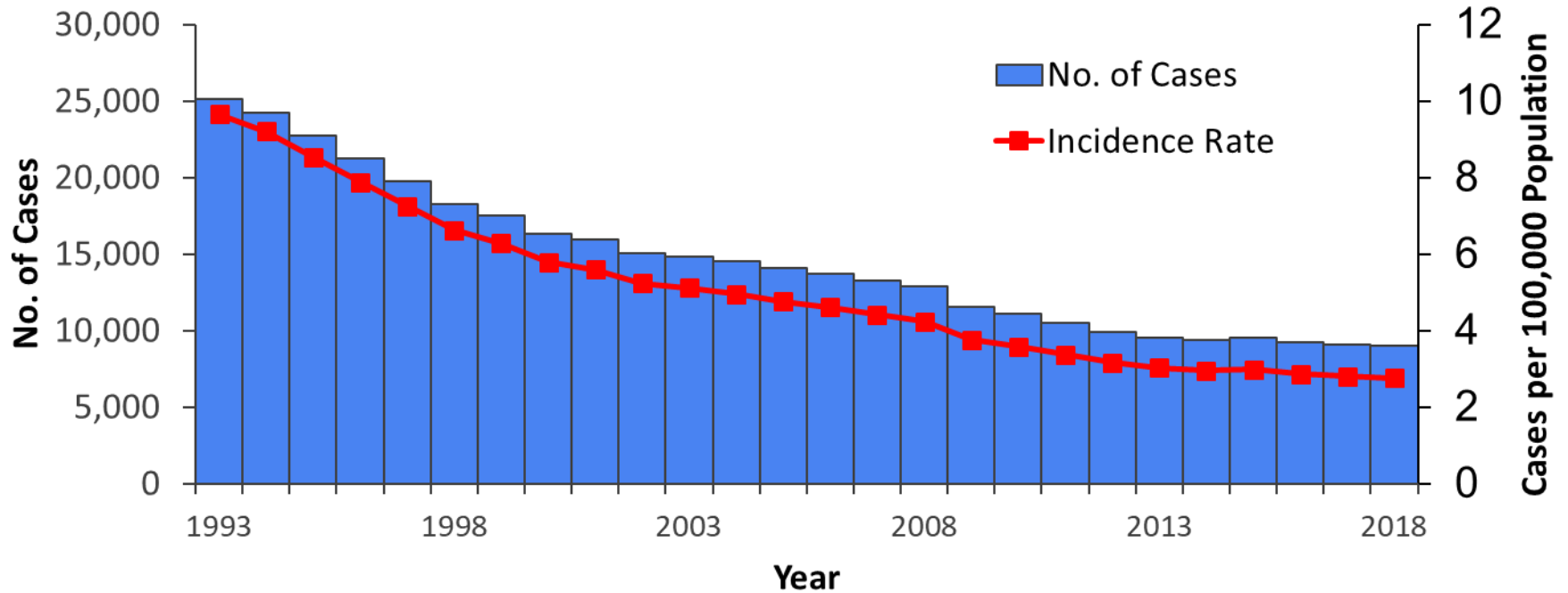




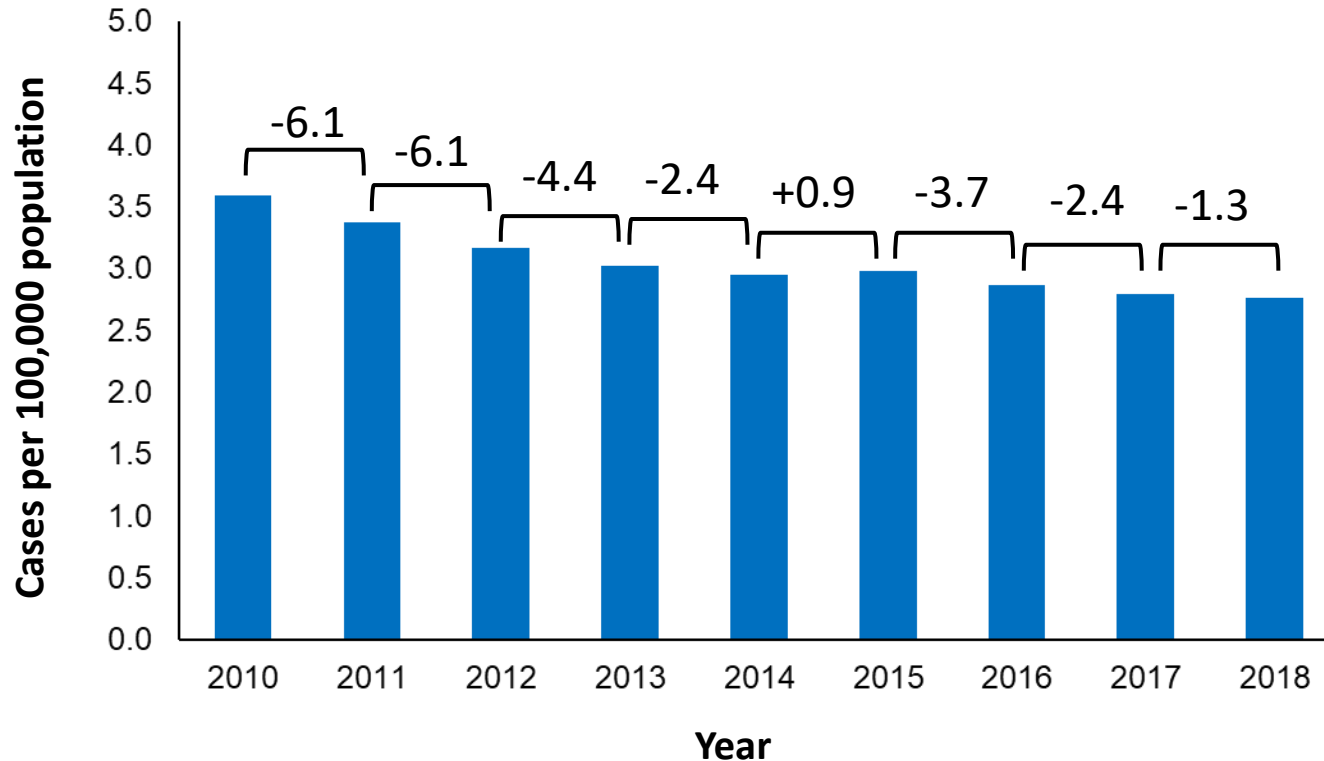
Tuberculosis in the United States 1993–2018*

National Tuberculosis Surveillance System

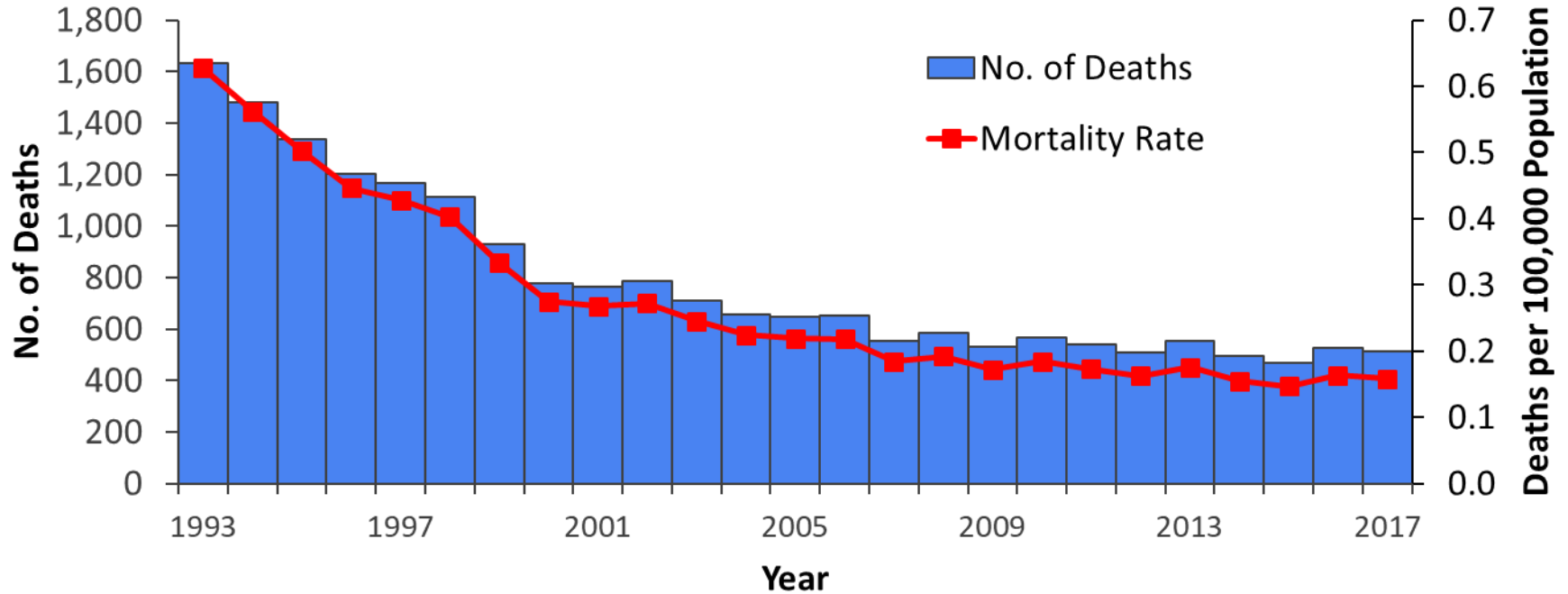
Reported Tuberculosis (TB) Cases and Rates United States, 1993–2018



Total TB Case Rates and Annual Percent Change in Rate, 2010–2018

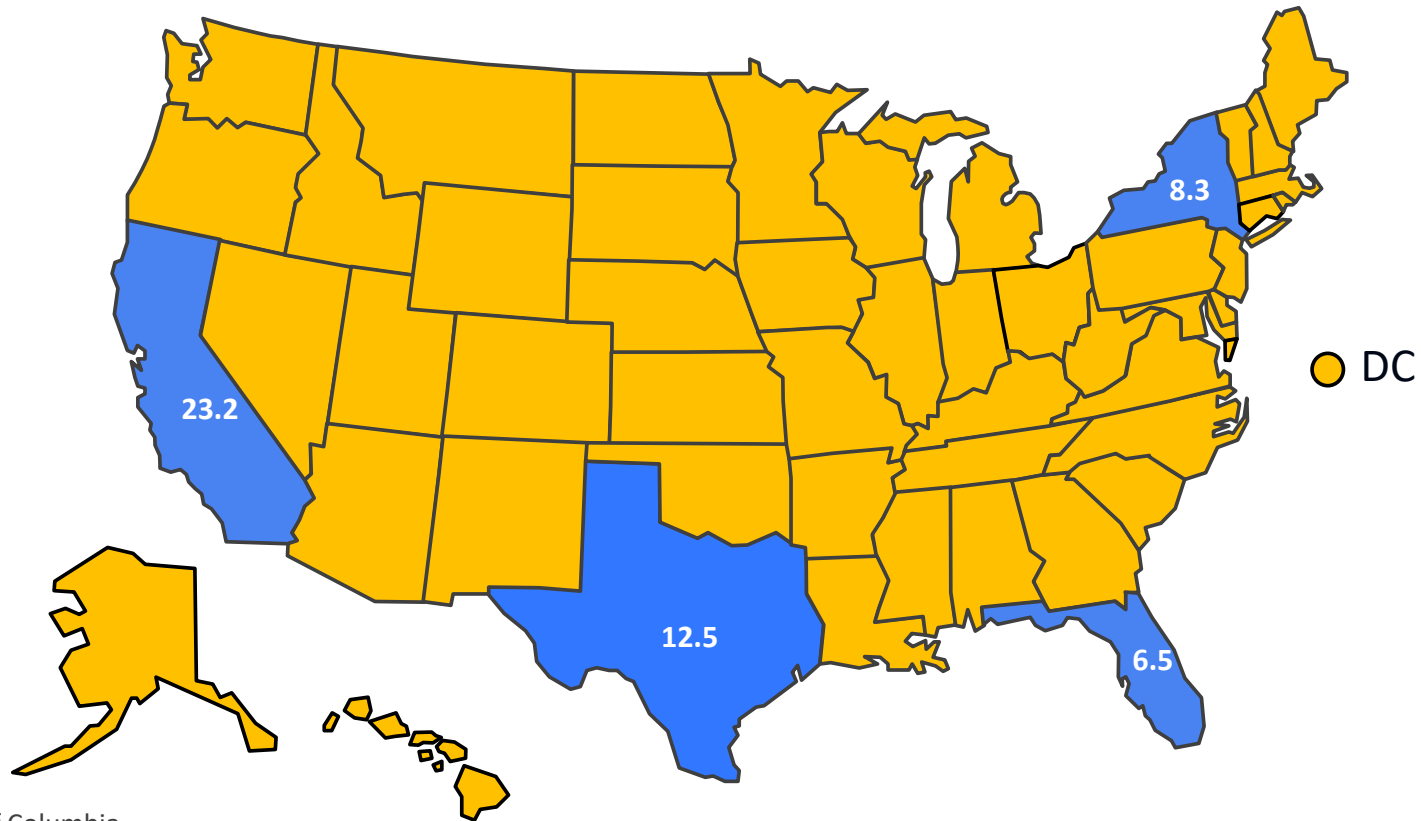


Reported Tuberculosis (TB) Deaths* and Rates United States, 1993–2017



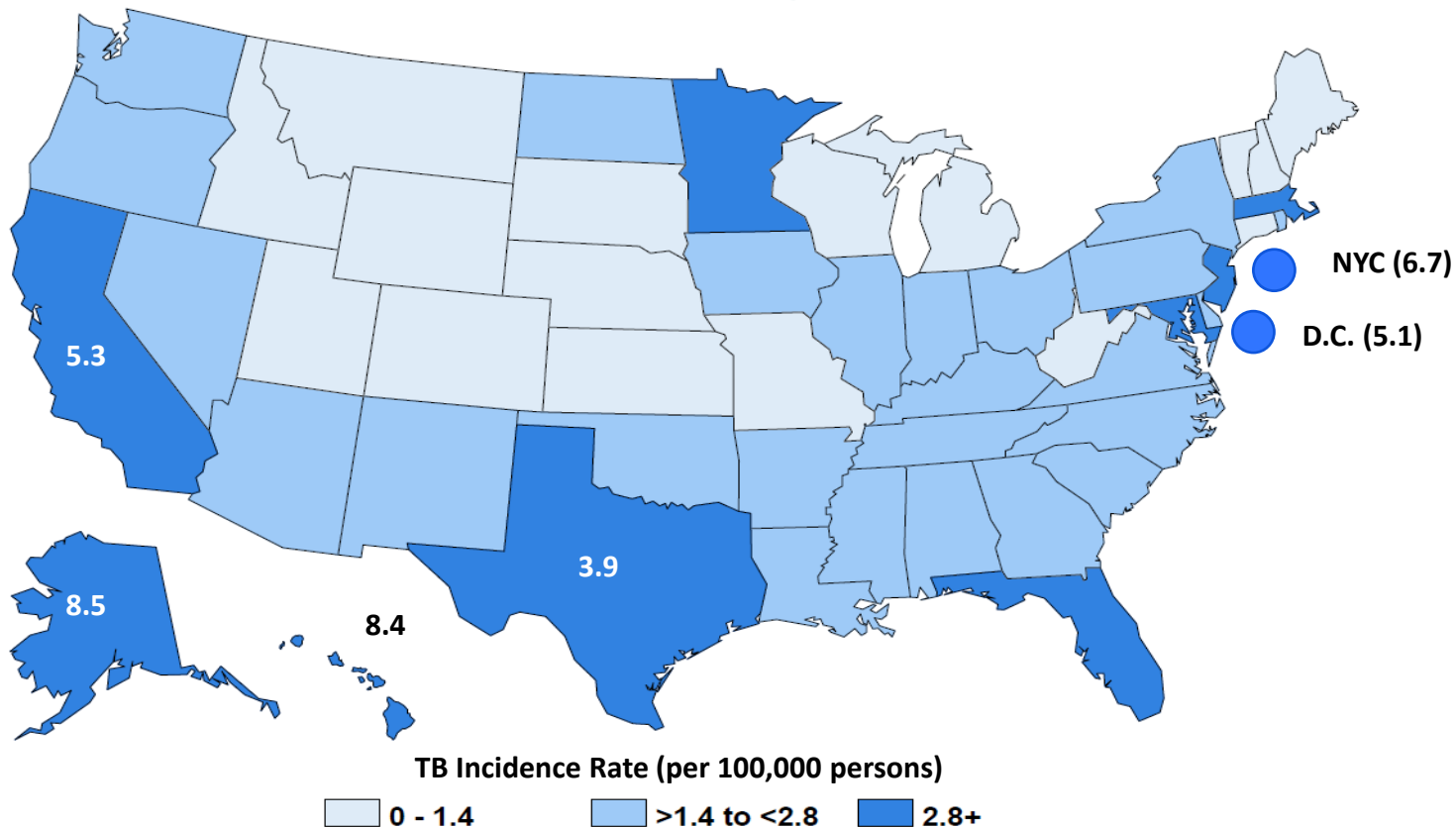
*National Vital Statistics System Multiple Causes of Death (accessed from CDC Wonder)

