards TB Elimination, United States, 1982–2022



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

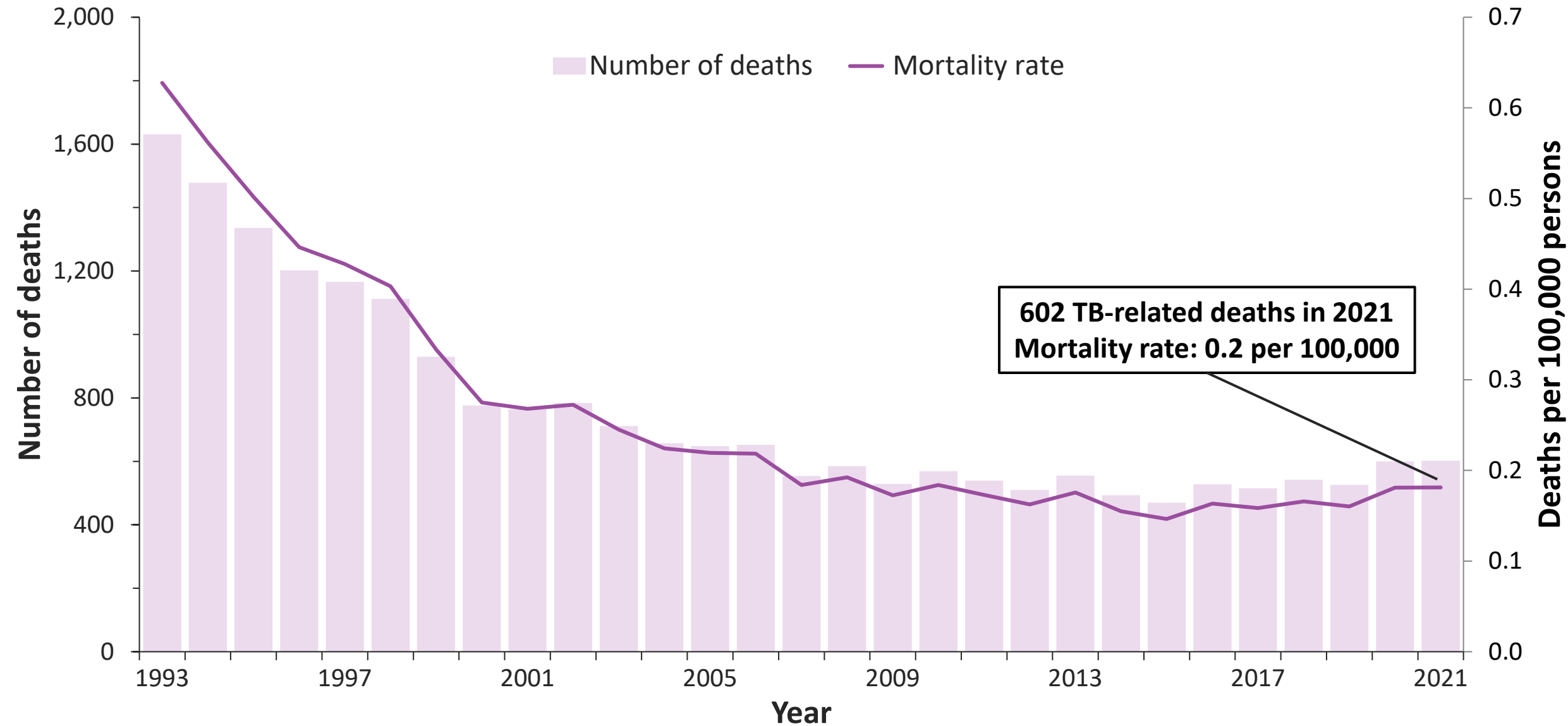


TB Incidence Rates and Annual Percent Change in Rate, United States, 2010–2022



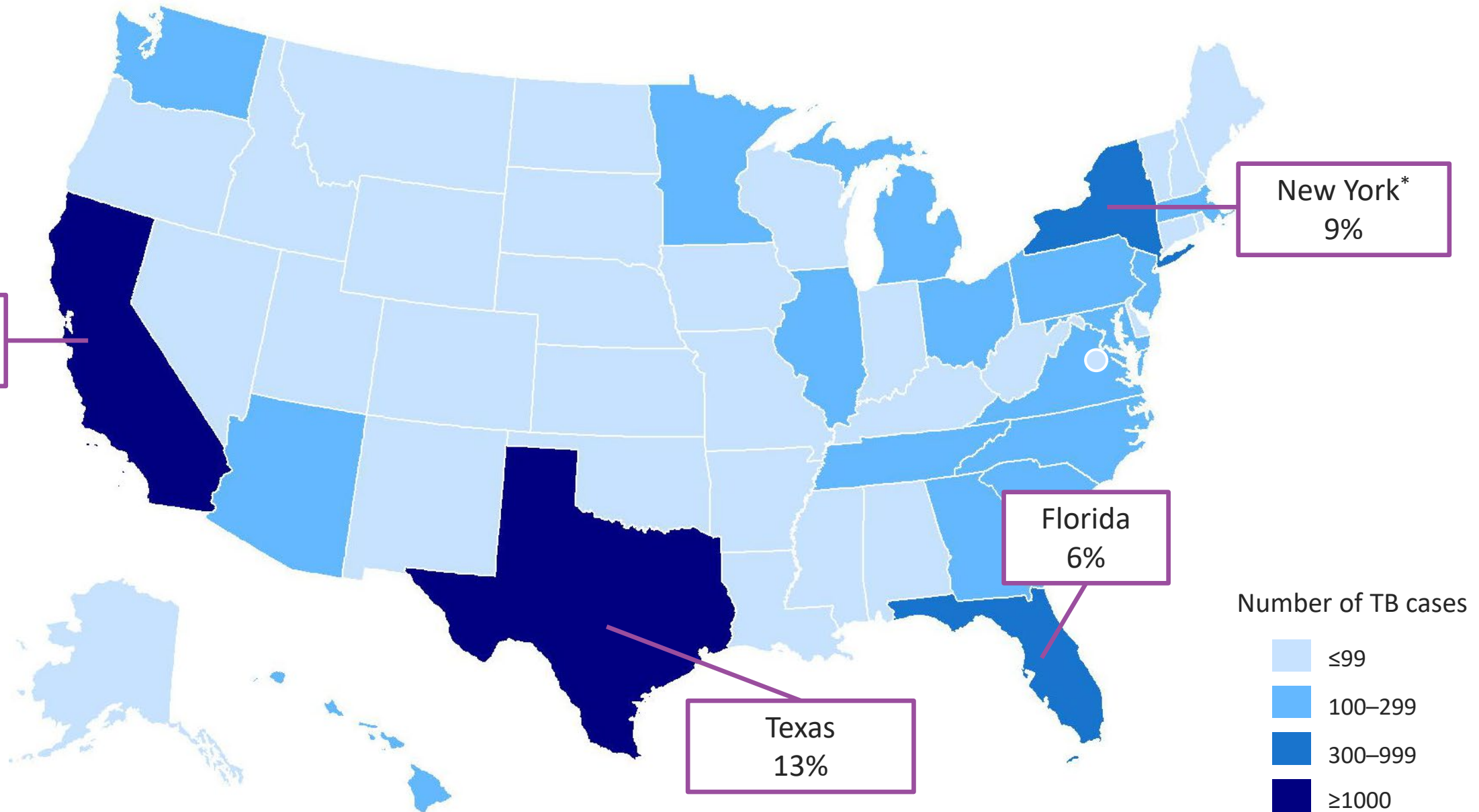
*Annual percent change in rate based on unrounded data

TB-Related Deaths* and Mortality Rates, United States, 1993–2021



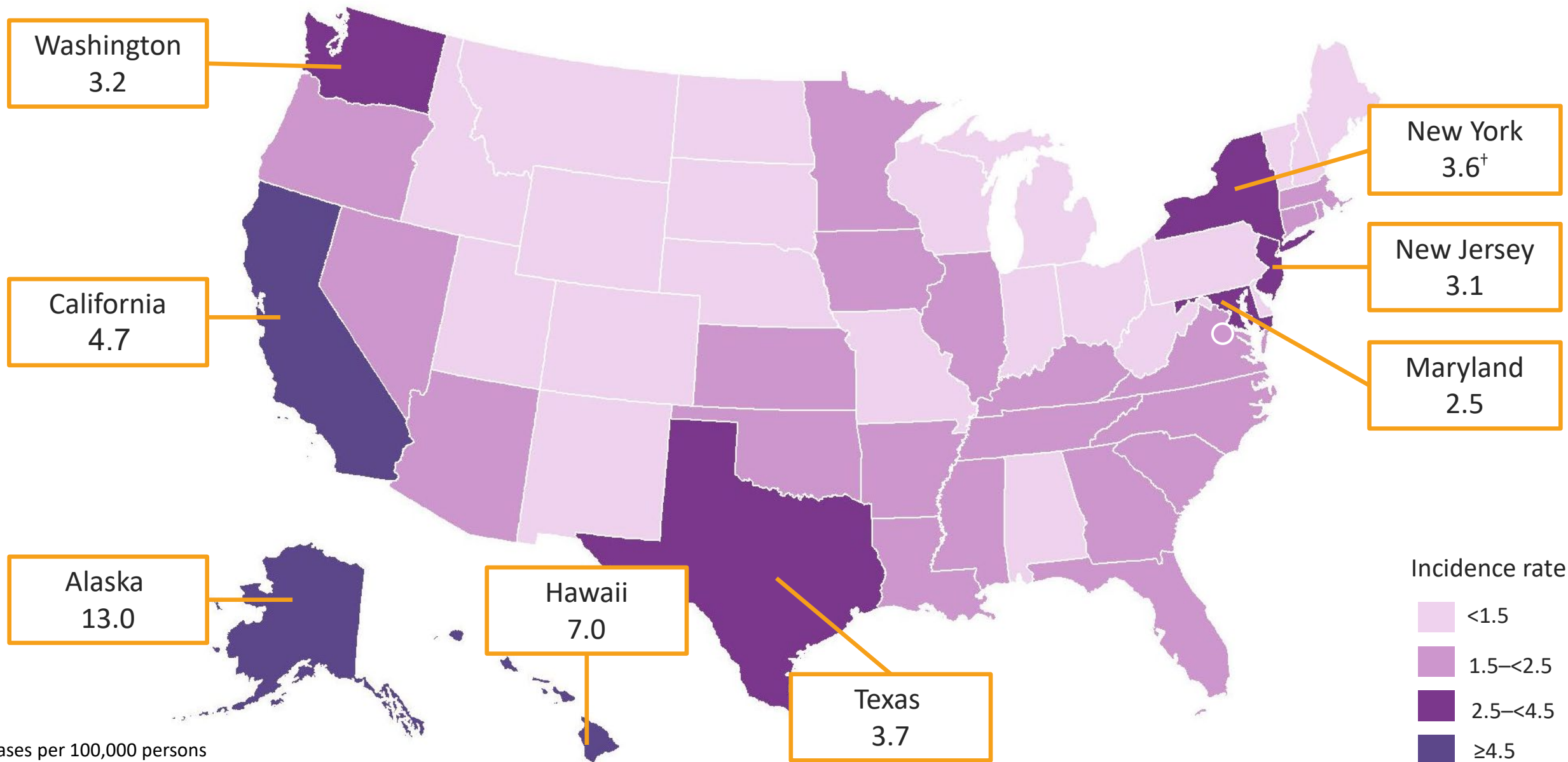
*National Vital Statistics System Underlying Cause of Death (based on deaths reported through 2021)

TB Cases by Reporting Area, United States, 2022



* Includes New York City

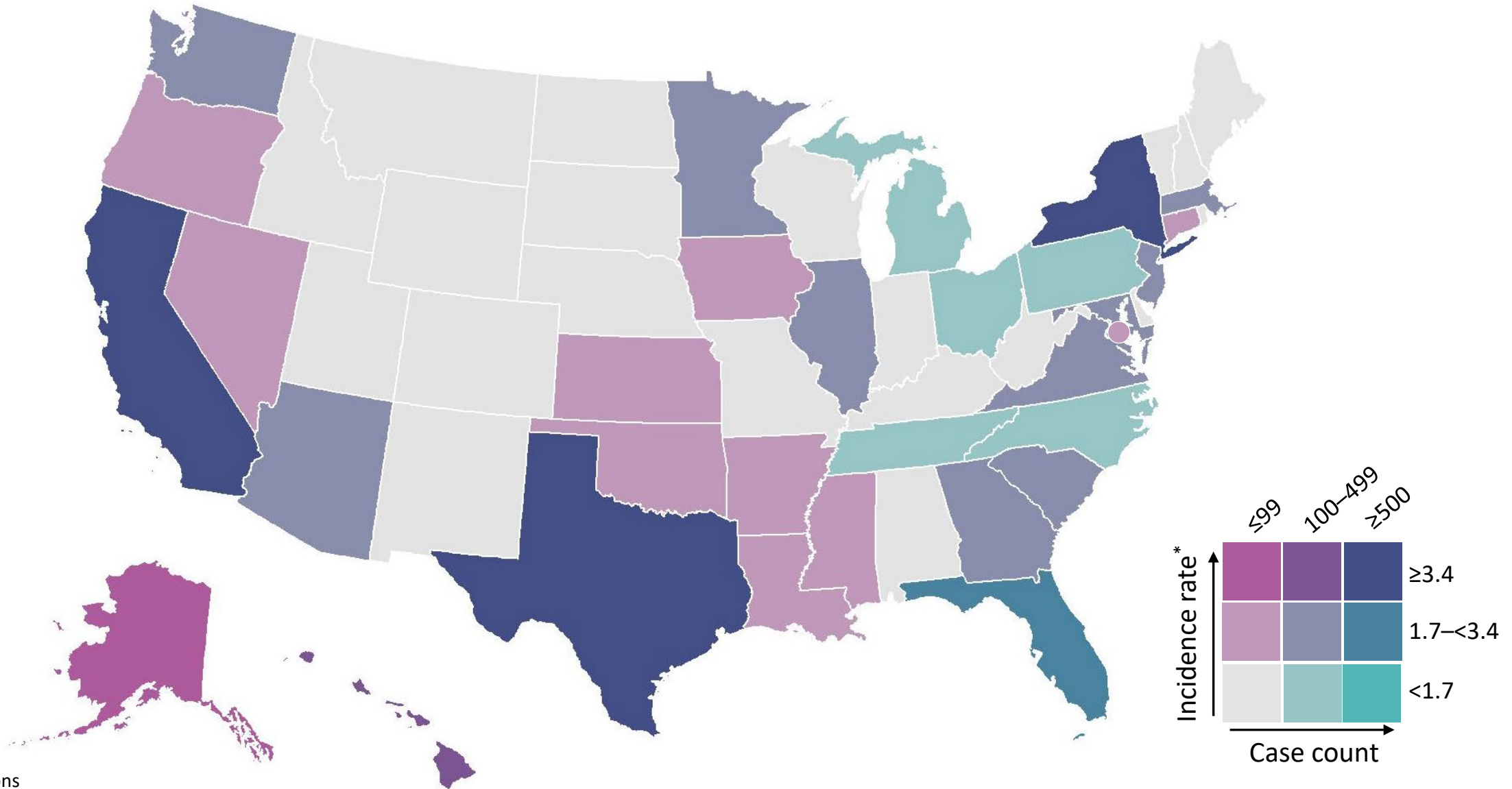
TB Incidence Rates* by Reporting Area, United States, 2022



*Cases per 100,000 persons

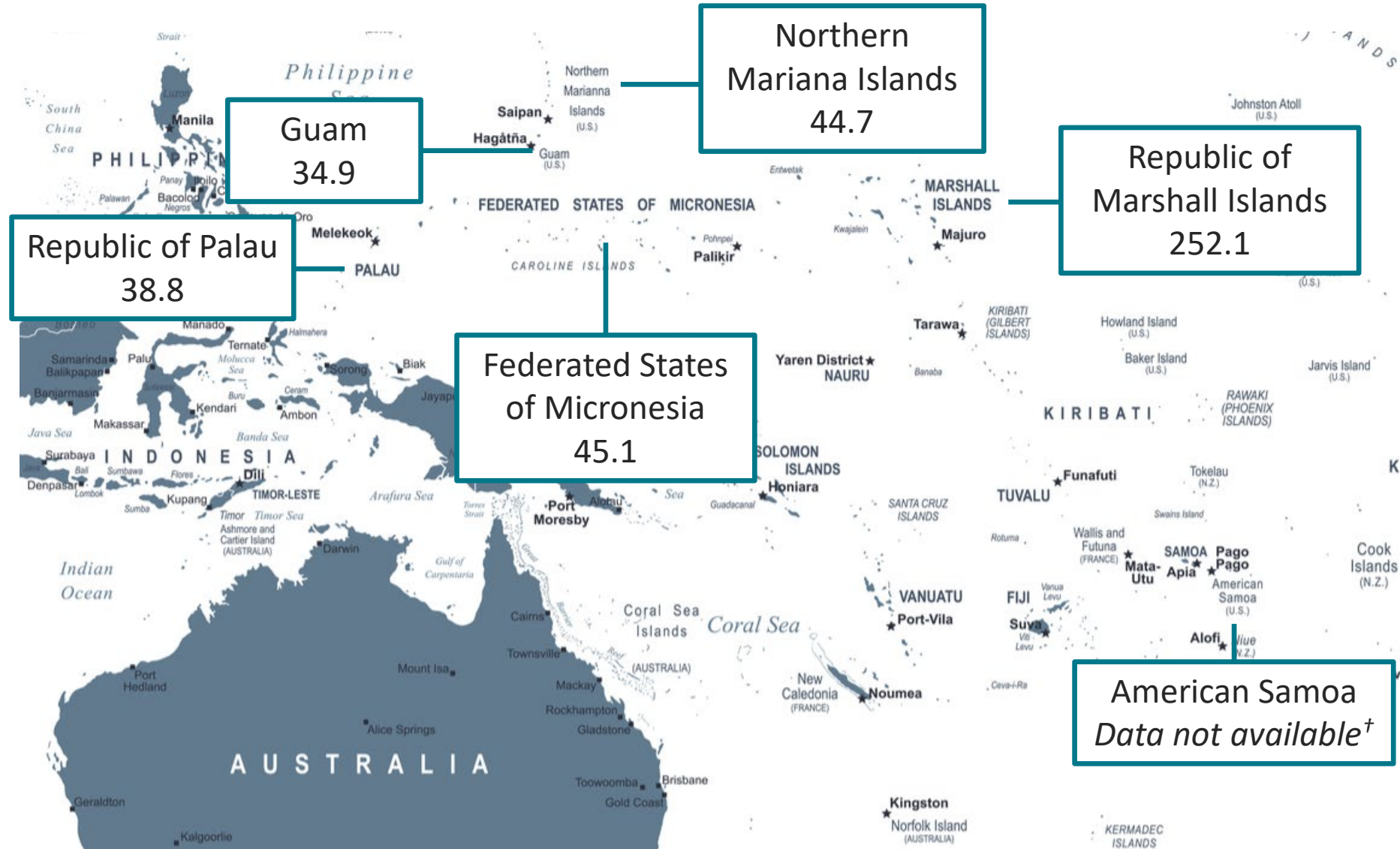
[†]Includes New York City

TB Cases and Incidence Rates* by Reporting Area, United States, 2022



*Cases per 100,000 persons

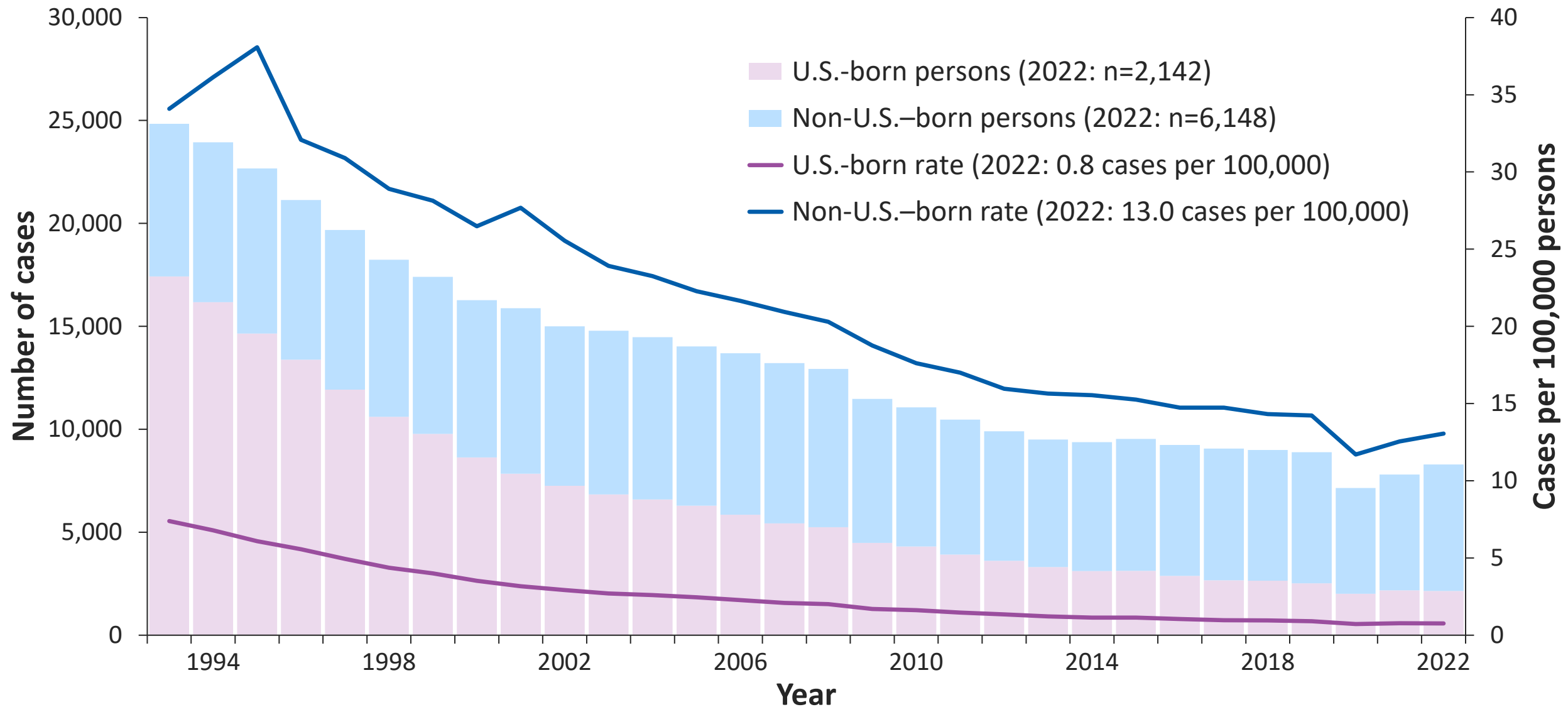
TB Incidence Rates* by U.S.-Affiliated Pacific Islands, 2022



*Cases per 100,000 persons

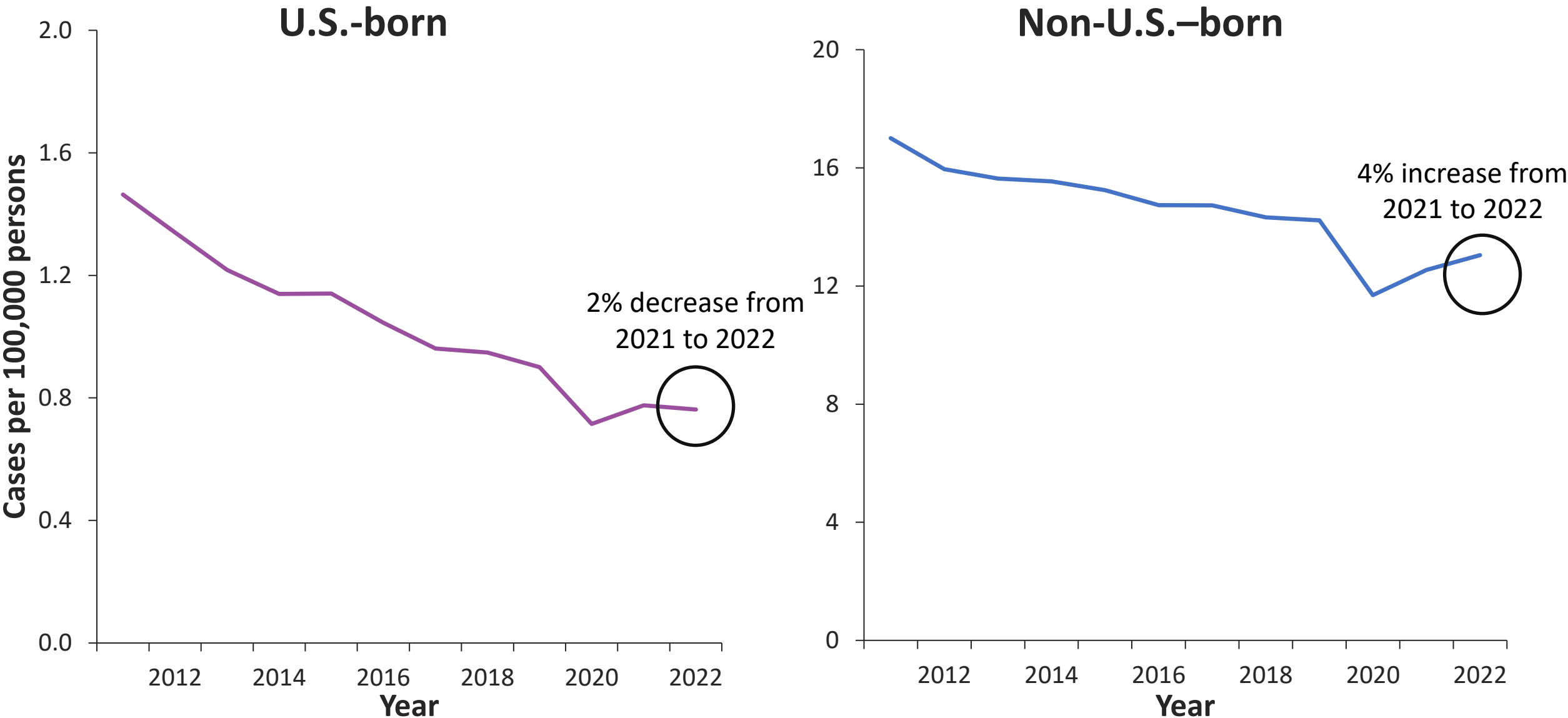
†American Samoa data not submitted for 2022

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.

