Estimated HIV Incidence and Prevalence in the United States, 2010–2019

Estimates of HIV Incidence and Prevalence

- Based on National HIV Surveillance System (NHSS) data reported through December 2020
  - Data from the 50 states and District of Columbia (and for jurisdiction-level estimates only, Puerto Rico)
  - Data for adults and adolescents aged ≥13 years
- Calculated using the first CD4 test after HIV diagnosis and a CD4 depletion model indicating disease progression*
- Provides the following estimates:
  - HIV incidence
  - HIV prevalence (persons living with diagnosed or undiagnosed infection)
  - Percentage of diagnosed HIV infection

* Song R, Hall HI, Green TA, Szwarcwald CL, Pantazis N. Using CD4 data to estimate HIV incidence, prevalence, and percent of undiagnosed infections in the United States. J Acquir Immune Defic Syndr 2017;74(1):3–9. doi:10.1097/QAI.0000000000001151.

Estimates of HIV Incidence

- Incidence measures the number of HIV infections that occurred during a specified time (e.g., year).
  - Diagnoses during a specified time refer to infections among persons who may have been infected for a number of years.
- Incidence estimates can be used to assess changes in characteristics of persons most at risk for acquiring HIV infection.

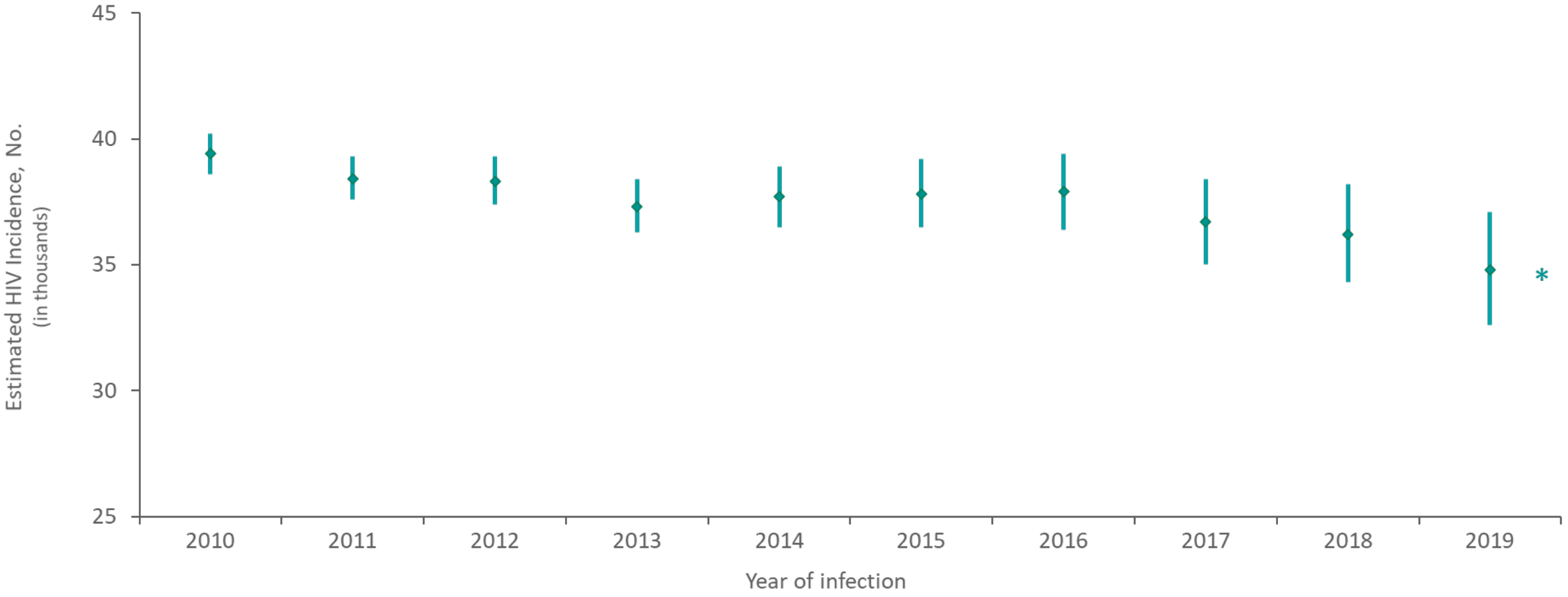
Estimates of HIV Prevalence

- Prevalence refers to the number of persons living with HIV at a given time regardless of the time of infection or whether the person has received a diagnosis.
- Prevalence and the percentage of diagnosed infections reflect the number of persons in need of care and treatment services for HIV infection.
- Calculation of percentage of diagnosed HIV
  - Numerator: Persons aged ≥13 years living with diagnosed HIV infection year-end 2019
  - Denominator: Estimated number of persons aged ≥13 years living with diagnosed or undiagnosed HIV infection year-end 2019
- Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Reliability Standards

- Relative standard errors (RSEs) were calculated for the incidence and prevalence estimates and used to determine reliability.
- All highlights are based on reliable estimates (RSE <30%).
- Estimates with RSEs of 30%–50% are displayed with a footnote that they should be used with caution.
- Estimates with RSEs of >50% are statistically unreliable and thus are not shown.

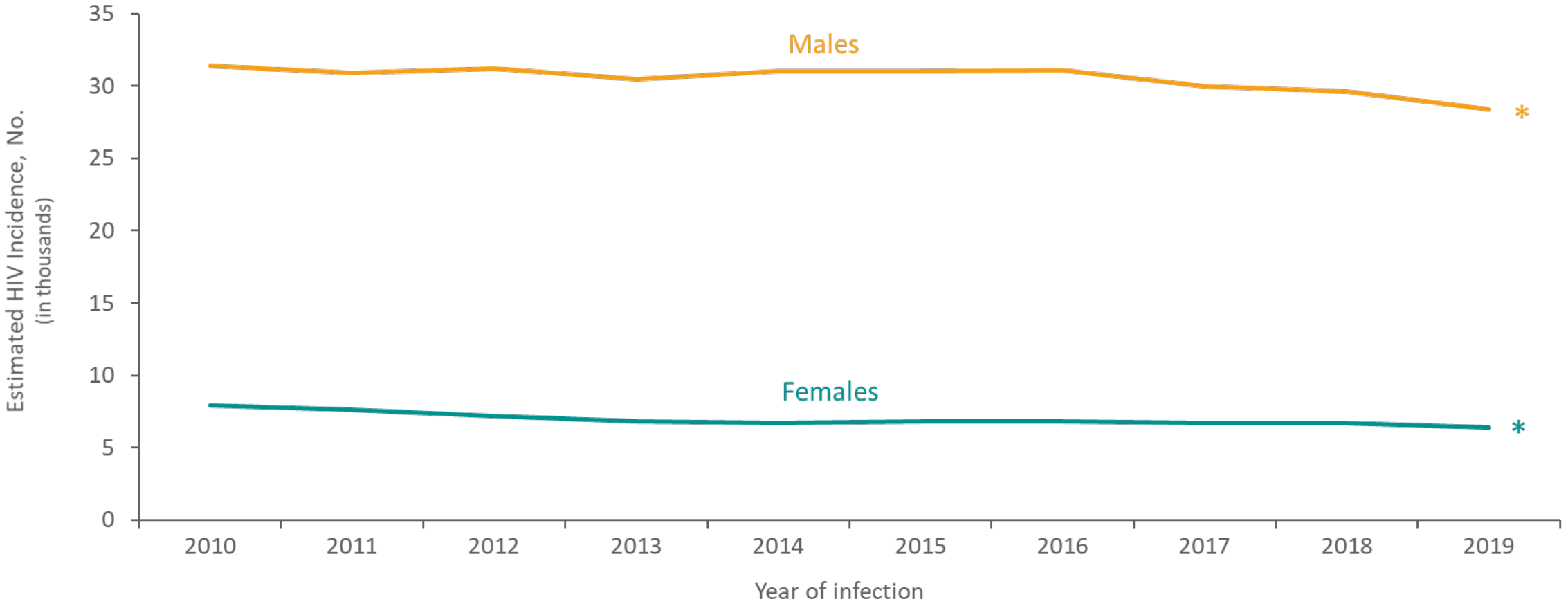
Estimated HIV Incidence among Persons Aged ≥13 Years 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Bars indicate the range of the lower and upper bounds of the 95% confidence intervals for the point estimate.

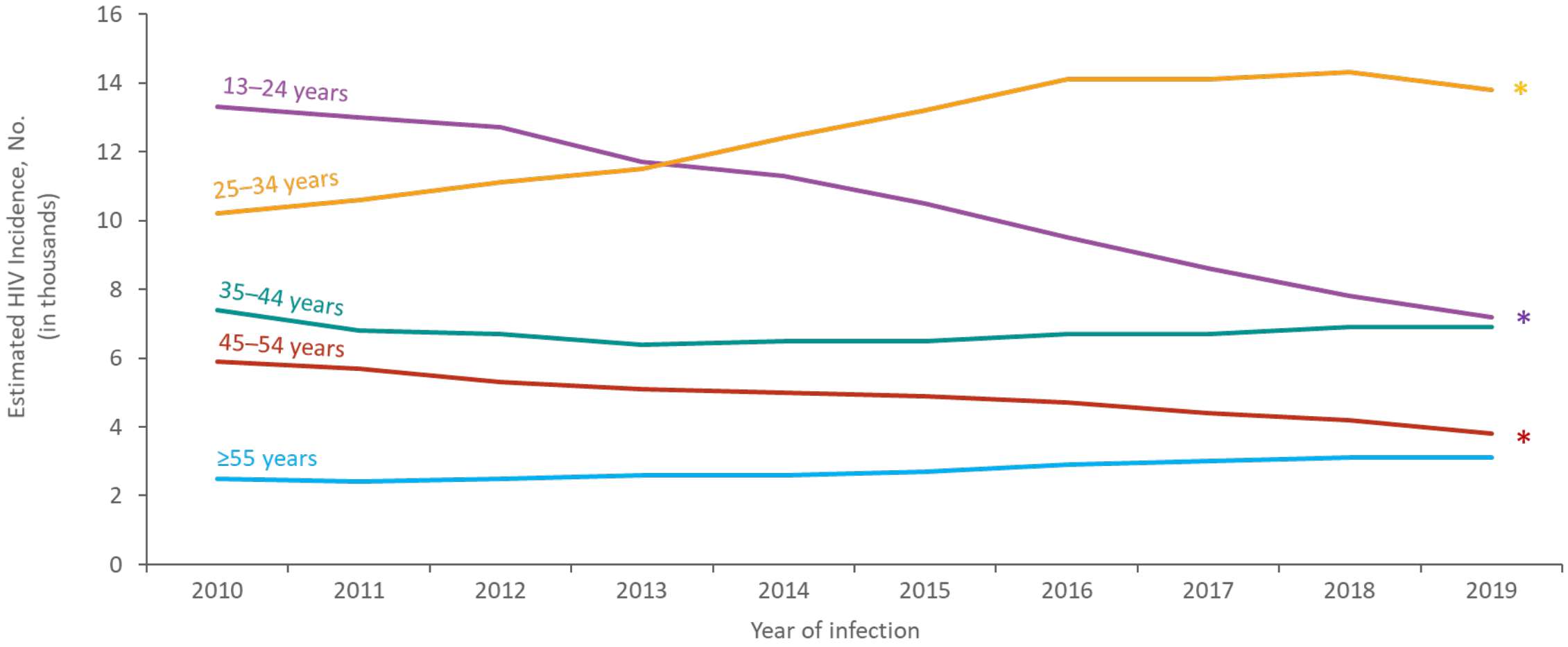
* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Persons Aged ≥13 Years, by Sex at Birth 2010–2019—United States