Percentage of TB Cases by State, United States, 2018

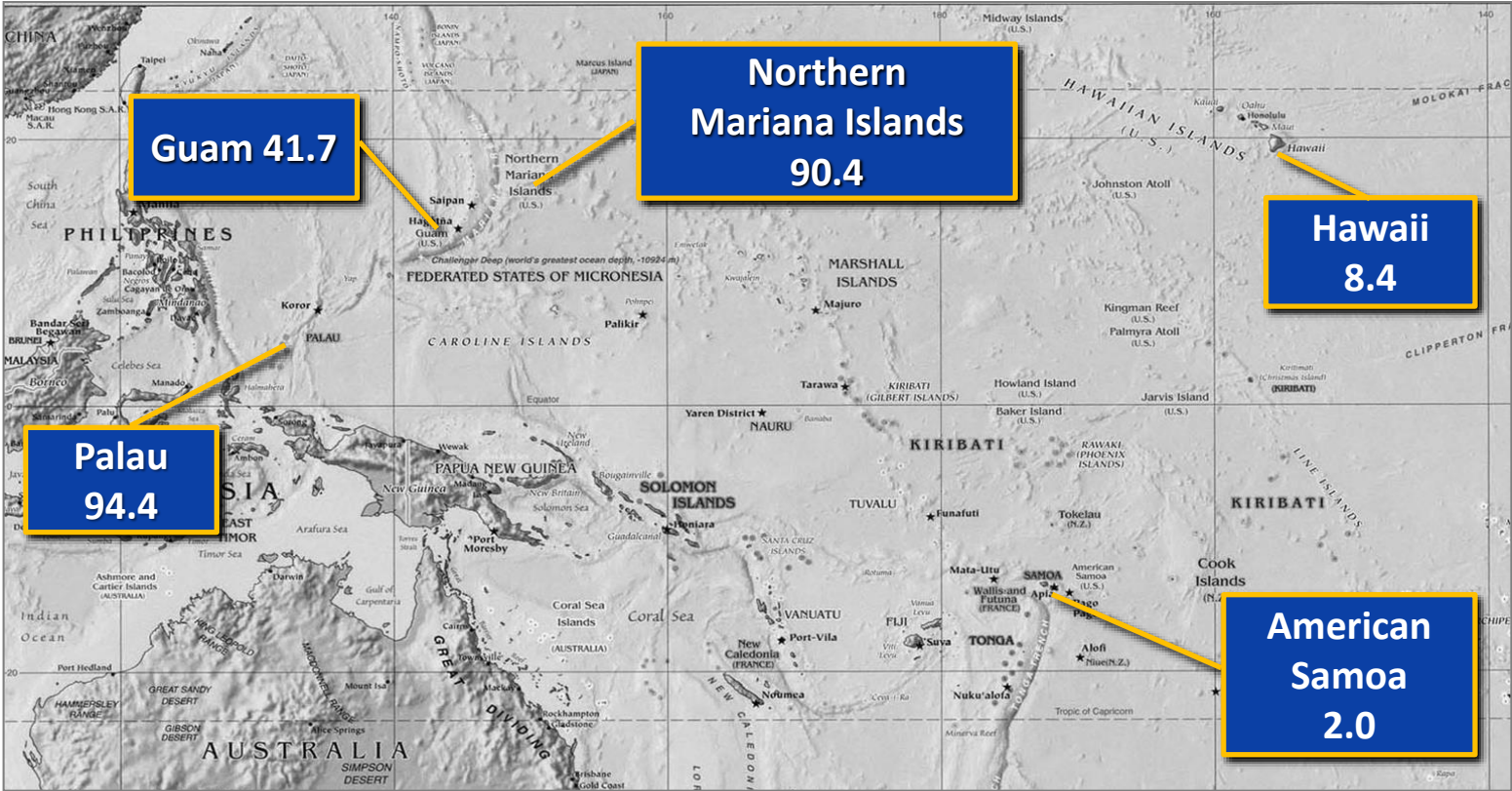


DC, District of Columbia

Tuberculosis Case Rates by Reporting Area United States, 2018

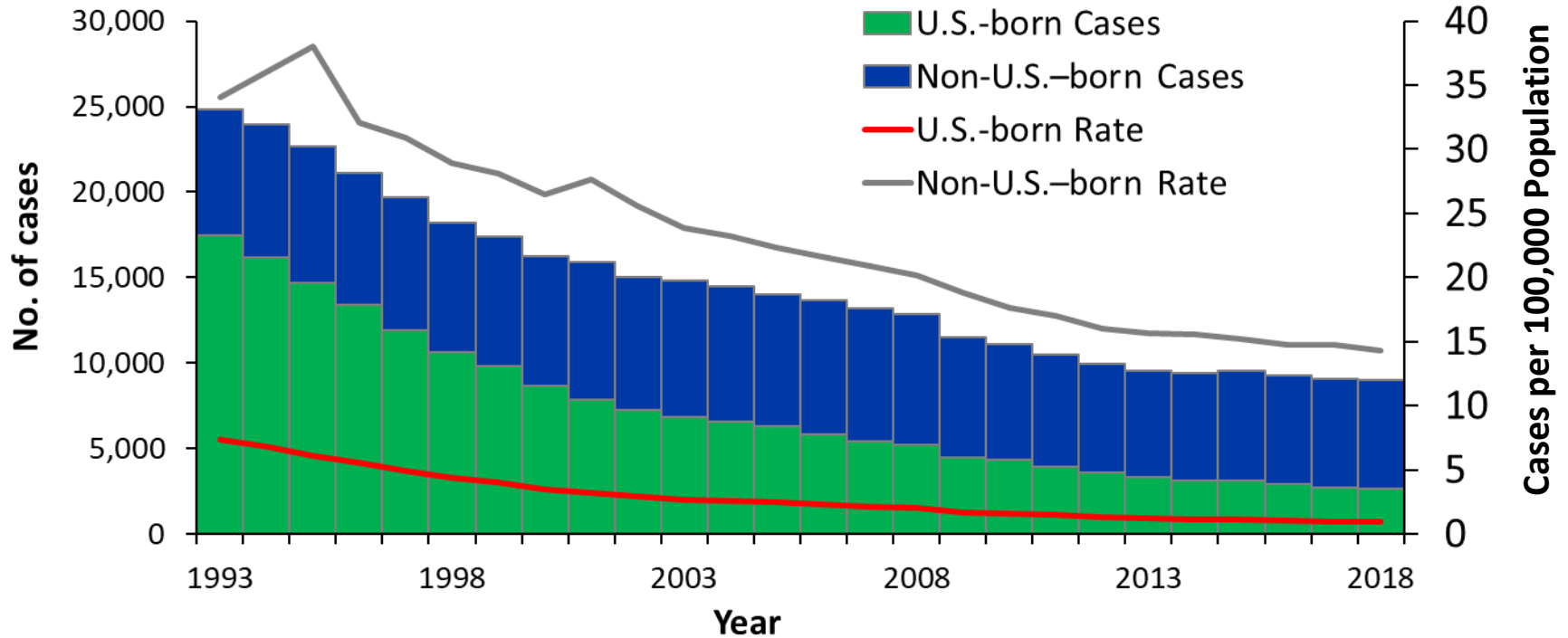


Map of U.S.-Affiliated Pacific Islands and Hawaii by TB Case Rates*, 2018

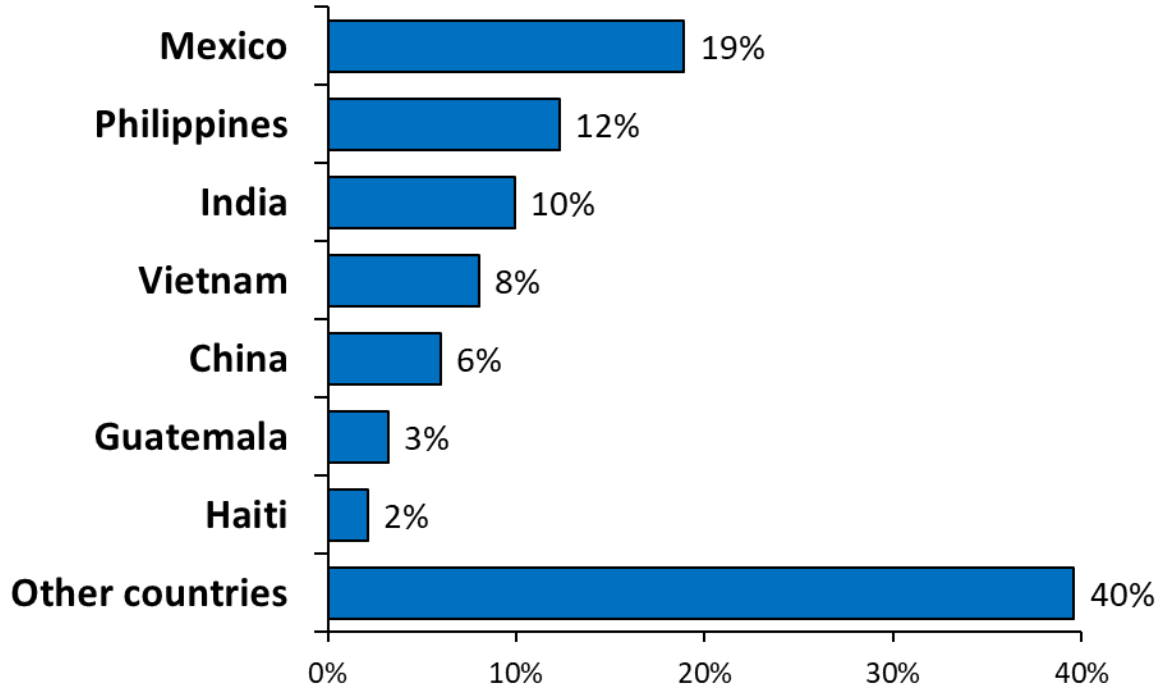


*Cases per 100,000 population

TB Cases and Rates Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2018

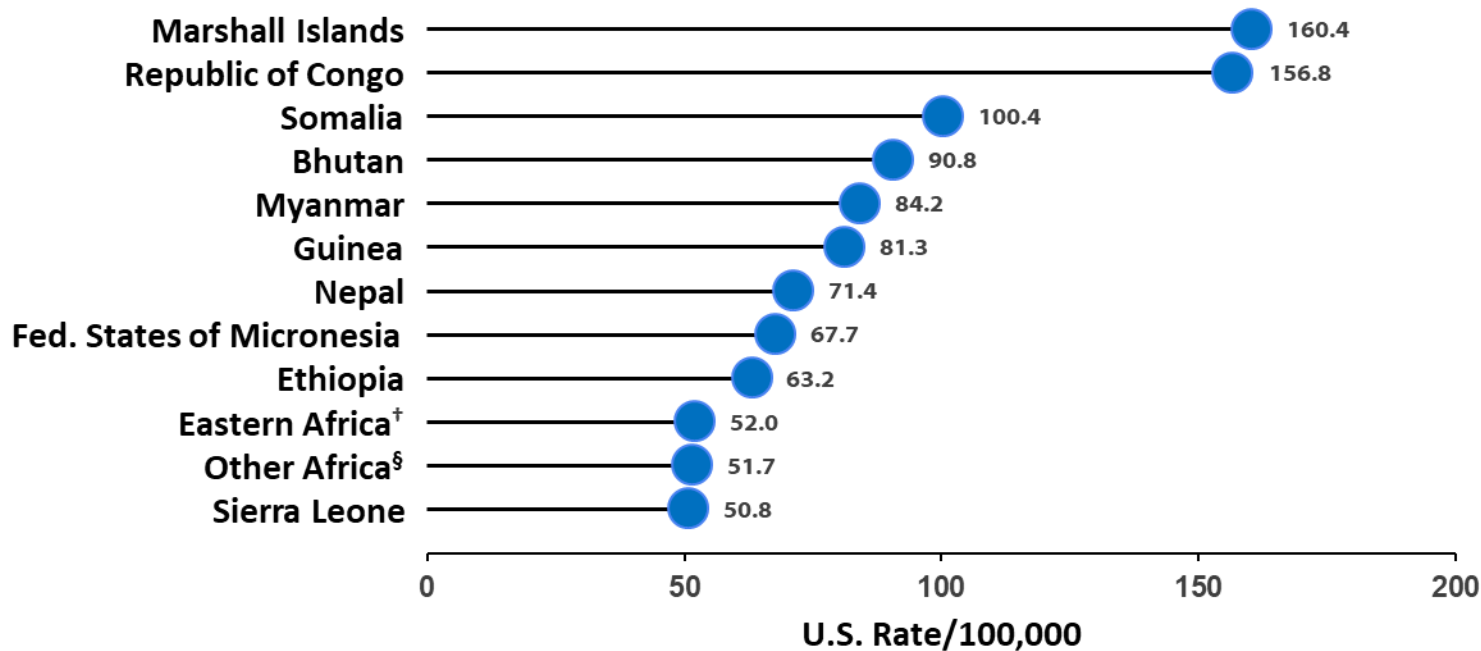


Countries of Birth Among Non-U.S.–Born Persons Reported with TB, United States, 2018*



*Percentages are rounded.

TB Rates for Top 10 Countries of Birth* United States, 2014–2018

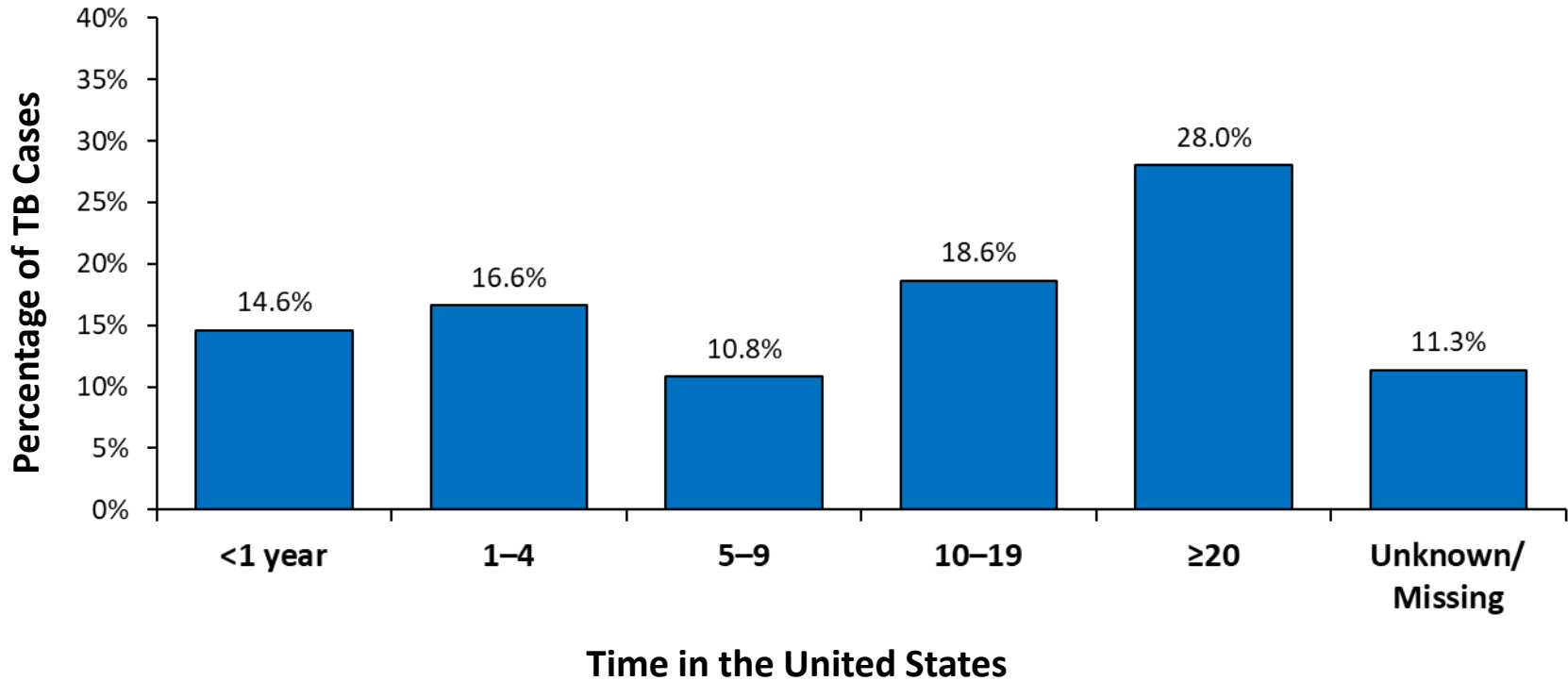


*The top 10 countries were selected based on their ranked 5-year rate of TB cases by country of birth in the United States. This list of top countries also includes the regions of Eastern Africa and Other Africa.

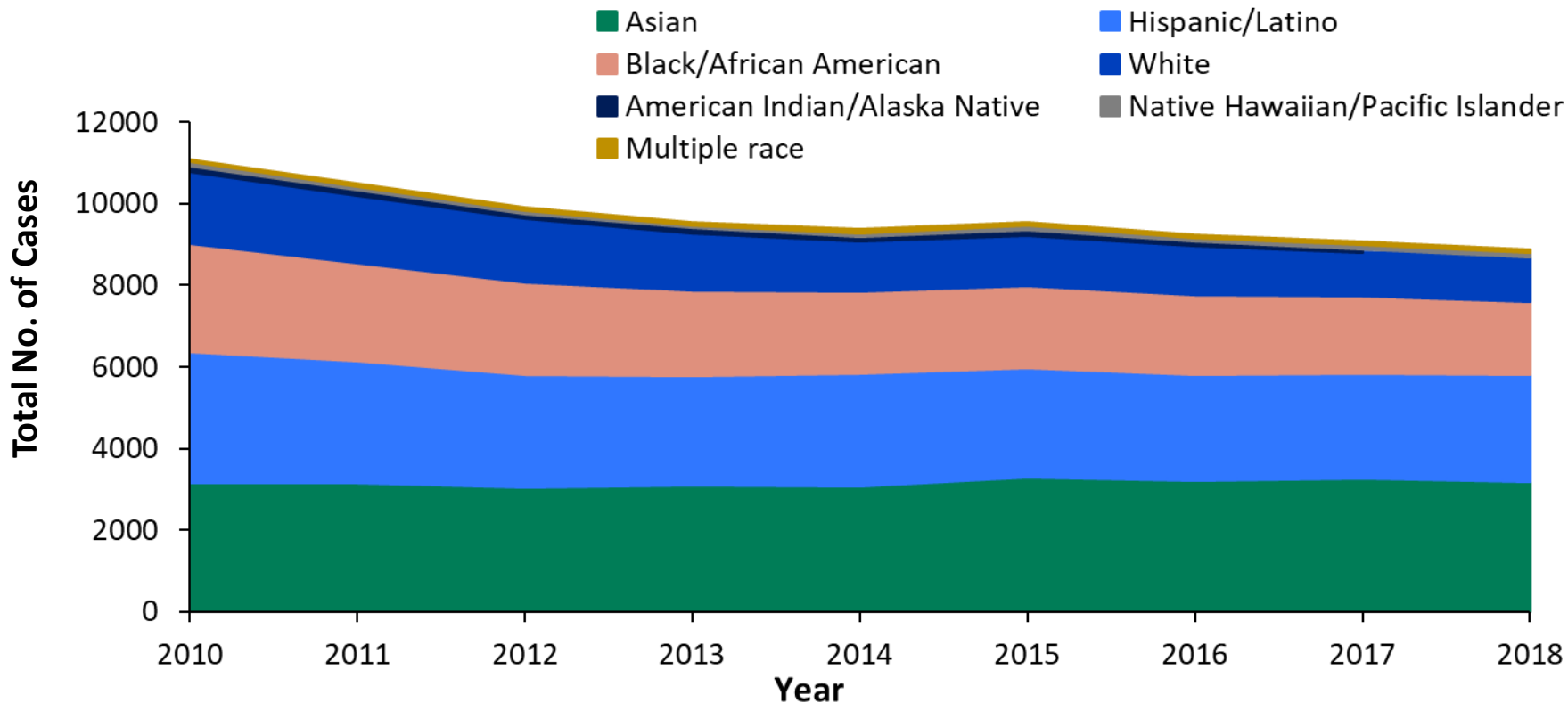
[†] The Eastern Africa region consists of British Indian Ocean Territory, Burundi, Comoros, Djibouti, Europa Island, Glorioso Islands, Juan De Nova Island, Madagascar, Malawi, Mayotte, Mozambique, Reunion, Rwanda, Mauritius, Seychelles, Tromelin Island, and South Sudan. Rwanda and South Sudan were removed from the Eastern Africa region in 2017.