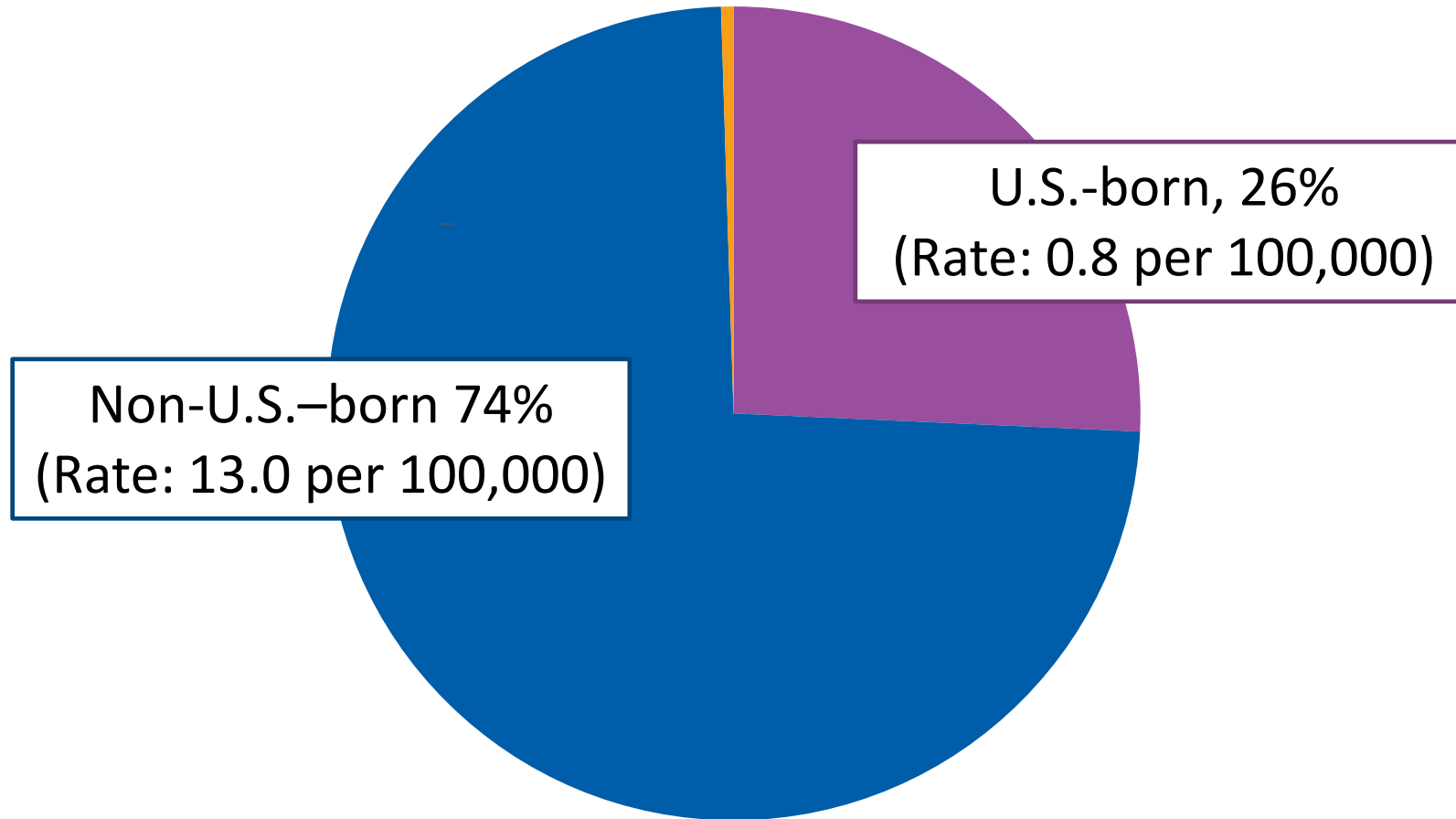
TB Incidence Rates by Origin of Birth,* United States, 2011–2022



*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.

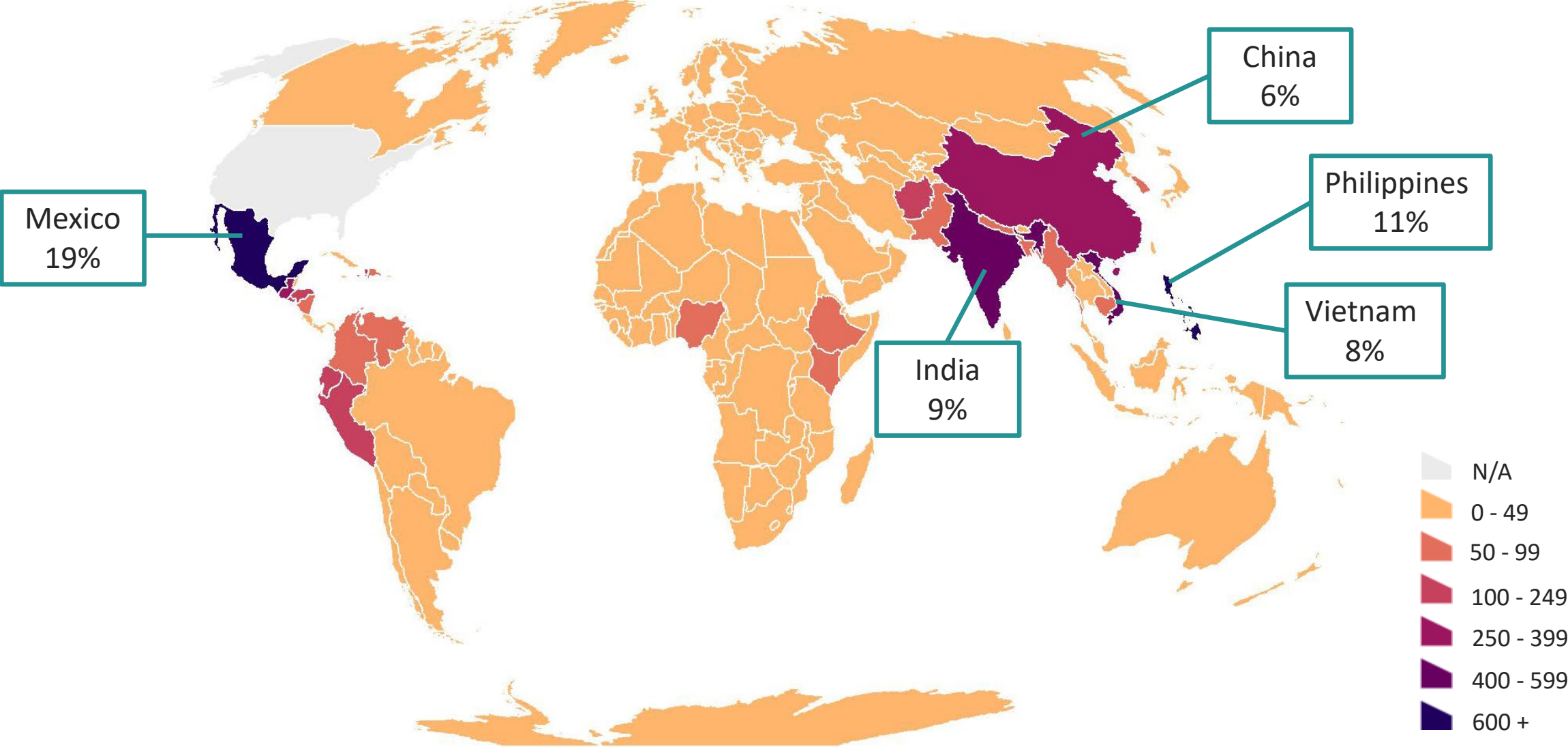
TB Incidence Rates and Percentages by Origin of Birth,* United States, 2022 (N=8,331)

Origin of birth unknown, <1%



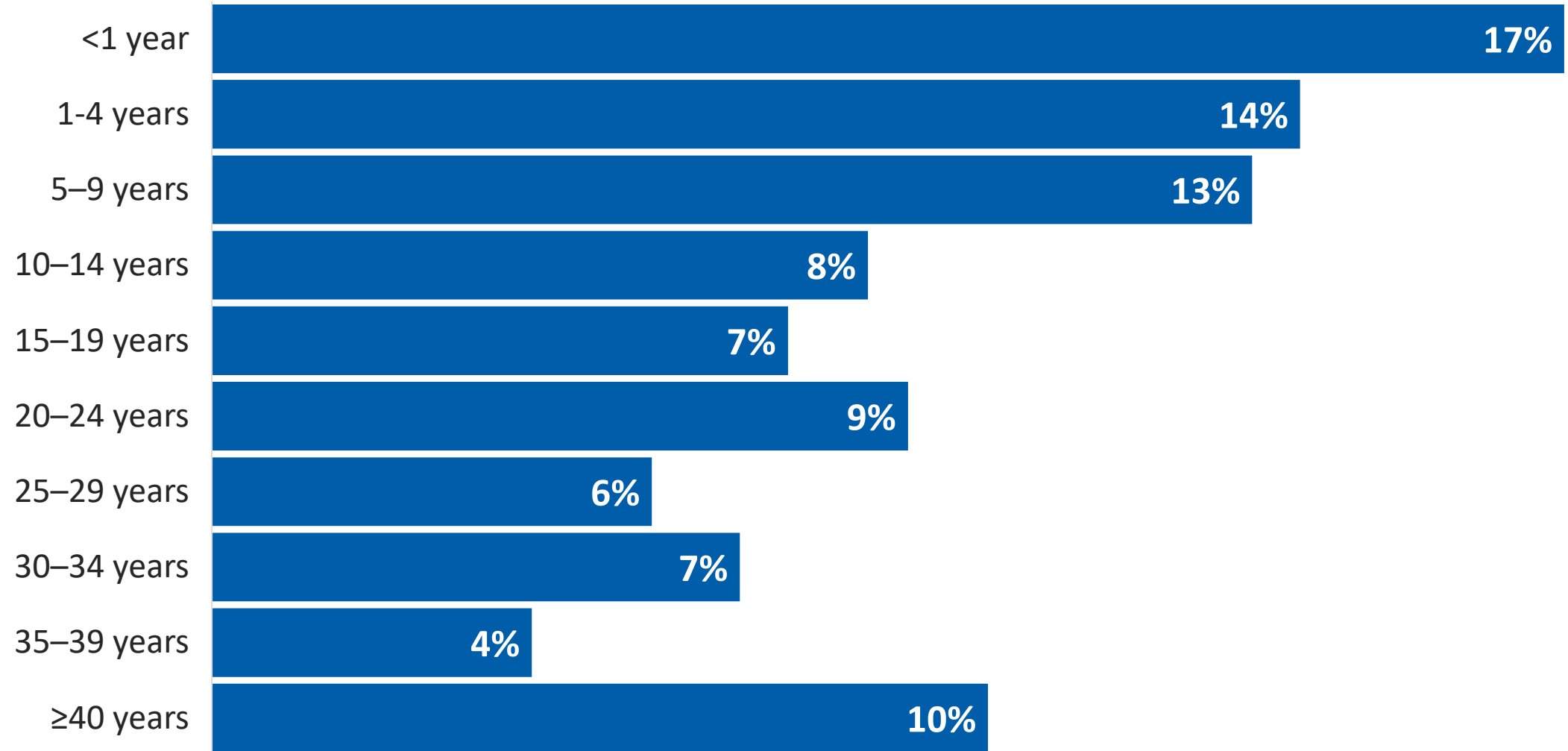
*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

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.

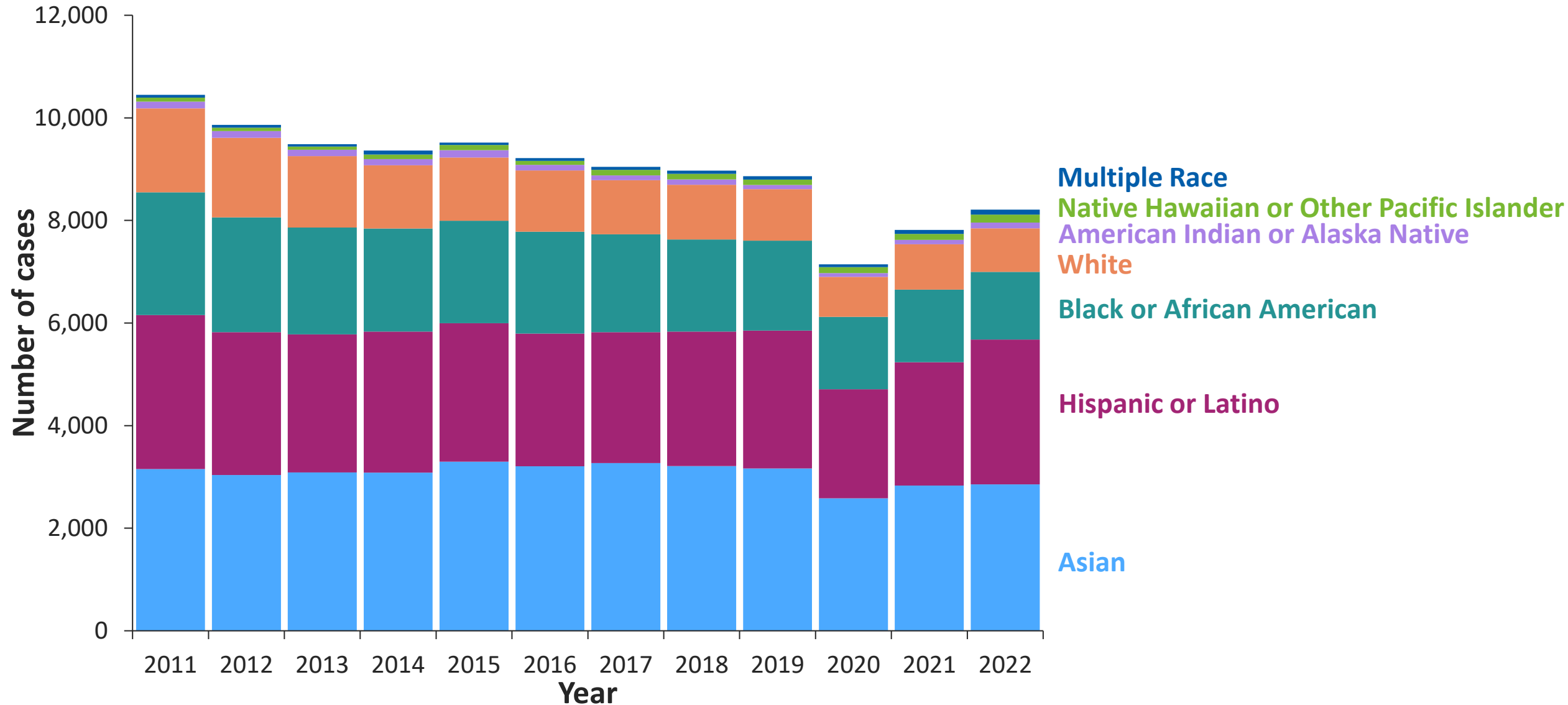
Percentage of TB Cases Among Non-U.S.–Born* Persons by Years Since Initial Arrival in the United States at Diagnosis,[†] 2022 (N=6,148)



*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.

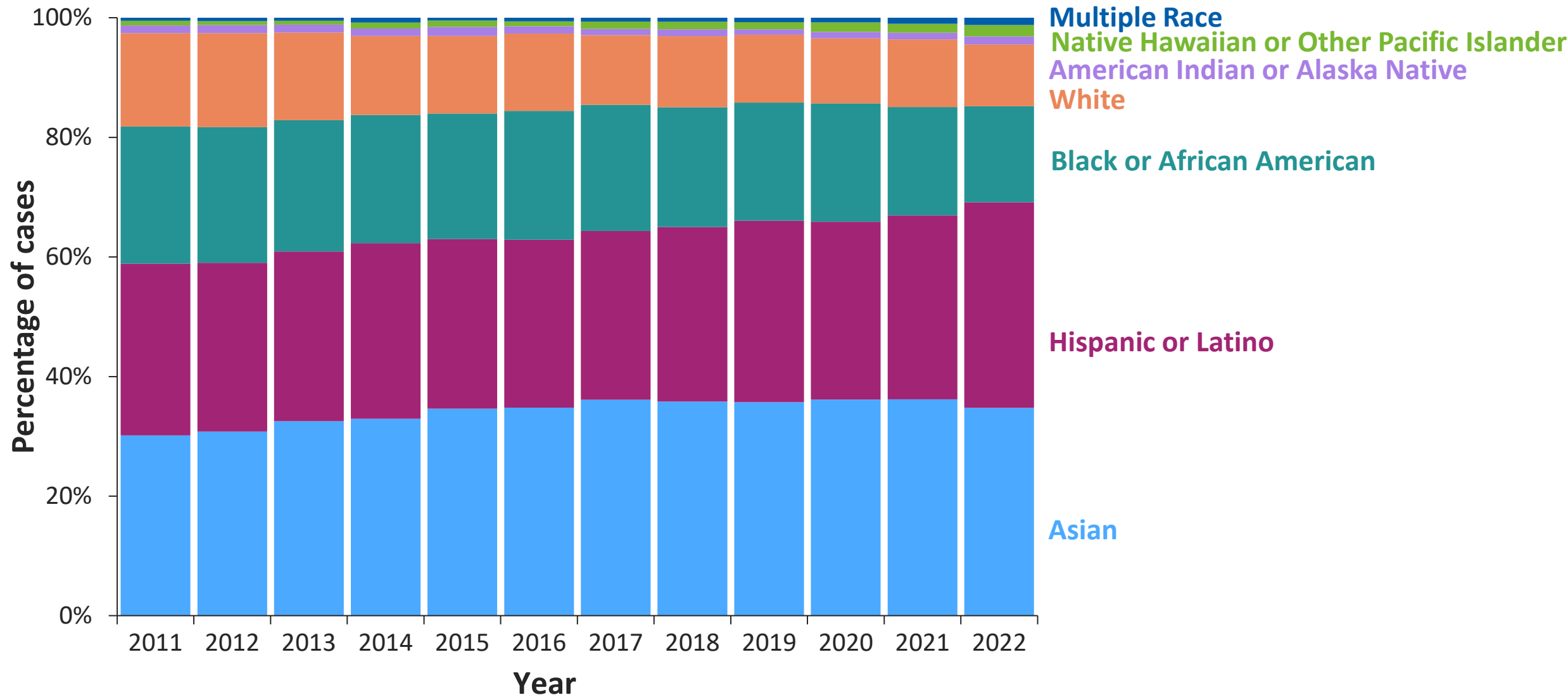
[†]The number of years since initial arrival in the United States at diagnosis was unknown or missing for 7% of non-U.S.–born persons. These persons were included in the denominator when percentages were calculated.