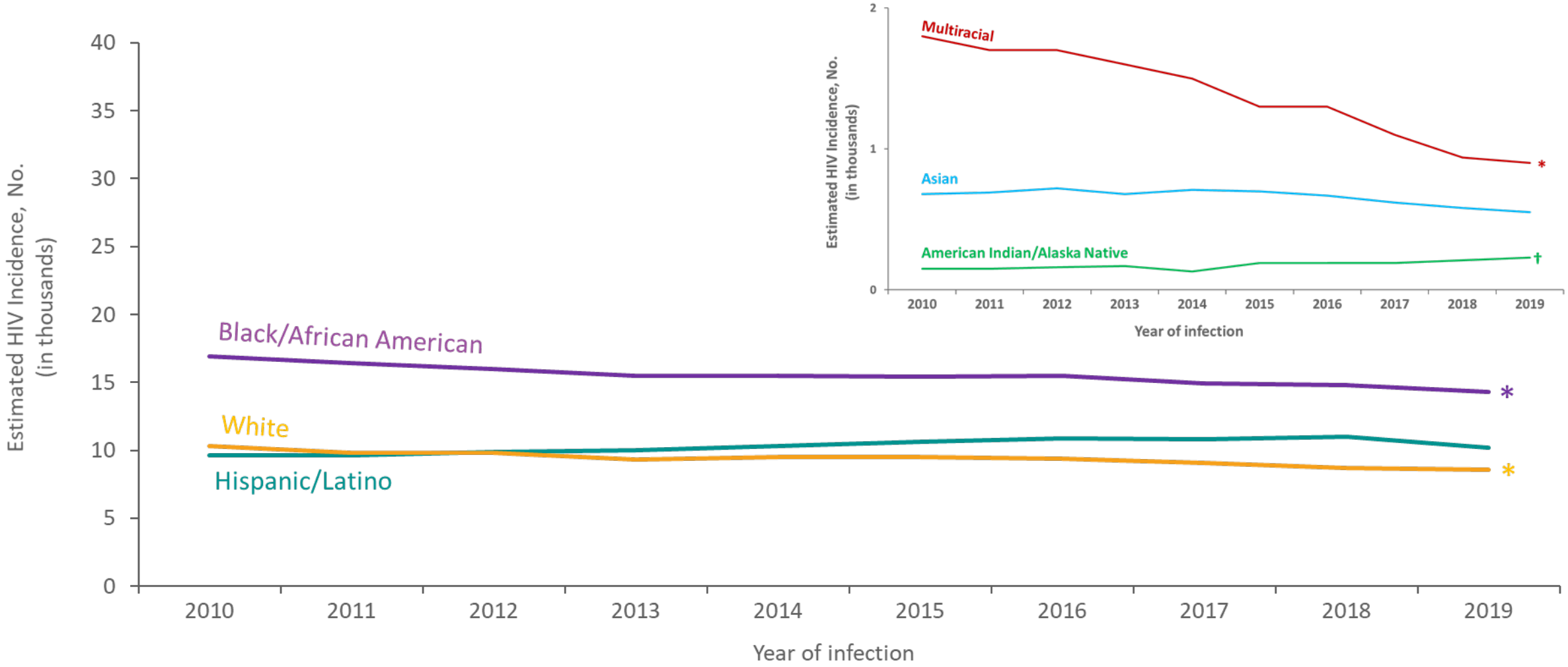
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence among Persons Aged ≥13 Years, by Age 2010–2019—United States



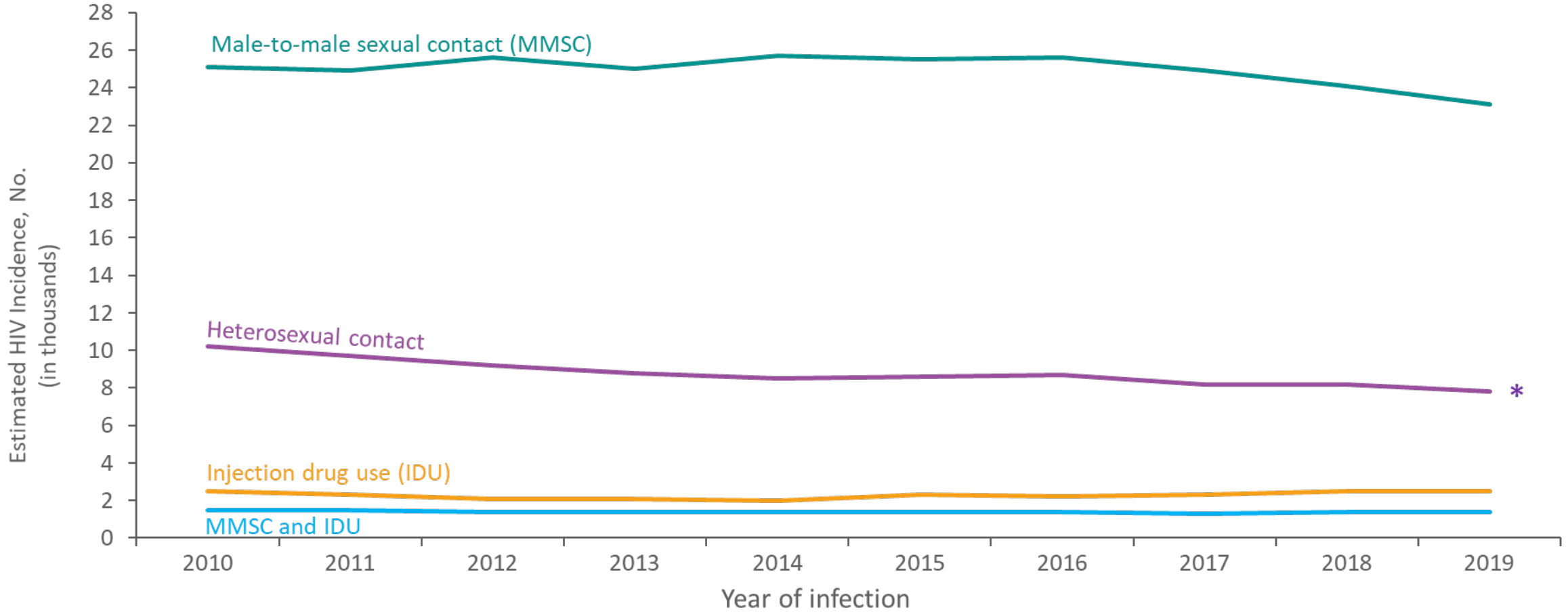
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence among Persons Aged ≥13 Years, by Race/Ethnicity 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanic/Latino persons can be of any race.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).
† Estimates should be used with caution; relative standard errors are 30%–50%.

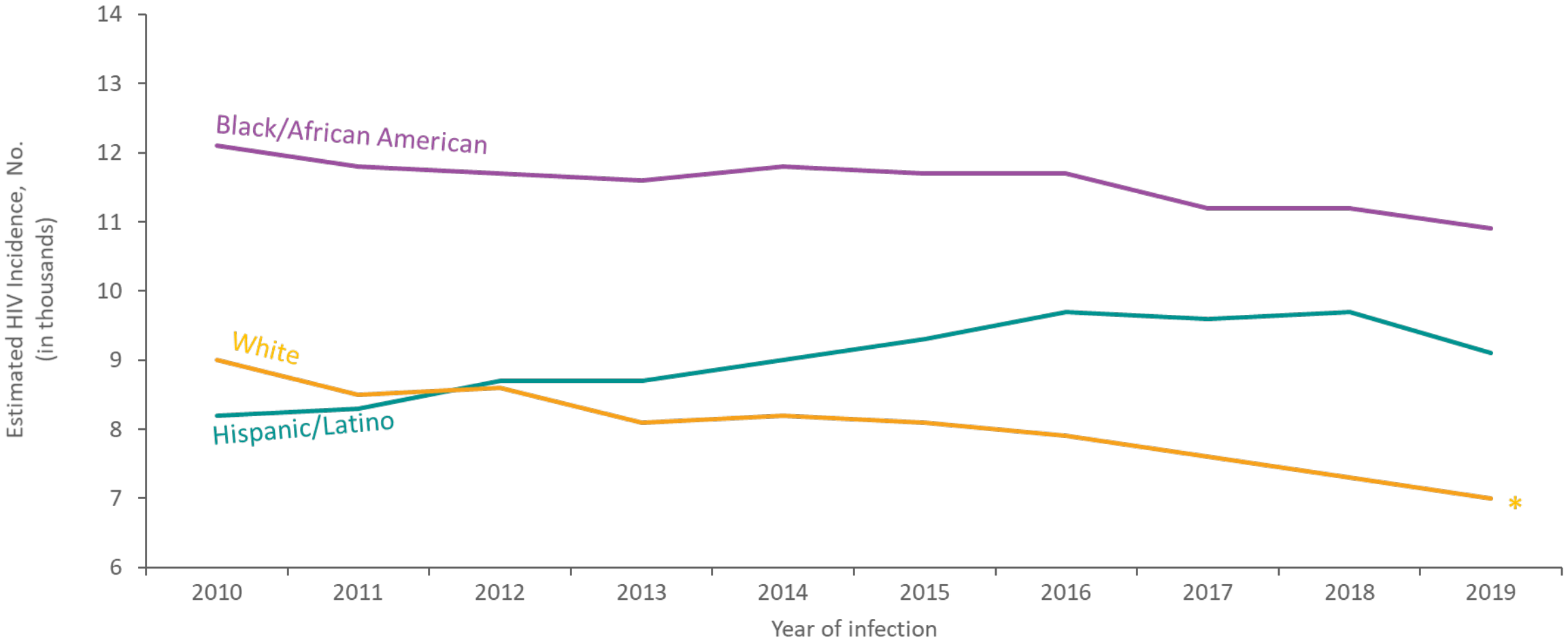
Estimated HIV Incidence among Persons Aged ≥13 Years, by Transmission Category 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Heterosexual contact is with a person known to have, or with a risk factor for, HIV infection.

