

# HIV

# SURVEILLANCE REPORT

SUPPLEMENTAL REPORT

Volume 24, Number 4

## **Social Determinants of Health Among Adults with Diagnosed HIV Infection, 2017**

**Part A: Census Tract-level Social Determinants  
of Health and Diagnosed HIV Infection  
United States and Puerto Rico**

**Part B: County-level Social Determinants  
of Health, Selected Care Outcomes,  
and Diagnosed HIV Infection  
41 States and the District of Columbia**

This issue of the *HIV Surveillance Supplemental Report* is published by the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, Georgia.

Data are presented for diagnoses of HIV infection reported to CDC through December 2018.

The *HIV Surveillance Supplemental Report* is not copyrighted and may be used and copied without permission. Citation of the source is, however, appreciated.

### **Suggested citation**

Centers for Disease Control and Prevention. Social determinants of health among adults with diagnosed HIV infection, 2017. Part A: Census tract-level social determinants of health and diagnosed HIV infection—United States and Puerto Rico. Part B: County-level social determinants of health, selected care outcomes, and diagnosed HIV infection—41 states and the District of Columbia. *HIV Surveillance Supplemental Report* 2019;24(No. 4). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published October 2019. Accessed [date].

**On the Web:** <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>

### **Confidential information, referrals, and educational material on HIV infection**

CDC-INFO

1-800-232-4636 (in English, en Español)

1-888-232-6348 (TTY)

<http://wwwn.cdc.gov/dcs/ContactUs/Form>

### **Acknowledgments**

Publication of this report was made possible with the contributions of the state and territorial health departments and the HIV surveillance programs that provided surveillance data to CDC.

This report was prepared by the following staff and contractors of the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC.

Part A: Zanetta Gant, Andre Dailey, Xiaohong Hu, Baohua Wu, Chan Jin, Chenchen Yu, Anna Satcher Johnson, and Michael Friend (editing and desktop publishing).

Part B: Zanetta Gant, Shacara Johnson, Xiaohong Hu, Baohua Wu, Chan Jin, Chenchen Yu, Anna Satcher Johnson, and Michael Friend (editing and desktop publishing).

# **Social Determinants of Health Among Adults with Diagnosed HIV Infection, 2017**

## **Part A: Census Tract-level Social Determinants of Health and Diagnosed HIV Infection—United States and Puerto Rico**

# Contents

---

<b>Abbreviations</b>	5
<b>Commentary</b>	6
<b>Technical Notes</b>	14
<b>References</b>	18
<b>Tables</b>	
1 Diagnoses of HIV infection among adults, by race/ethnicity, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	19
2 Diagnoses of HIV infection among adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	20
3 Diagnoses of HIV infection among adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	21
4 Diagnoses of HIV infection among adults, by federal poverty level, sex, and area of residence, 2017—census tract level, United States and Puerto Rico	22
5 Diagnoses of HIV infection among adults, by education level, sex, and area of residence, 2017—census tract level, United States and Puerto Rico	25
6 Diagnoses of HIV infection among adults, by median household income, sex, and area of residence, 2017—census tract level, United States and Puerto Rico	28
7 Diagnoses of HIV infection among adults, by health insurance coverage, sex, and area of residence, 2017—census tract level, United States and Puerto Rico	31
8a Diagnoses of HIV infection among black/African American adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	34
8b Diagnoses of HIV infection among Hispanic/Latino adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	35
8c Diagnoses of HIV infection among white adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	36
9a Diagnoses of HIV infection among black/African American adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	37
9b Diagnoses of HIV infection among Hispanic/Latino adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	38
9c Diagnoses of HIV infection among white adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico	39
10 Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia	40
11 Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia	45
12 Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by transmission category, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia	50
13 Linkage to HIV medical care after HIV diagnosis during 2017, among male adults with infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—census tract level, 41 states and the District of Columbia	40
<b>Supplemental tables</b>	
S1 Adults living below federal poverty level, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico	57
S2 Adults with less than high school diploma, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico	60
S3 Median household income among adults, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico	63
S4 Adults without health insurance, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico	66

## Abbreviations

---

ACS	American Community Survey
AIDS	acquired immunodeficiency syndrome
CD4	CD4+ T-lymphocyte count (cells/ $\mu$ L) or percentage
CDC	Centers for Disease Control and Prevention
DHAP	Division of HIV/AIDS Prevention
HIV	human immunodeficiency virus
NHSS	National HIV Surveillance System
NIR	no identified risk factor
SDH	social determinants of health
VA	United States Department of Veterans Affairs

HIV continues to disproportionately affect various populations in the United States. According to the 2017 *HIV Surveillance Report*, numbers and rates of annual diagnoses of HIV infection decreased from 2012 through 2016 in the United States [1]; however, numbers and rates increased in some populations and remained stable in others. Differences in HIV burden, by sex and race/ethnicity (i.e., blacks/African Americans, Hispanics/Latinos, and whites), have long been highlighted through HIV surveillance data in the United States. Factors other than individual attributes related to sex, race/ethnicity, or behavioral risk factors are likely contributing to the rate disparity, and may be partly explained through a better understanding of the social determinants that affect the health of populations.

The term *social determinants of health* (SDH) refers to the overlapping social structures and economic systems (e.g., social environment, physical environment, health services, and structural and societal factors) that are responsible for most health inequities [2]. Stratifying public health data by key SDH is useful in monitoring health inequities. Addressing the SDH that adversely affect health outcomes may advance efforts in reducing disparities in HIV diagnosis rates between populations. Addressing SDH also helps to quantify health differences between populations or geographic areas and can provide insight for identifying populations or areas that may benefit from HIV testing, prevention, and treatment initiatives.