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



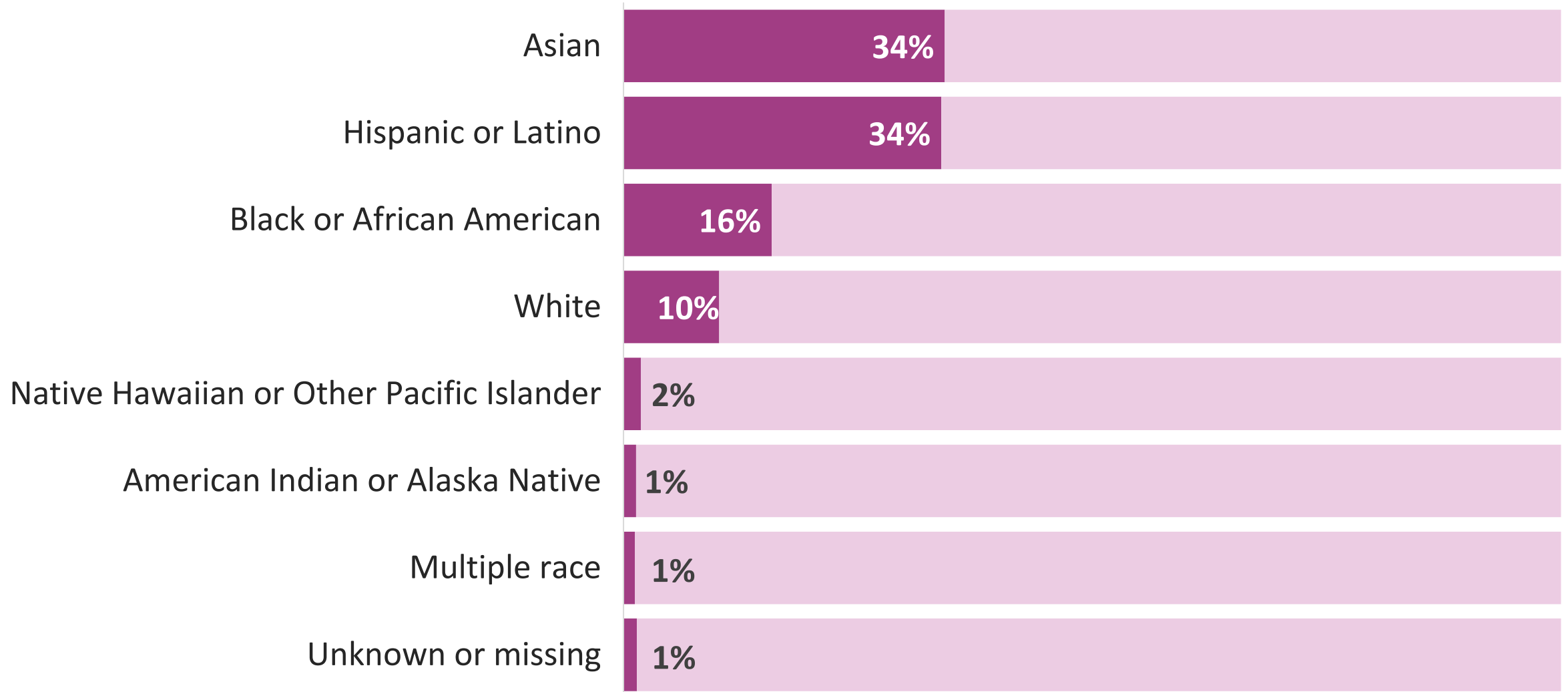
*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

Percentage of TB Cases by Race/Ethnicity,* United States, 2011–2022



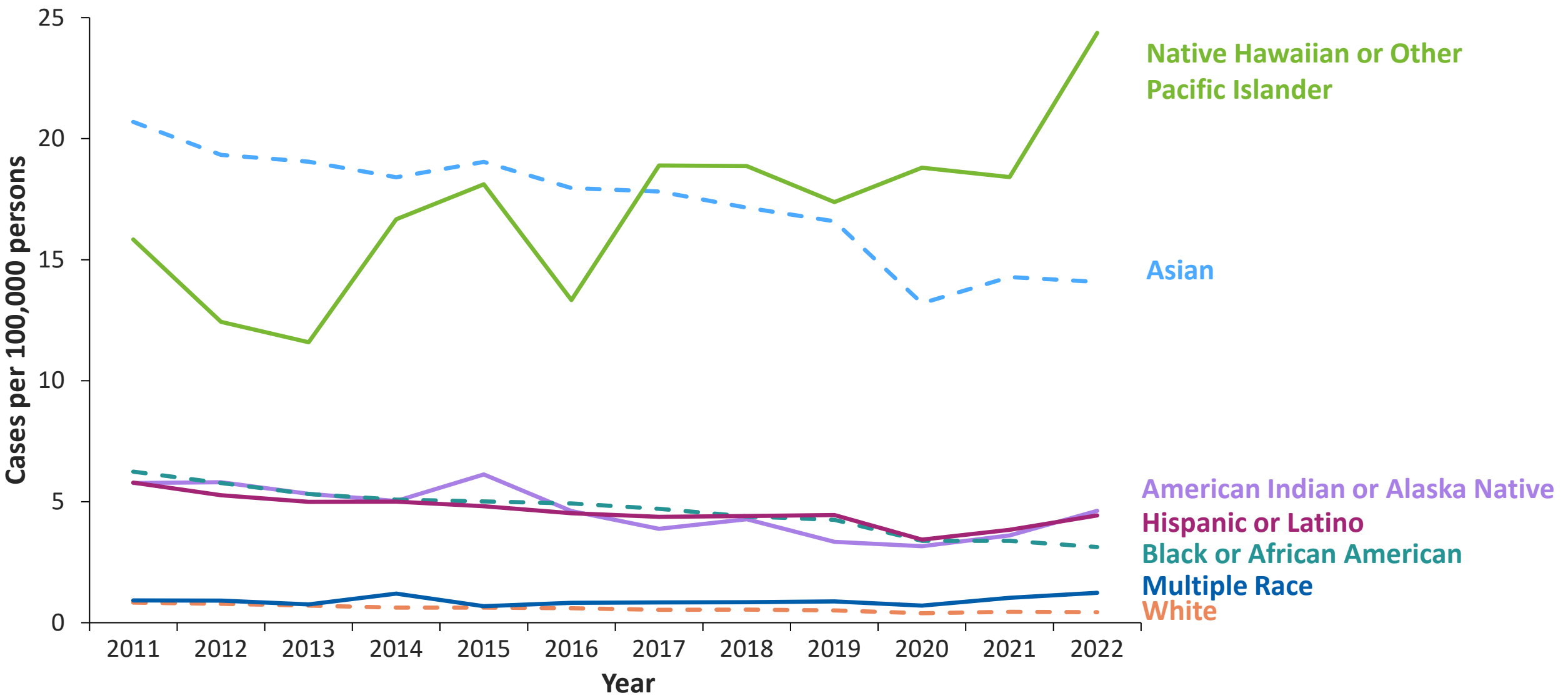
*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

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



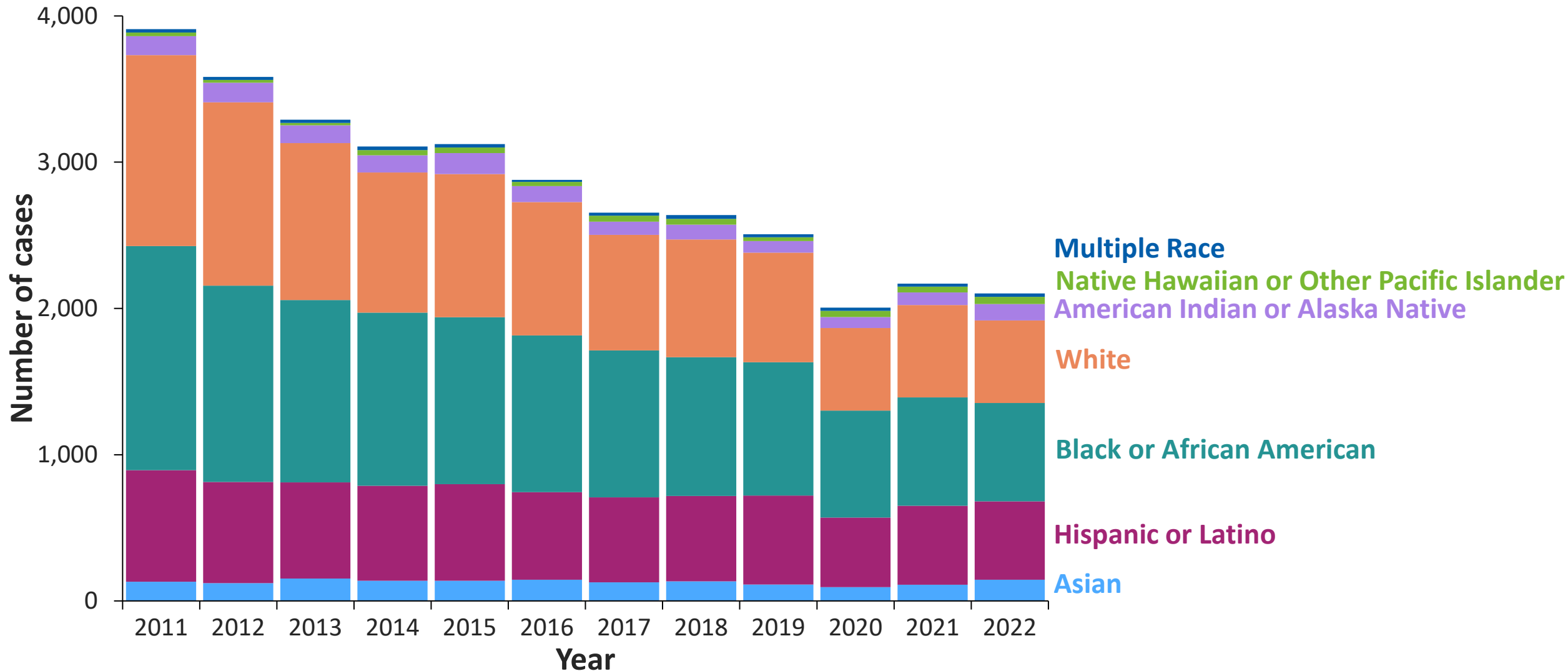
*Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

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."

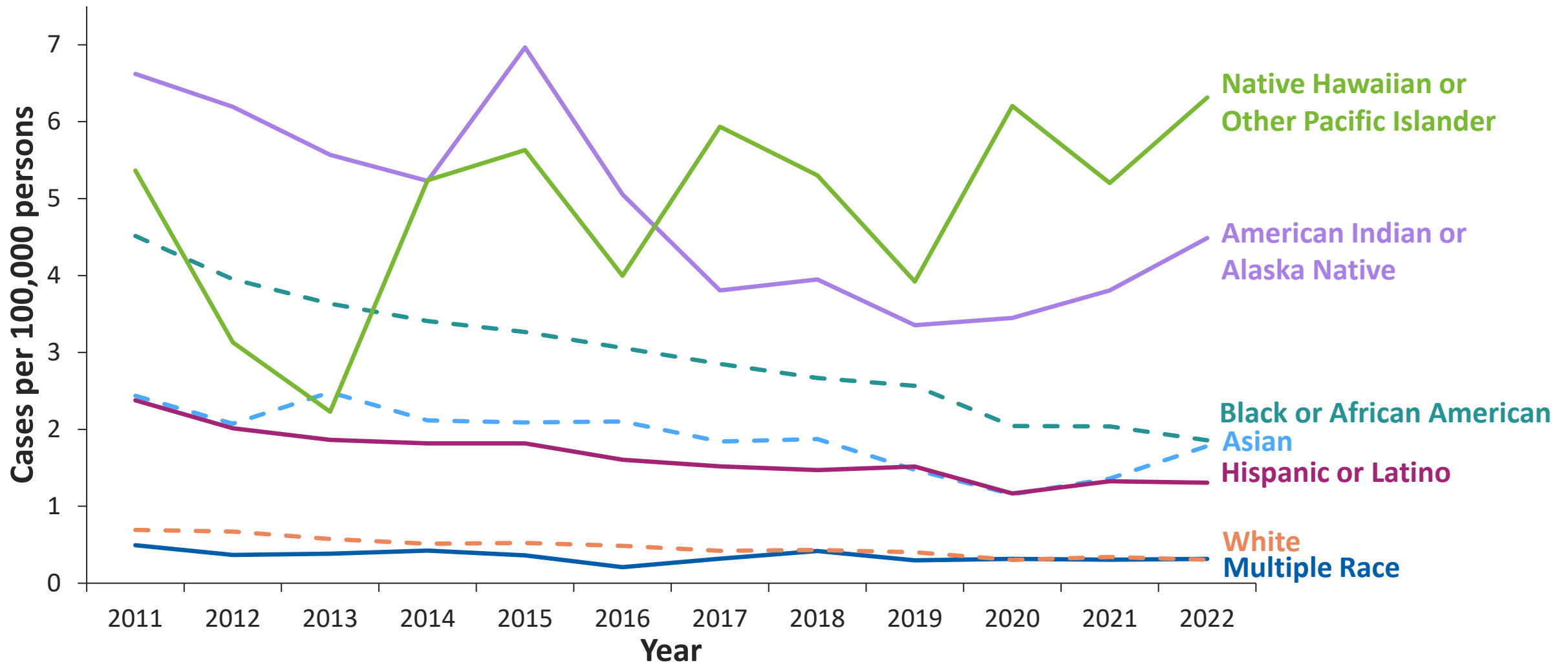
TB Cases Among U.S.-Born* Persons by Race/Ethnicity,[†] United States, 2011–2022



*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.

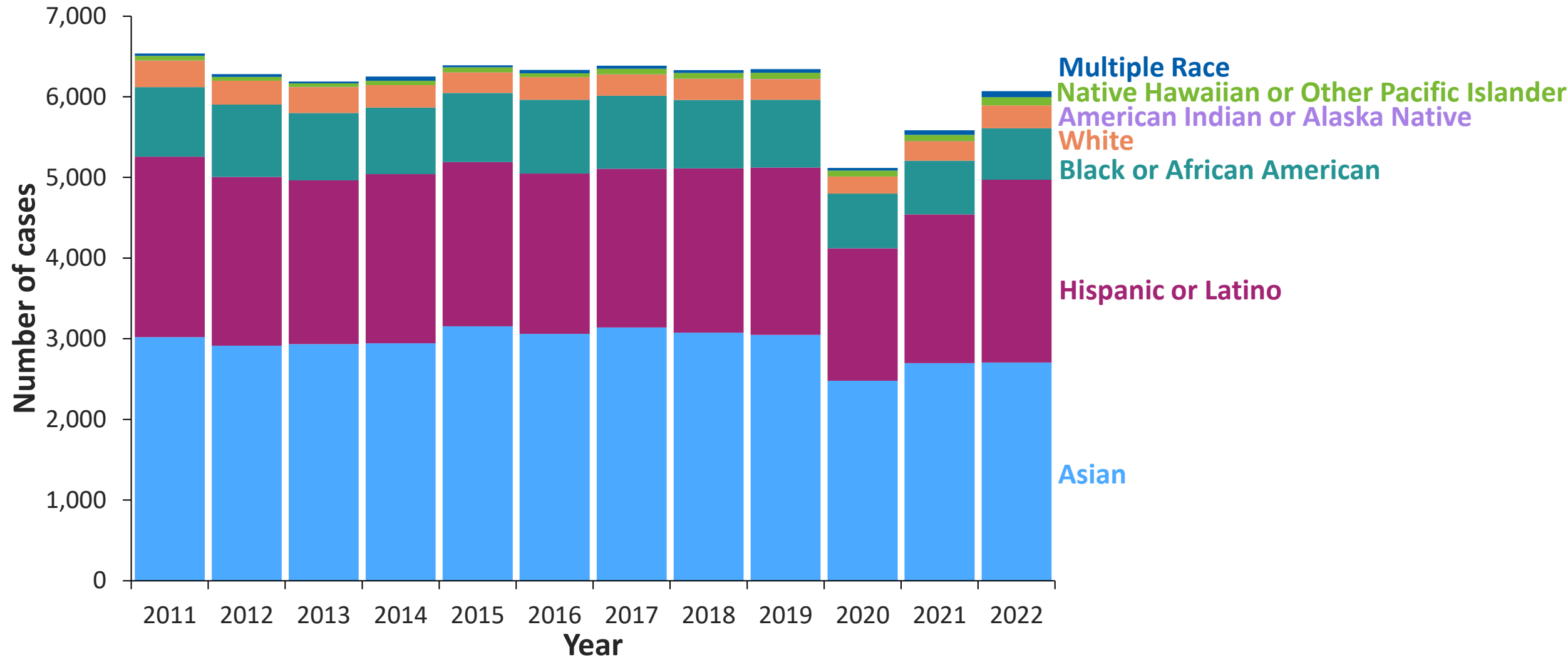
[†]Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

TB Incidence Rates Among U.S.-Born* Persons by Race/Ethnicity,† United States, 2011–2022



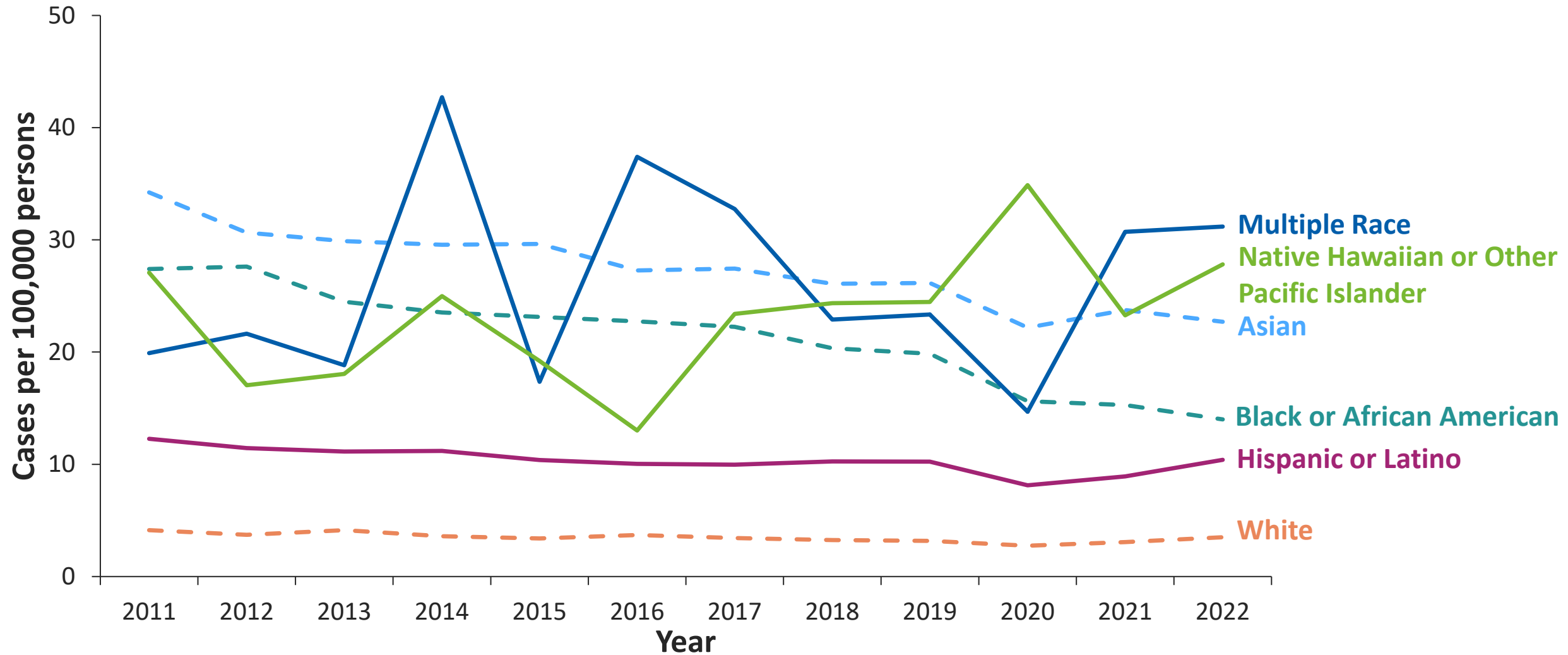
*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.
†Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. 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 Non-U.S.–Born* Persons by Race/Ethnicity,† 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.
†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."

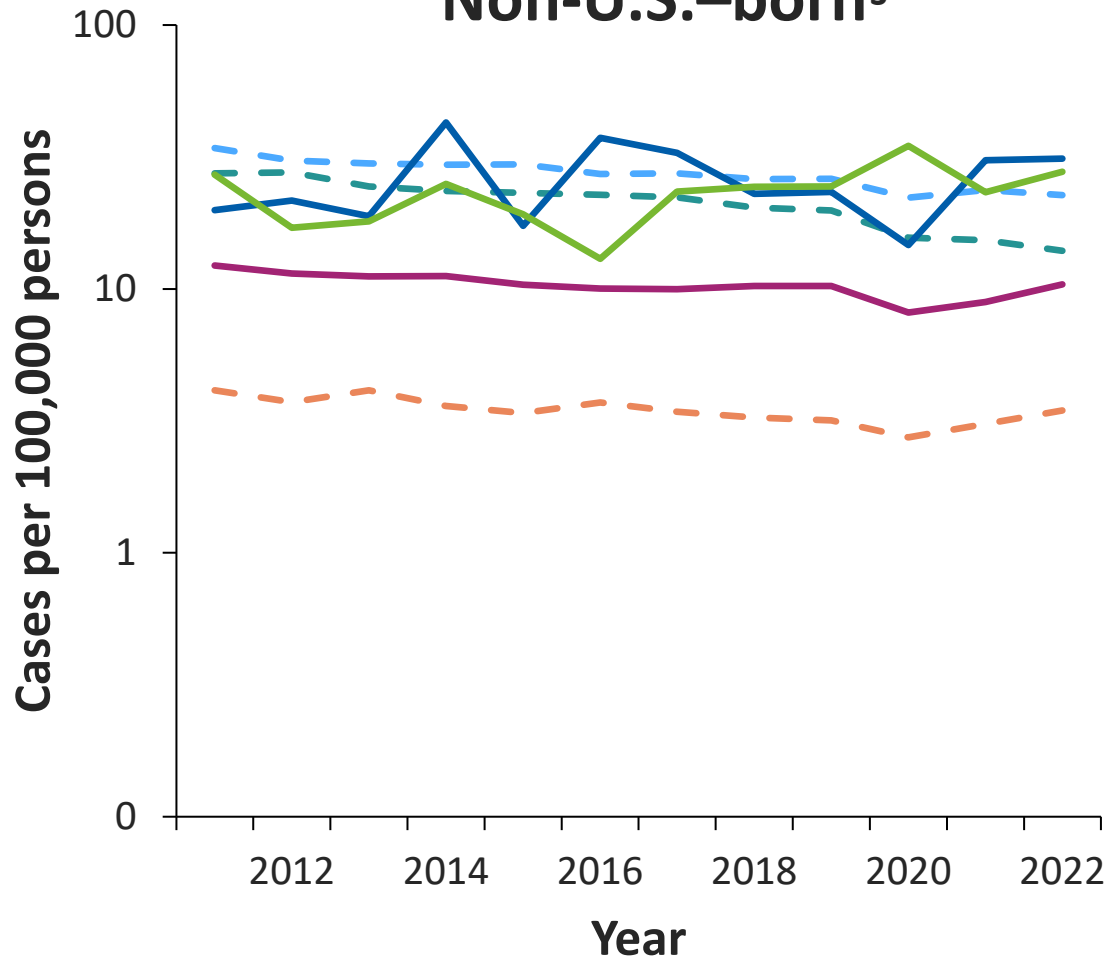
TB Incidence Rates Among Non-U.S.–Born* Persons by Race/Ethnicity,† United States, 2011–2022