[§] The Other Africa region consists of Angola, Botswana, Central African Republic, Chad, Equatorial Guinea, Gabon, Lesotho, Namibia, Sao Tome & Principe, and Swaziland.

Percentage of Non-US–Born TB Cases by Time in the United States at Diagnosis, 2018

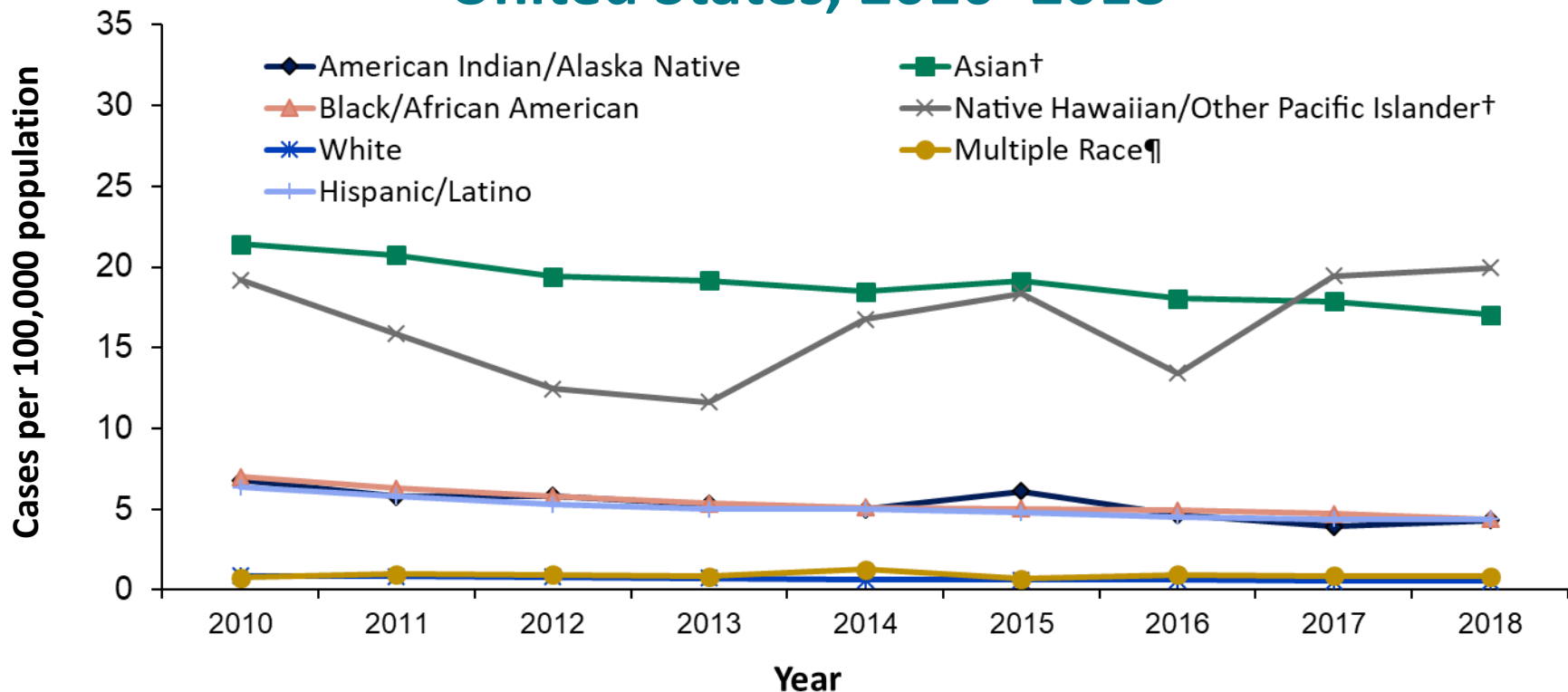


Reported TB Cases by Race/Ethnicity,* United States, 2010–2018



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

TB Case Rates by Race/Ethnicity,* United States, 2010–2018



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

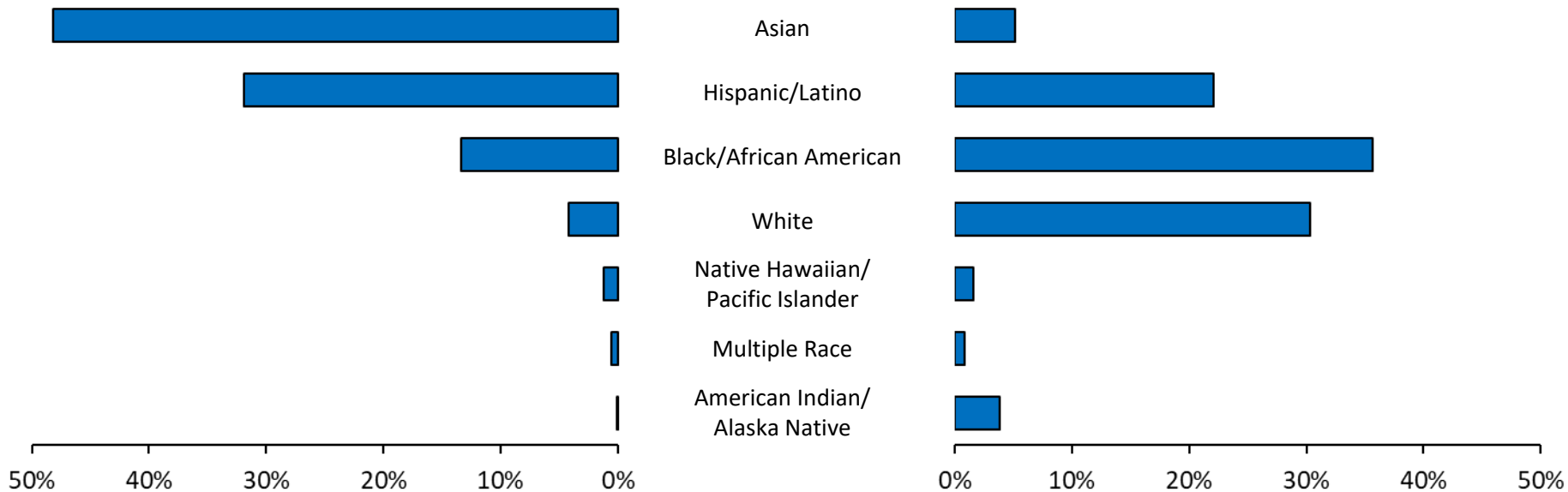
† Asian race category reporting includes Pacific Islander from 1993–2002; Native Hawaiian/Other Pacific Islander race first reported separately in 2003.

¶ Multiple race rates first reported in 2003.

Reported TB Cases by Origin and Race/Ethnicity*, United States, 2018[†]

Non-U.S.-born persons[§]

U.S.-born persons

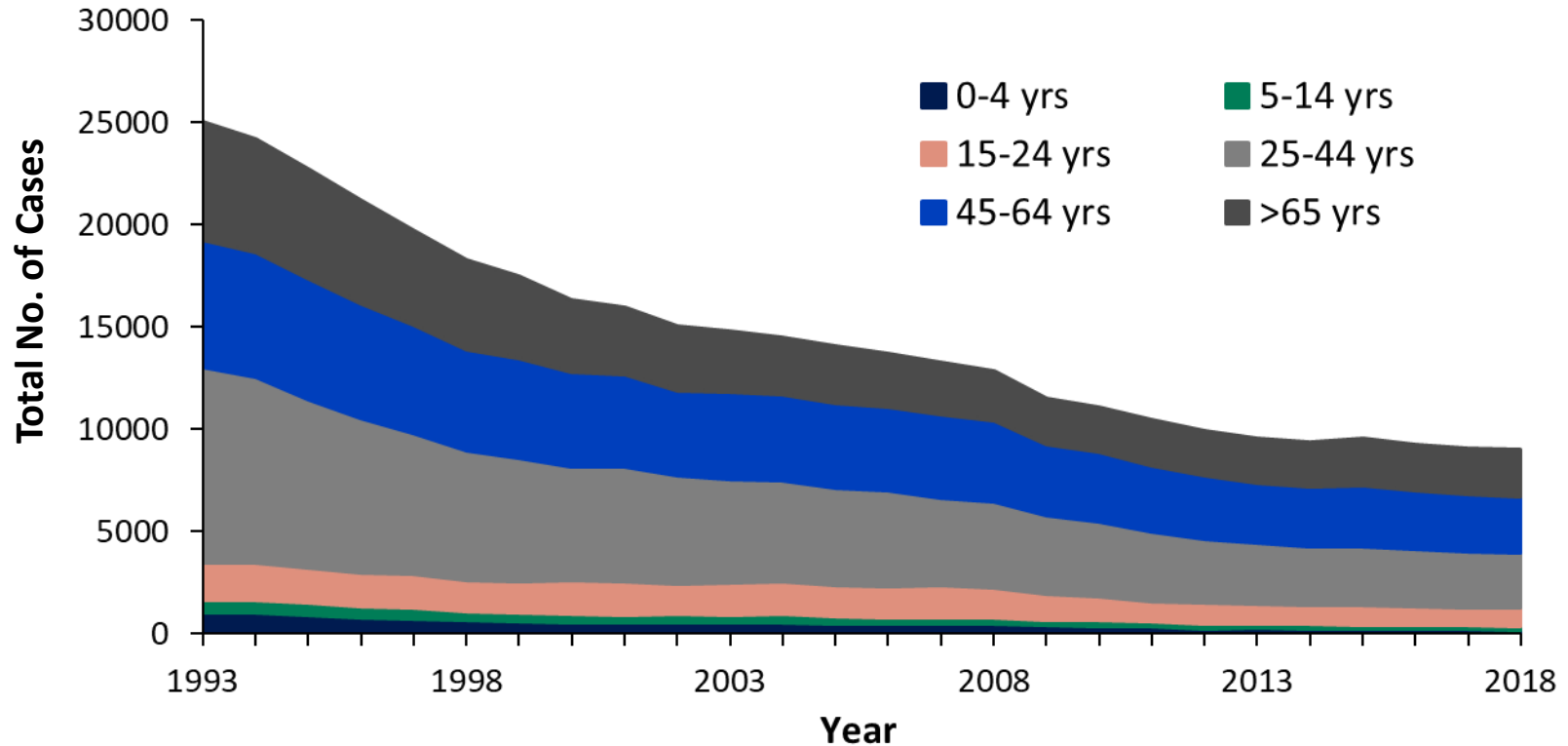


* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

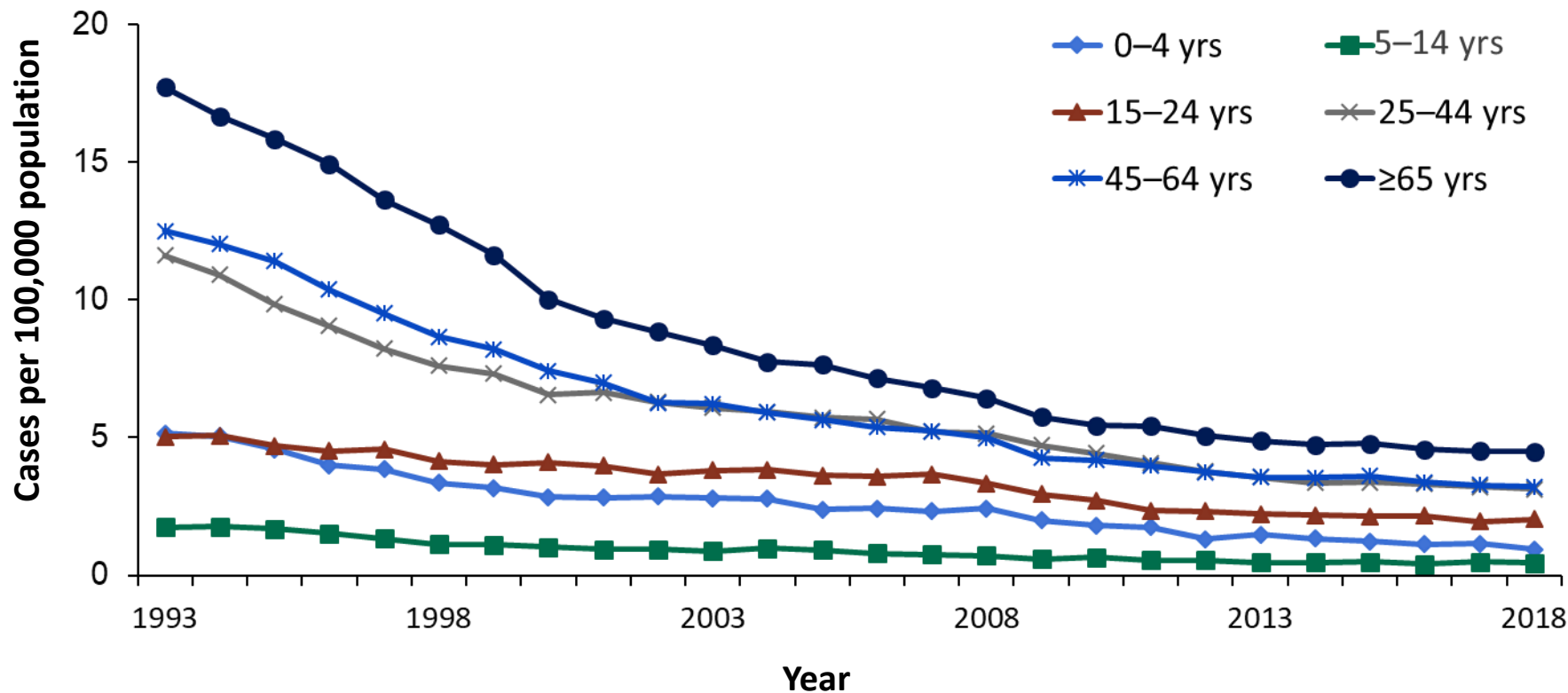
[†] Percentages are rounded.

[§] American Indian/Alaska Native accounted for <1% of cases among non-U.S.-born persons and are not shown.