In the white paper *Establishing a Holistic Framework to Reduce Inequities in HIV, Viral Hepatitis, STDs, and Tuberculosis in the United States* [2], the Centers for Disease Control and Prevention (CDC) outlined its vision for reducing health disparities and promoting health equity, with an emphasis on the need to move beyond individual interventions and toward the incorporation of community-level approaches to preventing the transmission of HIV. CDC has adopted the SDH conceptual framework of the World Health Organization, which relates structural determinants (e.g., socioeconomic status, poverty) to intermediary determinants (e.g., psychosocial, behavioral, and biological factors) that may affect individual health status [3]. This framework helps in determining priorities and focusing intervention efforts.

Recognizing the gaps in data regarding SDH and HIV, especially for geographic areas smaller than a state or county, CDC's Division of HIV/AIDS Prevention (DHAP) has incorporated geocoding of HIV surveillance data by state and local HIV surveillance programs. The purpose of the activity is to capture, store, analyze, and display geocoded HIV surveillance data along with SDH indicators that may affect HIV transmission. The activity requires that HIV surveillance data are geocoded to the census tract level for addresses of residence at the time of diagnosis and linked at the census tract level to SDH indicator variable data from the U.S. Census Bureau's American Community Survey (ACS). Using census tract-level surveillance data at the state or local level increases the ability to assess the geographic distribution of HIV, the social determinants associated with HIV, and the relationship of HIV to other diseases and health care resources in a defined area.

This surveillance supplemental report presents data on persons aged 18 years and older with HIV infection diagnosed in 2017 and reported to the National HIV Surveillance System (NHSS) through December 2018. Data were limited to persons aged 18 years and older to more accurately represent the population from which the SDH indicator variables were collected by ACS. The numbers, percentages, and rates of diagnoses of HIV infection were based on data reported from state/local areas that geocoded, linked to ACS, and transmitted to CDC SDH information on cases diagnosed during 2017.

### REPORT FORMAT

This report presents numbers and rates of diagnoses of HIV infection in 2017 among persons aged 18 years and older by 4 SDH indicators and selected characteristics that include sex, age, race/ethnicity, transmission category and area of residence. SDH data by race/ethnicity are presented for blacks/African Americans, Hispanics/Latinos, and whites only (Tables 8a/b/c and 9a/b/c); the numbers of HIV diagnoses among American Indians/Alaska Natives, Asians, Native Hawaiians/other Pacific Islanders, and persons of multiple races were too small for meaningful analysis.

The SDH data presented in this report are the result of the linkage of geocoded HIV diagnosis data (at the census tract level) to SDH indicator variables from the 2013–2017 ACS and are based on where the person was living at the time of diagnosis.

The following are the measures for the 4 SDH indicators presented in this report:

- **Federal poverty status:** proportion of residents in the census tract who were living below the U.S. poverty level (i.e., below a specified threshold) at any time during the 12 months before the survey response (individuals aged 18 years and older)
- **Education level:** proportion of residents in the census tract with less than a high school diploma (individuals aged 18 years and older)
- **Median household income:** median income for a household within the census tract during the 12 months before the survey response
- **Health insurance coverage:** proportion of residents in the census tract without health insurance or health coverage plan (individuals aged 18 years and older)

These SDH indicators were included in this report because they are generally recognized in the scientific literature as population determinants of health. Although other social determinants may affect health, research on social determinants has emphasized the need to incorporate these specific structural and societal factors into analyses of public health data [4–7]. Readers are encouraged to review Technical Notes for more information on the definitions of the SDH indicator variables used in this report.

Data in this report were limited to persons whose HIV infection had been diagnosed and whose complete residential address information could be geocoded to the census tract level. Due to missing data, address type is not applicable for Montana, Nevada, and South Dakota. Cases or census tracts were excluded if

- the address was nonresidential (e.g., military base, corrections facility)
- no census tract was associated with the case
- no SDH information was available for the census tract
- the census tract from the surveillance data could not be matched to a census tract provided by the ACS

The data presented in this HIV surveillance supplemental report are a snapshot of the environment in which people lived at the time of HIV diagnosis. Some SDH indicators may be correlated (e.g., lack of education has been associated with both poverty and low income in the United States [8, 9]), but correlations between SDH indicators were not analyzed for this report. Additional research may guide the development of public health strategies to address the SDH that contribute to the burden of HIV disease in specific populations and may guide the allocation of resources for prevention and treatment services. Caution should be used when interpreting results.

Reported numbers less than 12 and accompanying rates based on these numbers, should be interpreted with caution. Please read all titles and footnotes carefully to ensure a complete understanding of the displayed data.

## REPORT CHANGES

This report marks the first time geocoded HIV surveillance data have been included from all 50 states, the District of Columbia, and Puerto Rico, as CDC now funds all jurisdictions to geocode their HIV surveillance data.

New to this report are the following:

- Table 1 displays data for all races/ethnicities
- Census tract-level, HIV and ACS SDH data (for the 50 states, the District of Columbia, and Puerto Rico), are displayed in Tables 4–7
- Census tract-level, ACS SDH data (for the 50 states, the District of Columbia, and Puerto Rico) are displayed in supplemental tables (S1–S4). These data were obtained directly from the U.S. Census Bureau’s 2013–2017 ACS estimates [10]
- Census tract-level linkage to HIV medical care, by SDH, are displayed in Tables 10–13

Linkage to HIV medical care data analyzed at the census tract level were added to this report (Part A) to help identify and understand linkage to care among persons with diagnosed HIV residing in small geographic areas. Linkage to care data analyzed at the census tract level (Part A) provide a different picture than the county-level linkage to care data presented in Part B, as census tract-level data represent a smaller geographic area than county-level data. Monitoring linkage to medical care (on the basis of NHSS data) is dependent upon complete reporting of HIV-related

laboratory results (including CD4+ T-lymphocyte [CD4] and viral load results) to HIV surveillance programs and CDC. Although most jurisdictions have regulations that require laboratories and providers to report at least a subset of CD4 and viral load test results to health departments, not all jurisdictions have mandatory reporting of all levels of CD4 and viral load (i.e., detectable and undetectable) results. As of December 2018, 42 jurisdictions (41 states and the District of Columbia) required reporting of all levels of CD4 and viral load test results and had reported to CDC at least 95% of the test results they had received by December 2018 (for specimens collected from January 2016 through September 2018). See Technical Notes for a list of the 42 jurisdictions.