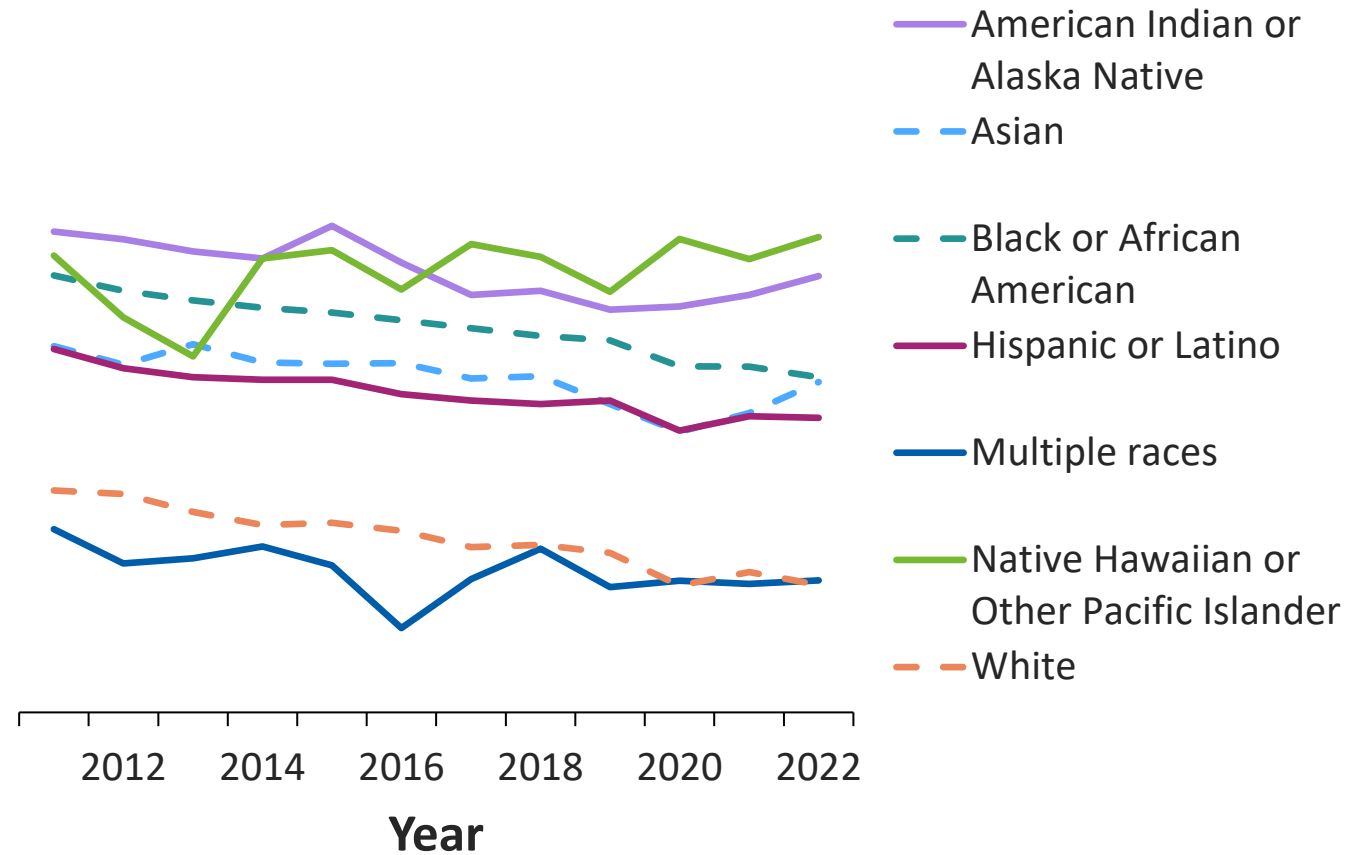
*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.–born.
†Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. 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 Among Non-U.S.–Born and U.S.-Born* Persons by Race/Ethnicity,[†] United States, 2011–2022

Non-U.S.–born[§]



U.S.–born



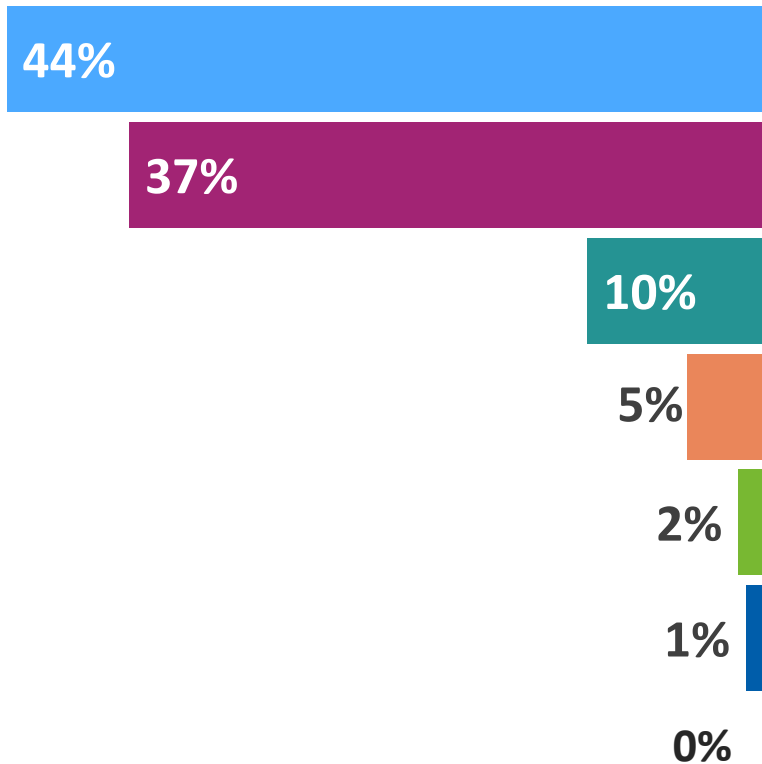
*Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.–born.

[†]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."

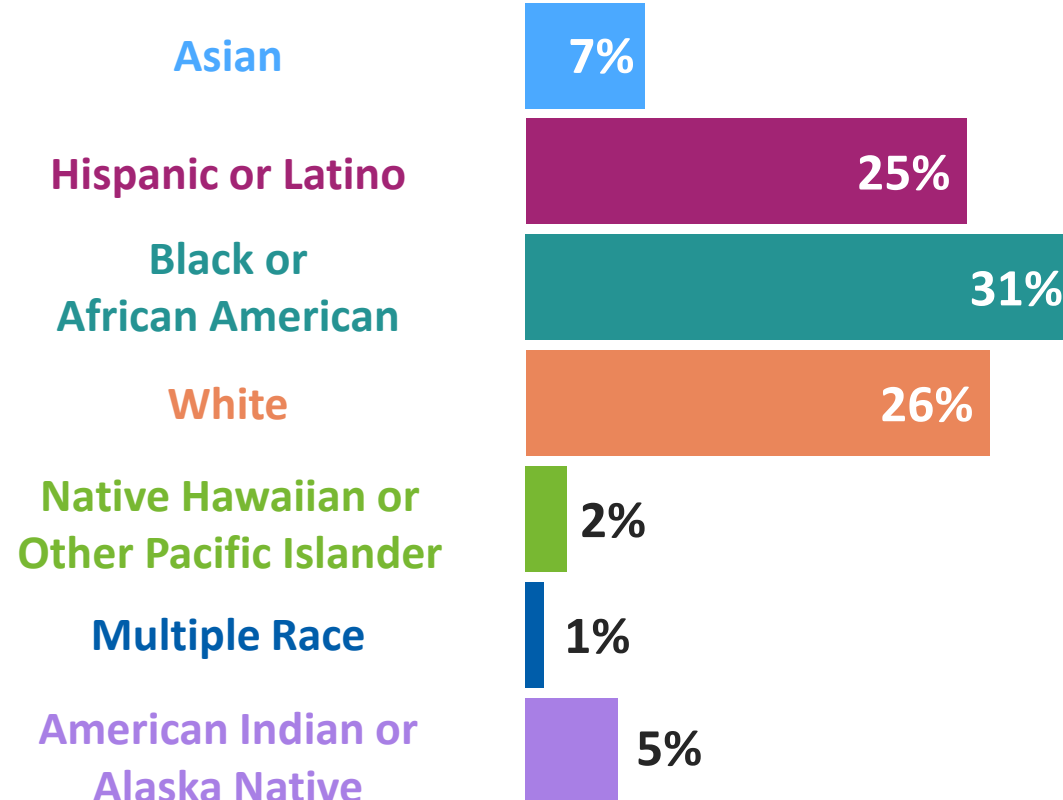
[§]Non-U.S.-born American Indian/Alaska Native are not displayed because some years have zero cases, which cannot be displayed in a log-scale graph.

Percentage* of TB Cases by Origin† and Race/Ethnicity,§ United States, 2022

Non-U.S.–born persons
(N=6,148)



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



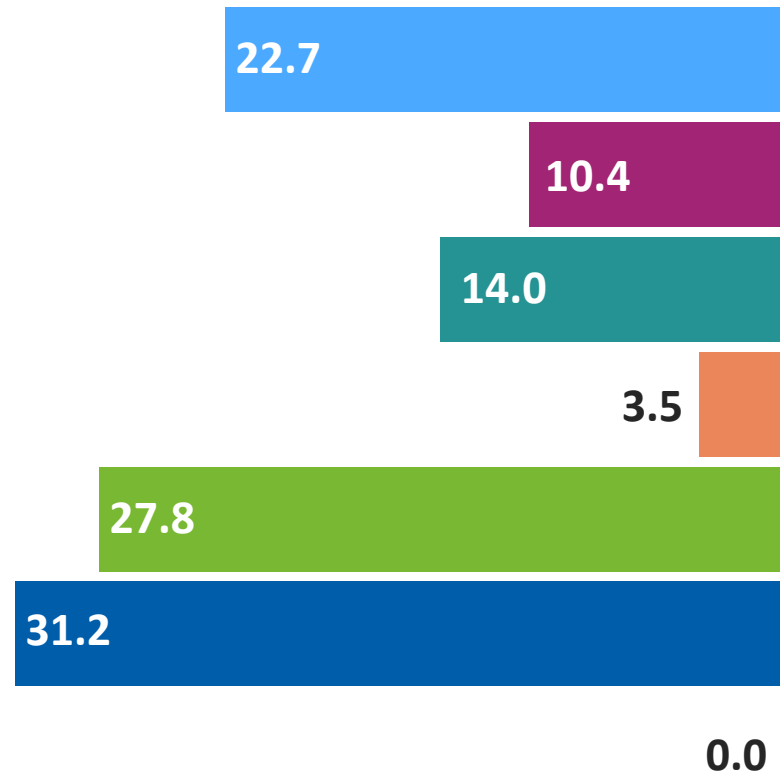
*Percentages are rounded.

†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.

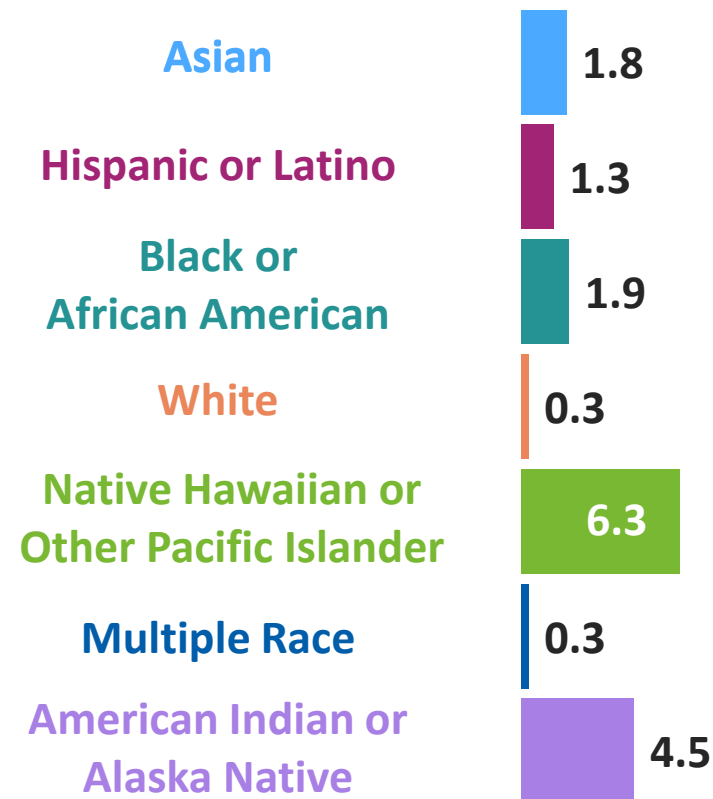
§Persons who identified as Hispanic or Latino were categorized as "Hispanic," regardless of self-reported race. Persons who did not identify as Hispanic or Latino were categorized by self-reported race; if more than one race was reported, the person was categorized as "Multiple race."

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)

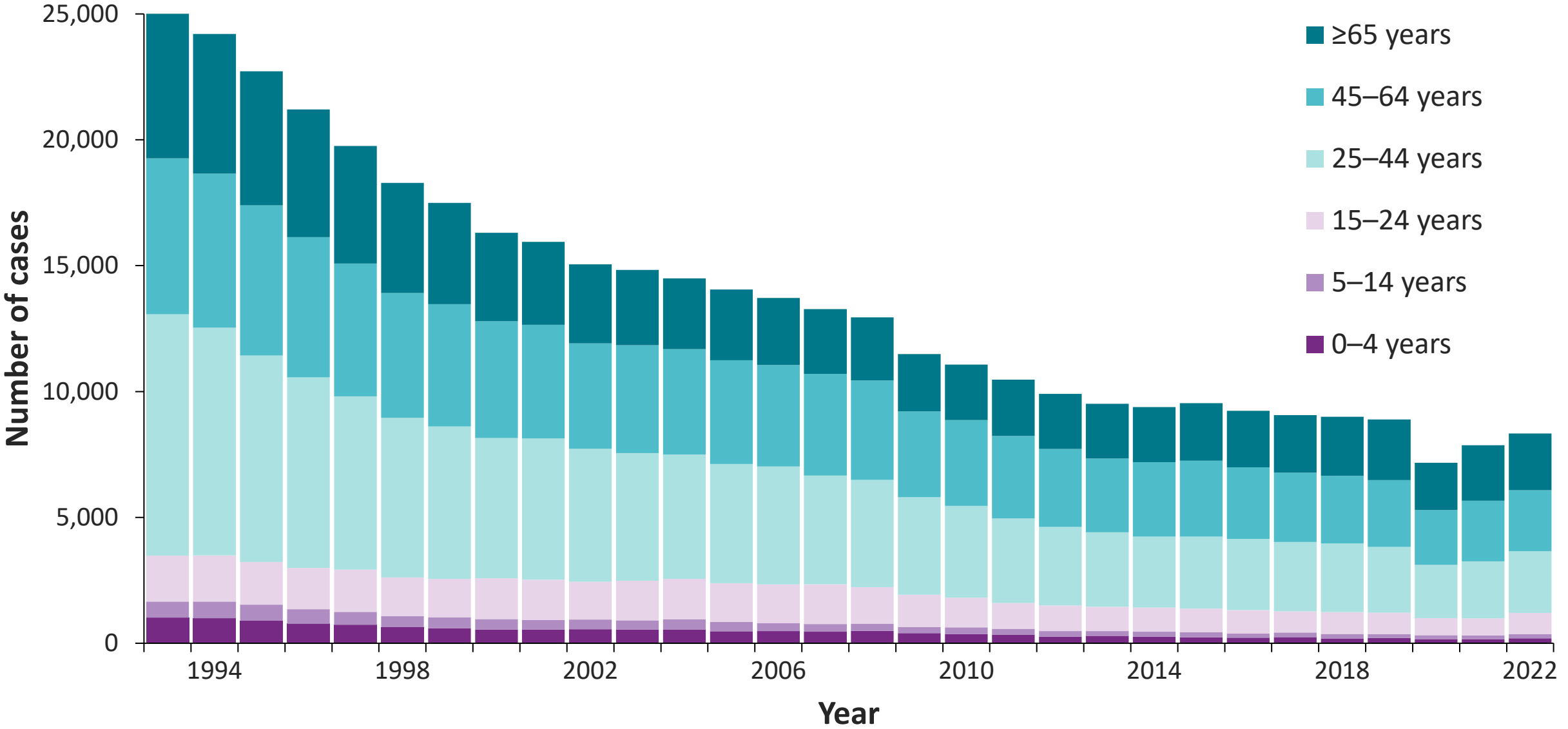


*Cases per 100,000 persons

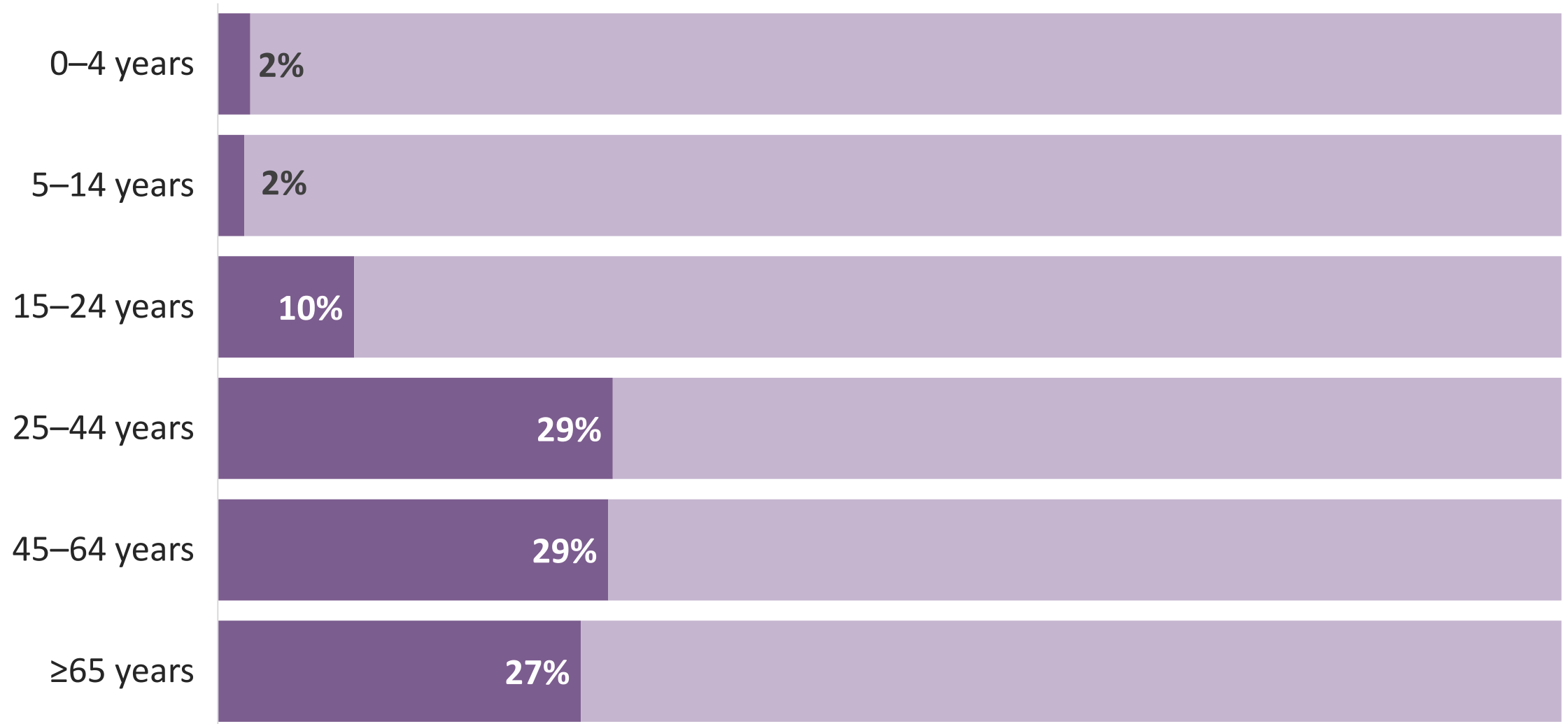
†Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.–born.

§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."

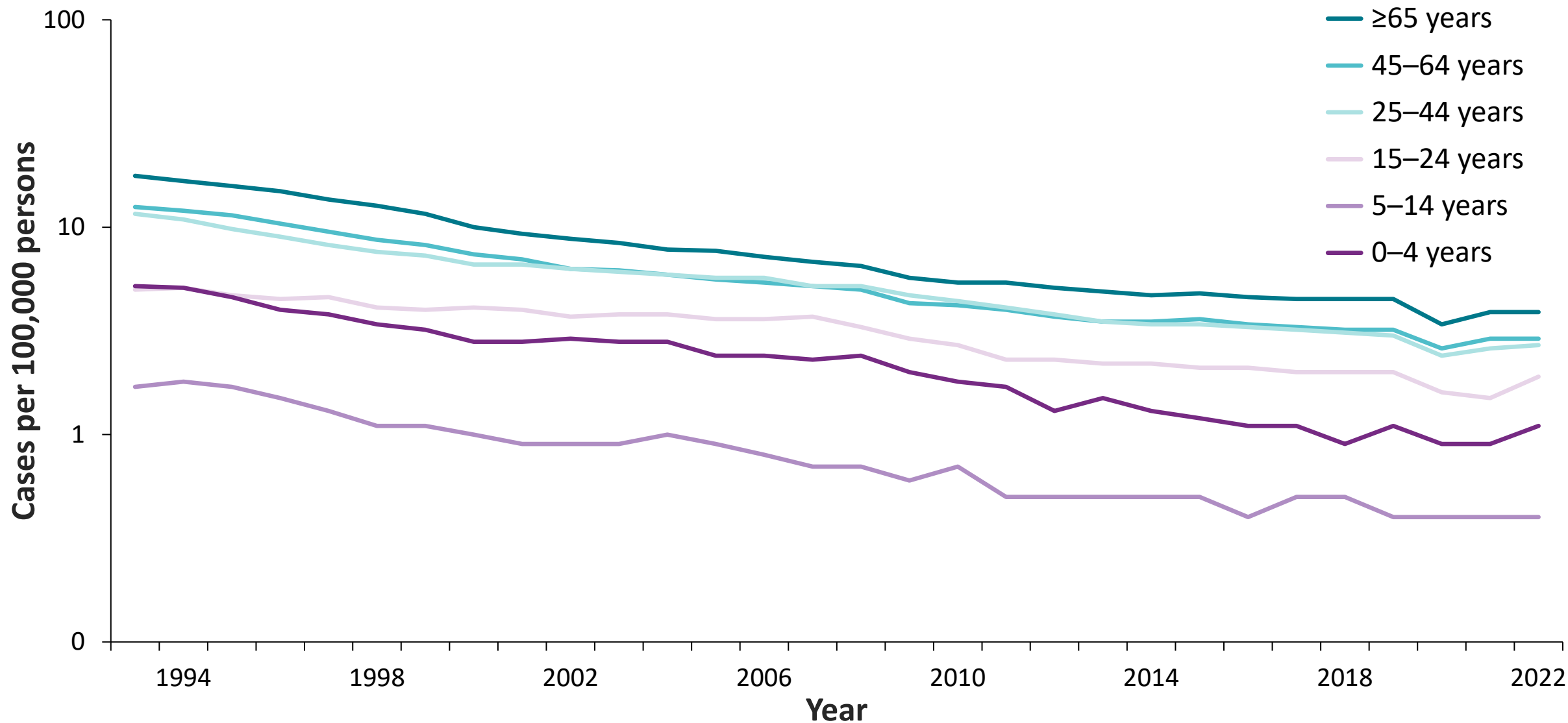
TB Cases by Age Group, United States, 1993–2022