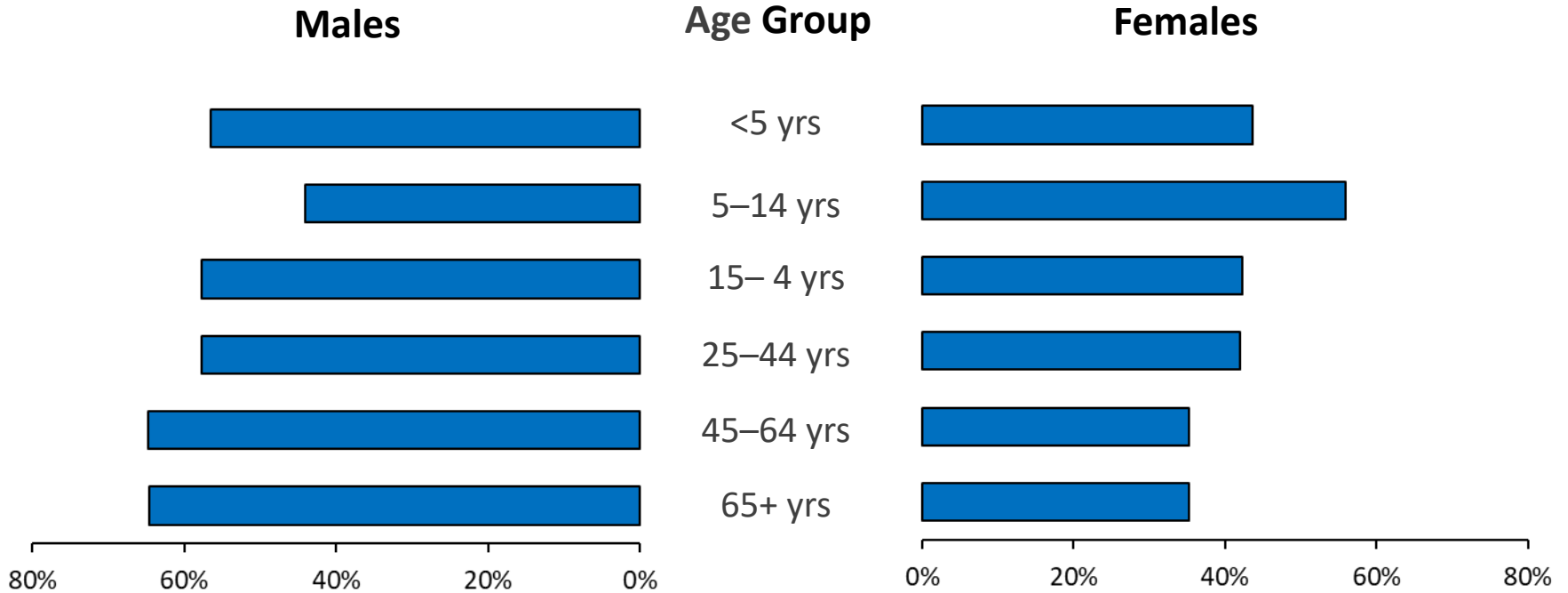
Reported TB Cases by Age Group, United States, 1993–2018



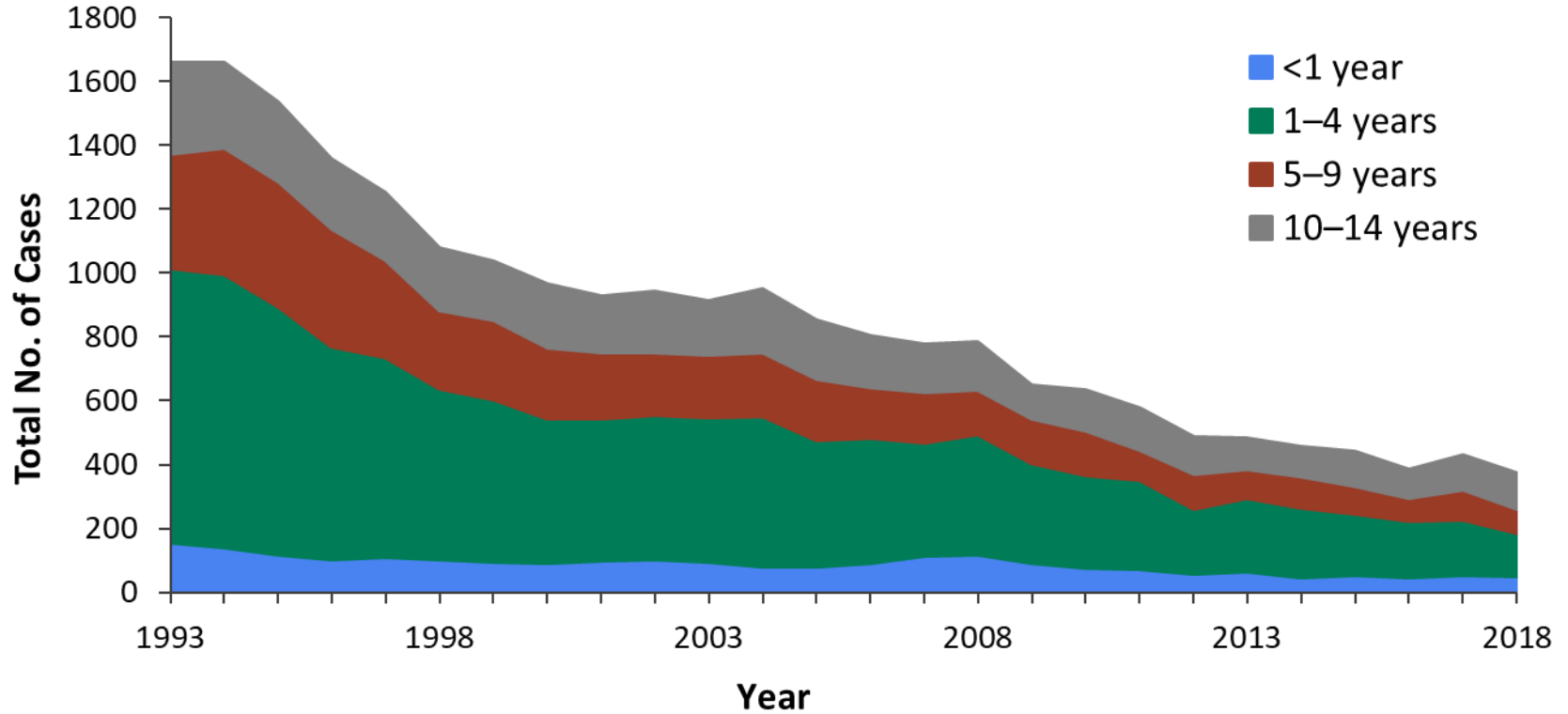
TB Case Rates by Age Group, United States, 1993–2018



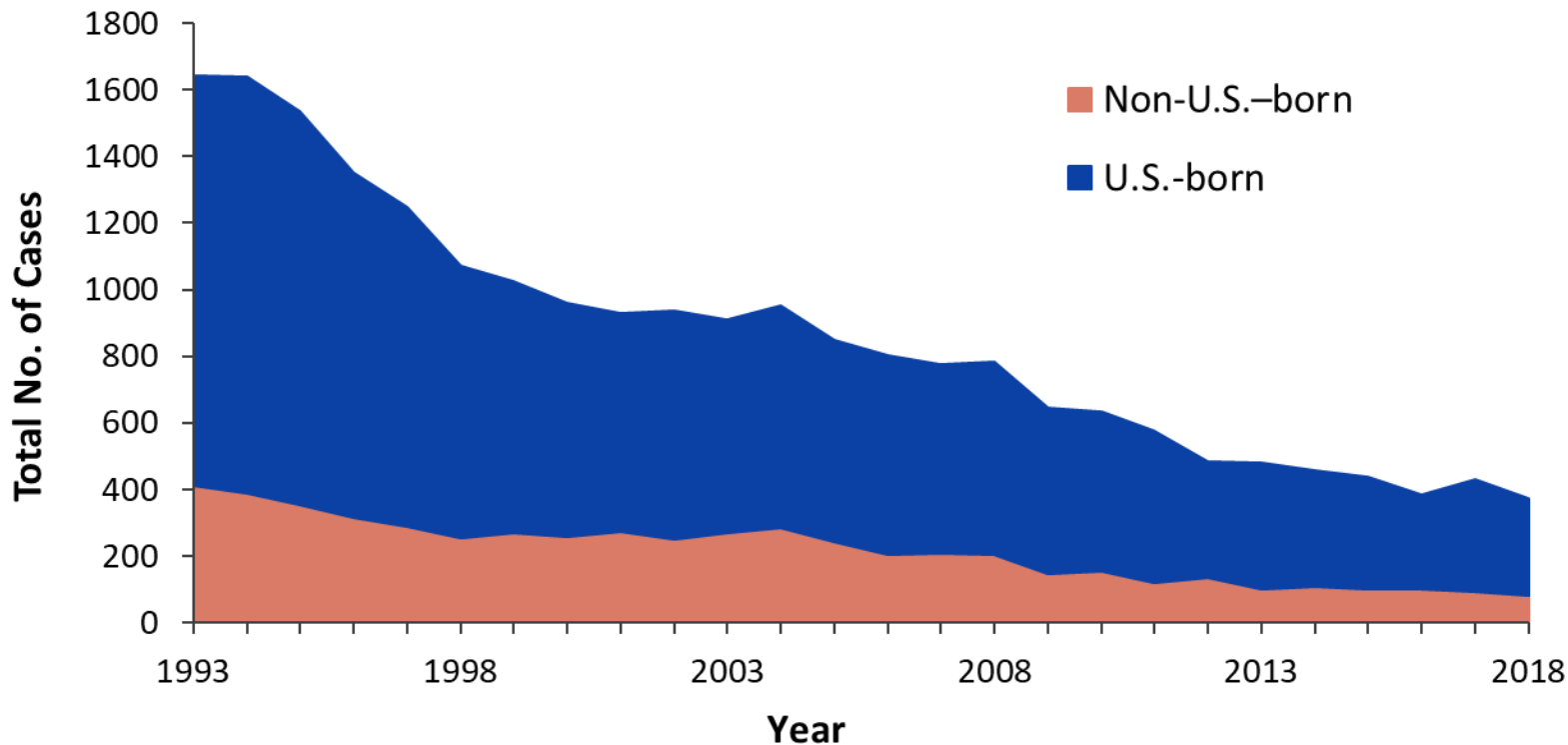
Distribution of Sex by Age Group, United States, 2018



Pediatric TB Cases by Age Group, 1993–2018

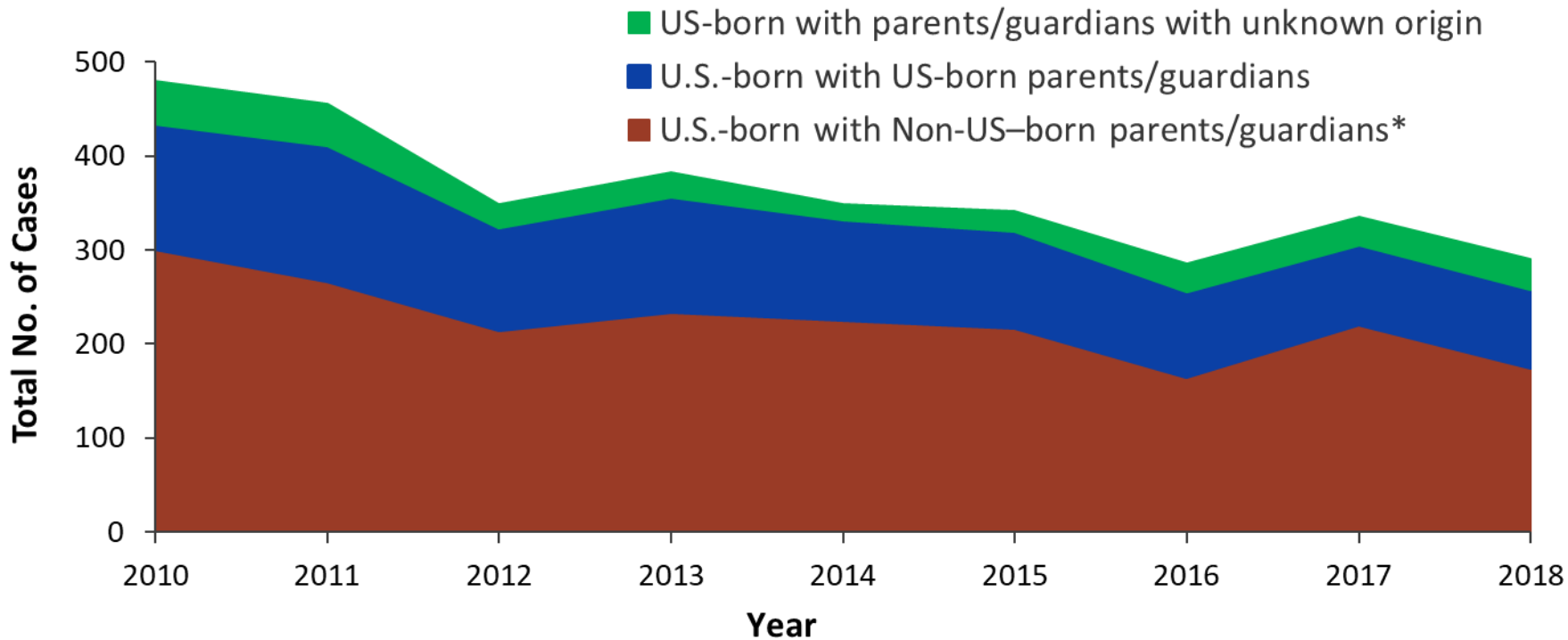


Number of U.S. Pediatric TB Cases among U.S.-Born and Non-U.S.-Born* Children, 1993–2018



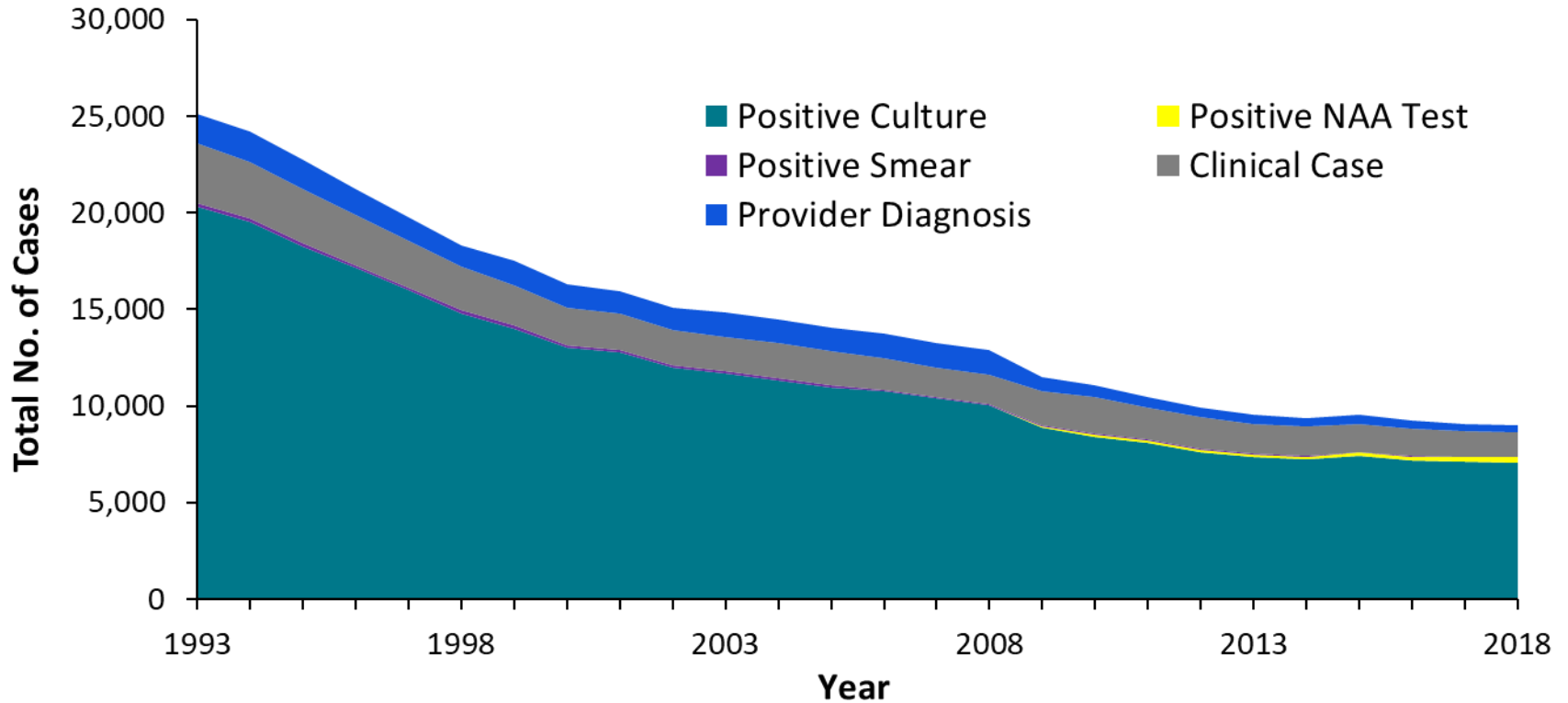
*Non-U.S.-born refers to persons born outside the United States or its territories or not born to a U.S. citizen

Number of U.S. Pediatric TB Cases among U.S.-Born Children by Parent/Guardian Status, 2010–2018