Presentation of data by employment status is no longer included in this report. When measuring employment status, it is important to account for underemployment, which is the condition in which people in a labor force are employed at less than full-time or regular jobs or at jobs inadequate with respect to their training or economic needs [11]. Underemployment has been associated with health challenges, and research has shown that those earners with the lowest wages are the most likely to be uninsured [12]. Because we do not have data on persons who may be underemployed to provide additional context on the potential impact of employment status on persons with diagnosed HIV, data on employment status are no longer included in this report.

Vacant housing is no longer included in this report. Although vacant housing is associated with poor health outcomes, the variable does not take into account confounding factors, such as stability, quality, safety, affordability, and neighborhood [13].

## HIGHLIGHTS OF ANALYSES

The statements in this section, unless otherwise indicated, are based on stable numbers (i.e., based on 12 or more diagnoses). All rates are per 100,000 population and refer to adults aged 18 years and older. Social determinants of health data are estimates for the period 2013–2017, and HIV surveillance data are based on diagnoses of HIV infection in 2017 among adults.

### Diagnoses of HIV Infection

HIV infection was diagnosed for 33,027 adults (aged 18 years and older) whose residential address information was sufficient for geocoding to the census tract

(Table 1). These diagnoses represent approximately 87.6% of all diagnoses of HIV infection in 2017 among adults in the 50 states, the District of Columbia, and Puerto Rico.

The overall rate of diagnoses of HIV infection among adults in the 50 states, the District of Columbia, and Puerto Rico was 13.2. The HIV diagnosis rate was 22.0 for males and 4.8 for females.

### Diagnoses of HIV Infection, by Selected Characteristics and Selected Social Determinants of Health

#### Sex (Table 1)

- **Poverty:** The highest HIV diagnosis rates for males (40.1) and females (10.1) were among those who lived in census tracts where 19% or more of the residents lived below the federal poverty level. For both sexes, the rate of HIV diagnoses increased as the percentage of residents living below the federal poverty level increased.
- **Education:** The highest HIV diagnosis rates for males (35.1) and females (9.4) were among those who lived in census tracts where 18% or more of the residents had less than a high school diploma. For both sexes, the rate of HIV diagnoses increased as the percentage of residents with less than a high school diploma increased.
- **Income:** The highest HIV diagnosis rates for males (39.3) and females (10.2) were among those who lived in census tracts where the median household income was less than \$40,000 a year. For both sexes, the rate of HIV diagnoses decreased as the median household income increased.
- **Insurance:** The highest HIV diagnosis rates for males (38.6) and females (9.5) were among those who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan. For both sexes, the rate of HIV diagnoses increased as the percentage of uninsured persons increased.

#### Race/ethnicity by sex (Table 1)

Results by race/ethnicity for American Indians/Alaska Natives and Native Hawaiian/other Pacific Islanders are not discussed due to most rates being based on small case counts.

- **Poverty:** Persons who lived in census tracts where 19% or more of the residents lived below the federal poverty level accounted for the highest



HIV diagnosis rates among Asian males (17.5), blacks/African Americans (males, 82.5; females, 26.1), Hispanics/Latinos (males, 43.8; females, 6.6), and whites (males, 16.2; females, 3.2).

- **Education:** Persons who lived in census tracts where 18% or more of the residents had less than a high school diploma accounted for the highest HIV diagnosis rates among Asian males (17.3), blacks/African Americans (males, 73.0; females, 27.9), Hispanic/Latino females (5.8), and whites (males, 14.3; females, 3.2). In contrast, among Hispanic/Latino males, the highest HIV diagnosis rate (40.3) was among those who lived in census tracts where less than 6% of the residents had less than a high school diploma.
- **Income:** Persons who lived in census tracts where the median household income was less than \$40,000 a year accounted for the highest HIV diagnosis rates among Asians (males, 17.0; females, 2.9), blacks/African Americans (males, 83.2; females, 26.1), Hispanics/Latinos (males, 44.7; females, 6.7), and whites (males, 13.8; females, 2.9).
- **Insurance:** Persons who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan accounted for the highest HIV diagnosis rates among Asians (males, 18.3; females, 2.9), blacks/African Americans (males, 85.7; females, 29.3), Hispanics/Latinos (males, 41.9; females, 5.6), and whites (males, 16.1; females, 3.0).

### Age by sex (Table 2)

- **Poverty:** For males and females in all age groups, those who lived in census tracts where 19% or more of the residents lived below the federal poverty level accounted for the highest rates of HIV diagnoses.
- **Education:** For males and females in all age groups, those who lived in census tracts where 18% or more of the residents had less than a high school diploma accounted for the highest rates of HIV diagnoses.
- **Income:** For males and females in all age groups, those who lived in census tracts where the median household income was less than \$40,000 a year accounted for the highest rates of HIV diagnoses.

- **Insurance:** For males and females in all age groups, those who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan accounted for the highest rates of HIV diagnoses.

### Transmission category by sex (Table 3)

- **Poverty:** Persons who lived in census tracts where 19% or more of the residents lived below the federal poverty level accounted for the largest percentage of HIV diagnoses for both sexes and in all transmission categories.
- **Education:** Persons who lived in census tracts where 18% or more of the residents had less than a high school diploma accounted for the largest percentage of HIV diagnoses for both sexes and in all transmission categories.
- **Income:** Persons who lived in census tracts where the median household income was less than \$40,000 a year accounted for the largest percentage of HIV diagnoses for both sexes and in all transmission categories.
- **Insurance:** Persons who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan accounted for the largest percentage of HIV diagnoses for both sexes and in all transmission categories.