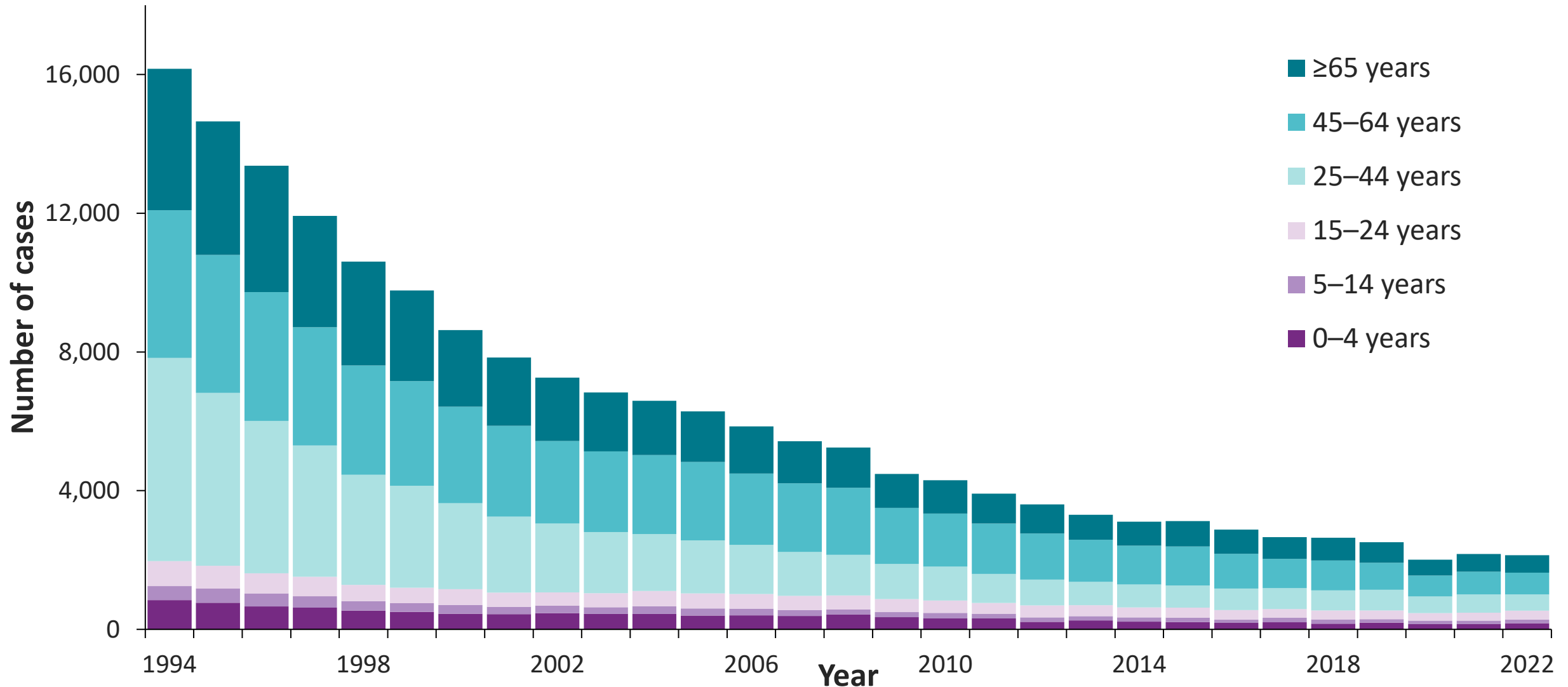
TB Cases by Age Group, United States, 2022 (N=8,331)



TB Incidence Rates by Age Group, United States, 1993–2022

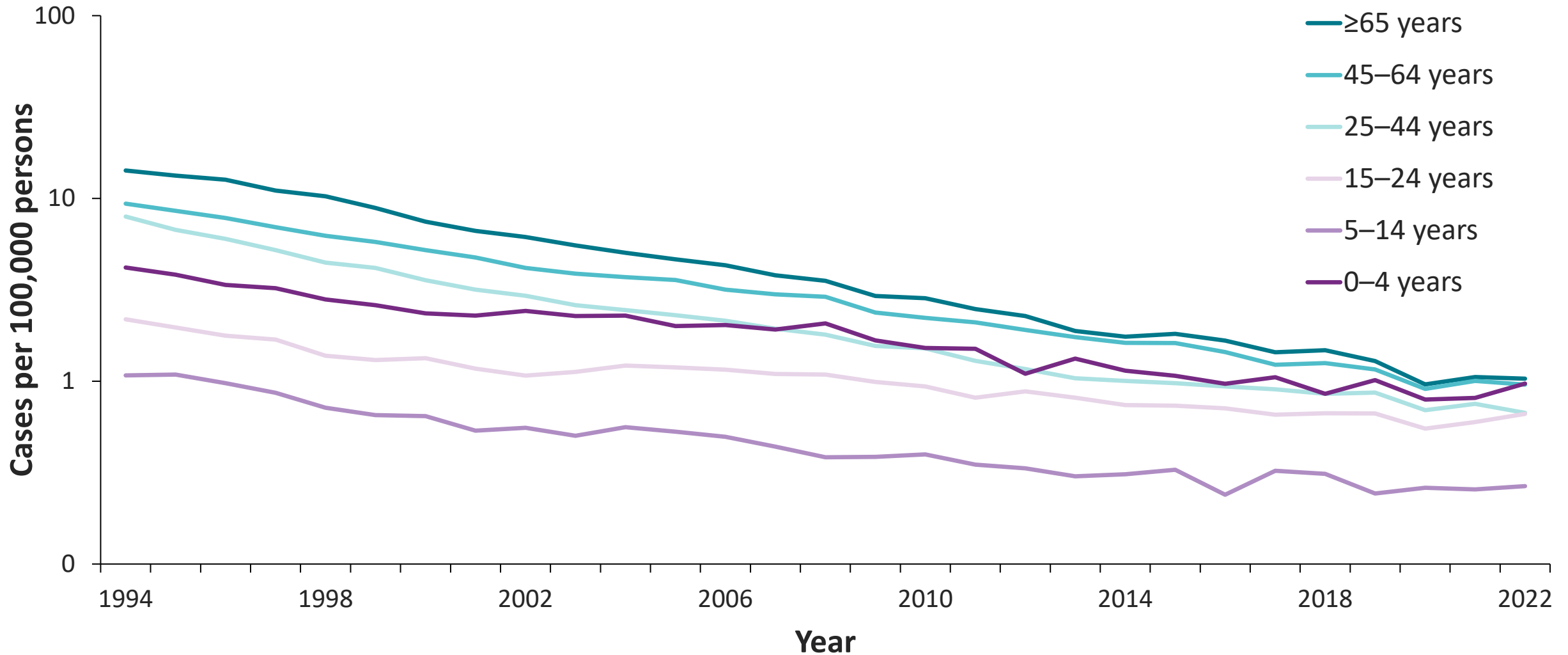


TB Cases Among U.S.-Born* Persons by Age Group, United States, 1994–2022



*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* Among U.S.-Born† Persons by Age Group, United States, 1994–2022

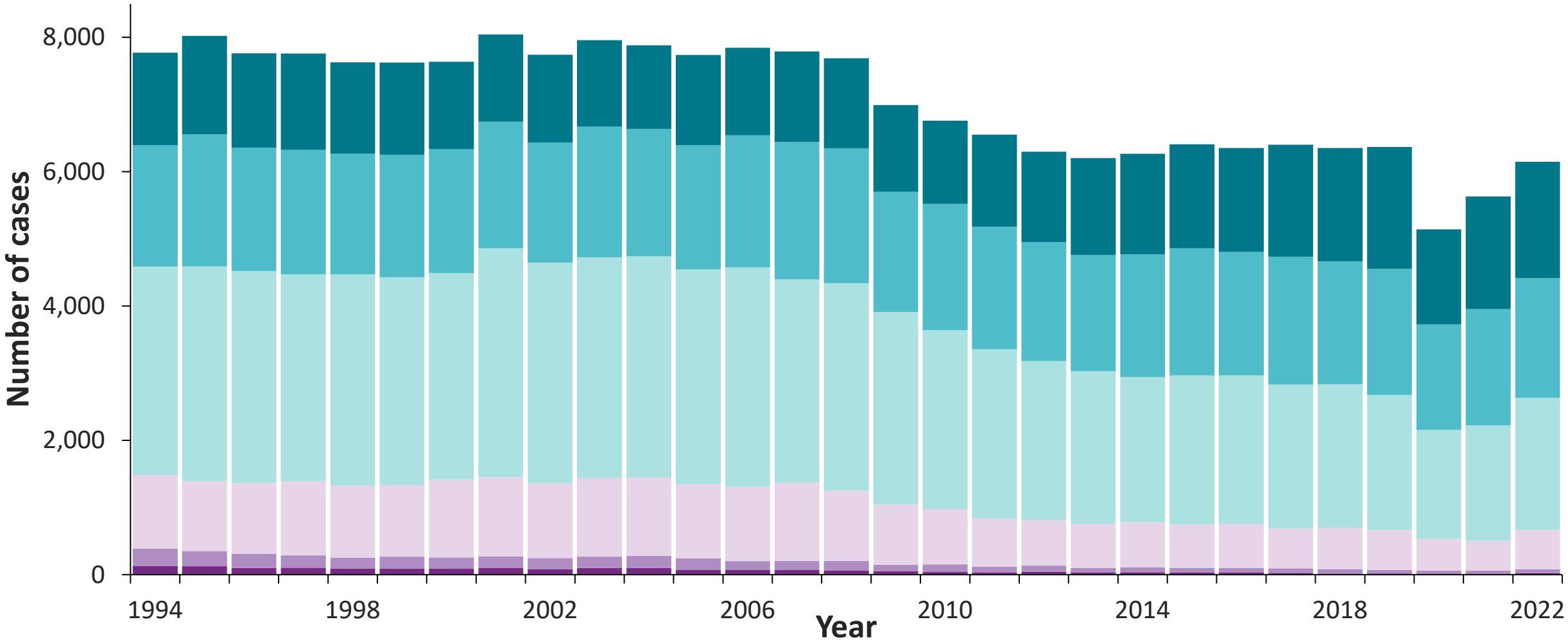


*Population Source: U.S. Census Bureau, Current Population Survey Basic Monthly: <https://data.census.gov/mdat/>

†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.

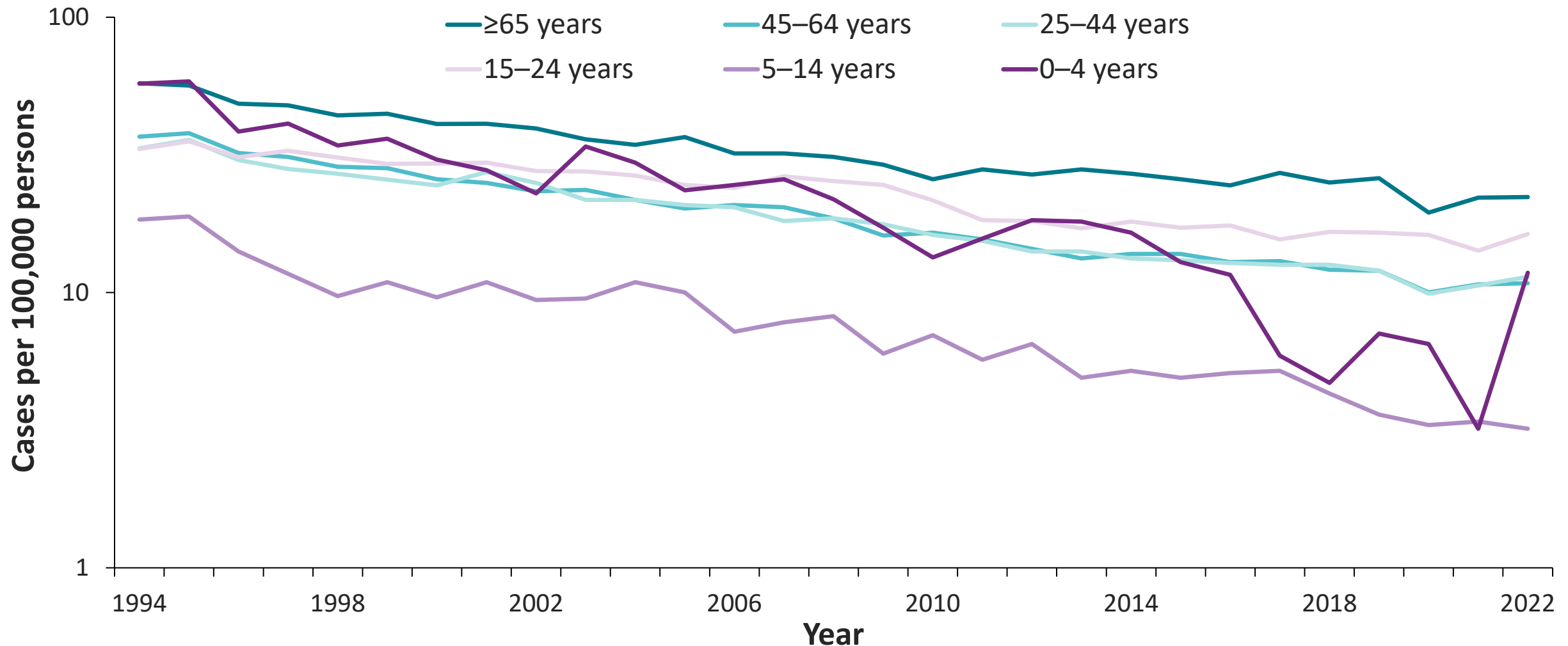
TB Cases Among Non-U.S.–Born* Persons by Age Group, United States, 1994–2022

0–4 years 5–14 years 15–24 years 25–44 years 45–64 years ≥65 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.

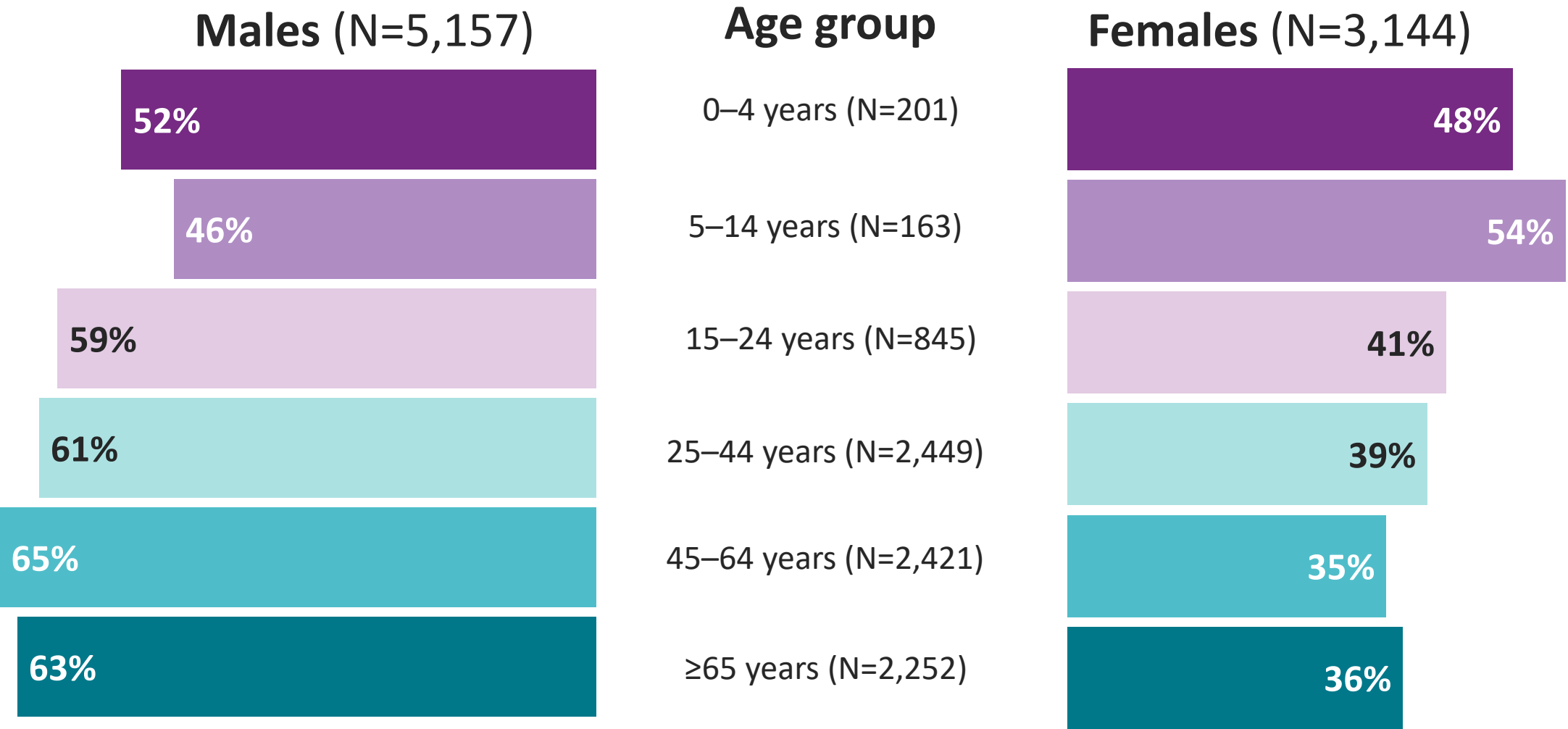
TB Incidence Rates* Among Non-U.S.–Born† Persons by Age Group, United States, 1994–2022



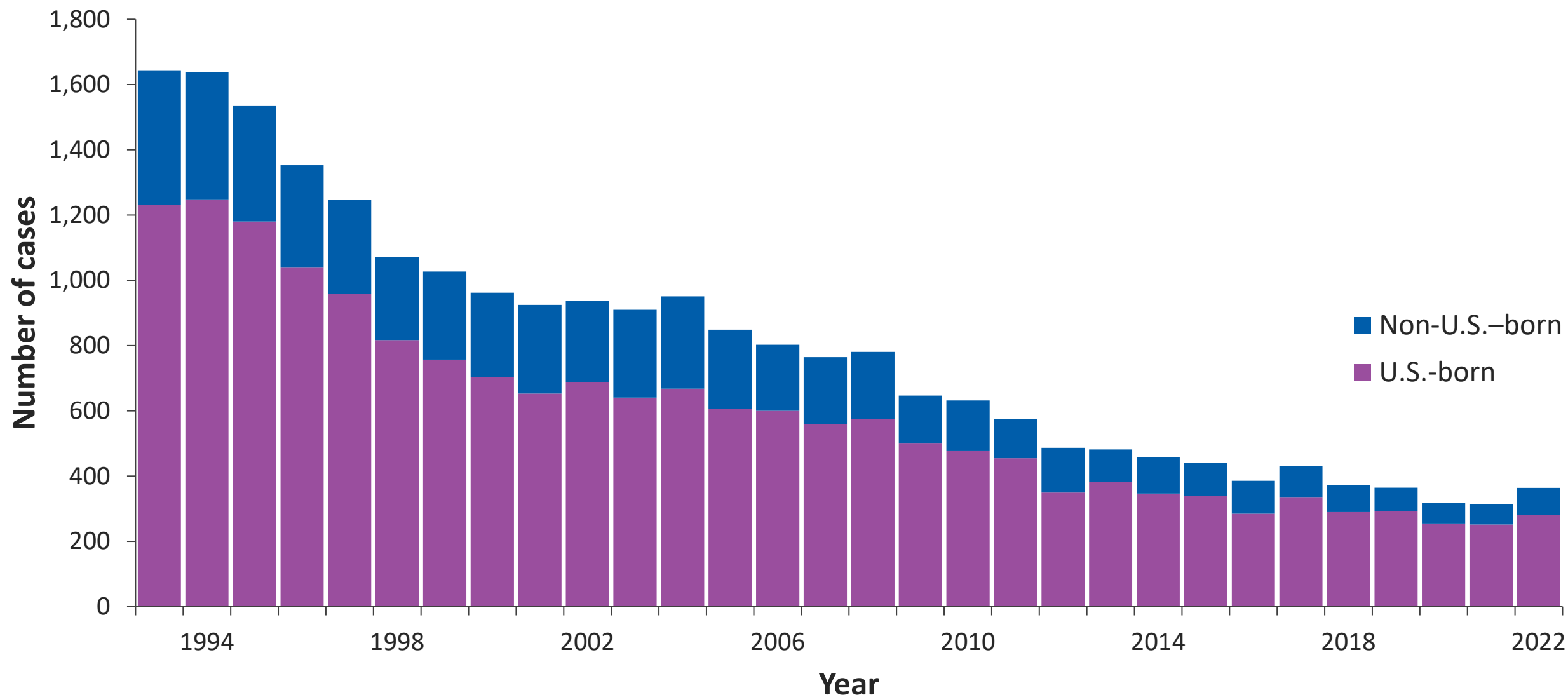
*Population Source: U.S. Census Bureau, Current Population Survey Basic Monthly: <https://data.census.gov/mdat/>

†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.

Percentage of TB Cases by Sex and Age Group, United States, 2022

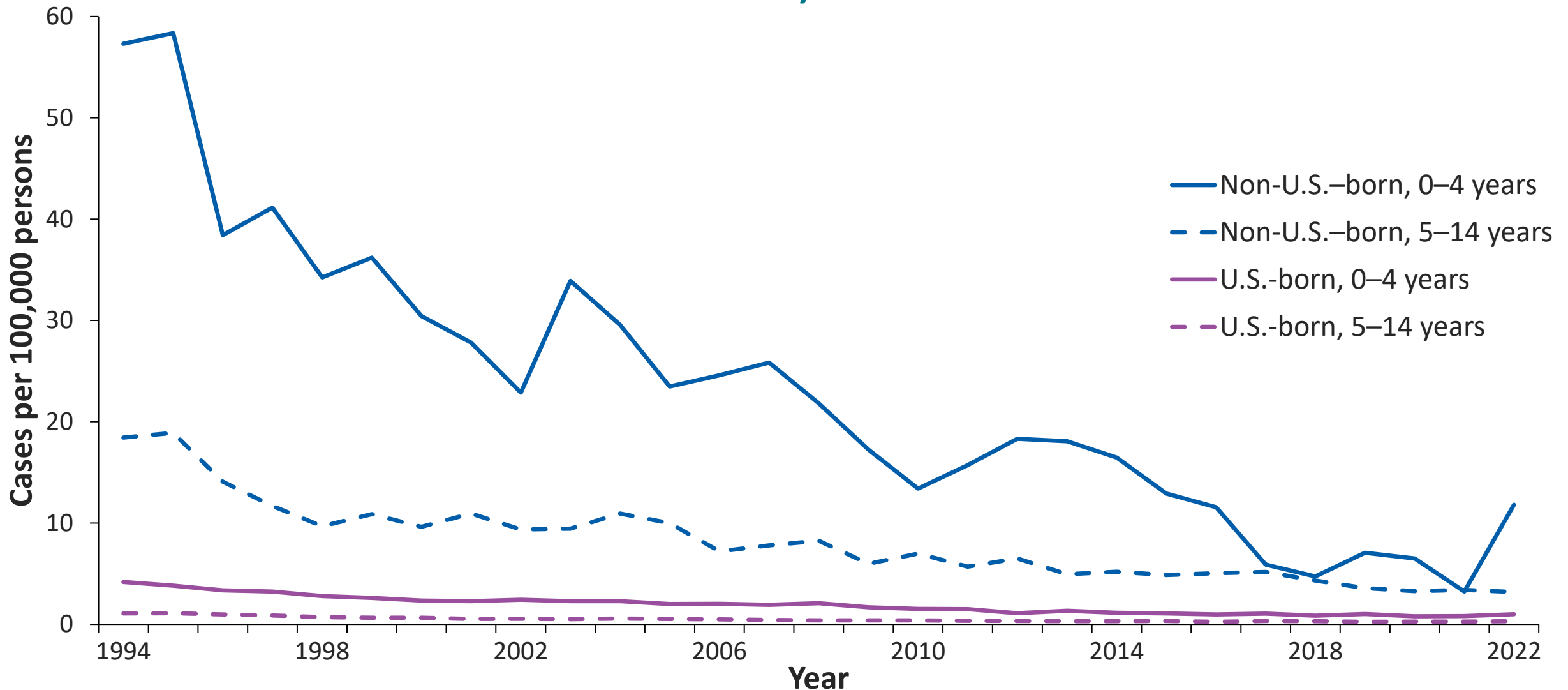


Pediatric* TB Cases by Origin of Birth,† United States, 1993–2022



*Children less than 15 years old
†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.

