CDC - HIV Incidence, Prevalence and Undiagnosed Infections in Men Who Have Sex With Men - HIV incidence decreased among all transmission categories except MSM

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HIV INCIDENCE, PREVALENCE, AND UNDIAGNOSED INFECTIONS IN MEN WHO HAVE SEX WITH MEN
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Conclusion

- HIV incidence decreased among all transmission categories except MSM
- Disparities by race/ethnicity and age among MSM
  - Continued high incidence among black MSM and increasing incidence among Hispanic/Latino MSM and 25–34 year olds
  - High percentage of undiagnosed infections among black and Hispanic/Latino MSM
  - Among young MSM, decreasing incidence is encouraging but 52% with undiagnosed infections in 2014
- Tailored testing, prevention and treatment are needed for these groups to reduce HIV transmission
HIV Incidence, Prevalence and Undiagnosed Infections in Men Who Have Sex With Men

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Background

- Gay, bisexual, and other men who have sex with men (MSM) represent ~2% of the US population, yet 67% of persons with HIV diagnoses in 2015
- Differences in HIV diagnoses by race/ethnicity and age have been described but less data are available on incidence and prevalence
- New method using national HIV surveillance data and CD4 tests used to estimate incidence, prevalence and percent of undiagnosed infections
- Estimating HIV outcomes among MSM to better guide prevention efforts
Methods

- Data from the National HIV Surveillance System
- The first CD4 value after HIV diagnosis was used to estimate the distribution of delay from infection to diagnosis based on a well-characterized CD4 depletion model
- The distribution of diagnosis delay was used to estimate HIV incidence
- HIV incidence data, combined with information on cumulative numbers of diagnoses and deaths, were used to estimate HIV prevalence
- Estimated HIV prevalence and the number of persons living with diagnosed HIV infection were used to estimate the number and percentage of undiagnosed infection


Methods

- Estimates for persons ≥13 years
- Data stratified by transmission category
  - MSM data stratified by race/ethnicity and age at HIV infection
  - Data adjusted for missing risk factor information
- Examined trends for 2008–2014 by the estimated annual percentage change (EAPC) and 95% confidence intervals (CIs)
### Estimated HIV incidence among persons aged ≥13 years, by transmission category, United States, 2008–2014

![Graph showing HIV incidence by transmission category from 2008 to 2014.]

**Note:** Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis.

*Adjusted for missing risk factor information. Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

*Estimated annual percentage change is different from zero at the 5% significance level.

### Estimated HIV prevalence among persons aged ≥13 years and percentages of persons living with undiagnosed HIV infection, by transmission category, United States, 2014

<table>
<thead>
<tr>
<th>Transmission category</th>
<th>HIV prevalence</th>
<th>Persons living with undiagnosed HIV infection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>95% CI</td>
</tr>
<tr>
<td>Total</td>
<td>1,107,700</td>
<td>(1,088,500, 1,127,000)</td>
</tr>
<tr>
<td>Male-to-male sexual contact</td>
<td>615,400</td>
<td>(600,900, 629,900)</td>
</tr>
<tr>
<td>Injection drug use</td>
<td>139,700</td>
<td>(133,300, 146,100)</td>
</tr>
<tr>
<td>Male-to-male sexual contact and injection drug use</td>
<td>56,600</td>
<td>(52,900, 60,200)</td>
</tr>
<tr>
<td>Heterosexual contact</td>
<td>296,100</td>
<td>(286,300, 306,000)</td>
</tr>
</tbody>
</table>

**Abbreviation:** CI, confidence interval.

**Note:** Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis.

*Adjusted for missing risk factor information. Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
Estimated HIV incidence among men who have sex with men\textsuperscript{a}, aged ≥13 years, by race/ethnicity\textsuperscript{b}, United States, 2008–2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Black/African American</th>
<th>White</th>
<th>Hispanic/Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>12,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>11,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>11,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>10,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>9,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>9,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. \textsuperscript{a} Adjusted for missing risk factor information. \textsuperscript{b} Hispanics/Latinos can be of any race. \textsuperscript{c} Estimated annual percentage change is different from zero at the 5% significance level.

Estimated HIV prevalence among men who have sex with men\textsuperscript{a} aged ≥13 years, by race/ethnicity, United States, 2014

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>No.</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/African American</td>
<td>198,100</td>
<td>(189,400, 206,700)</td>
</tr>
<tr>
<td>Hispanic/Latino\textsuperscript{b}</td>
<td>138,800</td>
<td>(131,800, 145,900)</td>
</tr>
<tr>
<td>White</td>
<td>243,000</td>
<td>(234,600, 251,400)</td>
</tr>
</tbody>
</table>

Abbreviation: CI, confidence interval.

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. \textsuperscript{a} Adjusted for missing risk factor information. \textsuperscript{b} Hispanics/Latinos can be of any race.
Estimated percentages of men who have sex with men\(^a\), aged ≥13 years, living with undiagnosed HIV infection, by race/ethnicity\(^b\), United States, 2008–2014

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis.
\(^a\)Adjusted for missing risk factor information.
\(^b\)Hispanics/Latinos can be of any race.
\(^c\)Estimated annual percentage change is different from zero at the 5% significance level.

Estimated HIV incidence among men who have sex with men\(^a\), aged ≥13 years, by age, United States, 2008–2014

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. Age is in years.
\(^b\)Adjusted for missing risk factor information.
\(^c\)Estimated annual percentage change is different from zero at the 5% significance level.
Estimated HIV prevalence among men who have sex with men\textsuperscript{a} aged \(\geq 13\) years, by age, United States, 2014

<table>
<thead>
<tr>
<th>Age in years</th>
<th>No.</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-24</td>
<td>48,200</td>
<td>(46,400, 49,900)</td>
</tr>
<tr>
<td>25-34</td>
<td>128,500</td>
<td>(126,300, 130,800)</td>
</tr>
<tr>
<td>35-44</td>
<td>125,800</td>
<td>(124,100, 127,500)</td>
</tr>
<tr>
<td>45-54</td>
<td>185,800</td>
<td>(184,000, 187,600)</td>
</tr>
<tr>
<td>(\geq 55)</td>
<td>127,100</td>
<td>(125,300, 128,800)</td>
</tr>
</tbody>
</table>

Abbreviation: CI, confidence interval.
Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis.
\textsuperscript{a}Adjusted for missing risk factor information.

Estimated percentages of men who have sex with men\textsuperscript{a}, aged \(\geq 13\) years, living with undiagnosed HIV infection, by age, United States, 2008–2014

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. Age is in years.
\textsuperscript{a}Adjusted for missing risk factor information.
\textsuperscript{b}Estimated annual percentage change is different from zero at the 5% significance level.
Questions?
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We thank the state and local health departments and the HIV surveillance programs that provided surveillance data to CDC.

For more information, contact CDC
1-800-CDC-INFO (232-4636)

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.