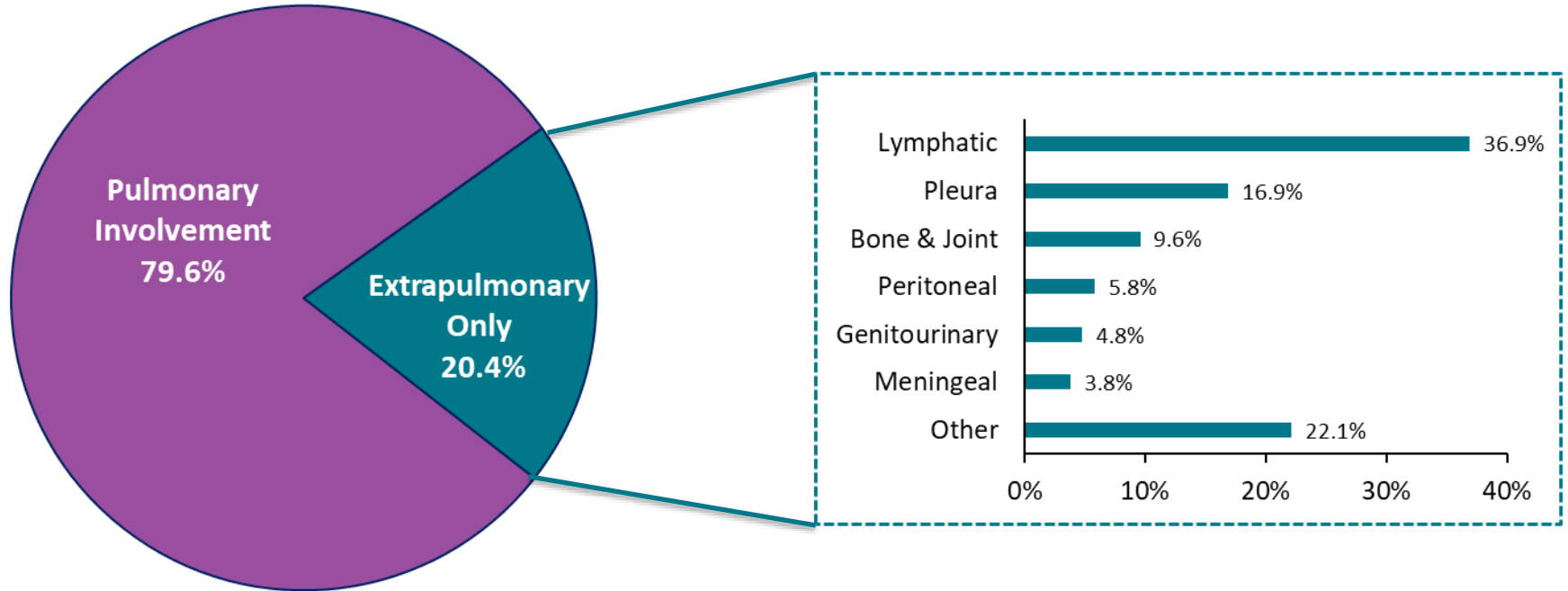


*At least one parent/guardian was non-U.S.-born

Number of U.S. TB Cases by Case Verification Criteria, 1993–2018



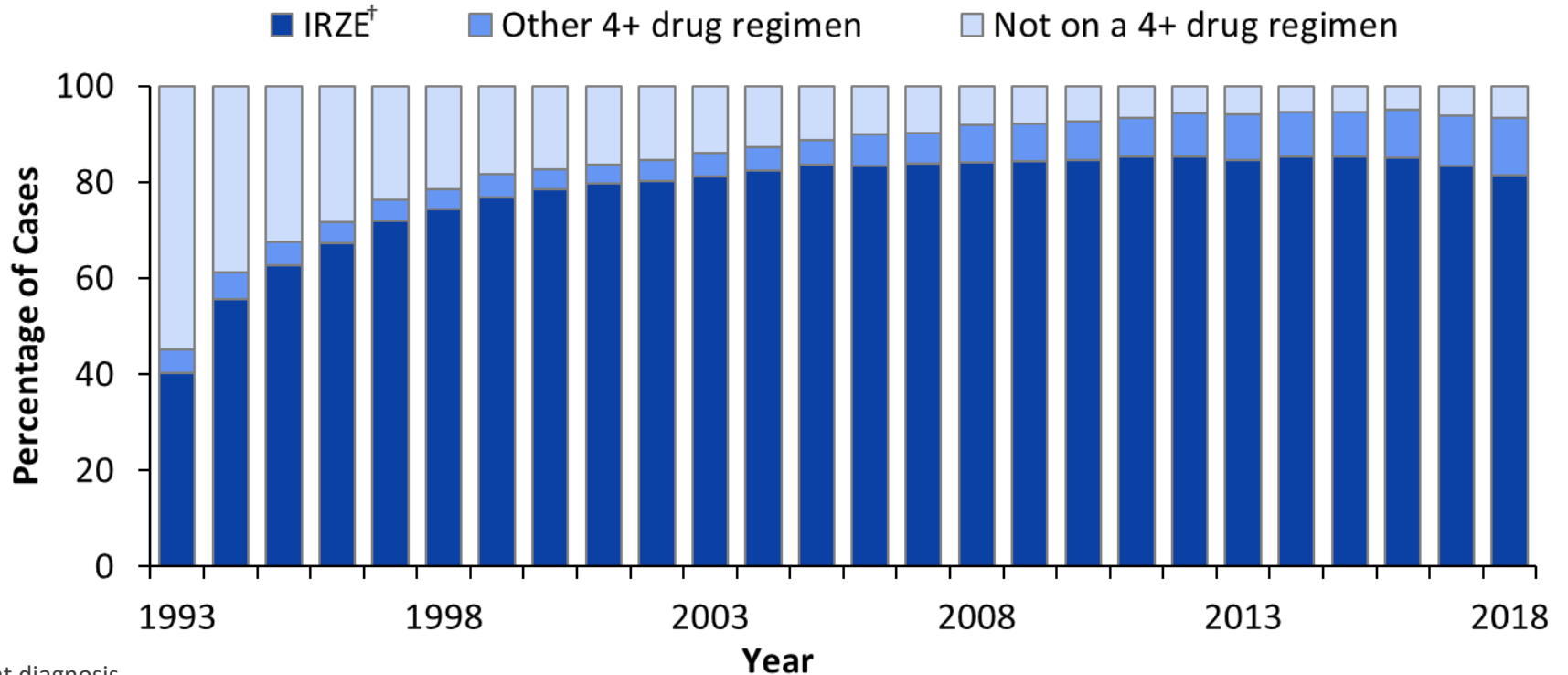
U.S. TB Cases by Site of Disease, 2018



*Any extrapulmonary involvement which includes cases that are extrapulmonary only and both pulmonary and extrapulmonary. Patients may have more than one disease site but are counted in mutually exclusive categories for surveillance purposes.

Note: Percentages are rounded.

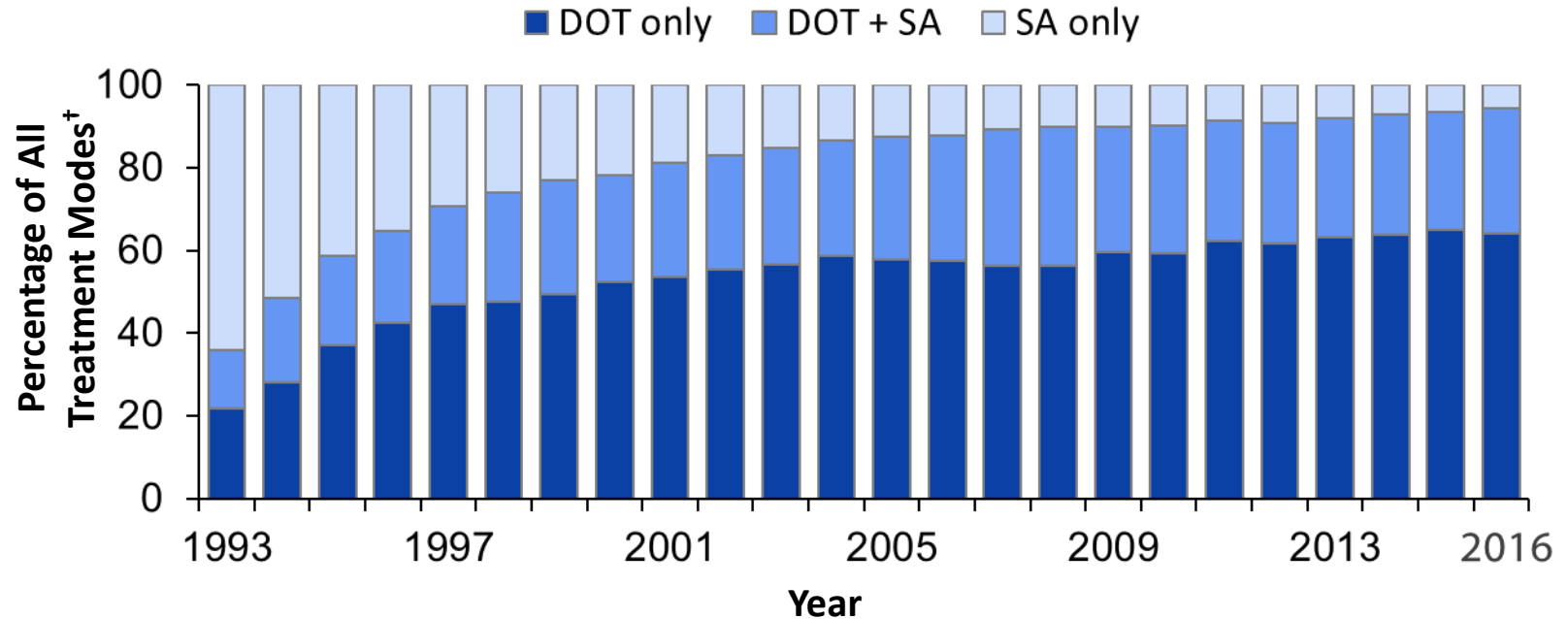
Percentage of Tuberculosis Cases*, by Initial Drug Regimen, United States, 1993–2018



*Alive at diagnosis

†Isoniazid, Rifampin, Pyrazinamide and Ethambutol

Mode of Treatment Administration Among Persons Reported with TB, United States, 1993–2016*

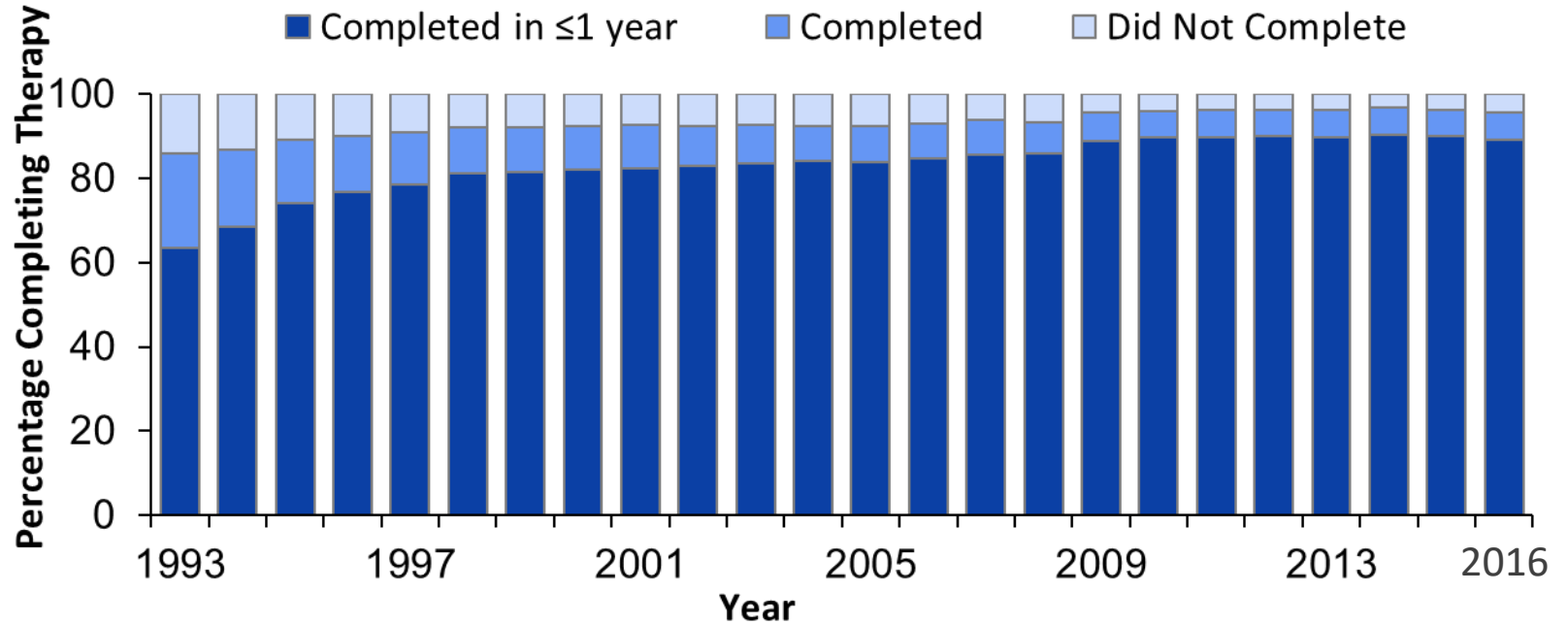


DOT, directly observed therapy; SA, self-administered therapy.

* Data available through 2016 only.

[†] Percentage of total cases among persons alive at diagnosis, with an initial regimen of one or more drugs prescribed and excluding cases with unknown mode of treatment administration.

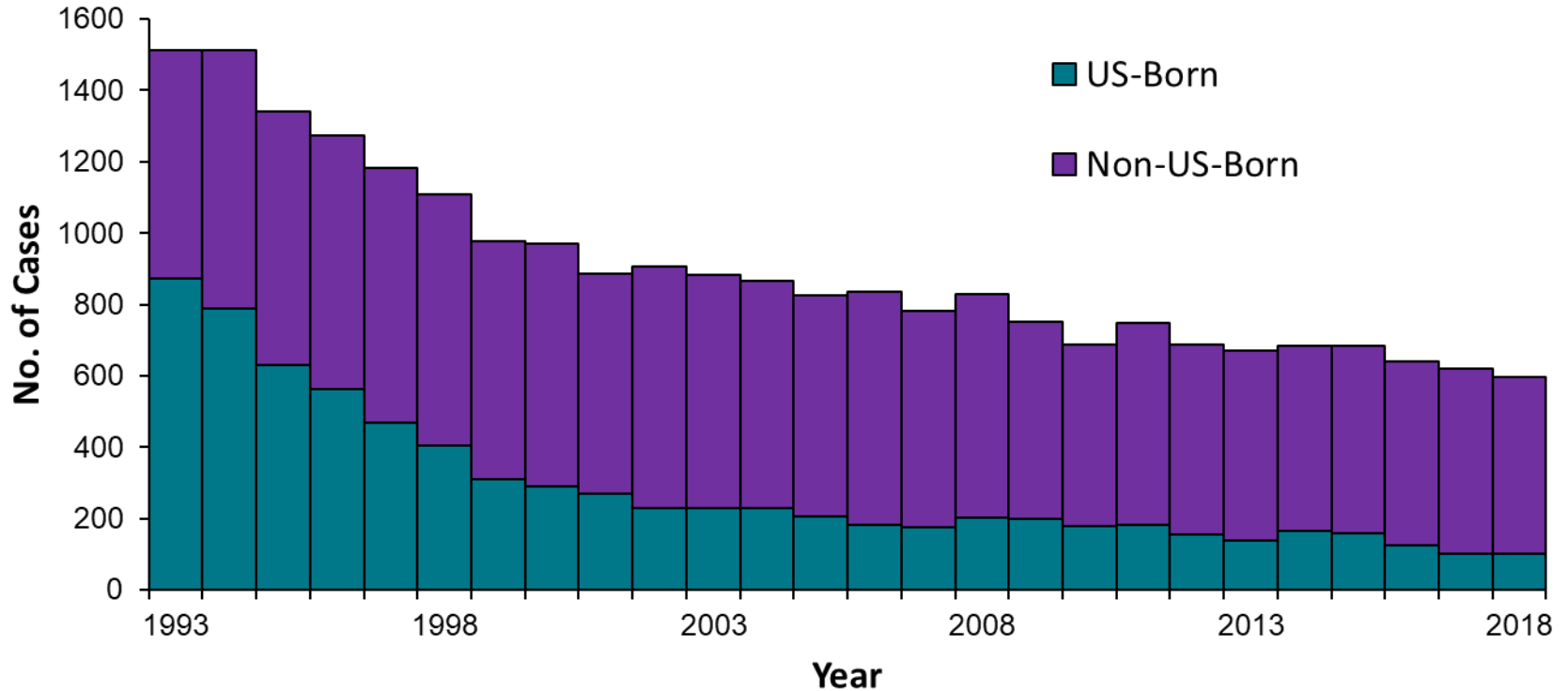
Completion of TB Therapy, United States, 1993–2016*



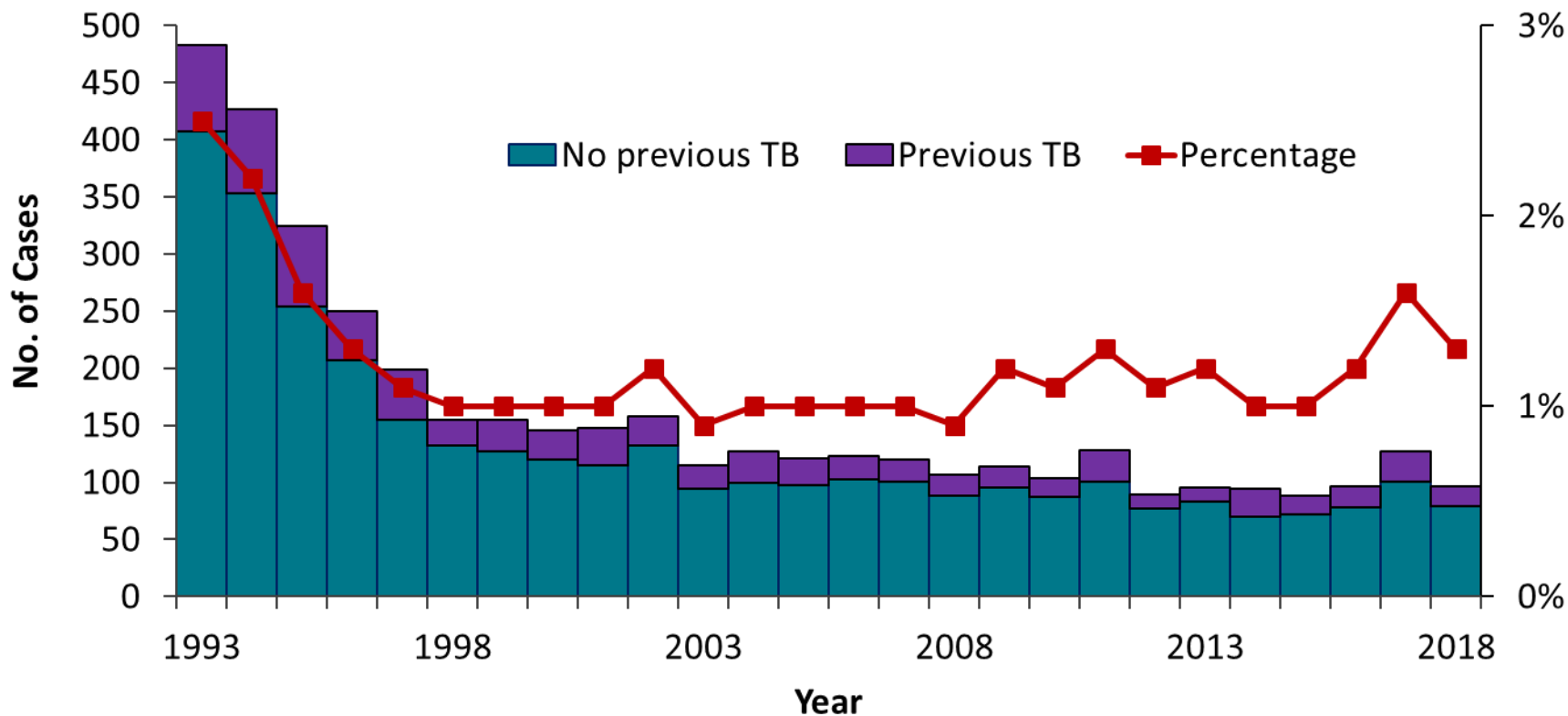
*Data available through 2016 only.