### Diagnoses of HIV Infection, by Area of Residence and Selected Social Determinants of Health

Use caution when comparing the rates of diagnoses presented in Tables 4–7 for the District of Columbia to the rates presented for states.

#### Area of residence by sex (Tables 4–7)

- **Poverty:** Among persons who lived in census tracts where 19% or more of the residents lived below the federal poverty level, the states with the highest rates of HIV diagnoses were Delaware (total, 64.2; males, 103.0; females, 33.0), followed by Florida (total, 48.5; males, 74.8) and New Hampshire for females (23.7).
- **Education:** Among persons who lived in census tracts where 18% or more of the residents had less than a high school diploma, the states with the highest rates of HIV diagnoses were Delaware (total, 77.9; males, 116.5; females, 43.6), followed by Florida (total, 43.7; males, 64.5; females, 23.0).

- **Income:** Among persons who lived in census tracts where the median household income was less than \$40,000 a year, the states with the highest rates of HIV diagnoses were Delaware (total, 83.5; males, 143.0; females, 39.8), followed by New Hampshire (total, 43.4; females, 25.0) and Florida for males (67.4).
- **Insurance:** Among persons who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan, the states with the highest rates of HIV diagnoses were Maryland (total, 40.6; females, 28.1) and Florida for males (58.8), followed by Puerto Rico (total, 37.4; males, 57.1) and Minnesota for females (16.8).

### Diagnoses of HIV Infection, by Race/Ethnicity, Selected Characteristics, and Selected Social Determinants of Health

#### Transmission category (Tables 8a–c)

- **Poverty:** For black/African American males and females, Hispanic/Latino males and females, and white males and females whose HIV infection was attributed to injection drug use, the largest percentages of HIV diagnoses were among those who lived in census tracts where 19% or more of the residents lived below the federal poverty level. Among white males whose HIV infection was attributed to male-to-male sexual contact, male-to-male sexual contact *and* injection drug use, and heterosexual contact (for both males and females), the largest percentages of HIV diagnoses were among those who lived in census tracts where 11% or more but fewer than 19% of the residents lived below the federal poverty level.
- **Education:** For black/African American males and females, Hispanic/Latino males and females, and white males and females whose HIV infection was attributed to injection drug use, the largest percentages of HIV diagnoses were among those who lived in census tracts where 18% or more of the residents had less than a high school diploma. In contrast, among white males whose HIV infection was attributed to male-to-male sexual contact, the largest percentage of HIV diagnoses were among those who lived in census tracts where fewer than 6% of the residents had less than a high school diploma. Among white males whose HIV infection was attributed to

male-to-male sexual contact *and* injection drug use or heterosexual contact (for both males and females), the largest percentages of HIV diagnoses were among those who lived in census tracts where 6% or more but fewer than 11% of the residents had less than a high school diploma.

- **Income:** For black/African American males and females, Hispanic/Latino males and females, and white males and females whose HIV infection was attributed to injection drug use, the largest percentages of HIV diagnoses were among those who lived in census tracts where the median household income was less than \$40,000 a year. In contrast, among white males whose HIV infection was attributed to male-to-male sexual contact or heterosexual contact, the largest percentages of HIV diagnoses were among those who lived in census tracts where the median household income was \$54,000–\$74,999 a year. Among white males whose HIV infection was attributed to male-to-male sexual contact *and* injection drug use and females whose HIV infection was attributed to heterosexual contact, the largest percentages of HIV diagnoses were among those who lived in census tracts where the median household income was \$40,000–\$53,999 a year.
- **Insurance:** For black/African American males and females, Hispanic/Latino males and females, and white males and females in all transmission categories (except injection drug use for white males), the largest percentages of HIV diagnoses were among those who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan. Among white males whose HIV infection was attributed to injection drug use, the largest percentages of HIV diagnoses were among those who lived in census tracts where 10% or more but fewer than 16% of the residents did not have health insurance or health coverage plan.

#### Age (Tables 9a–c)

Results by race/ethnicity and age group for persons aged 65 years and older are not discussed due to most rates being based on small case counts (i.e., based on fewer than 12 diagnoses of HIV infection) for select populations.

- **Poverty:** For black/African American males and females and Hispanic/Latino males and females in all age groups, and for white males and females aged 25–64 years, those who lived in census tracts where 19% or more of the residents lived below the federal poverty level accounted for the highest rates of HIV diagnoses. Among white males and females aged 18–24 years, the highest rate of HIV diagnoses was among those who lived in census tracts where 11% or more but fewer than 19% of the residents lived below the federal poverty level.
- **Education:** For black/African American males and females, Hispanic/Latino females, and white males and females in all age groups, those who lived in census tracts where 18% or more of the residents had less than a high school diploma accounted for the highest rates of HIV diagnoses. In contrast, among Hispanic/Latino males aged 25–64 years, those who lived in census tracts where fewer than 6% of the residents had less than a high school diploma accounted for the highest rates of HIV diagnoses. Among Hispanic/Latino males aged 18–24 years, those who lived in census tracts where 11% or more but fewer than 18% of the residents had less than a high school diploma accounted for the highest rate of HIV diagnoses.
- **Income:** For black/African American, Hispanic/Latino, and white males and females in all age groups, those who lived in census tracts where the median household income was less than \$40,000 a year accounted for the highest rates of HIV diagnoses.
- **Insurance:** For black/African American males and females, Hispanic/Latino males, and white males and females in all age groups, and for Hispanic/Latino females aged 25–44 years, those who lived in census tracts where 16% or more of the residents did not have health insurance or health coverage plan accounted for the highest rates of HIV diagnoses. In contrast, among Hispanic/Latino females aged 45–54 years, those who lived in census tracts where 6% or more but fewer than 10% of the residents did not have health insurance or health coverage plan accounted for the highest rates of HIV diagnoses. Among Hispanic/Latino females aged 55–64 years, those who lived in census tracts where 10%

or more but fewer than 16% of the residents did not have health insurance or health coverage plan accounted for the highest rate of HIV diagnoses.