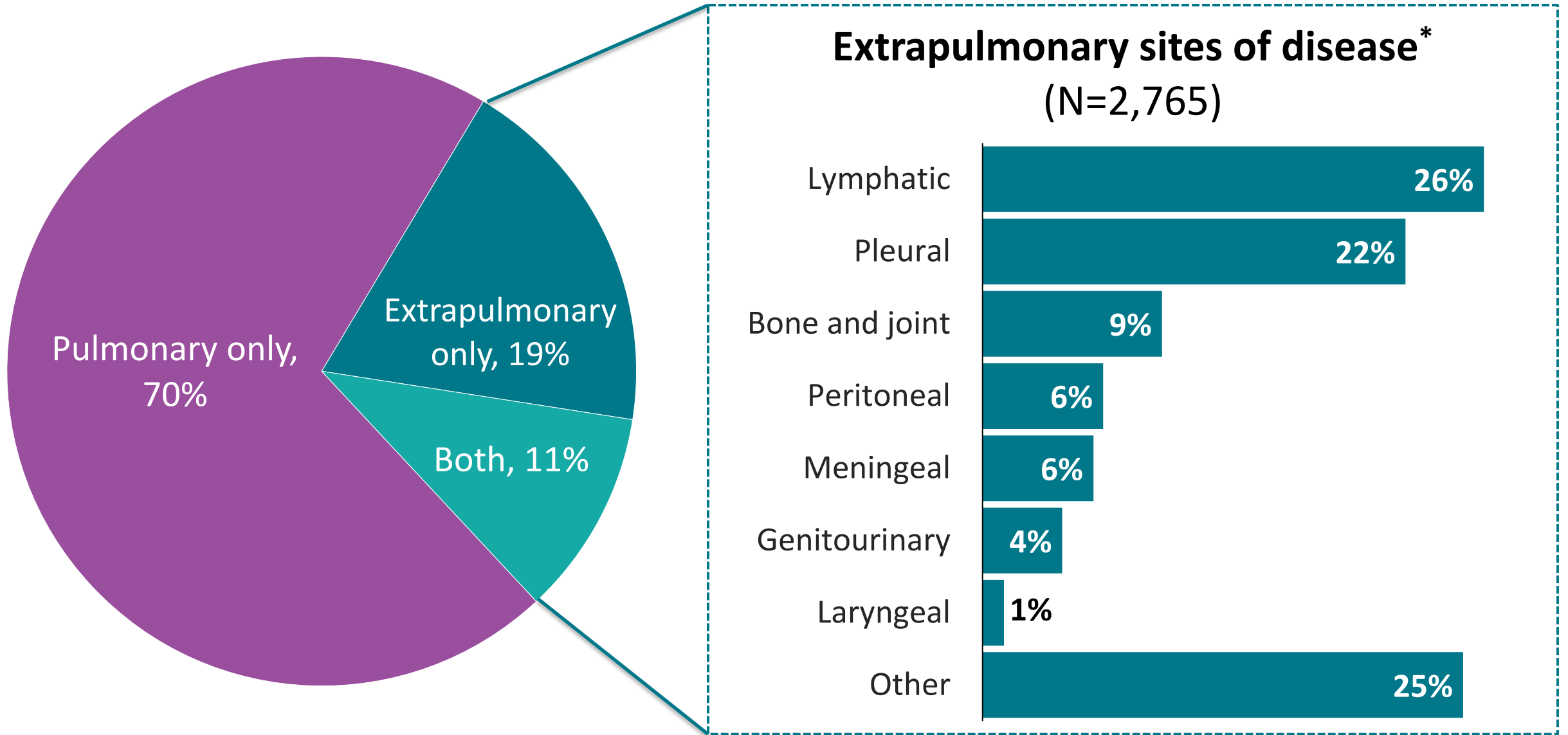
Pediatric TB Incidence Rates* by Origin of Birth,[†] United States, 1994–2022



*Population Source: U.S. Census Bureau, Current Population Survey Basic Monthly: <https://data.census.gov/mdat/>

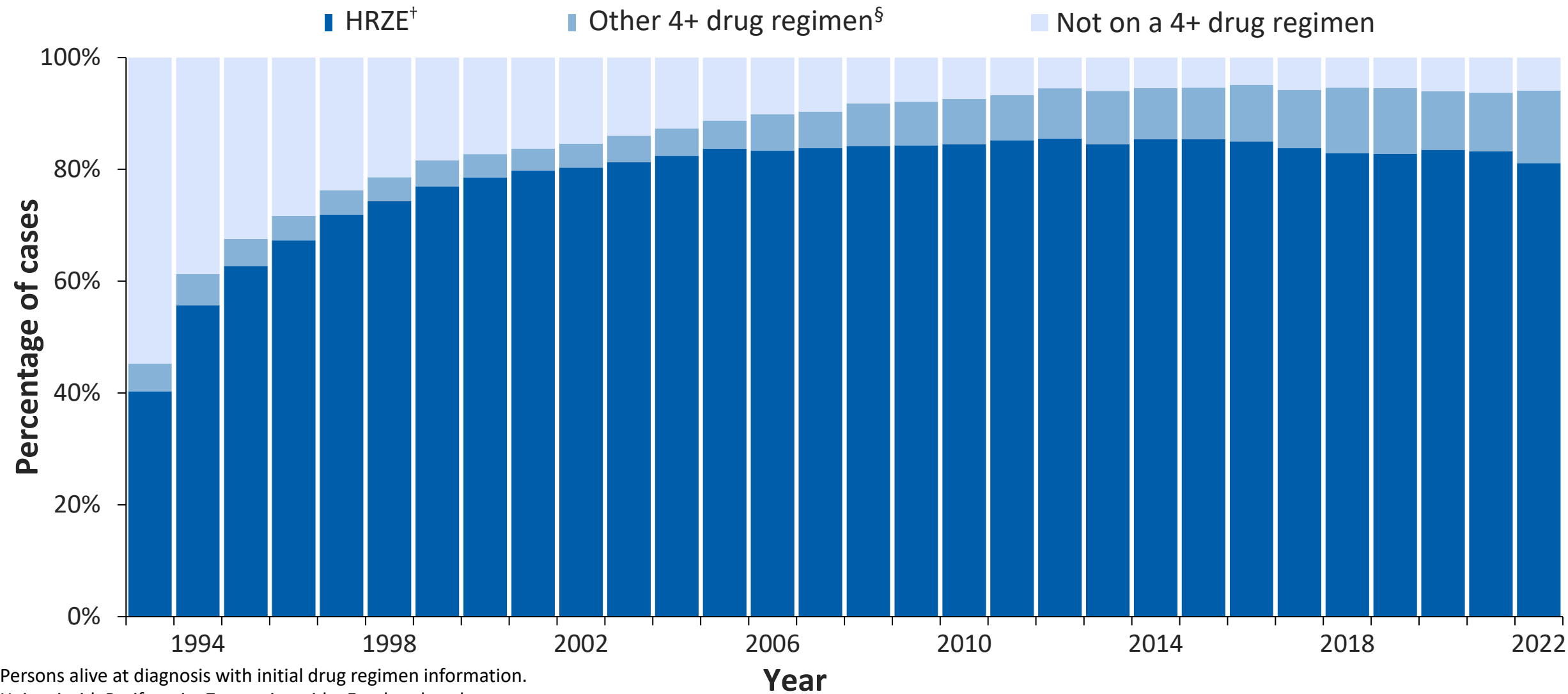
[†]Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

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



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

Percentage of TB Cases* by Initial Drug Regimen, United States, 1993–2022

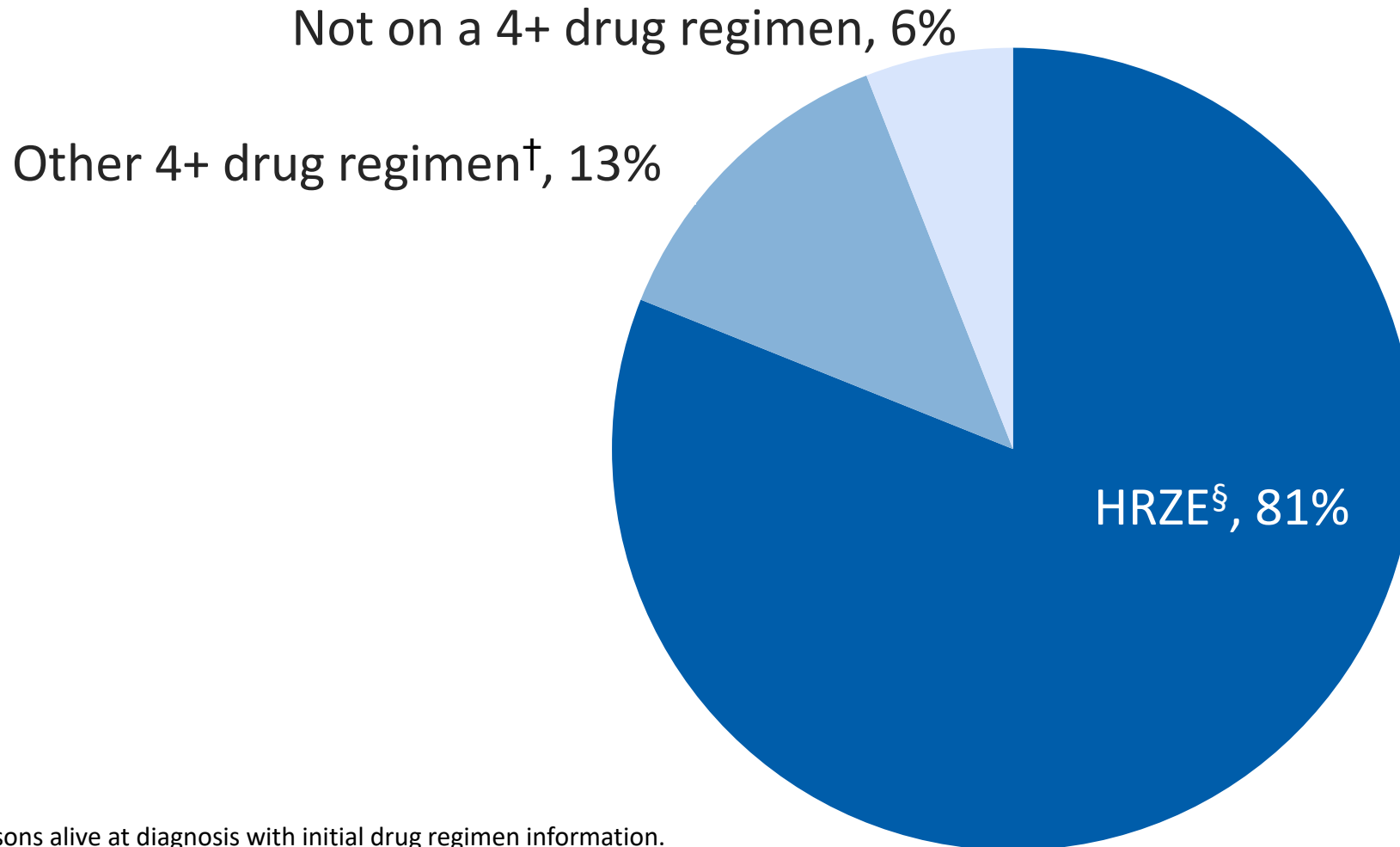


*Persons alive at diagnosis with initial drug regimen information.

[†]H, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol.

[§]A drug regimen with at least four drugs, other than HRZE.

Percentage of TB Cases* by Initial Drug Regimen, United States, 2022 (N=8,045)

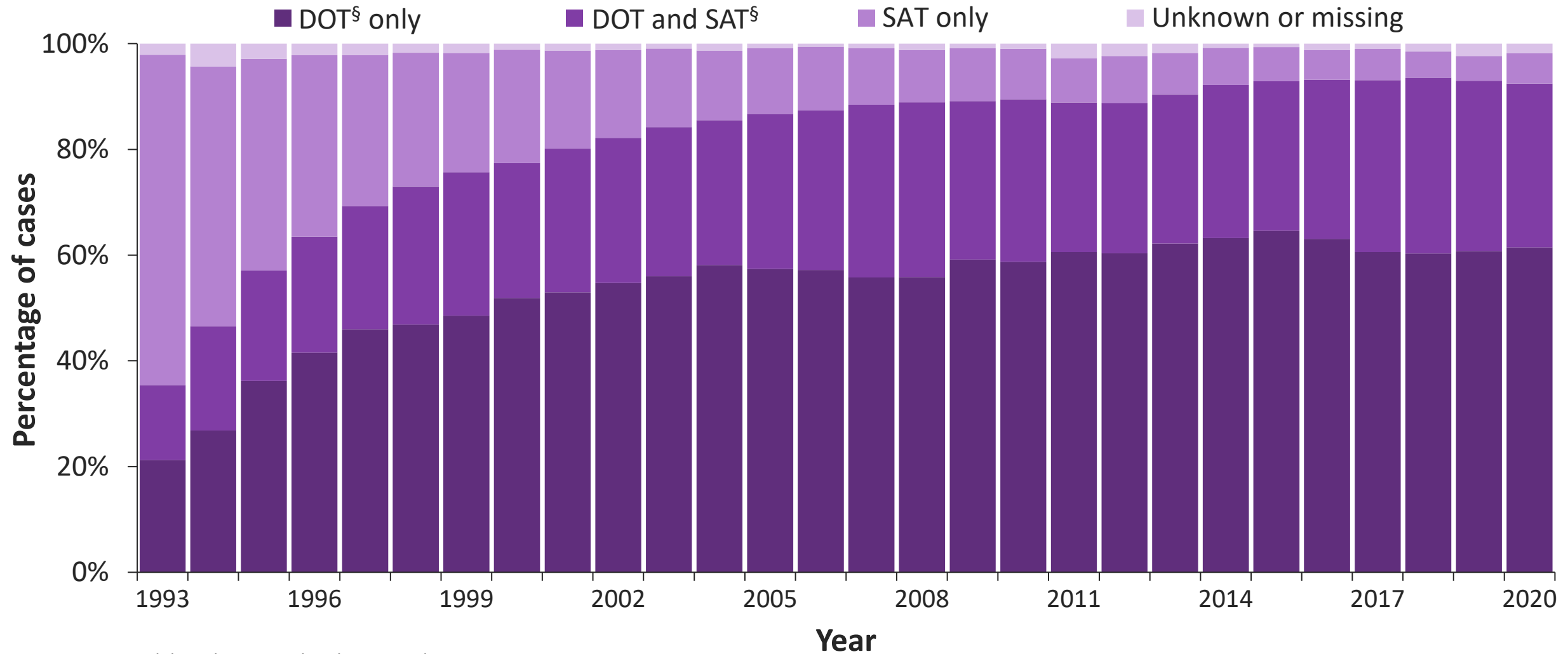


*Persons alive at diagnosis with initial drug regimen information.

[†] A drug regimen with at least four drugs, other than HRZE.

[§] H, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol.

Percentage of TB Cases by Method of Treatment Administration,* United States, 1993–2020†

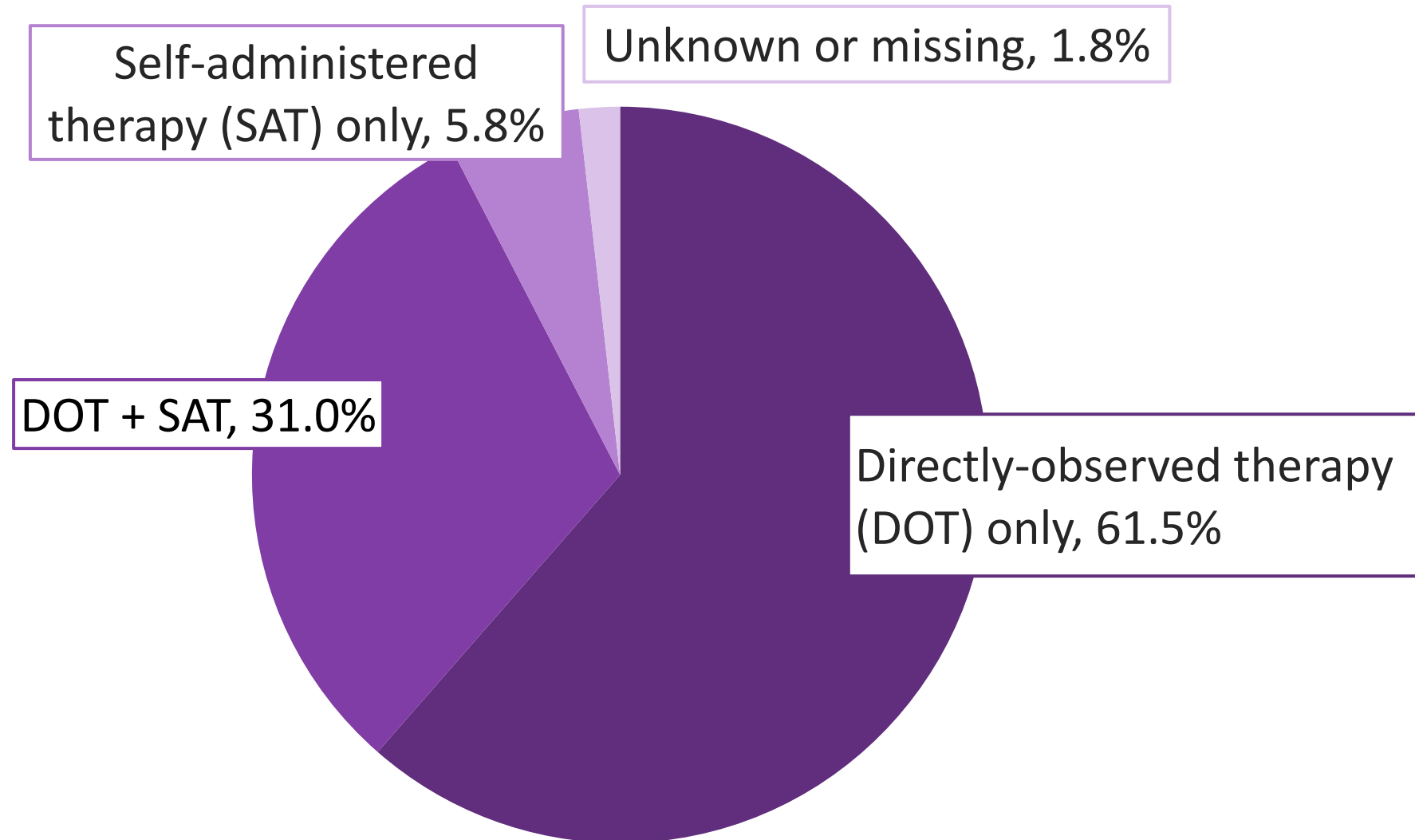


*Persons on an initial drug therapy with at least one drug.

†Most recent year for which data are complete.

§DOT=directly observed therapy; SAT=self-administered therapy.

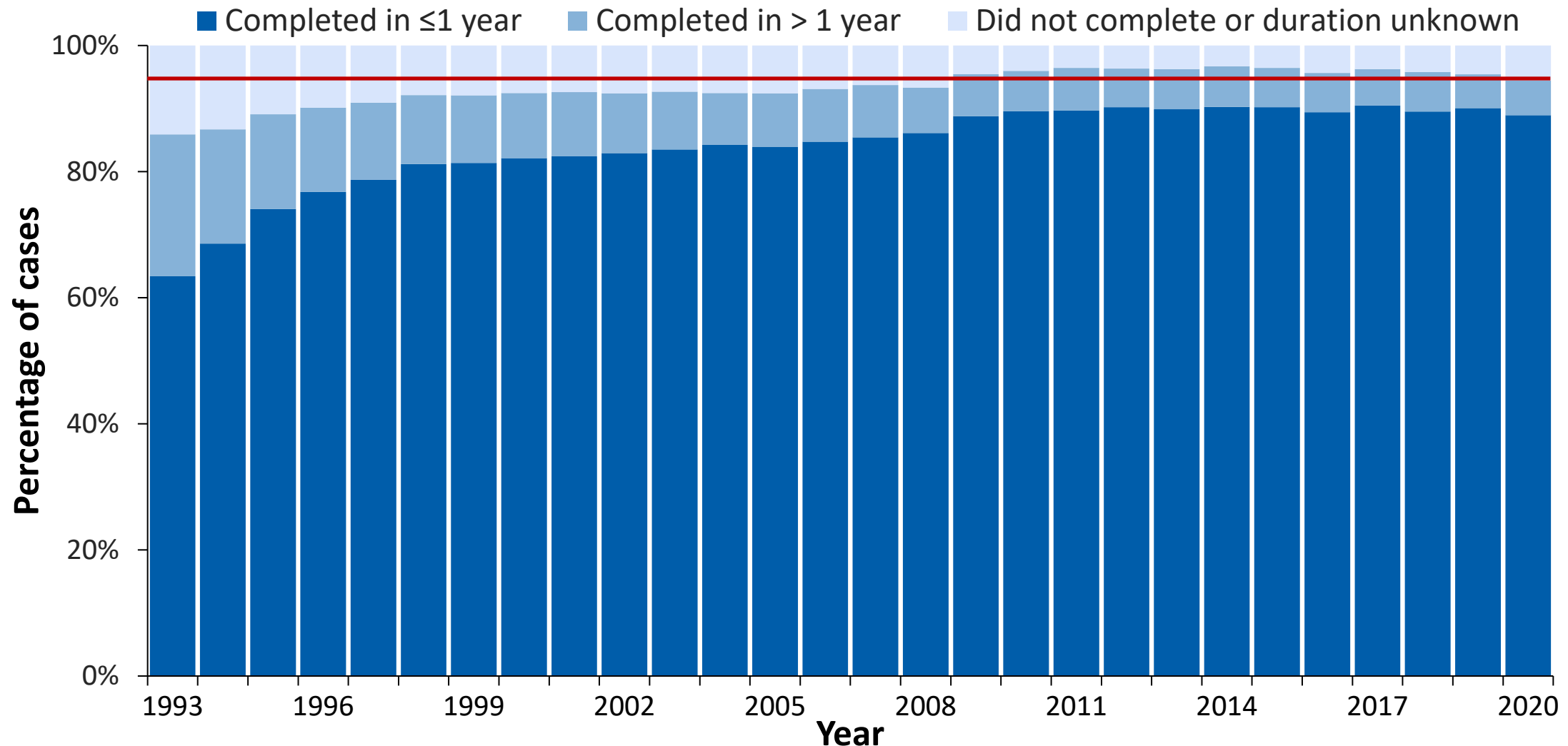
Percentage of TB Cases* by Method of Treatment Administration, United States, 2020† (N=6,907)



*Persons on an initial drug therapy with at least one drug.