Note: Includes persons eligible to complete therapy within one year of diagnosis.

Isoniazid Resistance Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2018

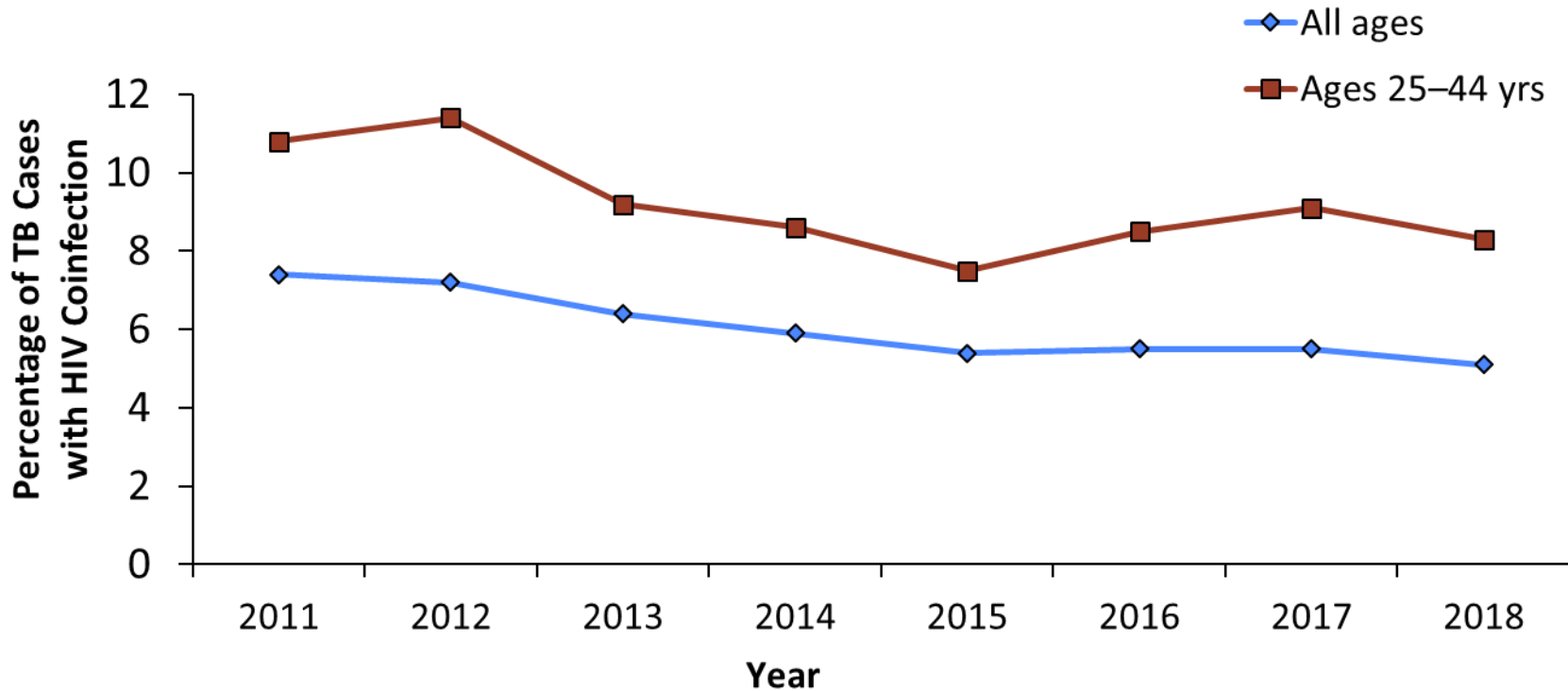


Cases of MDR TB* by History of TB, United States, 1993–2018



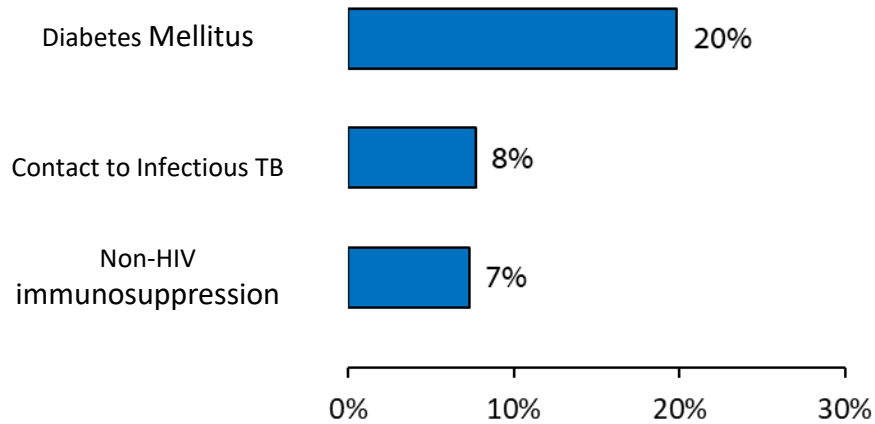
* Multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

HIV Coinfection by Age Among Persons Reported with TB, United States, 2011–2018

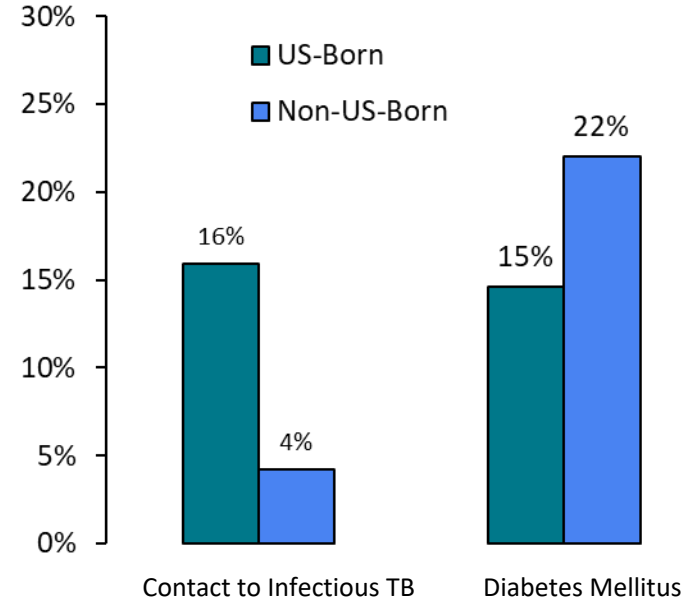


Reported TB Case Percentages* by Risk Factor, United States, 2018

Most Common Risk Factors Reported Among TB Patients

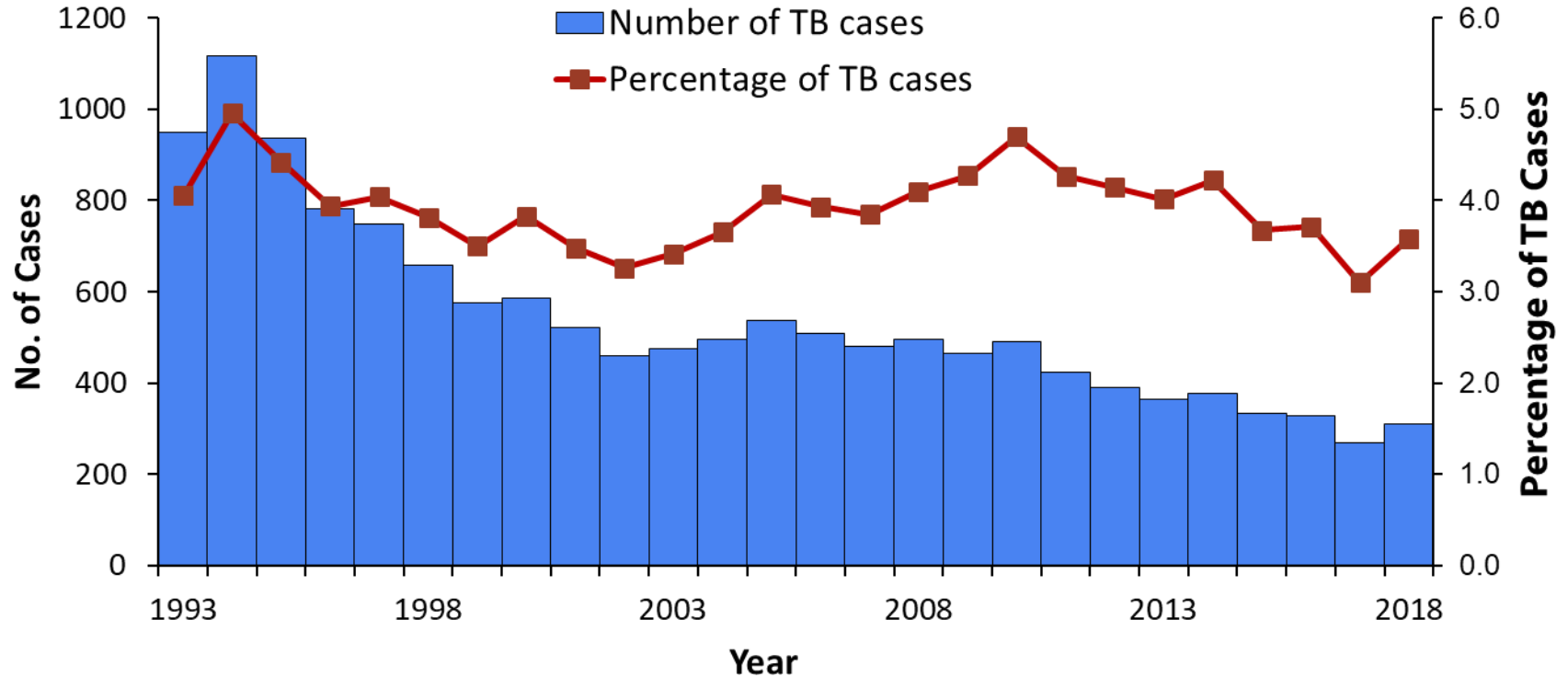


Comparison of Selected Risk Factors by Origin of Birth



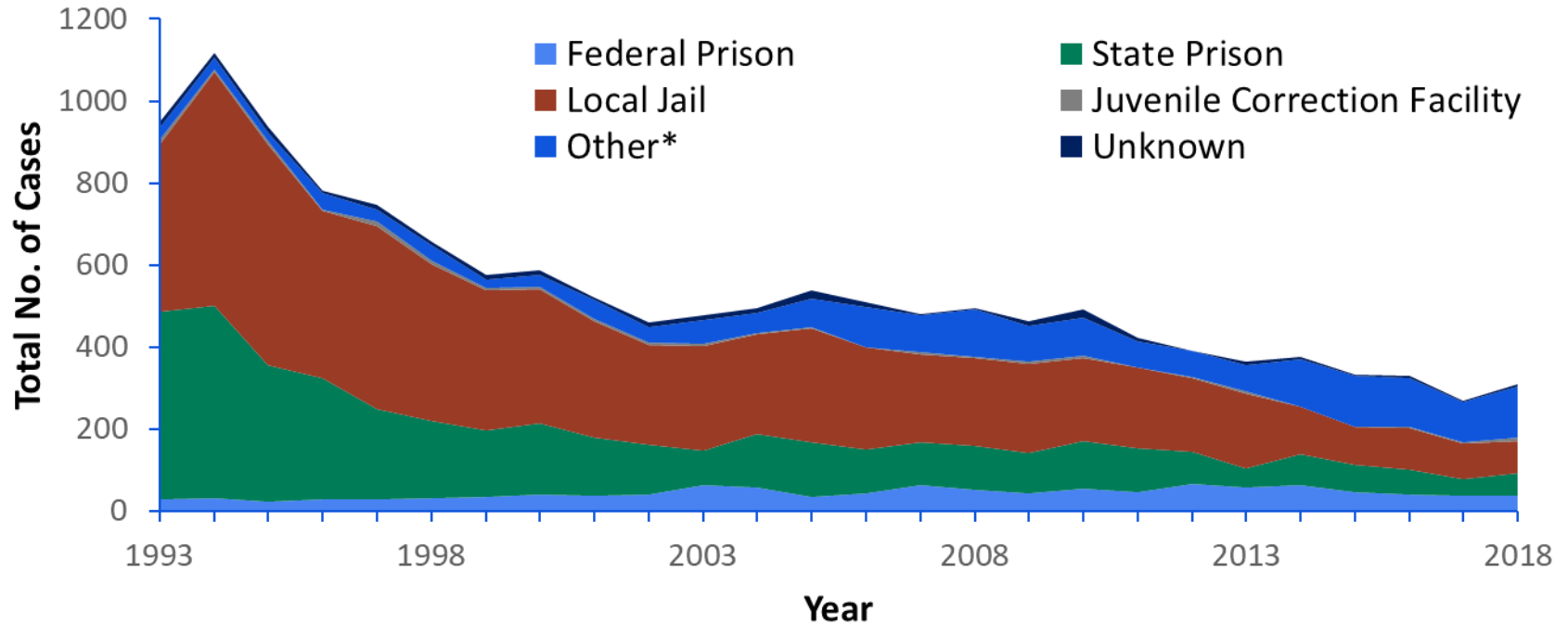
*Percentages are rounded

TB Cases among Residents of Correctional Facilities Ages ≥ 15 , 1993–2018*



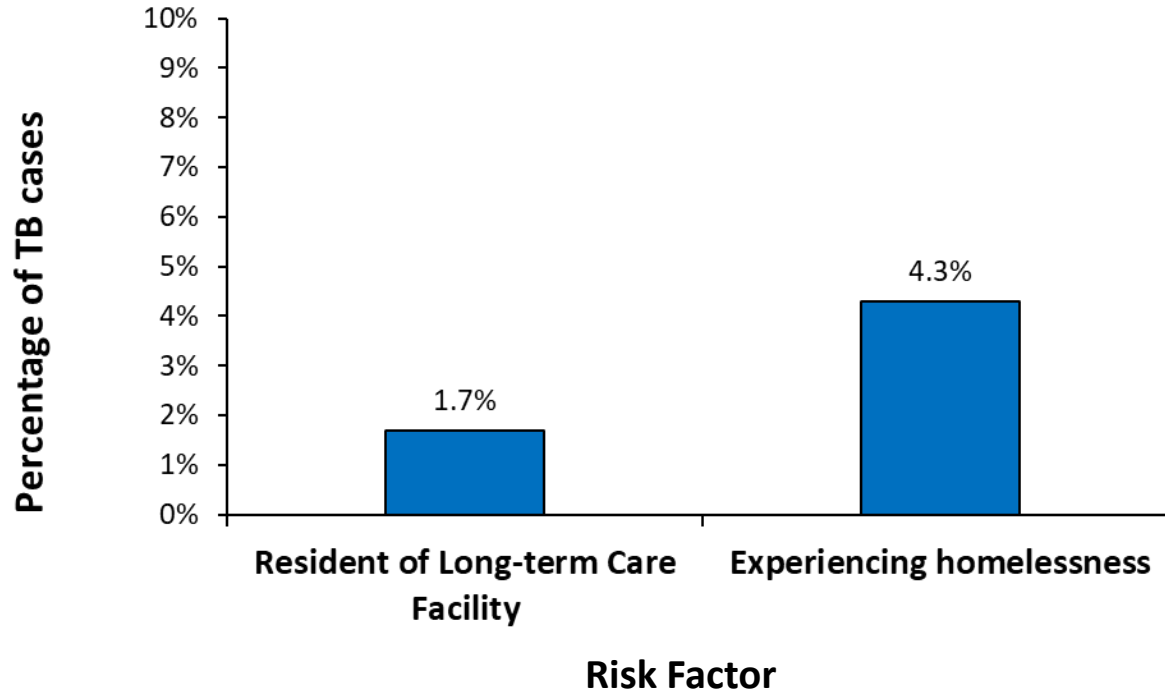
*Correctional facilities include federal prisons, state prisons, local jails, juvenile correctional facilities, other correctional facilities, or unknown type of correctional facility.