### Linkage to HIV Medical Care after Diagnosis of HIV Infection, by Selected Characteristics and Selected Social Determinants of Health

Census tract-level linkage to HIV medical care was based on data for persons with infection diagnosed during 2017 in the 42 jurisdictions that reported complete CD4 and viral load test results to CDC. Linkage to HIV medical care was measured by documentation of at least 1 CD4 or viral load test performed  $\leq 1$  month or  $\leq 3$  months after diagnosis. Of the 29,565 persons whose infection was diagnosed during 2017 whose residential address information was sufficient for geocoding to the census tract, 78.4% (23,184 persons) were linked to HIV medical care  $\leq 1$  month after diagnosis, and 87.0% (25,715) were linked to HIV medical care  $\leq 3$  months after diagnosis (Table 10).

These highlights focus on linkage  $\leq 1$  month after diagnosis, one of the current national goals for HIV prevention and care. The SDH data focus on the lowest percentages at the SDH extremes only (e.g., highest poverty, highest uninsured). The following percentages are for persons who were linked to HIV medical care  $\leq 1$  month after diagnosis (Tables 10–13).

#### Race/ethnicity by sex (Table 10)

Overall, linkage to care was lower among black/African American males (74.6%) and females (78.7%) than in all other racial/ethnic groups, and higher among white males (82.1%) than in all other male racial/ethnic groups, and higher among Hispanic/Latino females (79.9%) than in all other female racial/ethnic groups.

- **Blacks/African Americans:** Among black/African American males, the lowest percentages were among those who lived in census tracts with the highest poverty (73.6%), lowest education (73.0%), lowest income (72.9%), and lowest health insurance or health care coverage (71.8%). Among black/African American females, linkage was lowest among those who lived in census tracts with the lowest education (76.6%), lowest income (76.9%), and lowest health insurance or health care coverage (75.8%).
- **Hispanics/Latinos:** Among Hispanic/Latino males, the lowest percentages were among those who lived in census tracts with the highest pov-

erty (78.5%), lowest education (78.5%), lowest income (78.0%), and lowest health insurance or health care coverage (77.4%). Among Hispanic/Latino females, linkage was lowest among those who lived in census tracts with the lowest poverty (76.6%).

- **Whites:** Among white males, the lowest percentages were among those who lived in census tracts with the highest poverty (80.8%), lowest education (78.5%), lowest income (78.7%), and lowest health insurance or health care coverage (79.1%). Among white females, the lowest percentages were among those who lived in census tracts with the highest poverty (75.2%), lowest education (75.3%), lowest income (75.1%), and lowest health insurance or health care coverage (74.4%).

### Age by sex (Table 11)

Overall, linkage to care was lower among both males (74.8%) and females (76.5%) aged 18–24 years than in all other age groups, linkage was higher among males (81.8%) aged  $\geq 45$  years than males in all other age groups, and higher among females (81.4%) aged  $\geq 55$  years than females in all other age groups.

- **Ages 18–24 years:** Among males aged 18–24 years, the lowest percentages were among those who lived in census tracts with the highest poverty (72.9%), lowest education (73.9%), lowest income (72.3%), and lowest health insurance or health care coverage (71.7%). Among females aged 18–24 years, linkage was lowest among those who lived in census tracts with the lowest education (73.1%), lowest income (71.9%), and lowest health insurance or health care coverage (71.4%).
- **Ages 25–34 years:** Among males aged 25–34 years, the lowest percentages were among those who lived in census tracts with the highest poverty (76.4%), lowest education (75.7%), lowest income (74.9%), and lowest health insurance or health care coverage (75.1%). Among females aged 25–34 years, the lowest percentage (76.5%) was among those who lived in census tracts with the lowest health insurance or health care coverage.
- **Ages 35–44 years:** Among males aged 35–44 years, the lowest percentages were among those who lived in census tracts with the highest poverty (78.9%), lowest education (77.6%), lowest income (77.0%), and lowest health insurance or health care coverage (77.4%). Among females aged 35–

44 years, lowest percentages were among those who lived in census tracts with the highest poverty (75.6%) and lowest income (75.5%).

- **Ages 45–54 years:** Among both males and females aged 45–54 years, the lowest percentages were among those who lived in census tracts with the highest poverty (77.9% and 78.6%, respectively), lowest education (78.7% and 75.5%, respectively), lowest income (77.4% and 76.9%, respectively), and lowest health insurance or health care coverage (77.8% and 78.9%, respectively).
- **Ages  $\geq 55$  years:** Among both males and females aged  $\geq 55$  years, the lowest percentages were among those who lived in census tracts with the lowest education (79.8% and 79.2%, respectively) and lowest health insurance or health care coverage (79.3% and 76.8%, respectively).

### Transmission category by sex (Table 12)

Overall, among males, linkage to care was lower among males with infection attributed to male-to-male sexual contact *and* injection drug use (75.3%) and higher among males with infection attributed to male-to-male sexual contact (78.6%) than all other transmission categories. For females, among the 2 transmission categories for which data are presented, linkage was slightly lower among females with infection attributed to injection drug use (77.4%) compared to females with infection attributed to heterosexual contact (79.2%). Data were statistically adjusted to account for missing transmission category.

- **Male-to-male sexual contact:** Among males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in census tracts with the highest poverty (76.7%), lowest education (76.4%), lowest income (75.5%), and lowest health insurance or health care coverage (75.7%).
- **Injection drug use:** Among males with infection attributed to injection drug use, the lowest percentages were among those who lived in census tracts with the lowest health insurance or health care coverage (73.2%). Among females with infection attributed to injection drug use, the lowest percentages were among those who lived in census tracts with the highest poverty (75.4%) and lowest income (76.0%).
- **Male-to-male sexual contact *and* injection drug use:** Among males with infection attributed

to male-to-male sexual contact *and* injection drug use, the lowest percentages were among those who lived in census tracts with the highest poverty (73.5%), lowest education (70.5%), lowest income (68.7%), and lowest health insurance or health care coverage (70.1%).