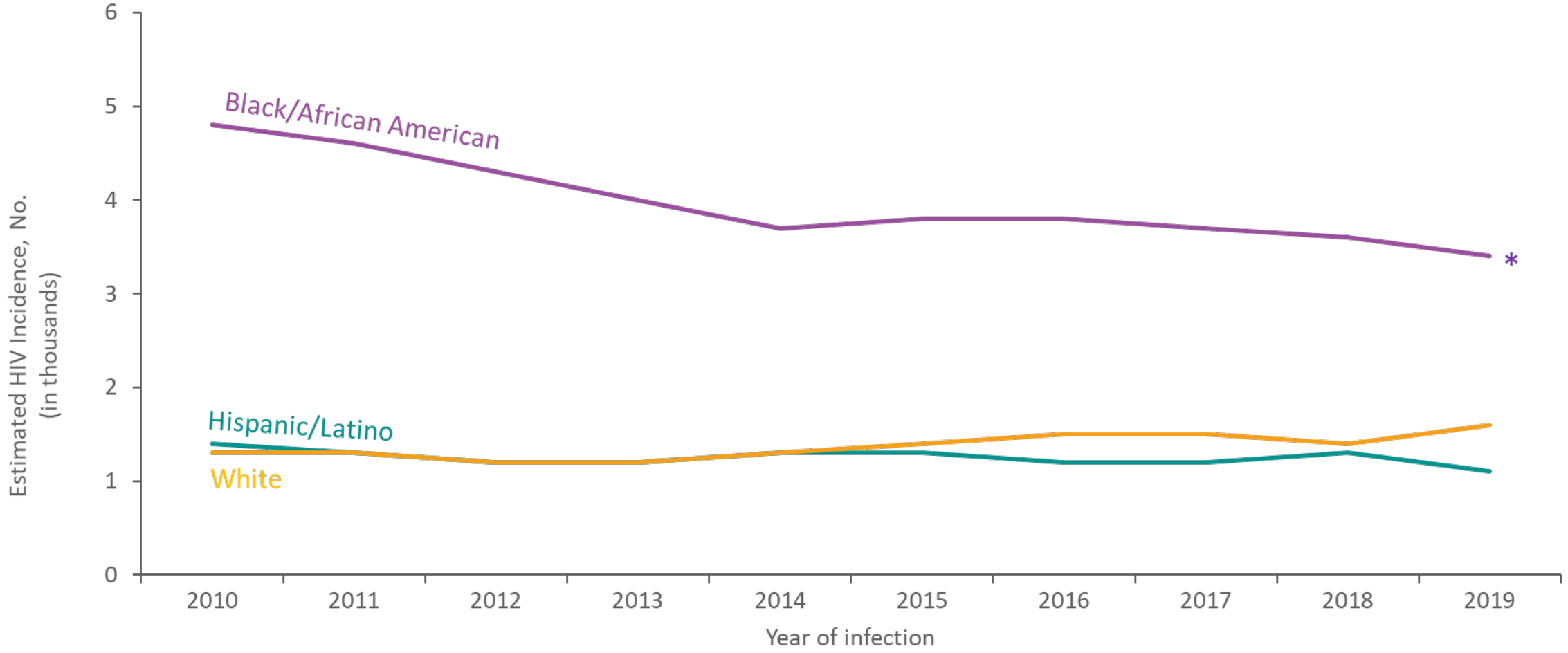
* Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence among Males Aged ≥13 Years by Race/Ethnicity, 2010–2019—United States



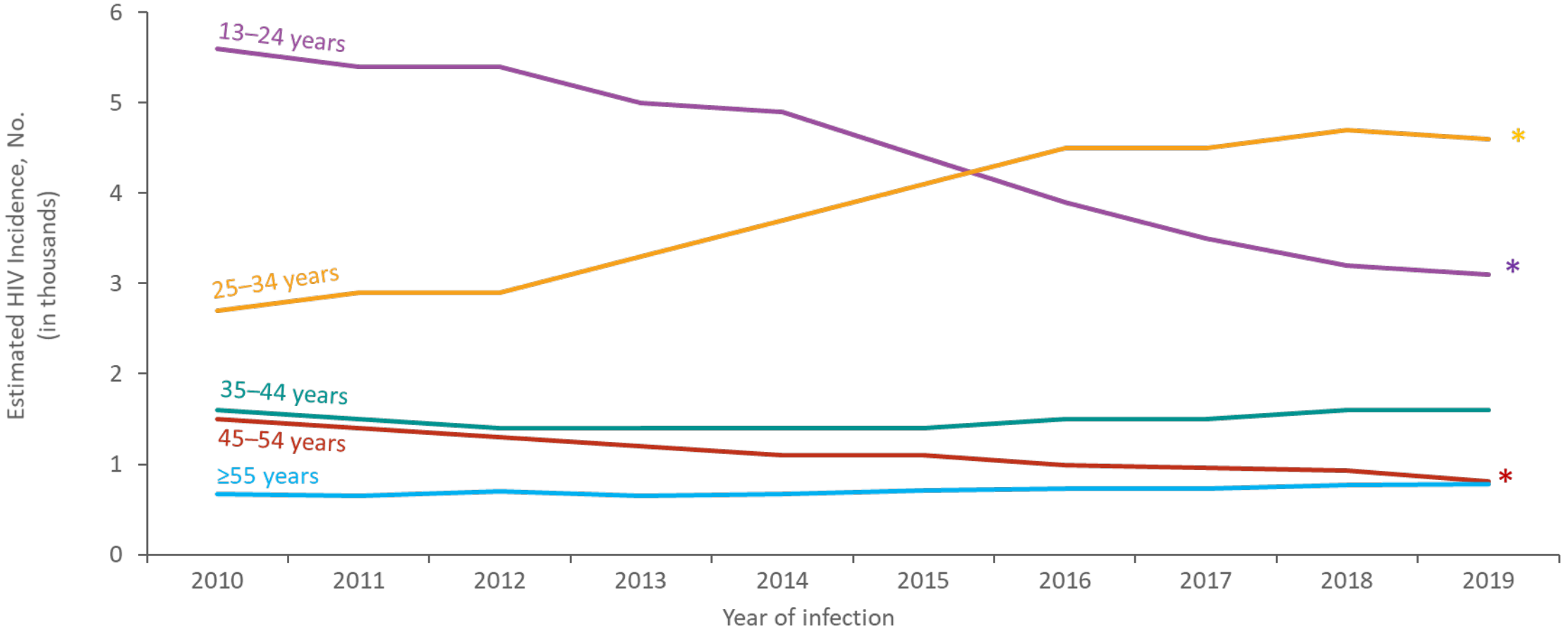
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanic/Latino males can be of any race.
* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Females Aged ≥13 Years by Race/Ethnicity, 2010–2019—United States



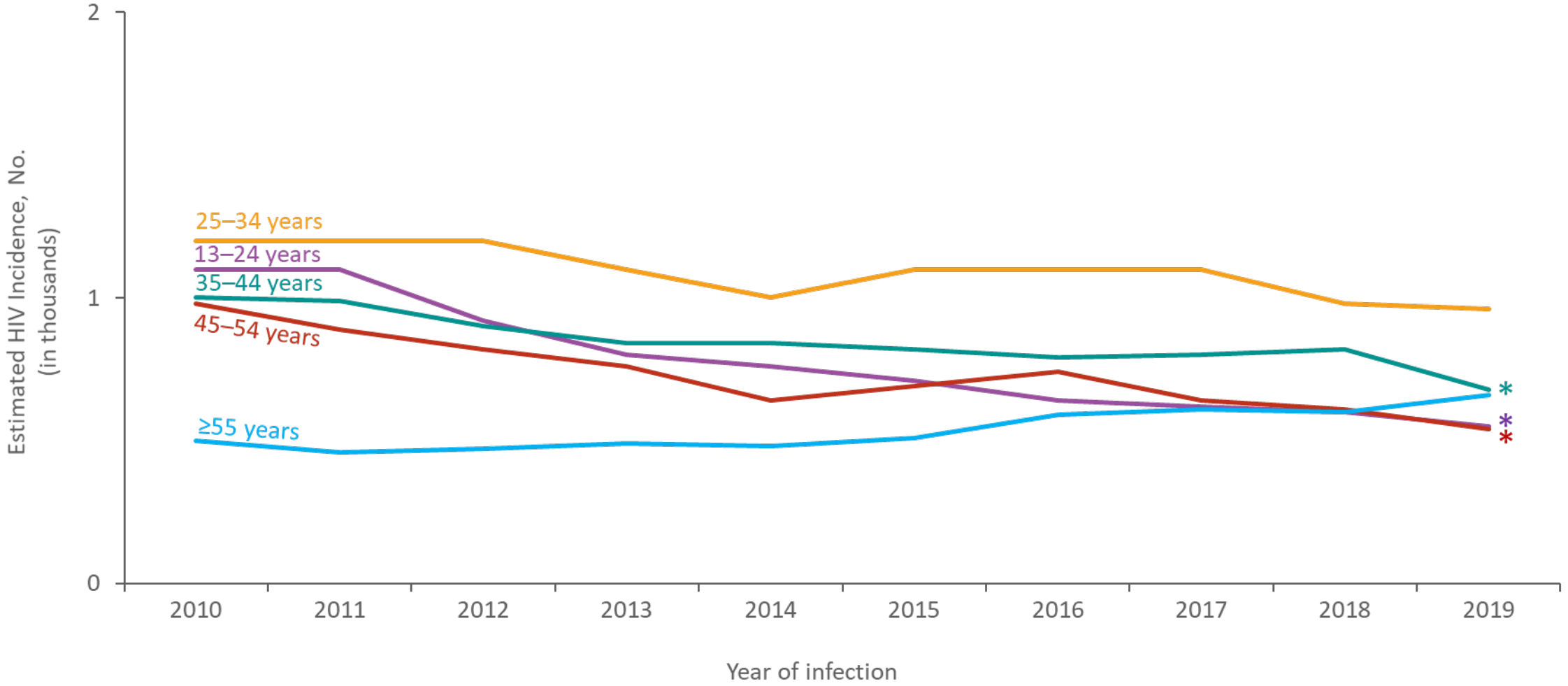
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanic/Latino females can be of any race.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence among Black/African American Males Aged ≥13 Years, by Age, 2010–2019—United States



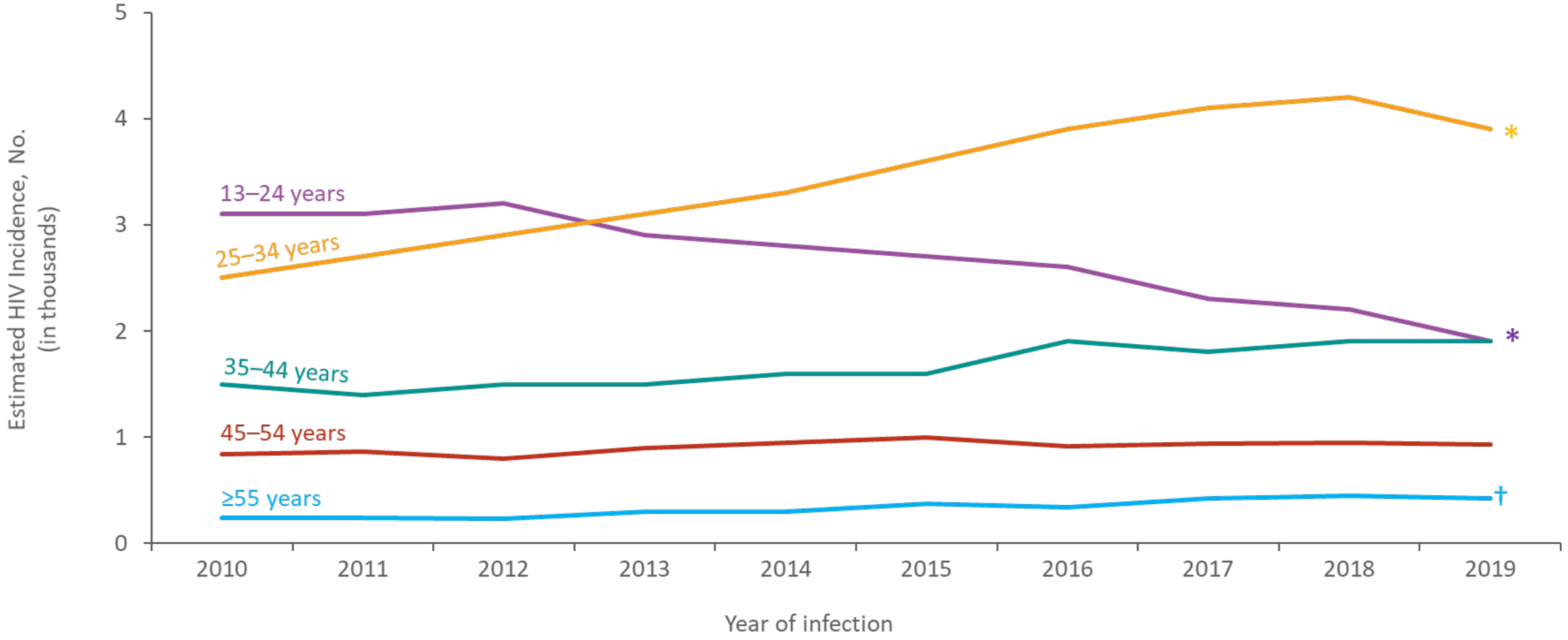
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence among Black/African American Females Aged ≥13 Years, by Age, 2010–2019—United States