TB Cases among Residents of Correctional Facilities Ages ≥ 15 by Type of Facility, 1993–2018

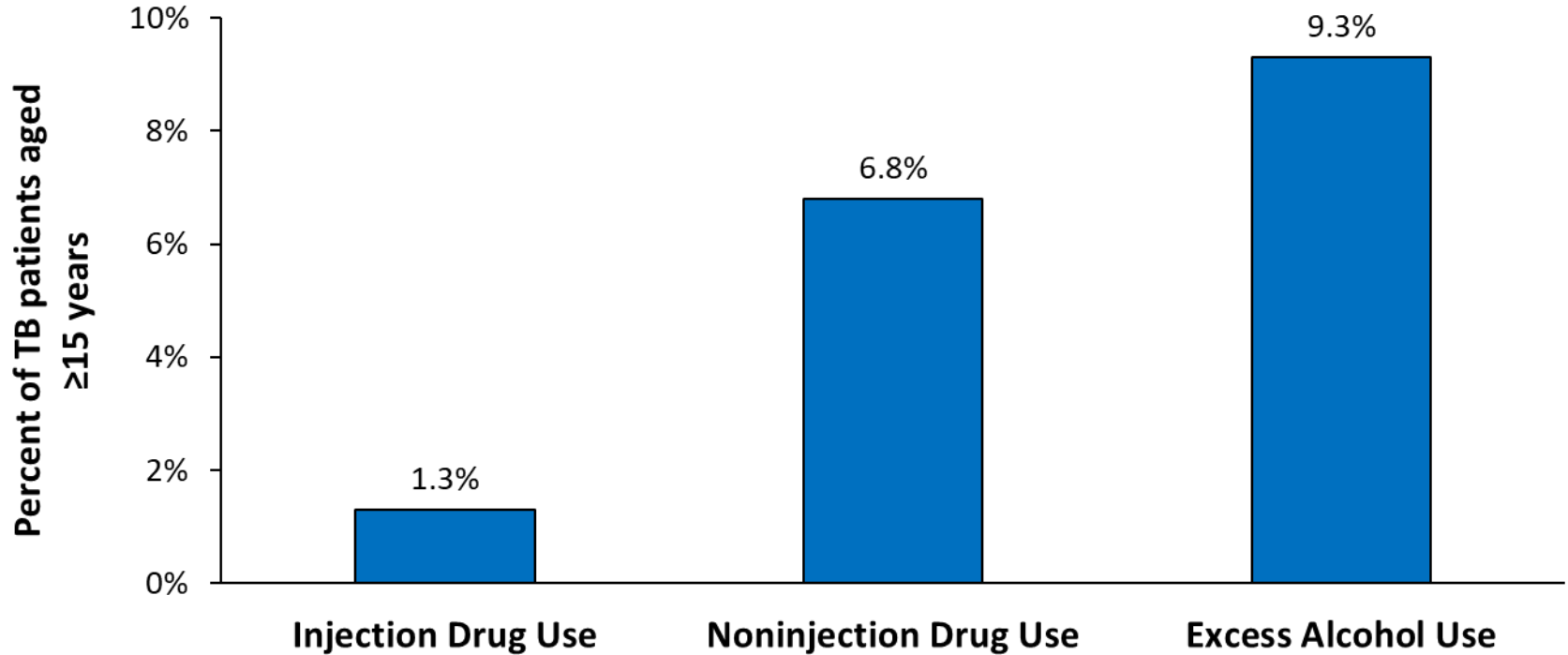


*Includes Immigration and Customs Enforcement (ICE) detention centers, tribal jails operated by Indian reservations, police lockups (temporary holding facilities for person who have not been formally charged in court), military stockades and jails, or federal park facilities

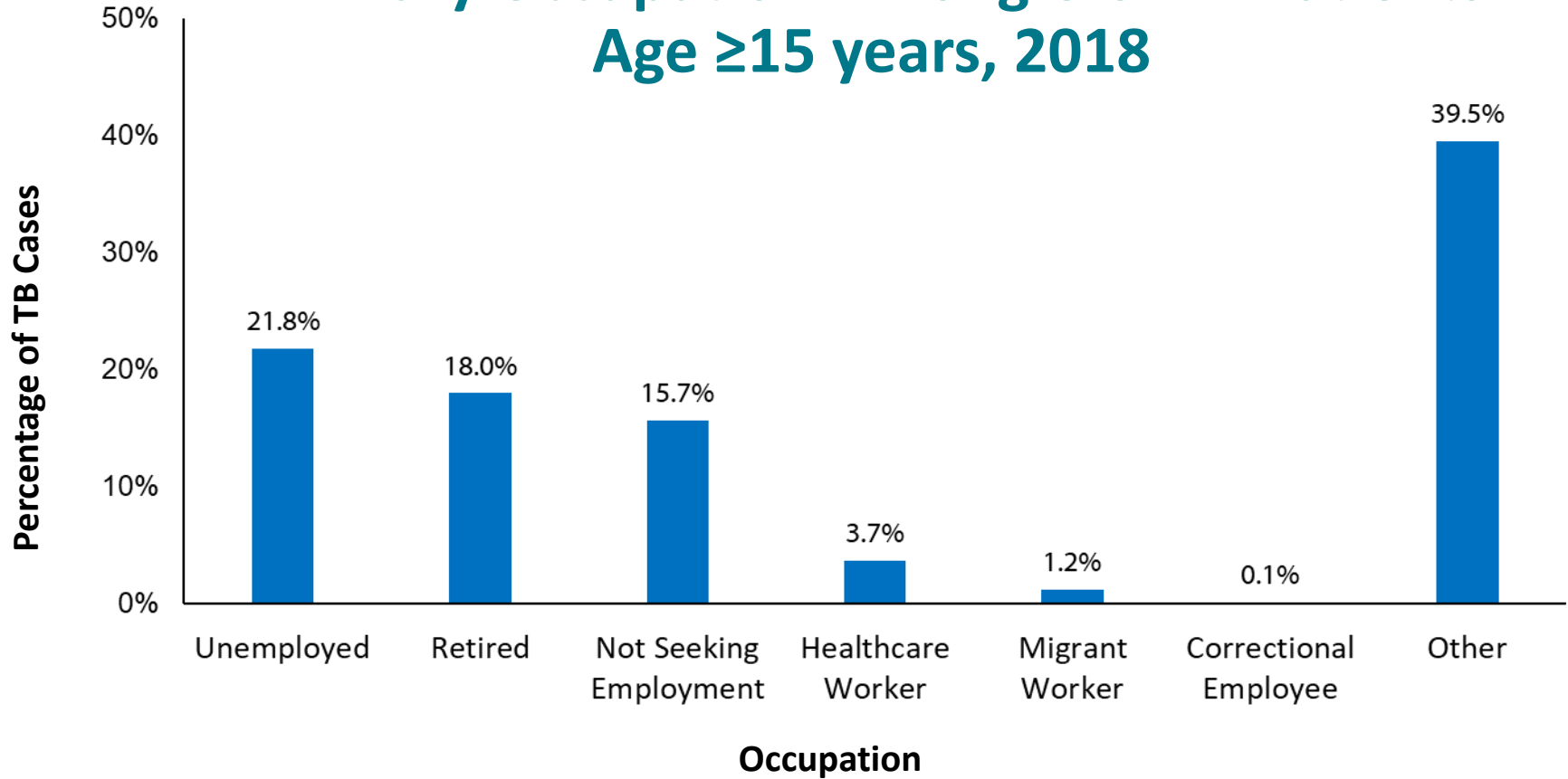
TB Cases Ages ≥ 15 with Other Selected Risk Factors, 2018



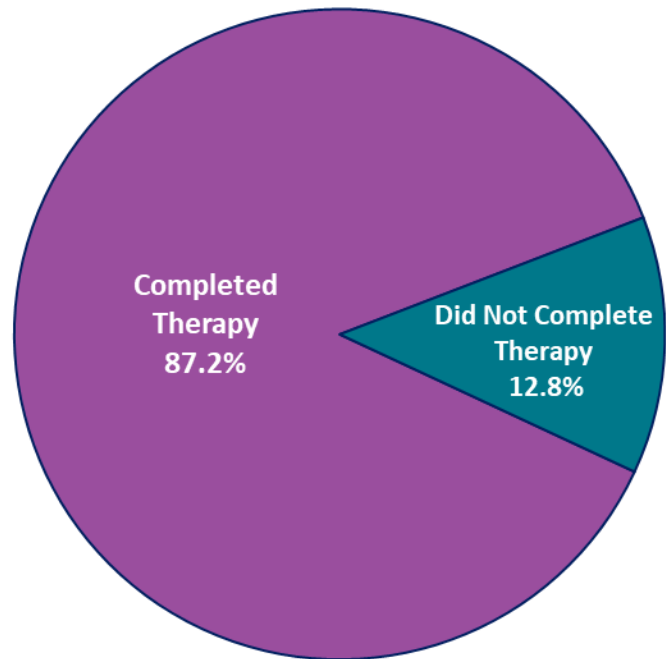
Substance Misuse Among TB Patients ≥ 15 years, United States, 2018



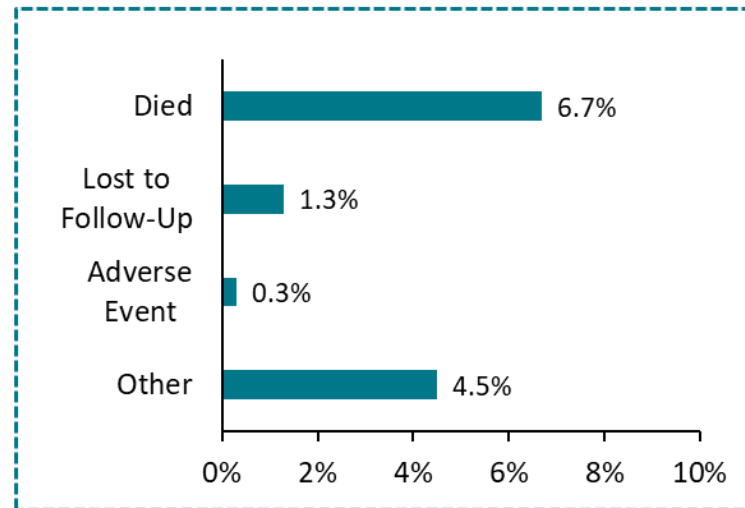
Primary Occupation Among U.S. TB Patients Age ≥15 years, 2018



TB Cases by Reason Therapy Stopped, 2016*



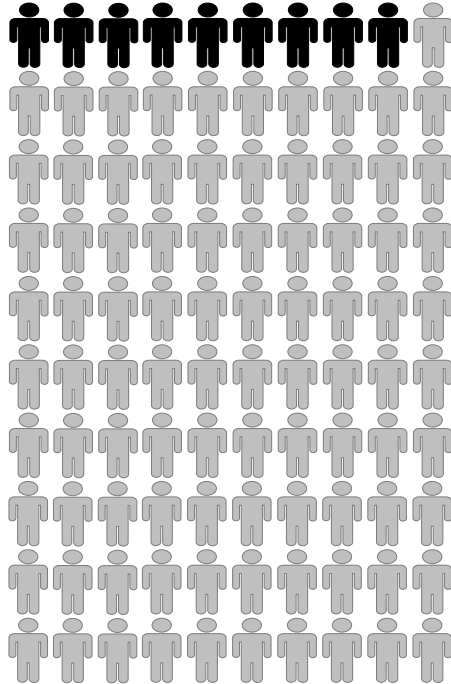
Outcomes for patients that did not complete treatment



*Data available through 2016 only.

Deaths Attributed to TB Disease or TB Treatment, 2016*

9 of every 100 TB patients diagnosed in 2016 died before diagnosis or during treatment

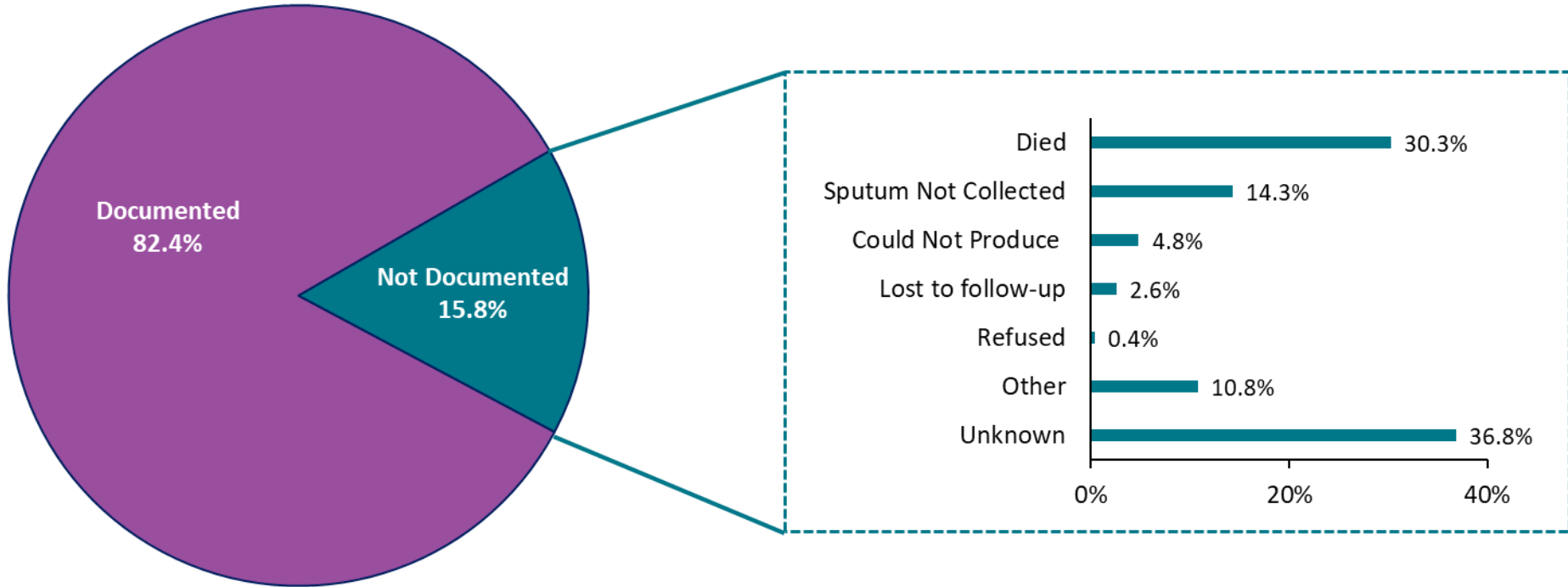


More than 3 of the 9 deaths were attributed to TB disease or TB treatment

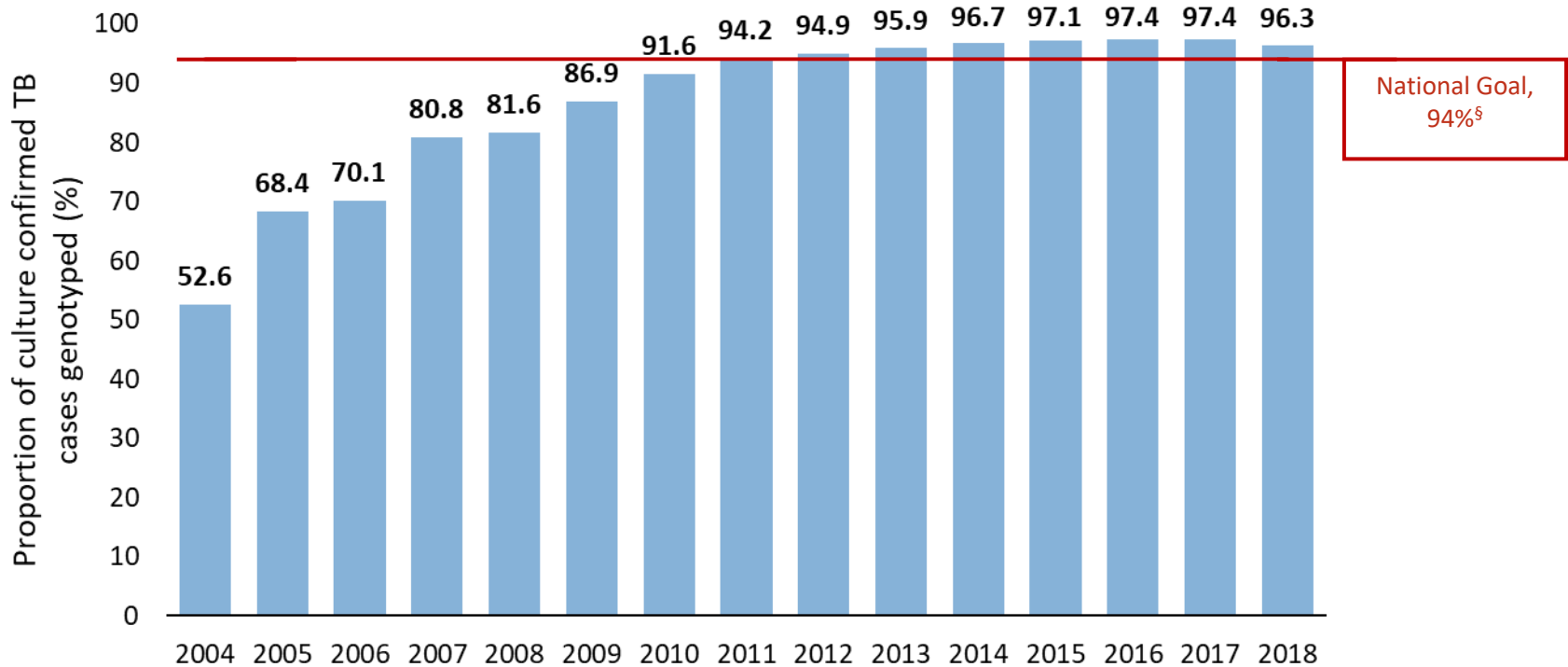


*Data available through 2016 only.

Sputum Culture Conversion, United States, 2016



National Tuberculosis Genotyping Surveillance Coverage* by Year: United States†, 2004–2018

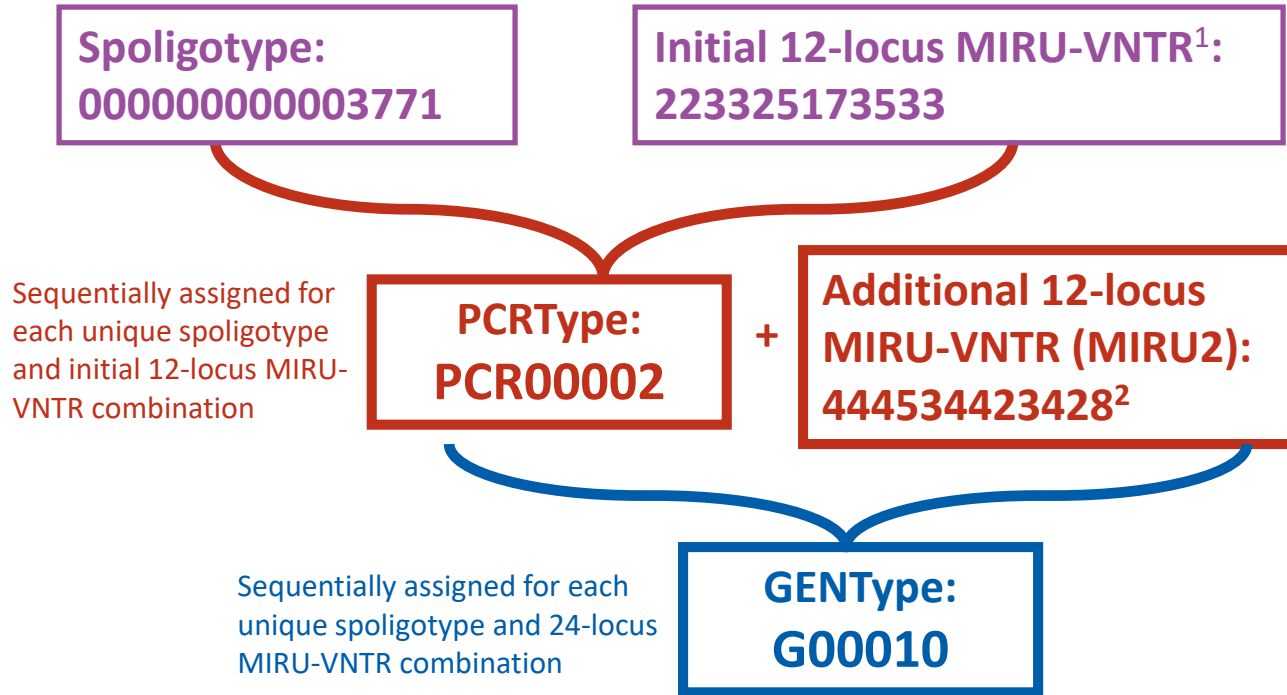


* The proportion of positive cultures with at least one genotyped isolate.