†Most recent year for which data are complete.

Percentage of TB Cases* by Completion of TB Therapy, United States, 1993–2020†

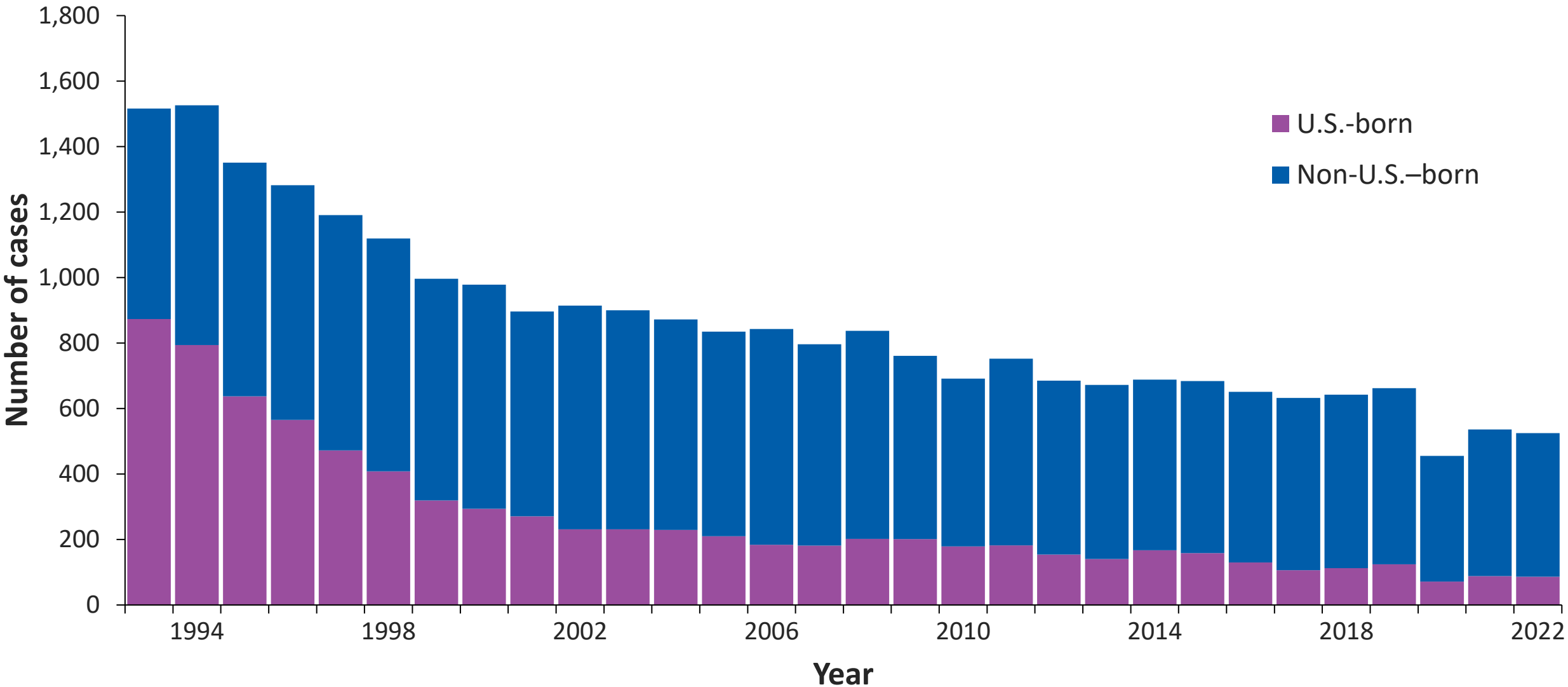


*Persons alive at diagnosis who started TB therapy and for whom therapy ≤ 1 year was indicated.

†Most recent year for which data are complete.

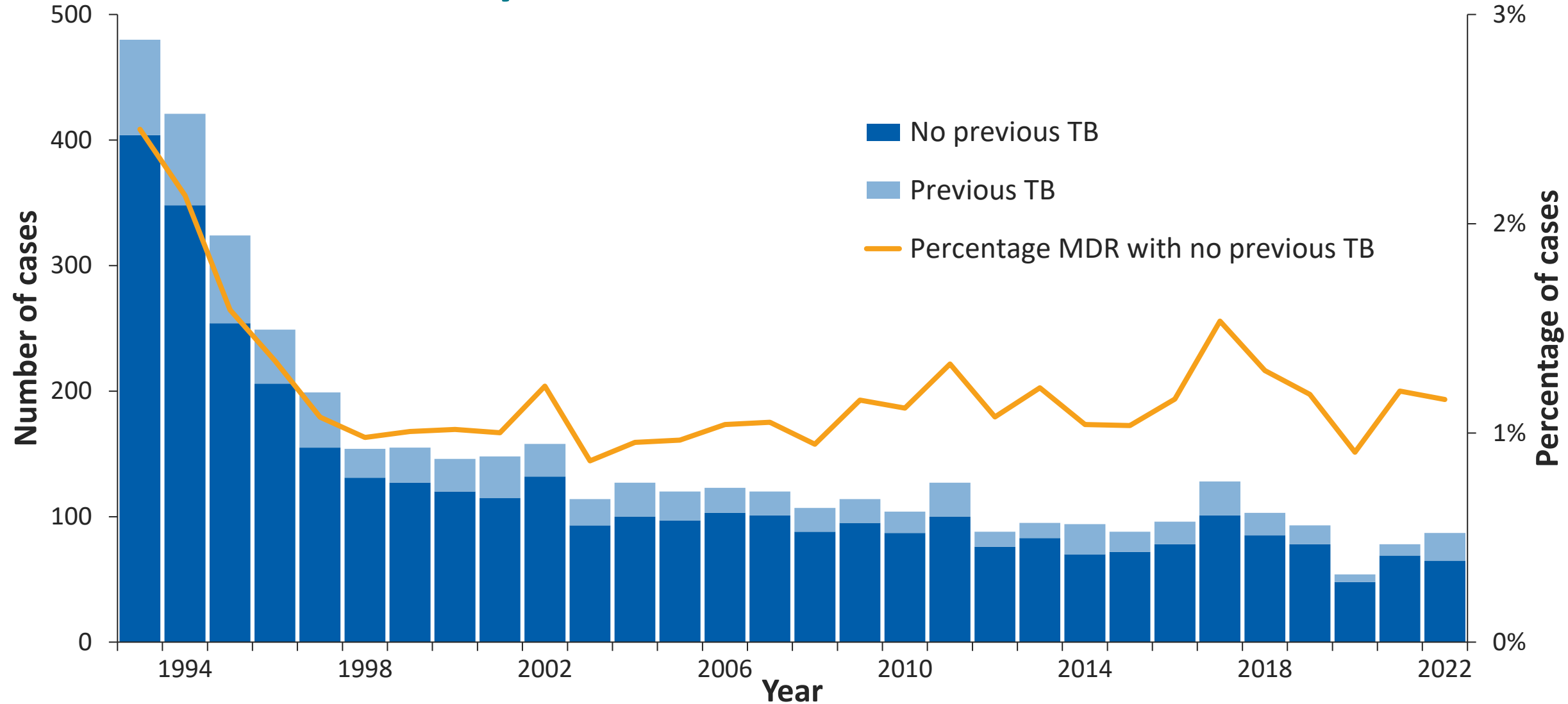
§National goal: for 95% of patients with newly diagnosed TB disease for whom ≤ 12 months of treatment is indicated to complete treatment within 12 months.

TB Cases Resistant to Isoniazid* by Origin of Birth,[†] United States, 1993–2022



*Persons with isolates resistant to at least isoniazid among persons with isolates tested with at least isoniazid and rifampin.
[†]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.

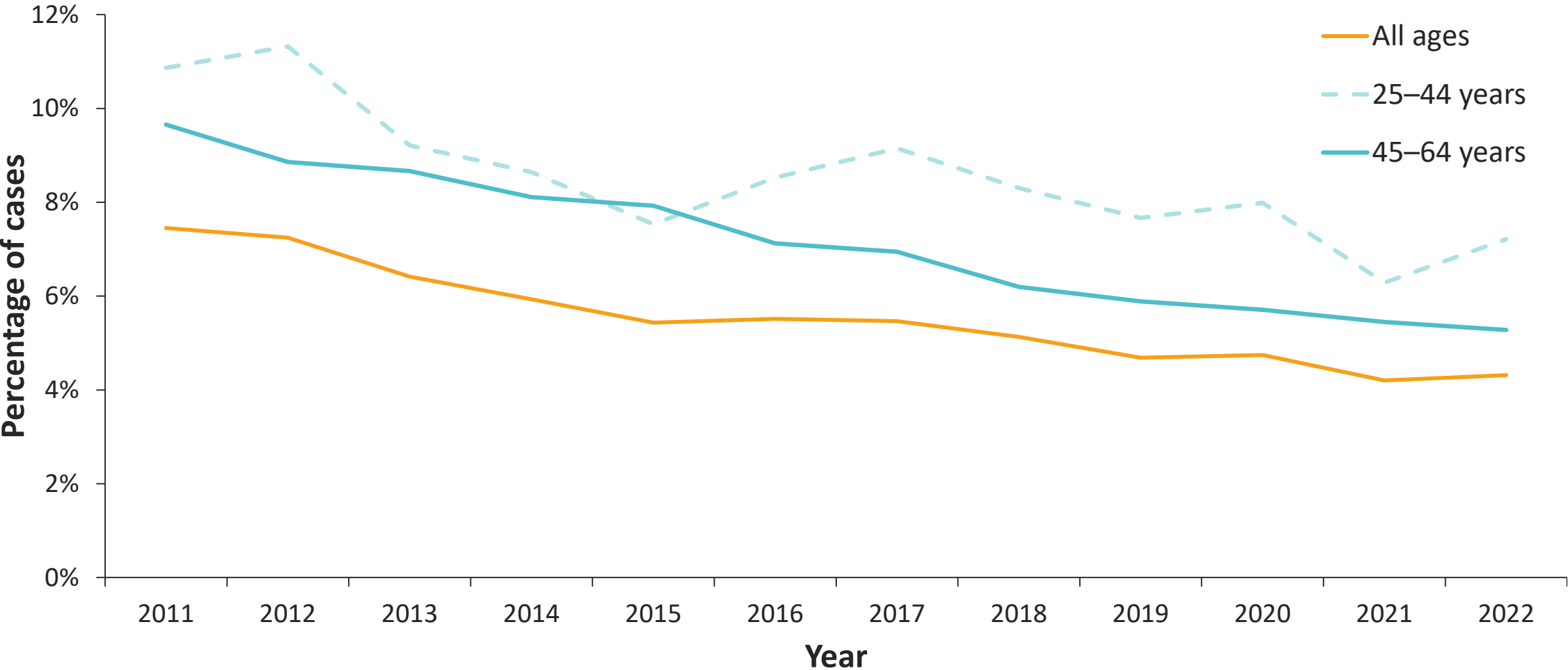
Number and Percentage of Multidrug-Resistant (MDR)* TB Cases† by History of TB, United States, 1993–2022



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

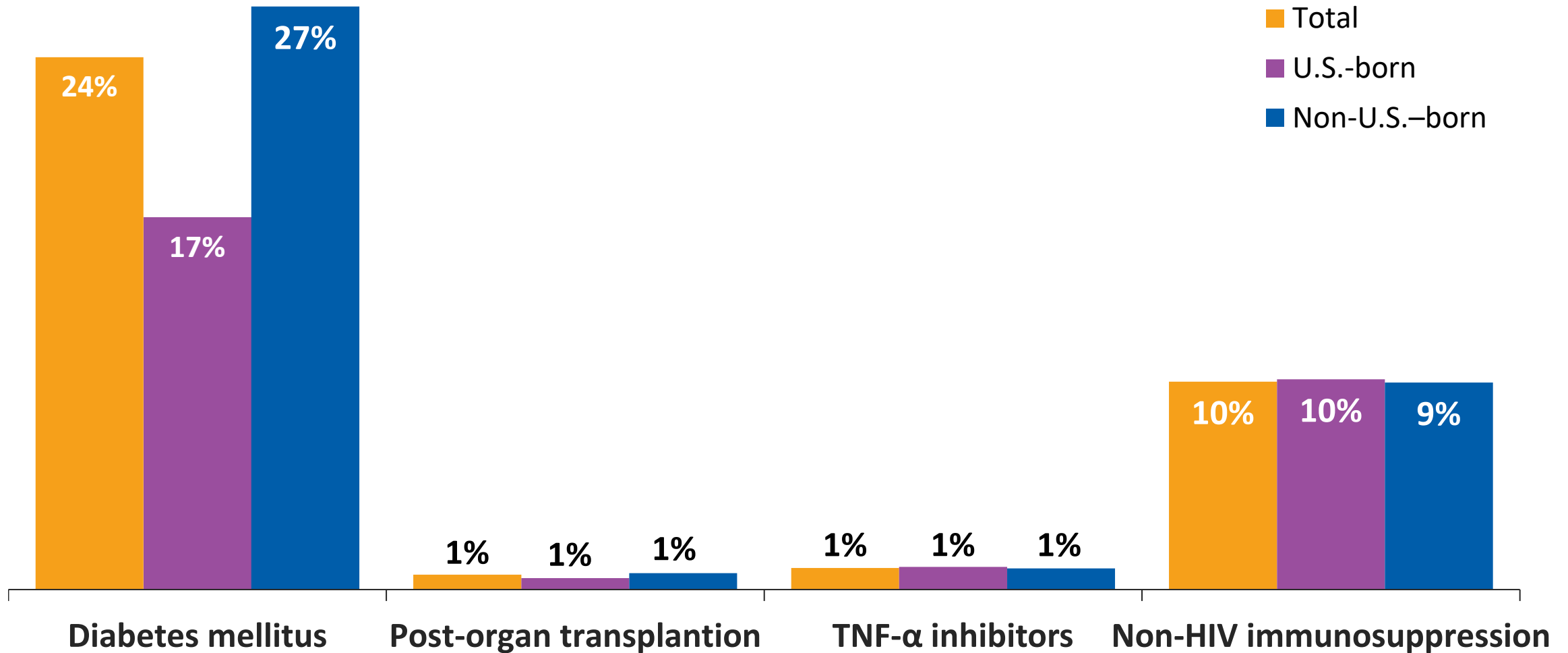
†Excludes persons with unknown origin of birth

Percentage of HIV Coinfection by Age Among Persons with TB,* United States, 2011–2022



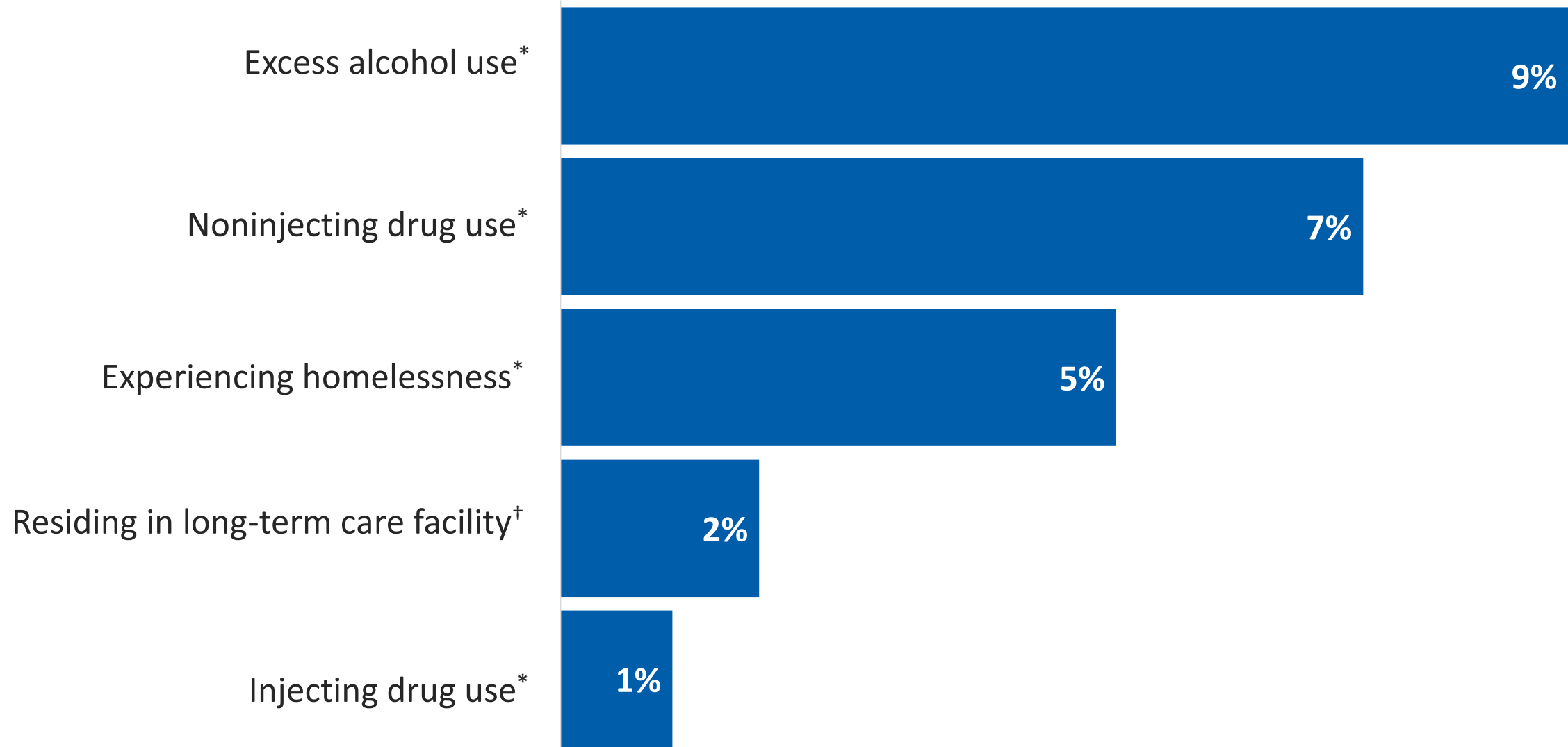
*Persons alive at diagnosis with HIV test results

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.

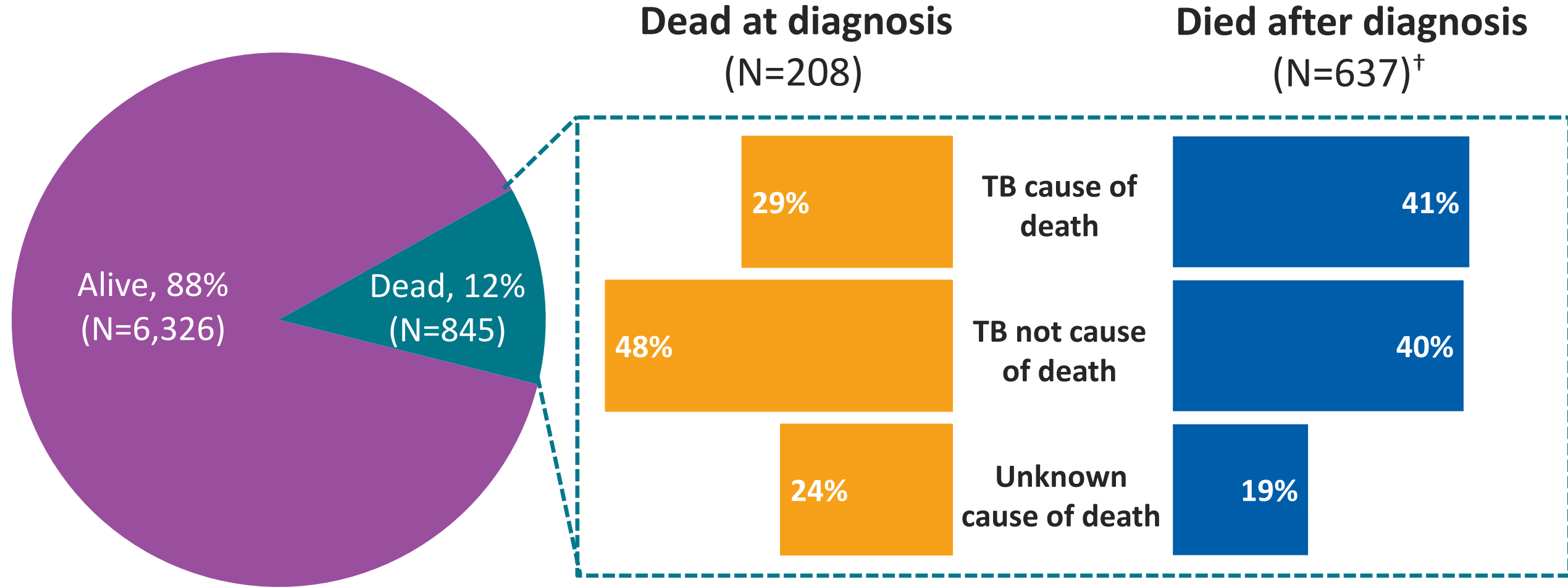
Percentage of Social and Behavioral Risk Factors Among Persons Aged ≥ 15 Years with TB, United States, 2022



*Within past 12 months prior to TB diagnosis

†At the time of TB diagnosis

Percentage of TB Cases by Status and Cause of Death, United States, 2020*



* Most recent year for which data are complete

† Six deaths were related to TB therapy.