- **Heterosexual contact:** Among both males and females with infection attributed to heterosexual contact, the lowest percentages were among those who lived in census tracts with the highest poverty (76.2% and 77.7%, respectively), lowest education (76.8% and 77.4%, respectively), lowest income (76.1% and 76.9%, respectively), and lowest health insurance or health care coverage (75.2% and 76.2%, respectively).

### **Male-to-male sexual contact by race/ethnicity (Table 13)**

Overall, among males with infection attributed to male-to-male sexual contact, linkage to care was lower among blacks/African Americans (74.5%) and higher among whites (82.9%) than all other racial/ethnic groups. Data were statistically adjusted to account for missing transmission category.

- **Blacks/African Americans:** Among black/African American males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in census tracts with the highest poverty (73.5%), lowest education (72.8%), lowest income (72.8%), and lowest health insurance or health care coverage (71.6%).
- **Hispanics/Latinos:** Among Hispanic/Latino males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in census tracts with the highest poverty (78.3%), lowest education (78.2%), lowest income (77.6%), and lowest health insurance or health care coverage (77.6%).
- **Whites:** Among white males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in census tracts with the highest poverty (82.2%), lowest education (79.4%), lowest income (79.7%), and lowest health insurance or health care coverage (80.1%).

## GEOCODING OF HIV SURVEILLANCE DATA

CDC funds state and local health departments to conduct HIV surveillance, and jurisdictions geocode to the census tract level the address of residence at the time of diagnosis. This report includes data for persons aged 18 years and older whose HIV infection was diagnosed during 2017 and reported to the NHSS through December 2018 from the 50 states, the District of Columbia, and Puerto Rico.

After a census tract was assigned to each person's residence at the time of HIV diagnosis (2017), data were linked with the ACS estimates for 2013–2017 to assign a value for each of the SDH indicator variables to each person with diagnosed HIV infection. Cases or census tracts were excluded if the address was nonresidential (e.g., military base, corrections facility), no census tract was associated with the case, no SDH information was available for the census tract, or the census tract from the surveillance data could not be matched to a census tract provided by the ACS. Although HIV diagnosis data associated with these exclusions were not included in all SDH subpopulation totals, they were included in the overall subtotals stratified by sex. Therefore, all tables display differing denominators for SDH subpopulation categories.

## SOCIAL DETERMINANTS OF HEALTH INDICATOR VARIABLES

SDH indicator variables [10] and definitions [14] were obtained from the ACS. This report uses data from the 2013–2017 ACS estimates. The U.S. Census Bureau collected these data during the 5 years and created period estimates based on the information collected. Period estimates are estimates based on information collected over time (60 months for this report) [15]. Period estimates were not calculated as an average of 60 monthly values; the U.S. Census Bureau collected survey information continuously and then aggregated the results over a specific period (5 years) [14]. The data collection was spread evenly across the entire period so as not to over-represent any particular year within the period. All areas were sampled regardless of population size.

For this report, the SDH indicator variables were categorized by using empirically derived quartiles. The quartile cut-points were determined by using data from all census tracts in the 50 states, the District of Columbia, and Puerto Rico and not just from the data applicable to persons in this report (i.e., persons with an HIV diagnosis). This report presents 4 SDH indicator variables: federal poverty status, education level, median household income, and health insurance coverage.

- **Federal poverty status:** proportion of residents in the census tracts who were living below the U.S. poverty level (i.e., below a specified threshold) during the 12 months before the survey response (individuals aged 18 years and older)
- **Education level:** proportion of residents in the census tract with less than a high school diploma (individuals aged 18 years and older)
- **Median household income:** median income for a household within the census tract during the 12 months before the survey response
- **Health insurance coverage:** proportion of residents in the census tract without health insurance or health coverage plan (individuals aged 18 years and older)

These variables were included in this report because SDH research has emphasized the need to incorporate these specific structural and societal factors into analyses of public health data in order to contribute to a better understanding of their effects on health outcomes [4–7]. Although correlations between SDH indicators were not analyzed for this report, some SDH indicators may be correlated. For example, lack of education has been associated with poverty and income in the United States [8, 9]. Therefore, caution should be used when interpreting results.

### Poverty

The percentage of the population aged 18 years and older who were living below the poverty level was determined by using the sum of the number of family members and the number of unrelated persons in the household whose incomes, during the 12 months before the survey response, were below the federal poverty level. The U.S. Census Bureau uses a set of dollar-value thresholds (i.e., income cutoffs) that vary

by family size and composition to determine who lives below the poverty level. A person's poverty status is determined by comparing the person's total family income during the 12 months before the survey response with the poverty threshold appropriate for that person's family size and composition. If the total income of that person's family is less than the threshold appropriate for that family, then the person, together with every member of his or her family, is considered "below the poverty level." In the Census Bureau's determination of poverty status, the following populations were excluded: (1) institutionalized persons, (2) persons residing in military group quarters, (3) persons in college dormitories, and (4) unrelated persons aged less than 15 years. The U.S. Census Bureau defines *poverty areas* as census tracts with poverty levels of 20% or more [16].

### Education

The percentage of persons with less than a high school diploma was defined as the percentage of persons aged 18 years and older who were not enrolled in school and were not high school graduates. These people may be referred to as "high school dropouts." No restriction is placed on when they "dropped out" of school; therefore, they may have dropped out before high school and never attended high school.

### Household Income

The median household income was determined by dividing the income distribution into 2 equal parts: one-half of the persons resided in census tracts that fall below the median income and one-half above the median. The median income was based on the distribution of the total number of households, including those with no income. Median income for households was computed on the basis of a standard distribution, rounded to the nearest whole dollar.