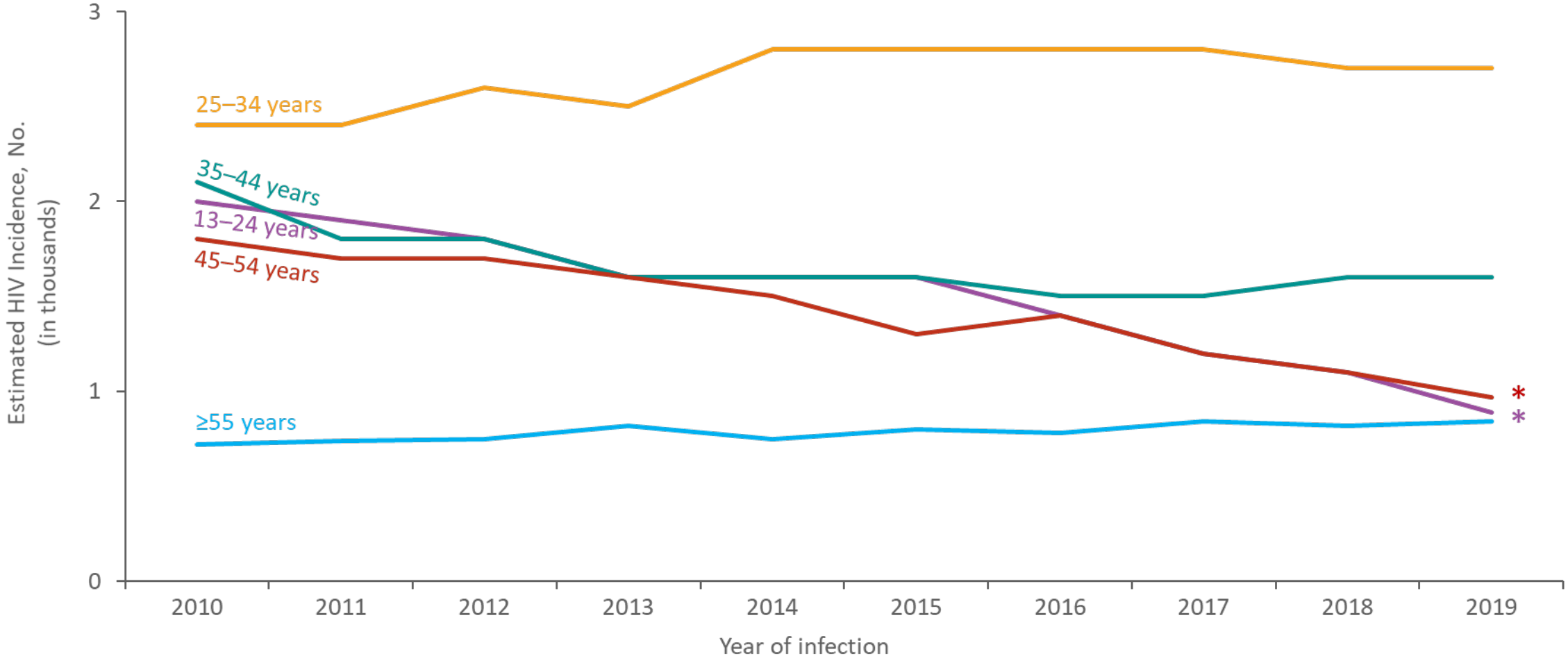
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data.
* Difference from the 2010 estimate was deemed statistically significant (P < .05).`

Estimated HIV Incidence among Hispanic/Latino Males Aged ≥13 Years by Age, 2010–2019—United States



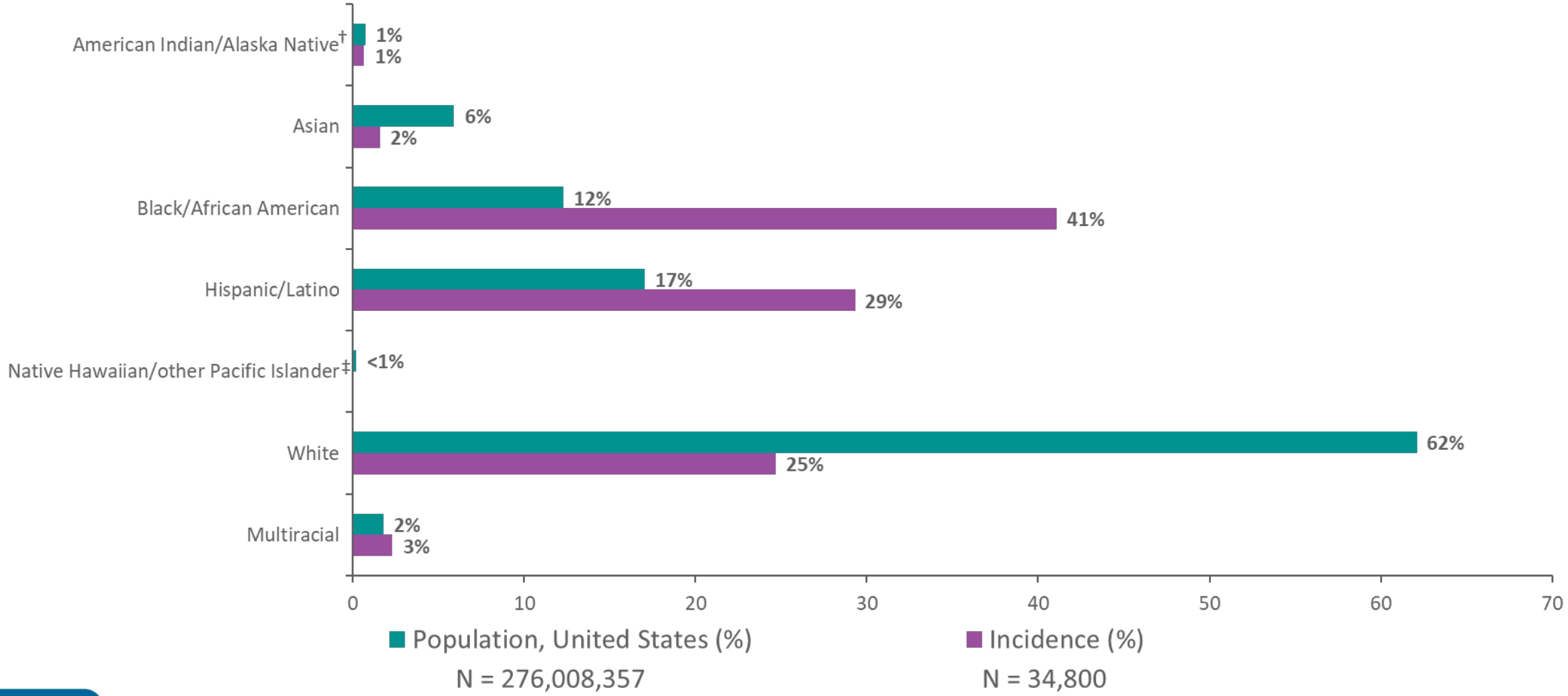
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanic/Latino males can be of any race.
*Difference from the 2010 estimate was deemed statistically significant ($P < .05$).
†Estimates should be used with caution; relative standard errors are 30%–50%.

Estimated HIV Incidence among White Males Aged ≥13 Years by Age, 2010–2019—United States



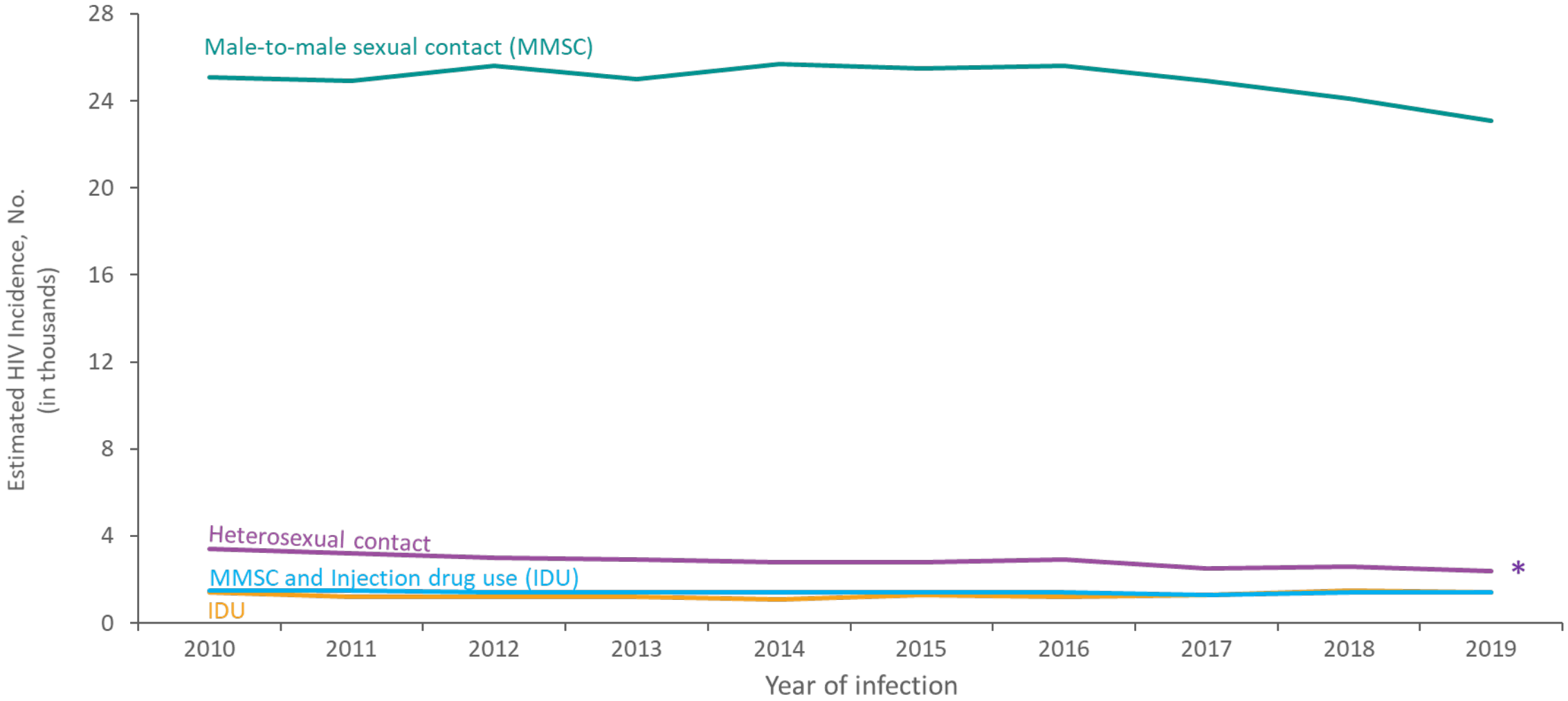
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data.
*Difference from the 2010 estimate was deemed statistically significant (P < .05).