Definitions for TB Genotyping in the United States

wgMLST allele pattern

Isolates with allele patterns
 $\geq 99.7\%$ identical
(roughly no more
than 7 loci different)

Clustered

Isolates with allele patterns
<99.7% identical to any
other isolate

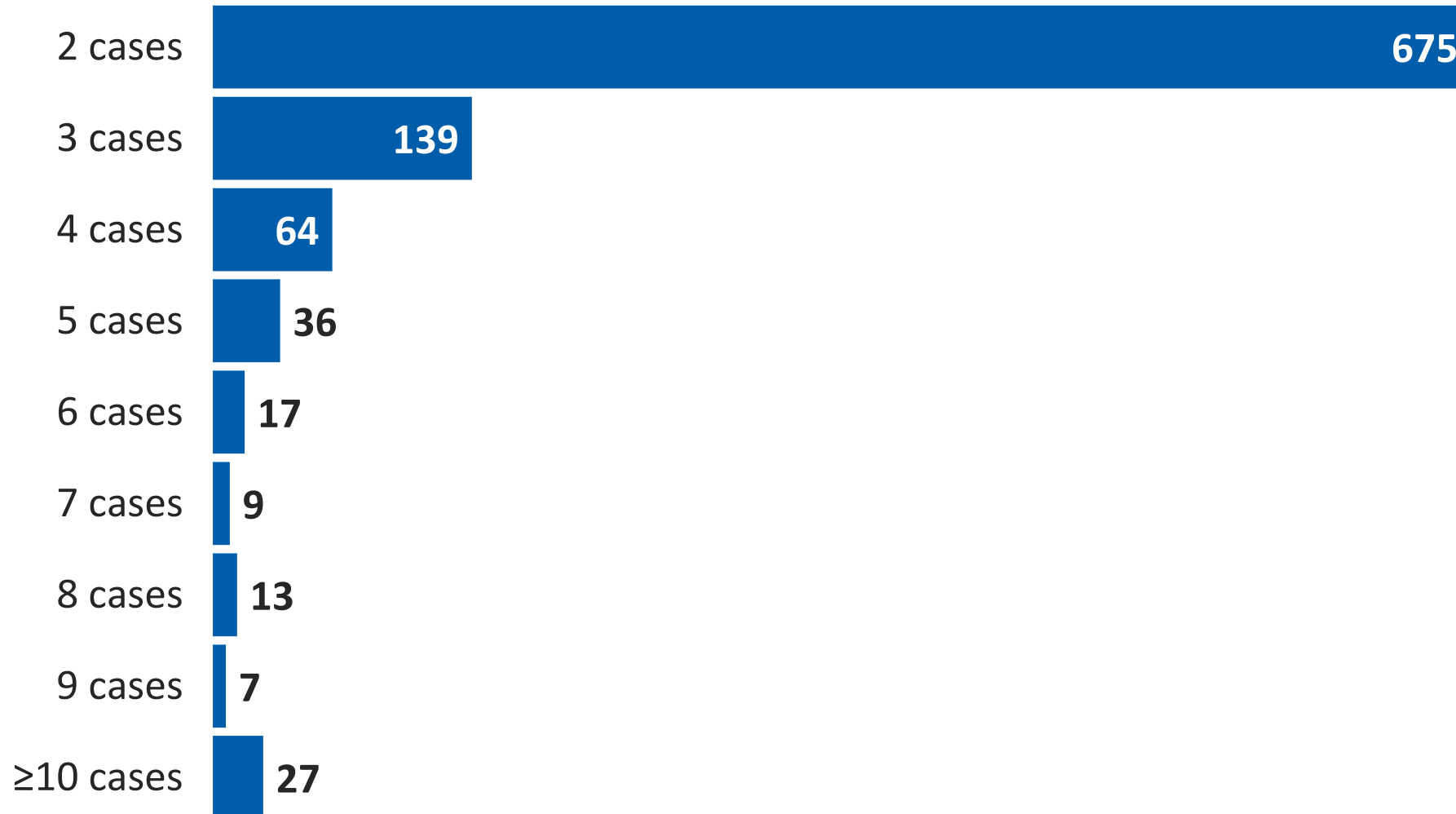
Not Clustered

wgMLSType

MTBC followed by
6-digit number
Example: MTBC005634

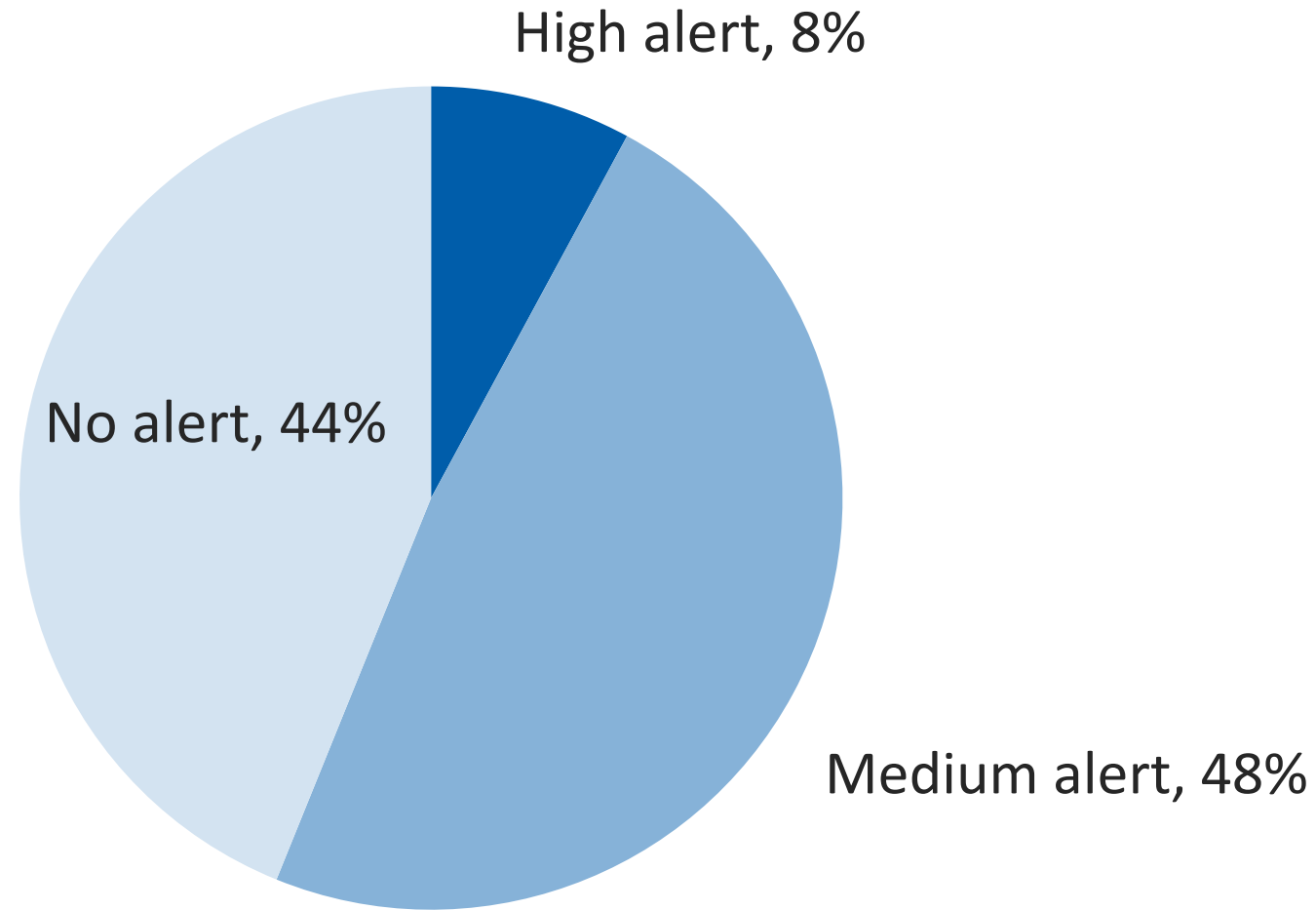
MTBCunique

Number of County-based TB Genotype Clusters* by Cluster Size, United States, 2020–2022



* Clusters have two or more cases with matching whole-genome multilocus sequence type (wgMLSType) within a county during the specified 3-year time period.

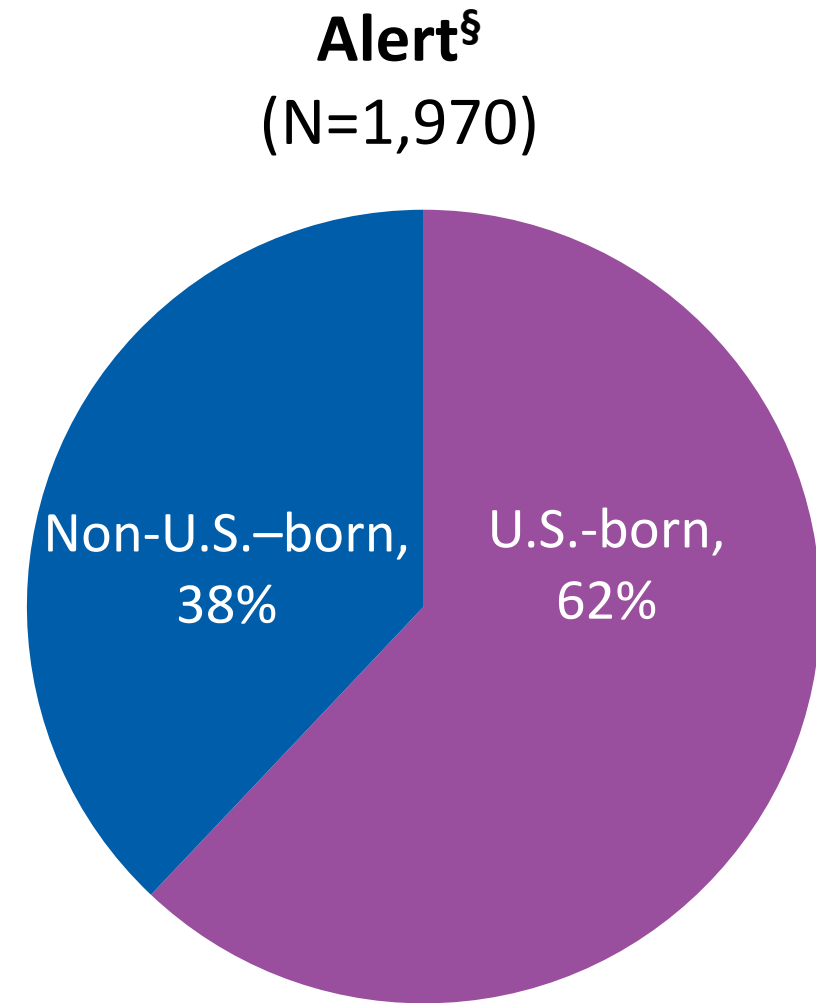
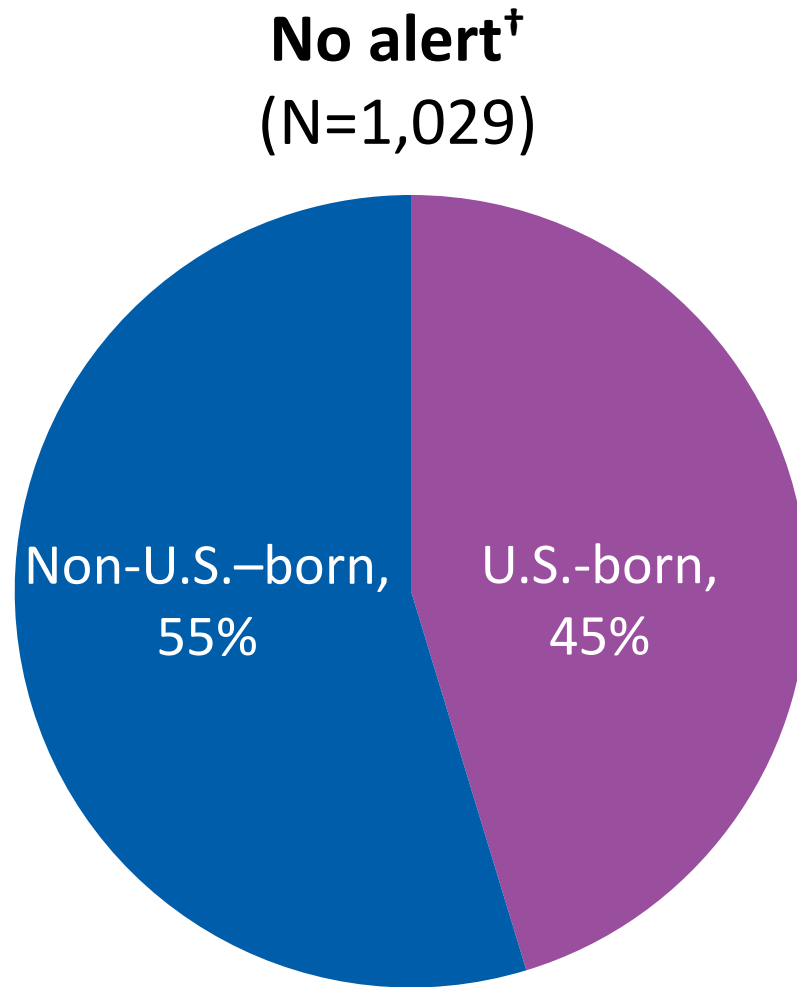
TB Genotype Clusters by TB GIMS* Alert Levels,[†] United States, 2020–2022 (N=987)



* TB GIMS=Tuberculosis Genotyping Information Management System

[†] Alert levels are based on a log-likelihood ratio (LLR), which calculates the geographical concentration of a genotype in a county compared to the rest of the country during a 3-year period. TB GIMS generates alert level notifications based on this statistic: “No alert” is indicated if LLR is between 0–<4, “medium” is for LLR of 4–<10 and “high” alert is for clusters with LLR ≥10.

Percentage of Clustered TB Cases in Alert and No Alert Genotype Clusters by Origin of Birth,* United States, 2020–2022

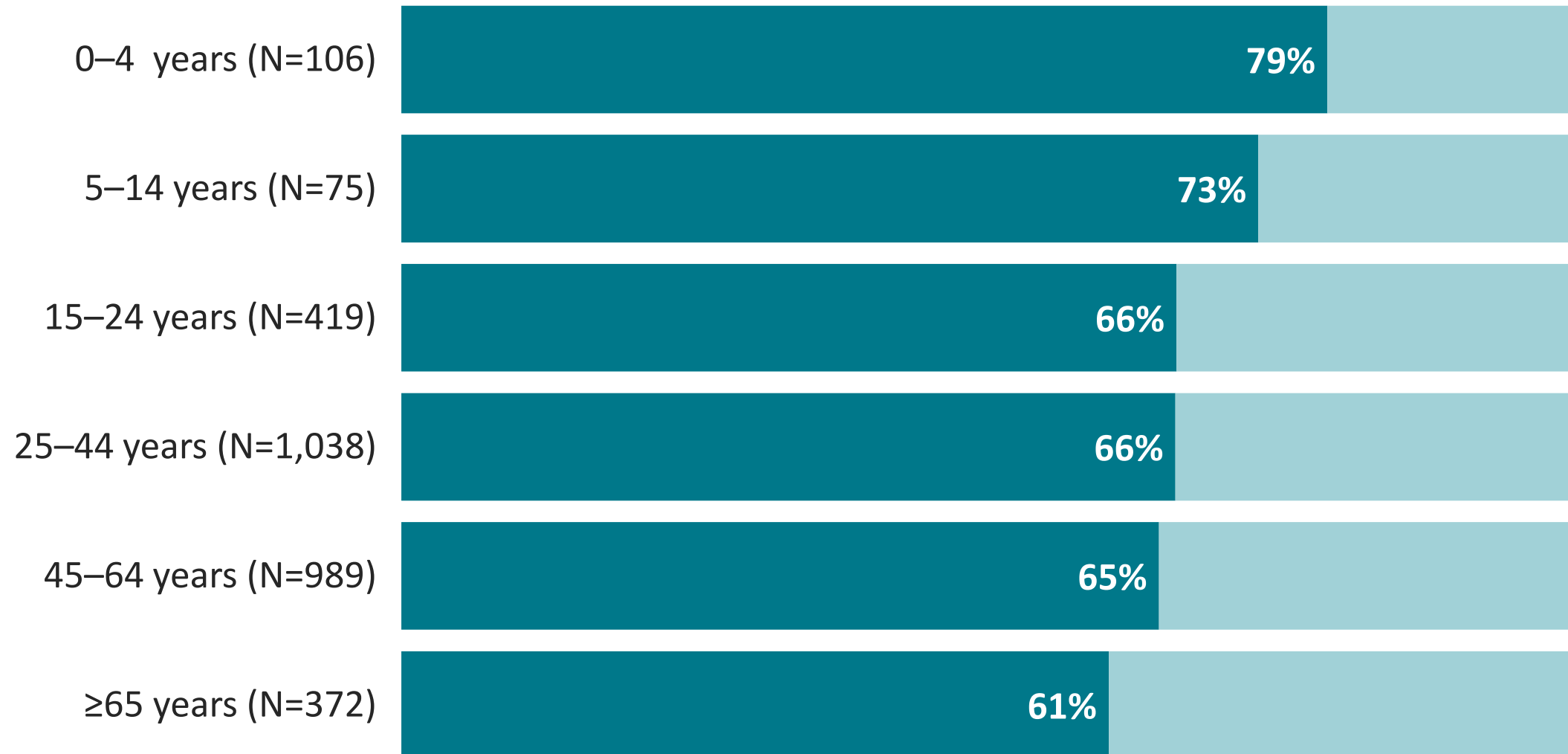


* Cases with unknown origin of birth not shown (n=14).

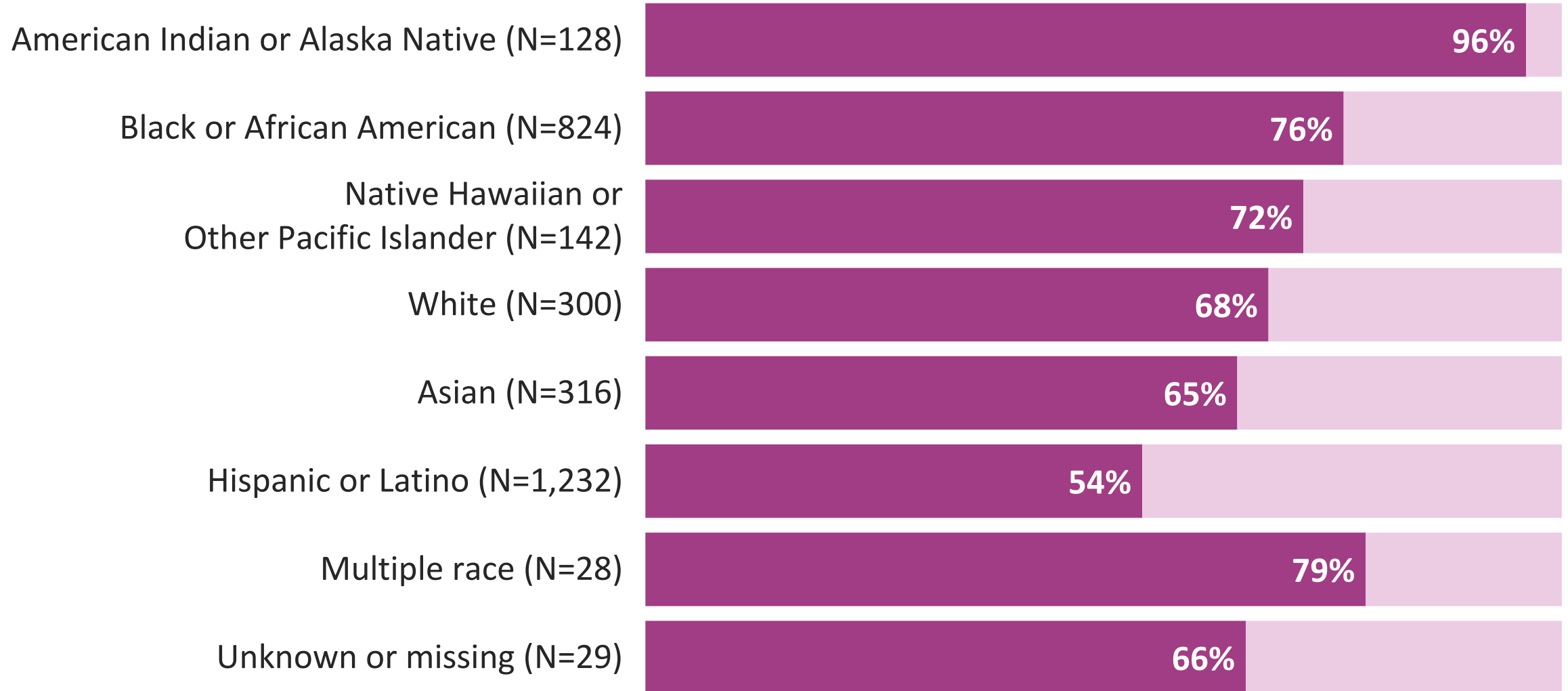
[†] No alert indicates the case was in a cluster with a log-likelihood ratio (LLR) of <4.

[§] Alert indicates the case was in a cluster with an LLR of ≥4.

Percentage of Clustered TB Cases in Alerted Clusters by Age Group, United States, 2020–2022

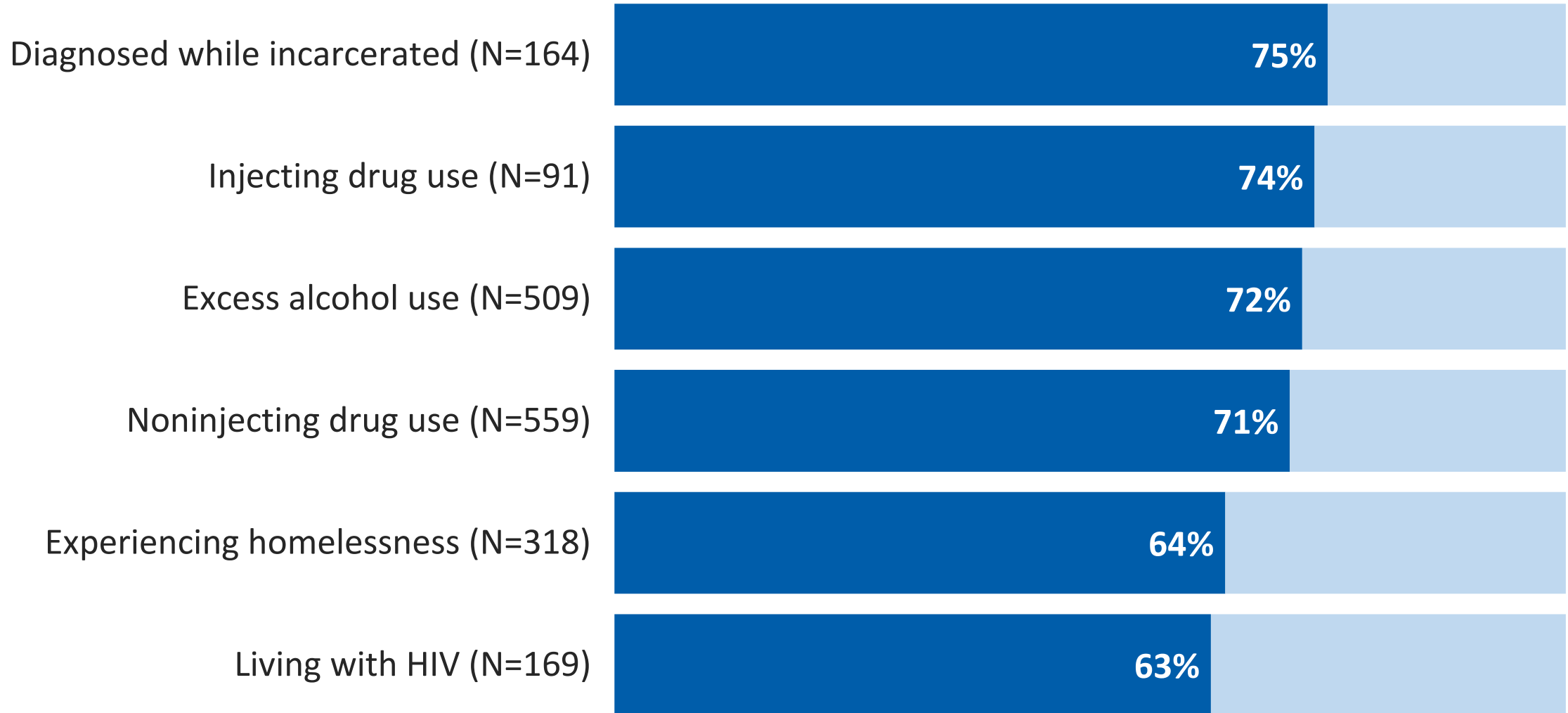


Percentage of Clustered TB Cases in Alerted Clusters by Race/Ethnicity Group,* United States, 2020–2022



*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 Clustered TB Cases in Alerted Clusters by Selected Risk Factors, United States, 2020–2022



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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.