### Health Insurance Coverage

The percentage of persons aged 18 years and older without health insurance coverage was determined based on the number of persons without plans or programs that provide comprehensive health coverage (both private health insurance and public coverage). Insured persons include: (1) insurance through a current or former employer (of this person or another family member) or union, (2) insurance purchased directly from an insurance company (by this person or another family member), (3) Medicare, for persons aged 65

years and older, or persons with certain disabilities, (4) Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low income or a disability, (5) TRICARE or other military health care, and (6) U.S. Department of Veterans Affairs (VA), including those who have ever used or enrolled for VA health care. Persons who had no reported health coverage, or those whose only health coverage was Indian Health Service, were considered uninsured. Also, plans that provide insurance for specific conditions or situations, such as cancer and long-term care policies, are not considered coverage. Likewise, other types of insurance, like dental, vision, life, and disability insurance, are not considered health insurance coverage. The population estimates for health insurance coverage excludes active-duty military personnel and the population living in correctional facilities and nursing homes.

### LINKAGE TO HIV MEDICAL CARE

The data on linkage to HIV medical care were based on persons whose infection was diagnosed during 2017 and who resided in any of the 42 jurisdictions at the time of diagnosis that reported complete CD4 and viral load laboratory results to CDC (Tables 10–13). Linkage to HIV medical care within 1 month after HIV diagnosis was measured by documentation of  $\geq 1$  CD4 (count or percentage) or viral load test performed  $\leq 1$  month after HIV diagnosis, including tests performed on the same date as the date of diagnosis. Linkage to HIV medical care within 3 months after HIV diagnosis was measured by documentation of  $\geq 1$  CD4 (count or percentage) or viral load tests performed  $\leq 3$  months after HIV diagnosis, including tests performed on the same date as the date of diagnosis. Month and the year of the earliest HIV-positive test result reported to the surveillance system were used to determine the diagnosis date. Test results were excluded if the month of the sample collection was missing. Data were excluded if the month of diagnosis was missing.

### TABULATION AND PRESENTATION OF DATA

#### Age

All tables in this report reflect data for persons aged 18 years and older (i.e., adults). This report was limited to adults aged 18 years and older with diagnosed HIV infection to more accurately represent the population from which data are collected for ACS SDH indicator

variables. For tables that provide data by age group, the specific age-group assignment (e.g., 18–24 years) was based on that person’s age at the time of HIV diagnosis.

### **Race and Ethnicity**

The data presented in this report were collected using the Office of Management and Budget’s revised 1997 standards for ethnic and racial data, which calls for splitting Asian/Pacific Islander into 2 categories (Asian and Native Hawaiian/other Pacific Islander) and collecting 2 categories of ethnicity (Hispanic or Latino and not Hispanic or Latino) [17]. Hispanics and Latinos can be of any race.

Due to confidentiality concerns, the ACS does not provide age- and sex-specific SDH variables stratified by race and ethnicity for racial groups, except whites (i.e., white, non-Hispanic/Latino). Therefore, the data used for computing the race-specific rates may include Hispanics/Latinos (except whites) and should be interpreted with caution. Also, the number of persons reported in each race category may include persons whose ethnicity was not reported.

### **Geographic Level**

Data presented in this report reflect the census tract of the person’s residential address at the time they received an HIV diagnosis. A census tract is a standard area used by the U.S. Census Bureau for the purpose of counting the population. Census tracts are small, relatively permanent statistical subdivisions of a county delineated by local participants as part of the U.S. Census Bureau’s Participant Statistical Areas Program. Census tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment. Each census tract generally contains 1,500 to 8,000 inhabitants (average, 4,000 inhabitants) [18].

### **Transmission Categories**

*Transmission category* is the term used to summarize a person’s possible HIV risk factors; the summary classification results from selecting, from the presumed hierarchical order of probability, the 1 risk factor most likely to have been responsible for transmission. For surveillance purposes, a diagnosis of HIV infection is counted only once in the hierarchy of transmission categories. Persons with > 1 reported risk factor for HIV infection are classified in the transmission category listed first in the hierarchy. The excep-

tion is the category for male-to-male sexual contact *and* injection drug use; this group makes up a separate transmission category.

Persons whose transmission category is classified as male-to-male sexual contact include men who have ever had sexual contact with other men (i.e., homosexual contact) and men who have ever had sexual contact with both men and women (i.e., bisexual contact). Persons whose transmission category is classified as heterosexual contact are persons who have ever had heterosexual contact with a person known to have, or to be at high risk for, HIV infection (e.g., a person who injects drugs).

Cases of HIV infection reported without a risk factor listed in the hierarchy of transmission categories are classified as “no identified risk (NIR).” Cases classified as NIR include cases that are being followed up by local health department staff; cases in persons whose risk-factor information is missing because they died, declined to be interviewed, or were lost to follow-up; and cases in persons who were interviewed or for whom other follow-up information was available but for whom no risk factor was identified.

Because a substantial proportion of cases of HIV infection are reported to CDC without an identified risk factor, multiple imputation is used to assign a transmission category [19]. Multiple imputation is a statistical approach in which each missing transmission category is replaced with a set of plausible values that represent the uncertainty about the true, but missing, value [20]. The plausible values are analyzed by using standard procedures, and the results of these analyses are then combined to produce the final results. In this report, multiple imputation has been used to account for missing transmission category information in tables displaying transmission category (Tables 3, 8a–c, 10, and 13).

### **Rates**

Rates per 100,000 population were calculated for the numbers of diagnoses of HIV infection. The population denominators used to compute these rates for the 50 states, the District of Columbia, and Puerto Rico were based on the 5-year estimated total population for those areas [10]. The denominators used for calculating age-, sex-, and race/ethnicity-specific rates were computed by applying the 5-year estimates for age, sex, and race/ethnicity for these areas [10]. Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution.