Estimated HIV Incidence and Population among Persons Aged ≥13 Years by Race/Ethnicity, 2019—United States



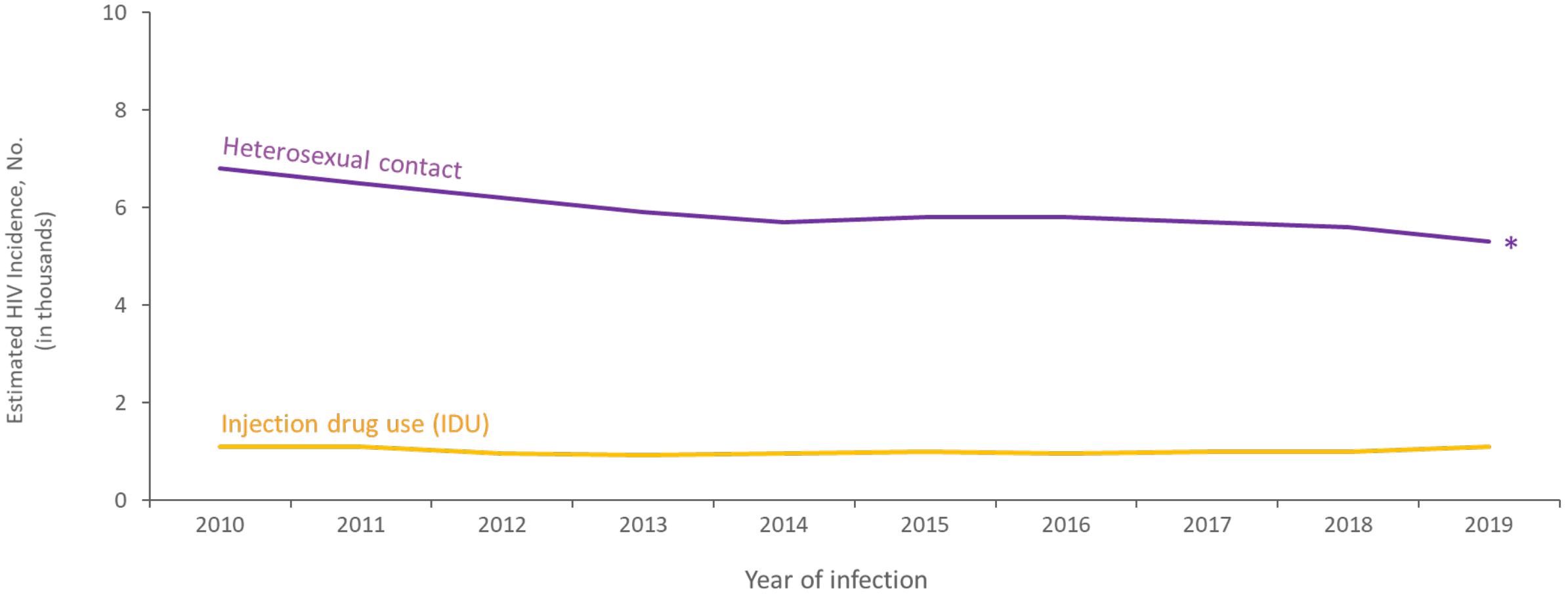
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanic/Latino persons can be of any race.
† Estimate should be used with caution; relative standard error is 30%–50%.
‡ Incidence estimate is not provided for Native Hawaiians/other Pacific Islanders; relative standard error is >50%.

Estimated HIV Incidence among Males Aged ≥13 Years by Transmission Category, 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Heterosexual contact is with a person known to have, or with a risk factor for, HIV infection.
* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

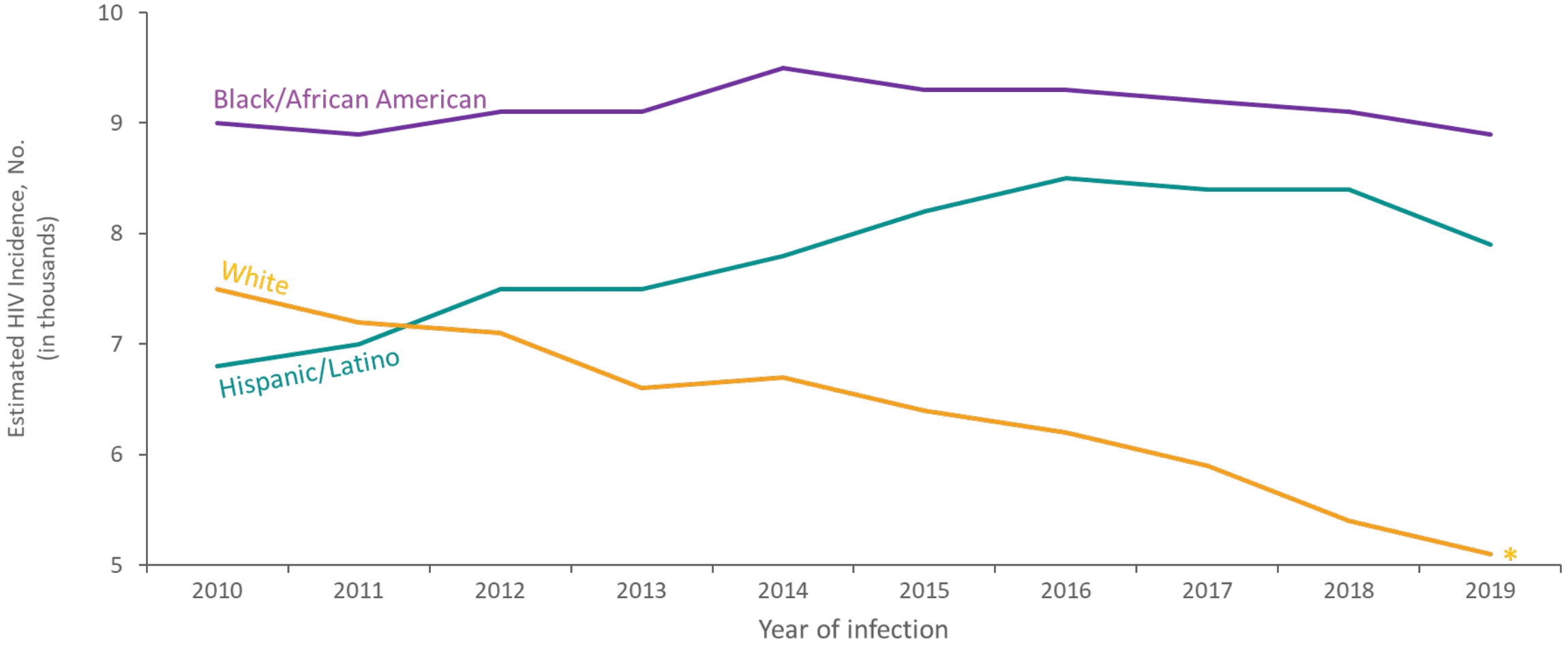
Estimated HIV Incidence among Females Aged ≥13 Years by Transmission Category, 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Heterosexual contact is with a person known to have, or with a risk factor for, HIV infection.

* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

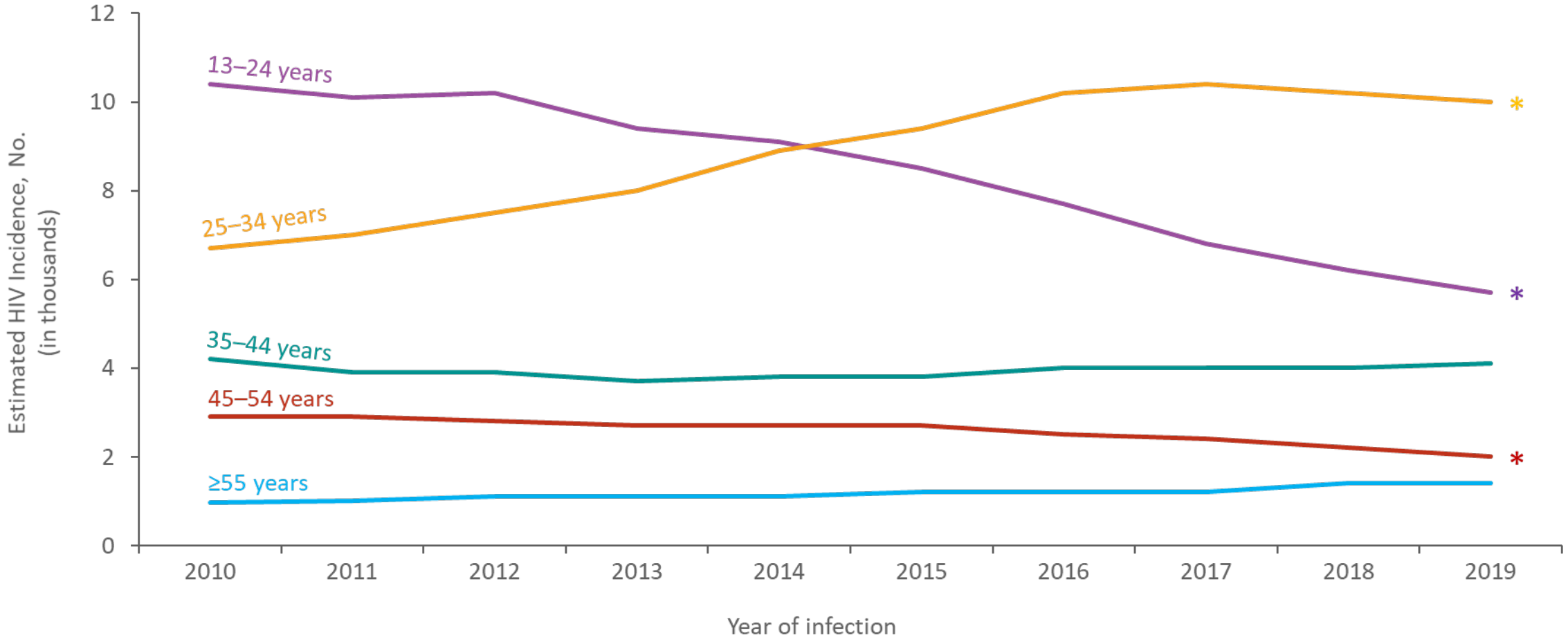
Estimated HIV Incidence among Men Who Have Sex with Men Aged ≥13 Years by Race/Ethnicity, 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact *and* injection drug use. Hispanic/Latino males can be of any race.