† Includes 50 states and the District of Columbia.

§ For the year 2020, the national goal for TB genotyping surveillance coverage will change to 100%.

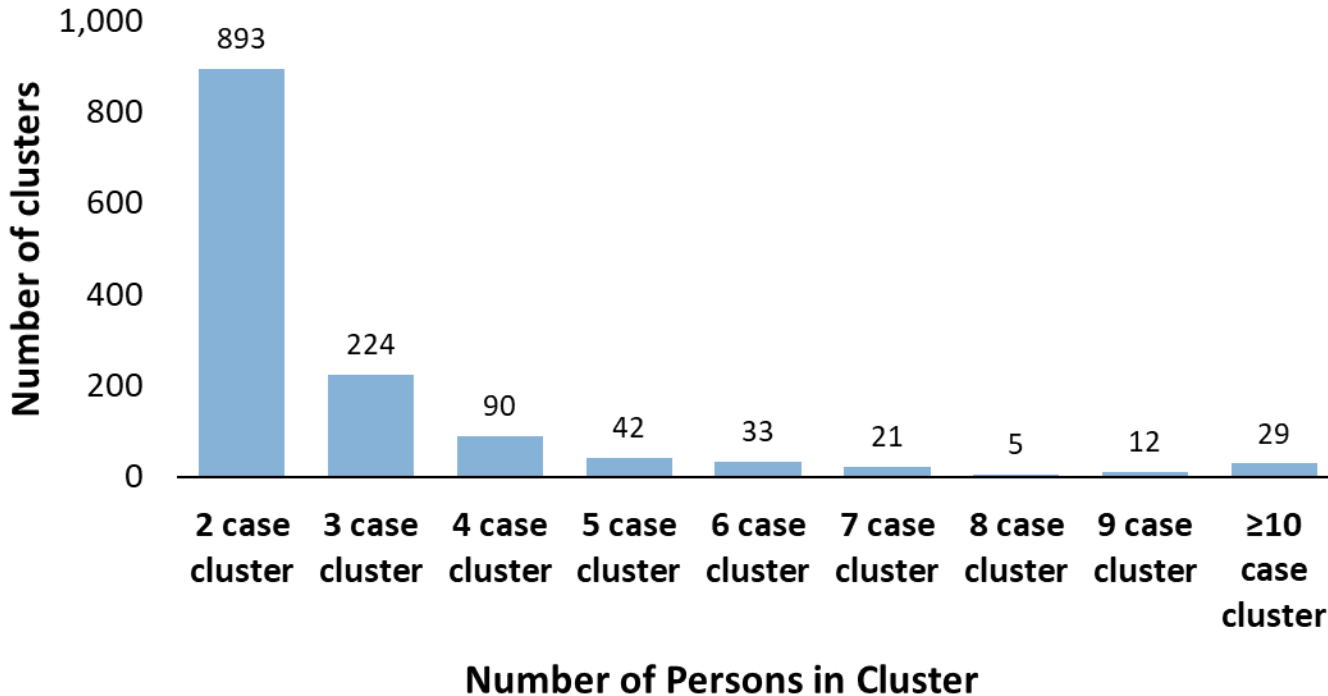
Definition for Tuberculosis Genotyping in the United States



¹ Mycobacterial interspersed repetitive unit–variable number tandem repeat.

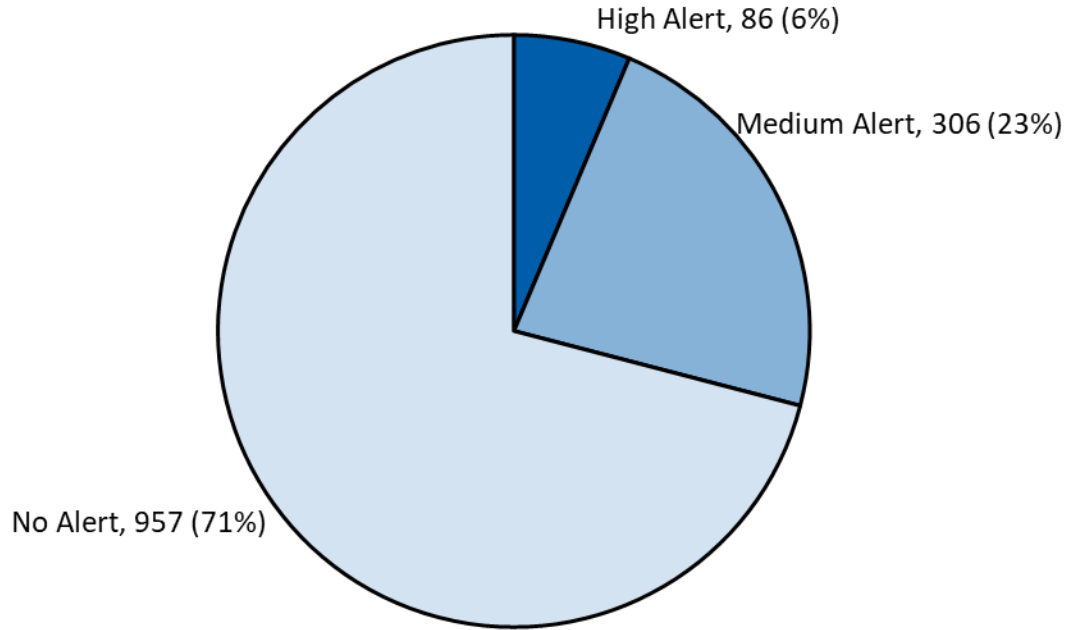
² The complete set of 24 loci is referred to as 24-locus MIRU-VNTR and is used for GENType designation for genotype in the United States.

Number of County-based Tuberculosis Genotype Clusters* by Cluster Size, United States, 2016–2018



*Genotype cluster is defined as two or more cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year time period.

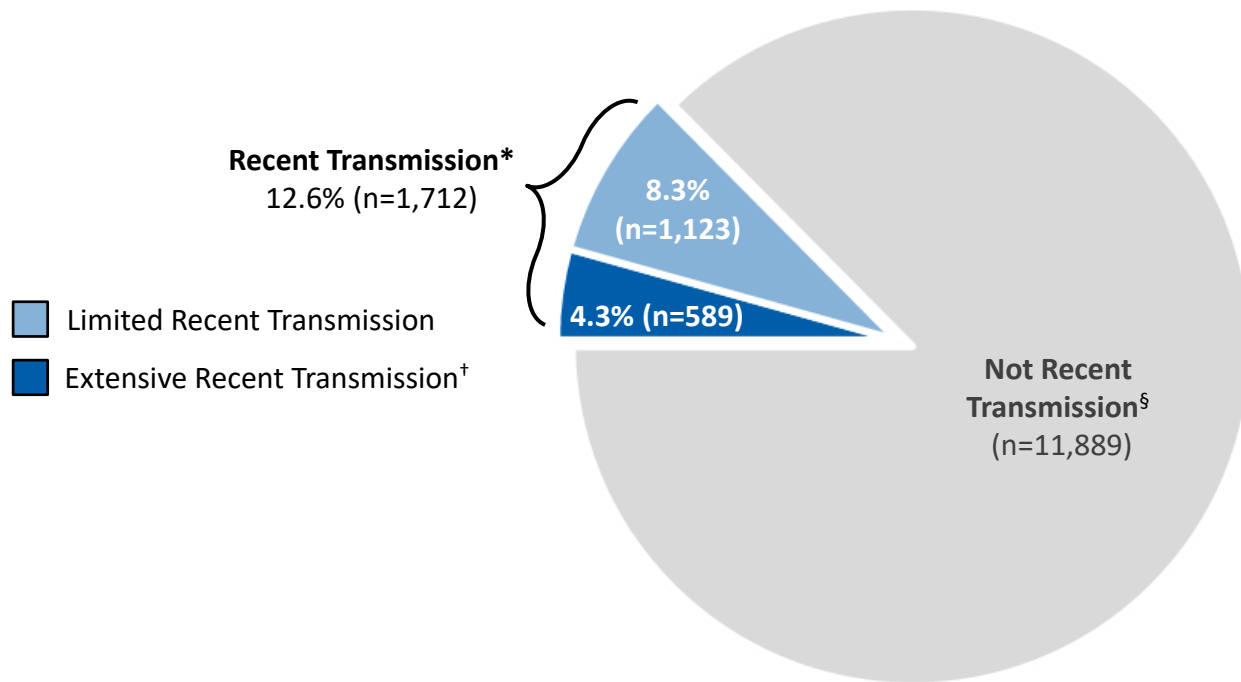
Tuberculosis Genotype Clusters by TB GIMS* Alert Levels[†], United States, 2016–2018



*Tuberculosis Genotyping Information Management System

[†]Alert level is determined by the log likelihood ratio statistic (LLR) for a given cluster, identifying higher than expected geospatial concentrations for a TB genotype cluster in a specific county, compared to the national distribution of that genotype; TB GIMS generates alert level notifications based on this statistic: “No alert” is indicated if LLR is between 0 – <5, “medium” is for LLR of 5 – <10 and “high” alert is for clusters with LLR \geq 10.

Genotyped Tuberculosis Cases Estimated to be Attributed to Recent Transmission, United States, 2017–2018

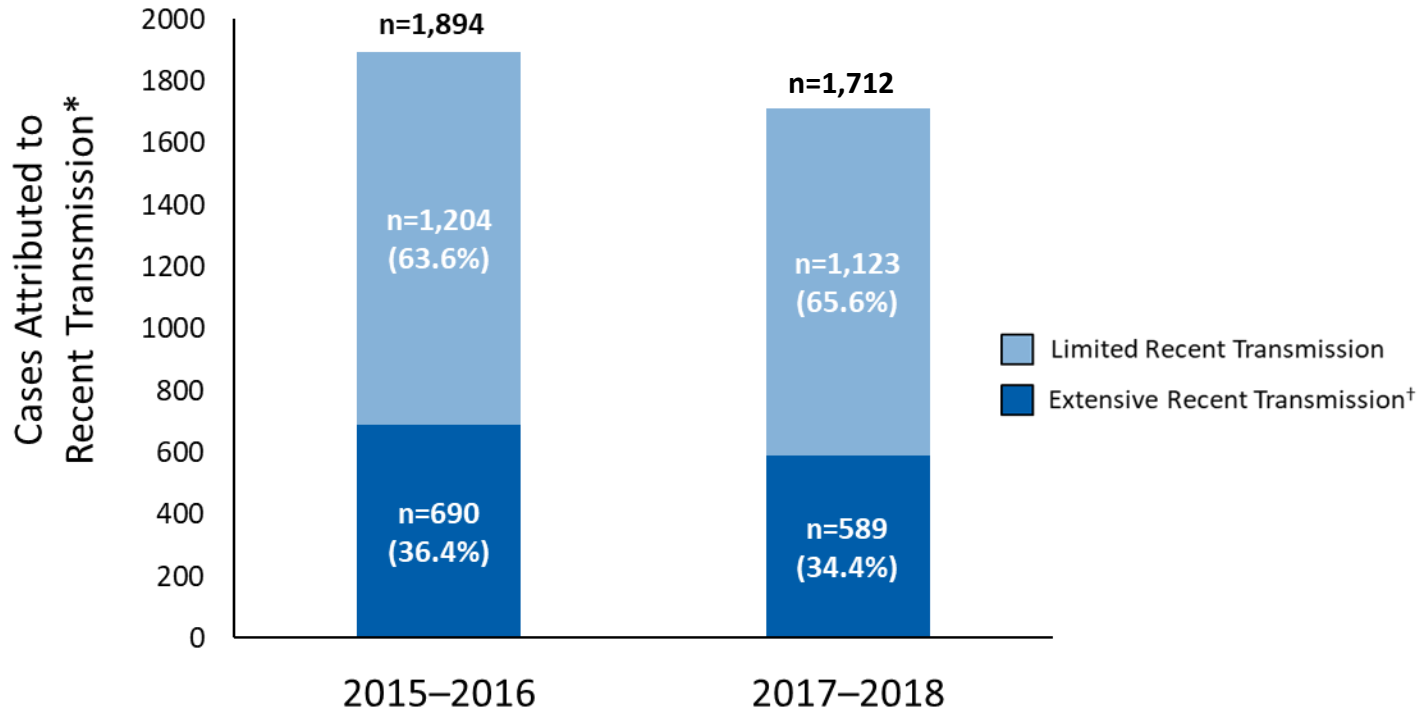


* A TB case is designated as attributed to recent transmission if a plausible source case can be identified in a person who i) has the same *M. tuberculosis* genotype, ii) has an infectious form of TB disease, iii) resides within 10 miles of the TB case, iv) is 10 years of age or older, and v) was diagnosed within 2 years before the TB case.

† A TB case is designated as attributed to extensive recent transmission when the criteria above for recent transmission are met, and furthermore the case belongs to a plausible transmission chain of six or more cases. Otherwise, the case is designated as attributed to limited recent transmission.

§ Cases not attributed to recent transmission may be misclassified in children <5 years old or indeterminate in persons with a recent U.S. arrival due to limitations of the plausible-source case method.

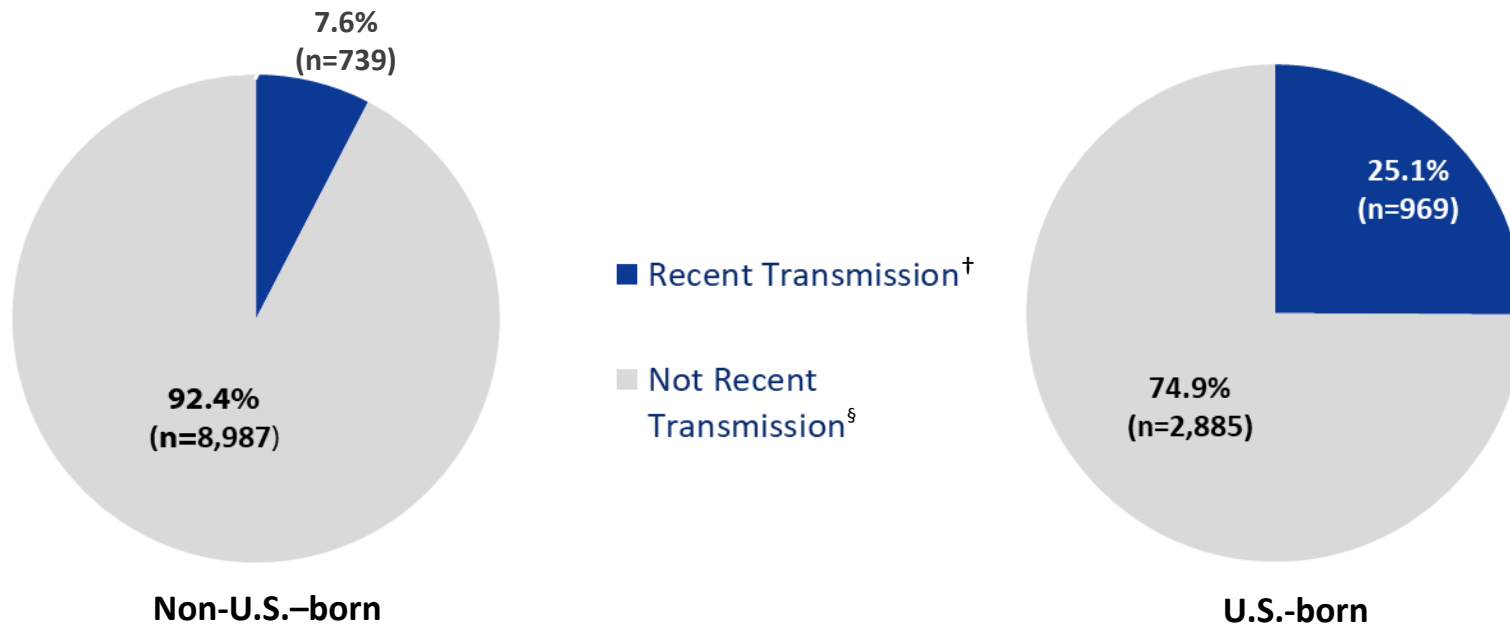
Genotyped Cases Estimated to be Attributed to Limited and Extensive Recent Transmission, United States, 2015–2018



* A TB case is designated as attributed to recent transmission if a plausible source case can be identified in a person who i) has the same *M. tuberculosis* genotype, ii) has an infectious form of TB disease, iii) resides within 10 miles of the TB case, iv) is 10 years of age or older, and v) was diagnosed within 2 years before the TB case.

† A TB case is designated as attributed to extensive recent transmission when the criteria above for recent transmission are met, and furthermore the case belongs to a plausible transmission chain of six or more cases. Otherwise, the case is designated as attributed to limited recent transmission.

Percentages of Tuberculosis Cases Estimated to be Attributed and Not Attributed to Recent Transmission, by Origin of Birth*, 2017–2018



* Cases with unknown origin of birth not shown (n=21).

† A TB case is designated as attributed to recent transmission if a plausible source case can be identified in a person who i) has the same *M. tuberculosis* genotype, ii) has an infectious form of TB disease, iii) resides within 10 miles of the TB case, iv) is 10 years of age or older, and v) was diagnosed within 2 years before the TB case.

§ Cases not attributed to recent transmission may be misclassified in children <5 years old or indeterminate in persons with a recent U.S. arrival due to limitations of the plausible-source case method.

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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.