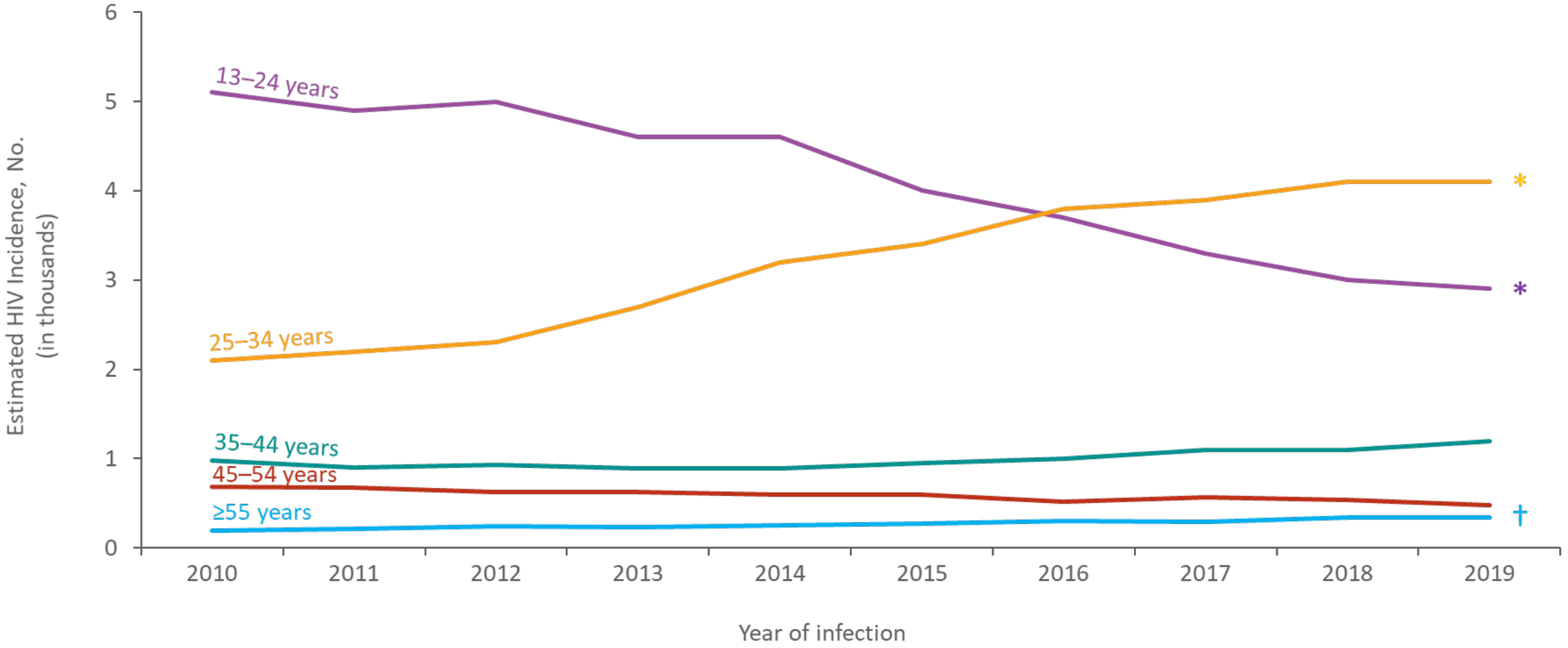
*Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Men who Have Sex with Men Aged ≥13 Years, by Age, 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use.
*Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Black/African American Men who Have Sex with Men Aged ≥13 Years, by Age, 2010–2019—United States

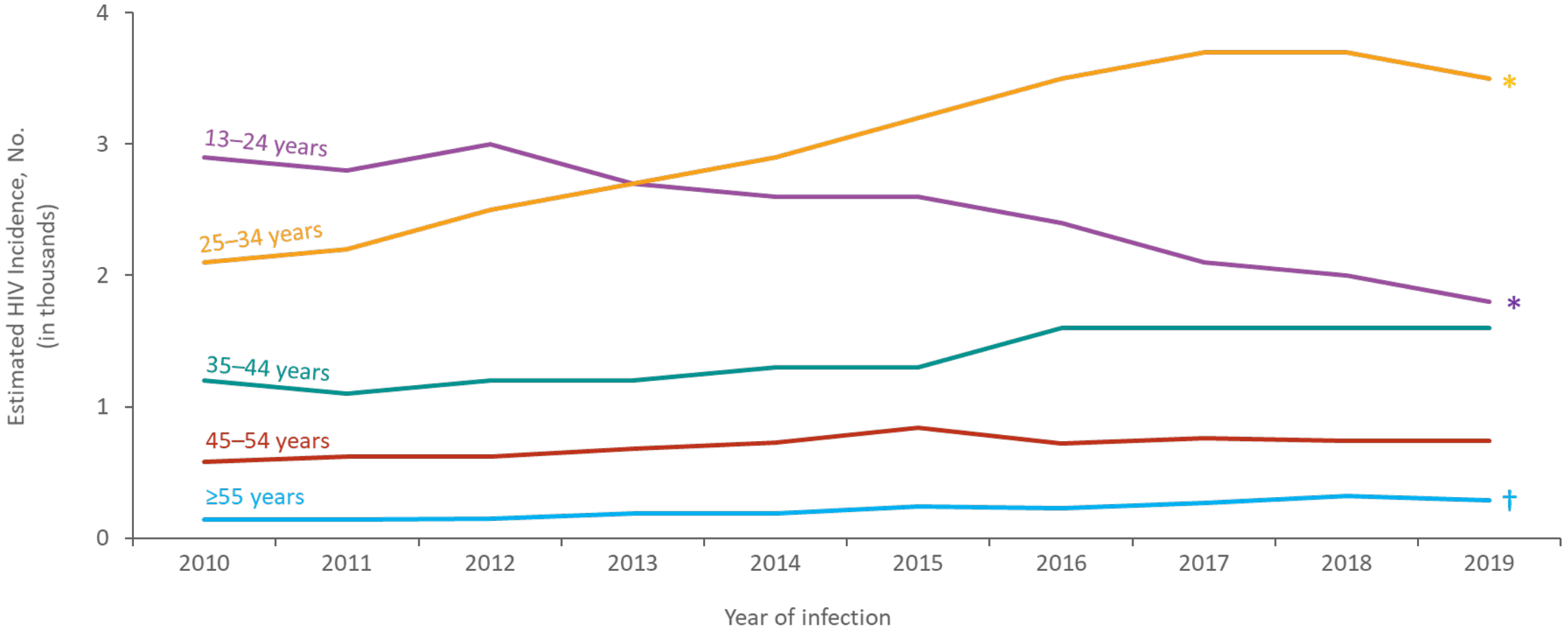


Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use.

* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

†Estimates should be used with caution; relative standard errors are 30%–50%.

Estimated HIV Incidence among Hispanic/Latino Men who Have Sex with Men Aged ≥13 Years, by Age, 2010–2019—United States

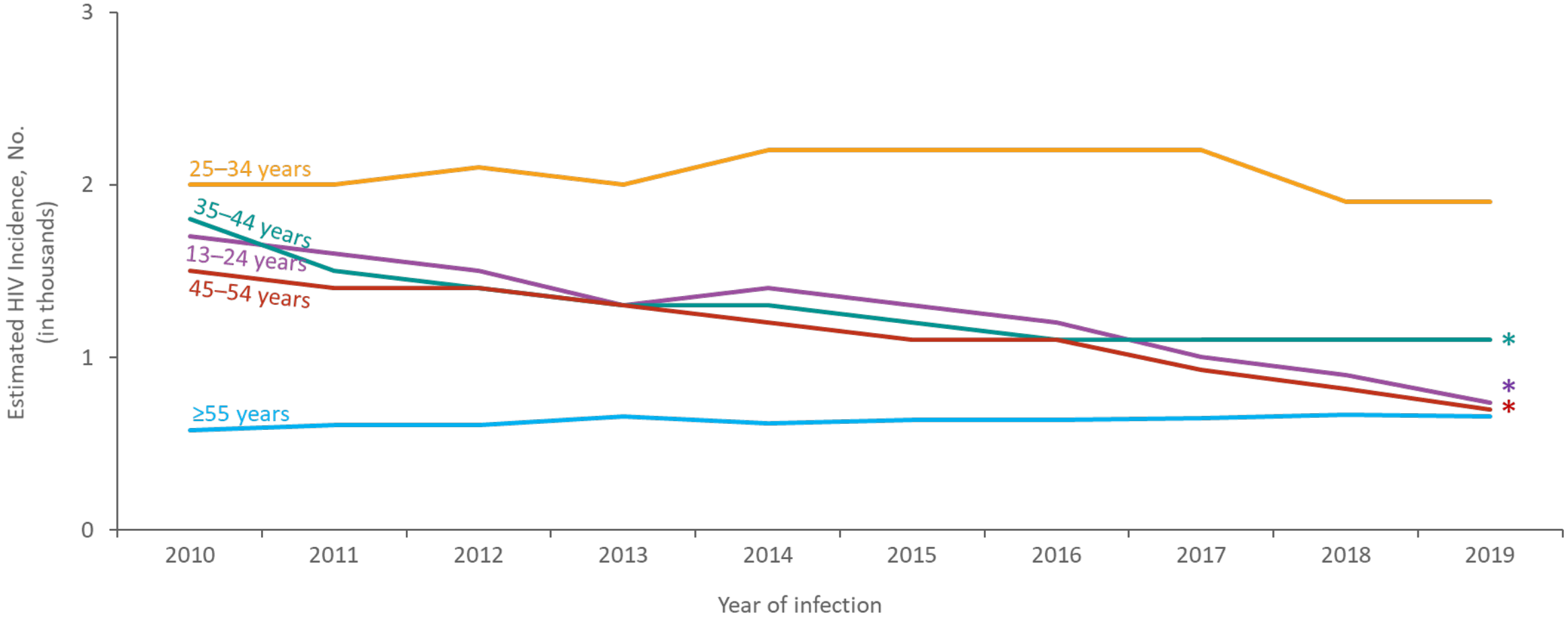


Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use. Hispanic/Latino males can be of any race.

* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

† Estimates should be used with caution; relative standard errors are 30%–50%.

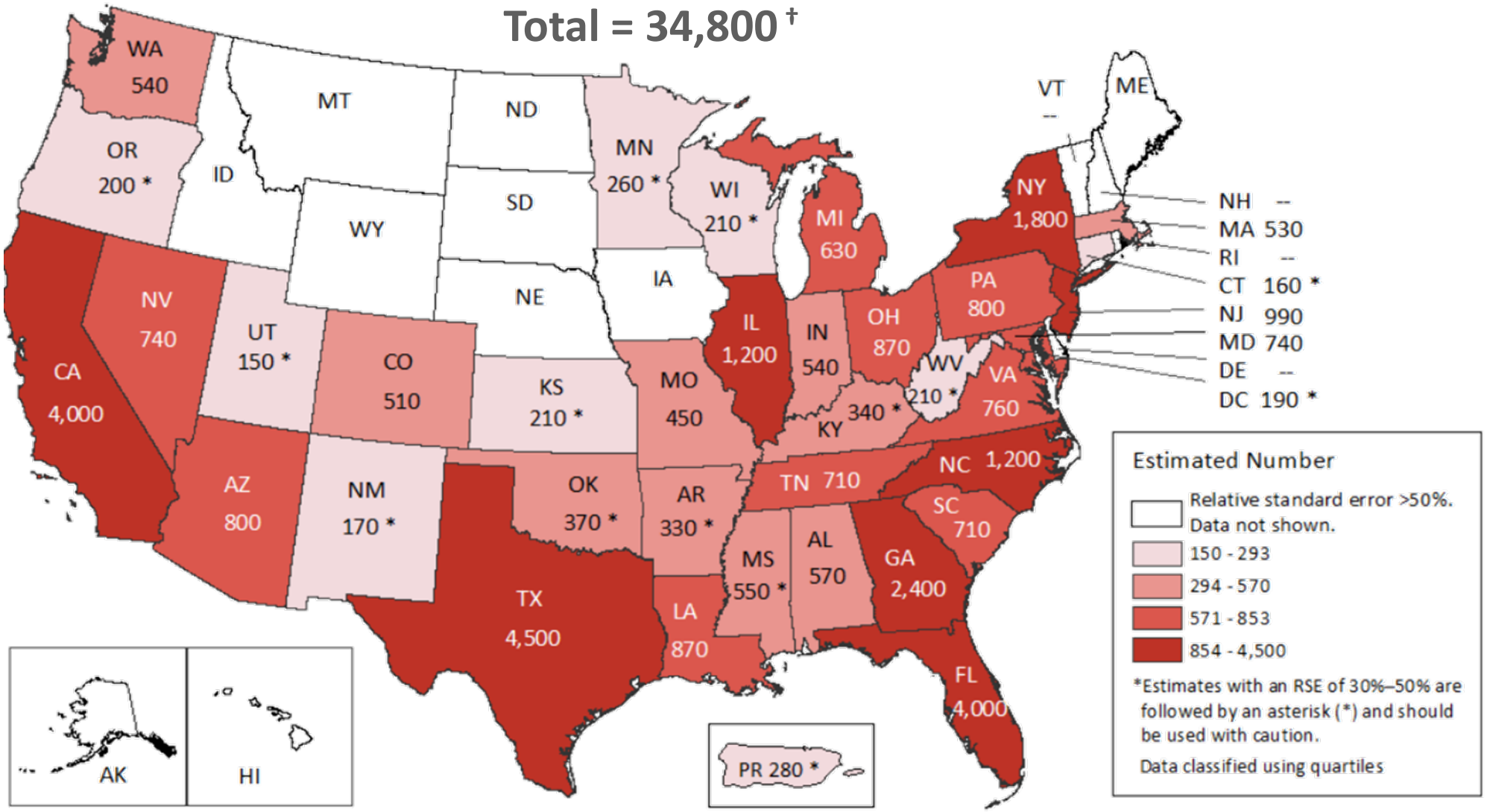
Estimated HIV Incidence among White Men who Have Sex with Men Aged ≥13 Years, by Age, 2010–2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use.
* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Persons Aged ≥13 Years, by Area of Residence 2019—United States and Puerto Rico

Total = 34,800 †

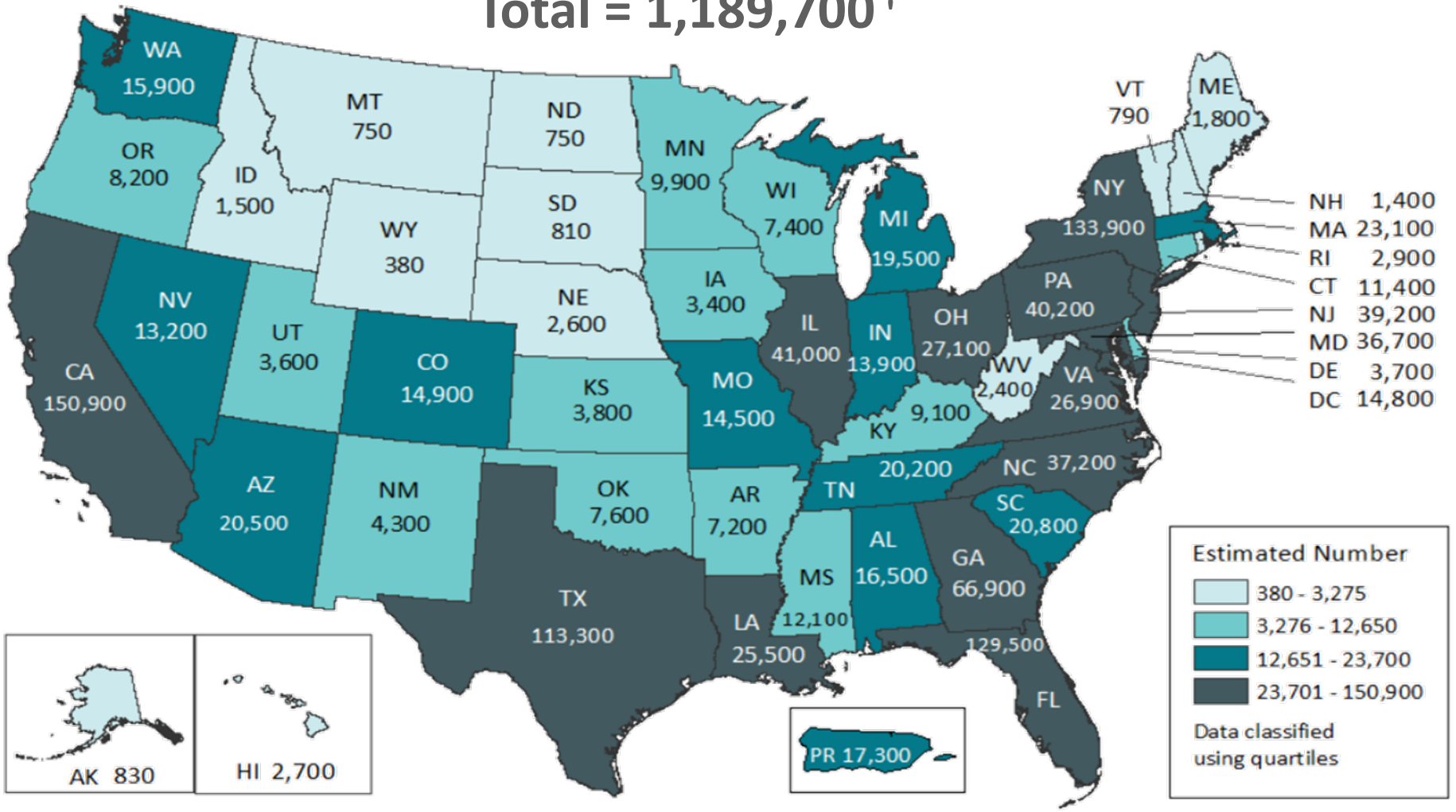


Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty.

†Total estimate for the United States does not include data for Puerto Rico.

Estimated HIV Prevalence among Persons Aged ≥13 years, by Area of Residence 2019—United States and Puerto Rico

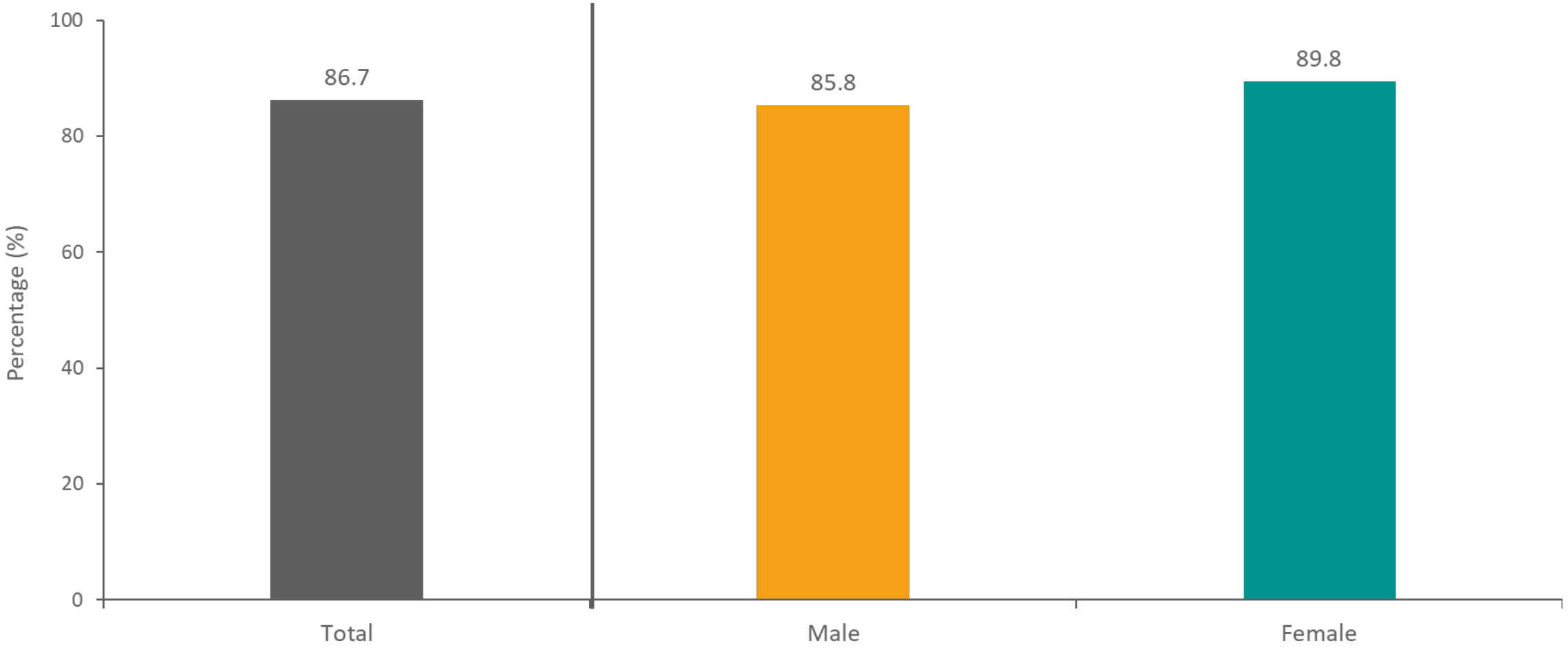
Total = 1,189,700 †



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020. Estimates should be interpreted with caution due to incomplete death ascertainment for Kansas, Massachusetts, Mississippi, Nevada, North Dakota, and Vermont.

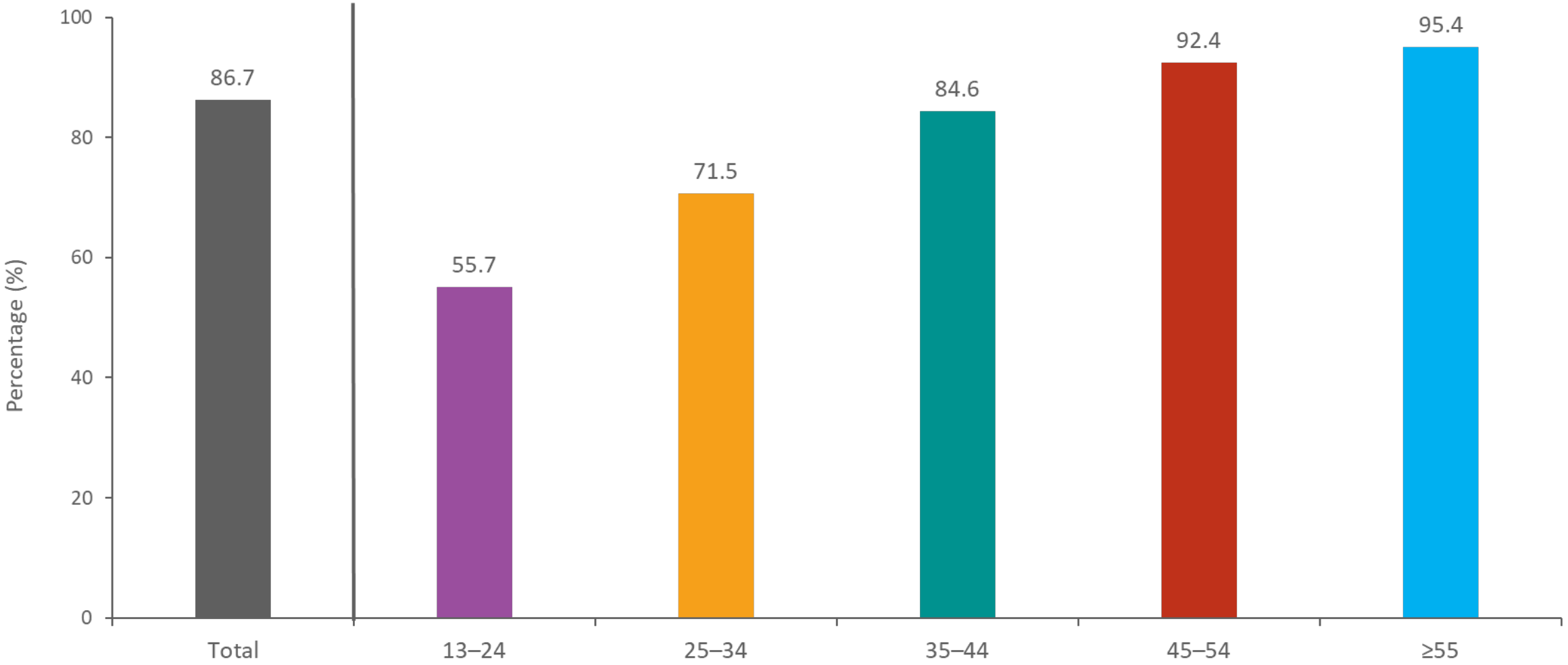
†Total estimate for the United States does not include data for Puerto Rico.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Sex, 2019—United States



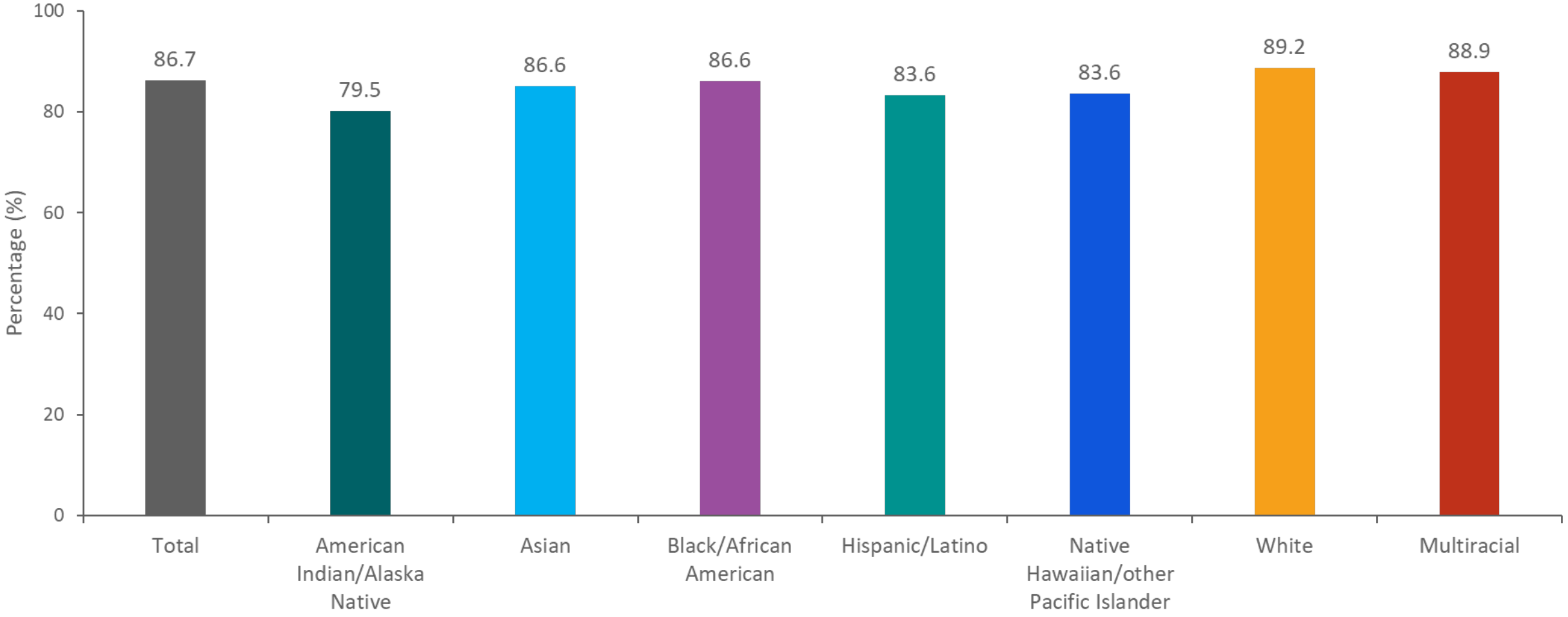
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Age, 2019—United States



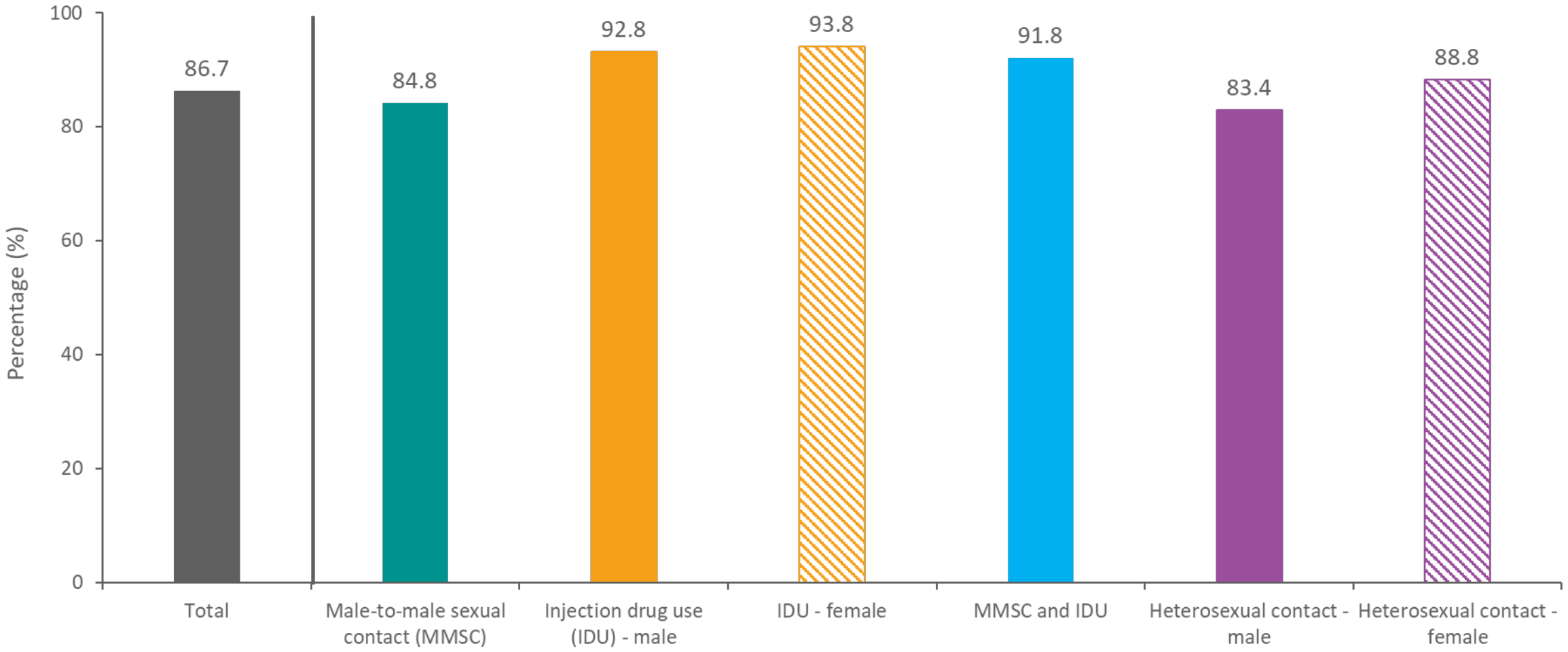
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Race/Ethnicity, 2019—United States



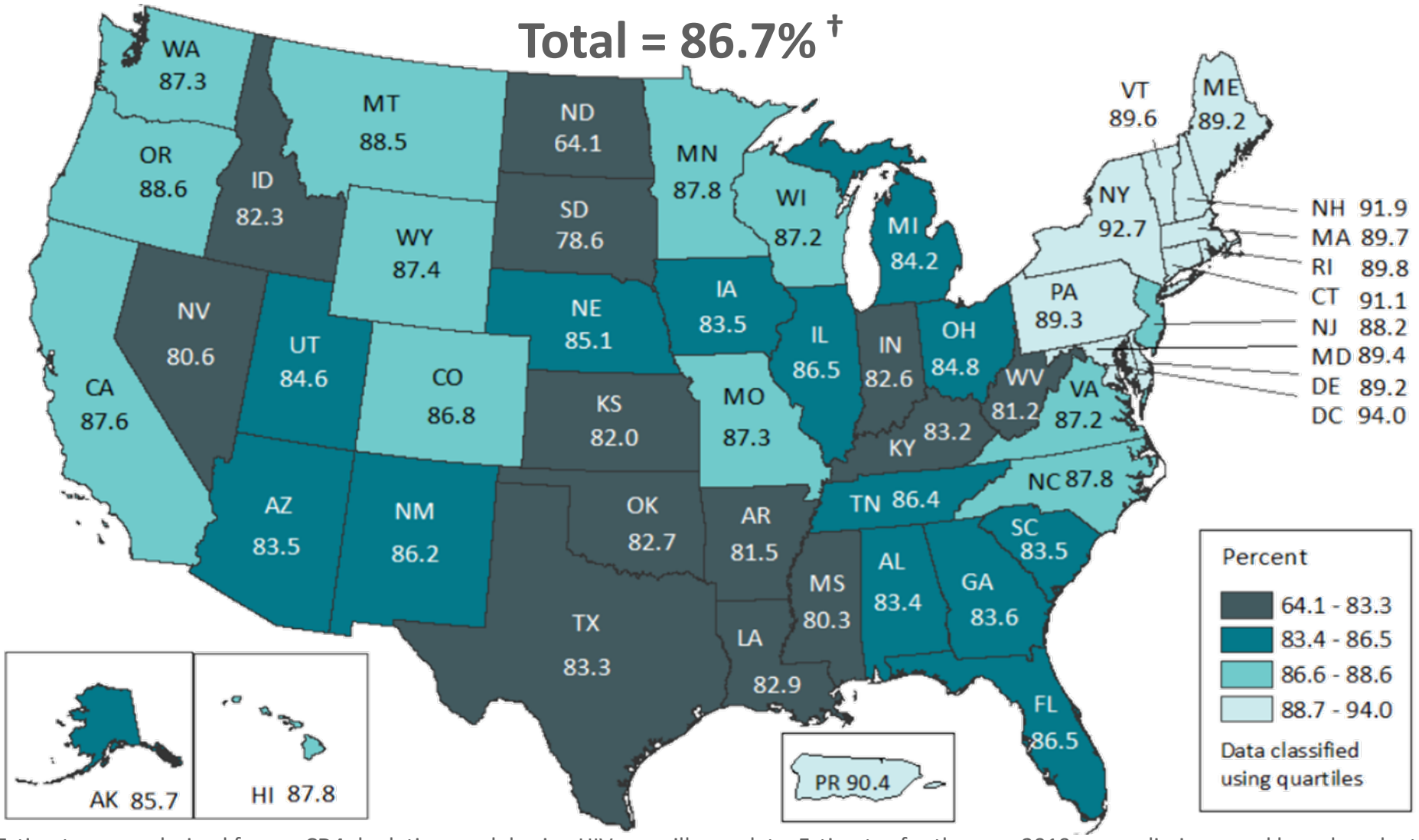
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Asian persons includes Asian/Pacific Islander legacy cases. Hispanic/Latino persons can be of any race. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Transmission Category, 2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Heterosexual contact is with a person known to have, or with a risk factor for, HIV infection. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, 2019—United States and Puerto Rico



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020. Estimates for Kansas, Massachusetts, Mississippi, North Dakota, Nevada, and Vermont should be interpreted with caution due to incomplete death ascertainment.

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