Subpopulation stratifications of race and ethnicity data by age group and sex were not available for all race groups (i.e., only available for whites, non-Hispanic/Latino) from the 2013–2017 estimates from the ACS. Rates for racial groups (except whites) may include Hispanics/Latinos, and there may be overlap in populations for these racial groups and Hispanics/Latinos. Therefore, some rates should be interpreted with caution. However, of the denominator population from this ACS in this report, for American Indians/Alaskan Natives, 20.6% were Hispanic/Latino (20.3% when Puerto Rico is excluded); for Asians, 1.2% were Hispanic/Latino (1.1% when Puerto Rico is excluded); for blacks/African Americans, 3.7% were Hispanic/Latino (2.9% when Puerto Rico is excluded); and for Native Hawaiians/other Pacific Islanders, 9.6% were Hispanic/Latino (9.6% when Puerto Rico is excluded). Additionally, the denominator population from the ACS is based on the entire population aged 18 years and older; the numerator population is limited to persons whose HIV infection had been diagnosed and reported, with complete residential address, to the NHSS. Because the ACS uses predetermined age categories and varying criteria for SDH variables, the denominators differ for some SDH variables.

## SUGGESTED READINGS

- An Q, Prejean J, McDavid Harrison K, Fang X. Association between community socioeconomic position and HIV diagnosis rate among adults and adolescents in the United States, 2005 to 2009. *Am J Public Health* 2013;103(1):120–126. doi:10.2105/AJPH.2012.300853.
- CDC. Addressing social determinants of health: accelerating the prevention and control of HIV/AIDS, viral hepatitis, STD and TB. External consultation, December 9–10, 2008. [http://www.cdc.gov/socialdeterminants/docs/final\\_SDHConsultation\\_ForWeb\\_061109.pdf](http://www.cdc.gov/socialdeterminants/docs/final_SDHConsultation_ForWeb_061109.pdf). Published April 2009. Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV infection in 18 areas, 2005–2009. *HIV Surveillance Supplemental Report* 2013;18(No. 4). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published April 2013. Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV infection in 20 states, the District of Columbia, and Puerto Rico, 2010. *HIV Surveillance Supplemental Report* 2014;19(No. 2). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published July 2014. Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV infection in 11 states, the District of Columbia, and Puerto Rico, 2013. *HIV Surveillance Supplemental Report* 2015;20(No. 5). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2015. Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV in 11 states, the District of Columbia and Puerto Rico, 2014. *HIV Surveillance Supplemental Report* 2016;21(No. 6). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published August 2016. Accessed September 19, 2019.
- CDC. Social determinants of health and selected HIV care outcomes among adults with diagnosed HIV infection in 32 states and the District of Columbia, 2014. *HIV Surveillance Supplemental Report* 2016;21(No. 7). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published December 2016. Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV infection, 2016. Part A: Census tract-level social determinants of health among adults with diagnosed HIV infection—13 states, the District of Columbia, and Puerto Rico. *HIV Surveillance Supplemental Report* 2018;23(No. 6, pt A). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published October 2018. Accessed September 19, 2019.
- Dunkle KL, Wingood GM, Camp CM, DiClemente RJ. Economically motivated relationships and transactional sex among unmarried African American and white women: results from a U.S. national telephone survey. *Public Health Rep* 2010;125(suppl 4):90–100.
- Sharpe TT, McDavid Harrison K, Dean HD. Summary of CDC consultation to address social determinants of health for prevention of disparities in HIV/AIDS, viral hepatitis, sexually transmitted diseases, and tuberculosis: December 9–10, 2008. *Public Health Rep* 2010;125(suppl 4):11–15.
- Song R, Hall HI, McDavid Harrison K, Sharpe TT, Lin LS, Dean HD. Identifying the impact of social determinants of health on disease rates using correlation analysis of area-based summary information. *Public Health Rep* 2011;126(suppl 3):70–80.

## References

---

1. CDC. *HIV Surveillance Report 2017*; vol. 29. <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2018. Accessed September 19, 2019.
2. CDC. Establishing a holistic framework to reduce inequities in HIV, viral hepatitis, STDs, and tuberculosis in the United States: an NCHHSTP white paper on social determinants of health, 2010. <http://go.usa.gov/AH2z>. Published October 2010. Accessed September 19, 2019.
3. World Health Organization Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health: final report of the Commission on Social Determinants of Health. [http://www.who.int/social\\_determinants/thecommission/finalreport/en/](http://www.who.int/social_determinants/thecommission/finalreport/en/). Published 2008. Accessed September 19, 2019.
4. Tarlov AR. Public policy frameworks for improving population health. *Ann N Y Acad Sci* 1999;896:281–293.
5. Gupta G, Parkhurst J, Ogden J, Aggleton P, Mahal A. Structural approaches to HIV prevention. *Lancet* 2008;372(9640):764–765. doi:10.1016/S0140-6736(08)60887-9.
6. Adler NE, Newman K. Socioeconomic disparities in health: pathways and policies. *Health Aff* 2002;21(2):60–76.
7. Williams DR, Jackson PB. Social sources of racial disparities in health. *Health Aff* 2005;24(2):325–334.
8. Ladd, HF. Education and poverty: confronting the evidence. *J Pol Anal Manage* 2012;31(2):203–227. doi:10.1002/pam.21615.
9. Egerter S, Braveman P, Sadegh-Nobari T, Grossman-Kahn R, Dekker M. Issue Brief 6: Education and Health. <http://www.commissiononhealth.org>. Published September 2009. Accessed September 19, 2019.
10. U.S. Census Bureau. American Community Survey: 2013–2017 5-year estimates. [https://www.census.gov/programs-surveys/acs/news/data-releases/2017/release.html#par\\_textimage\\_700933727](https://www.census.gov/programs-surveys/acs/news/data-releases/2017/release.html#par_textimage_700933727). Published December 2018. Accessed September 19, 2019.
11. Merriam-Webster. Underemployment. <https://www.merriam-webster.com/dictionary/underemployment>. Accessed September 19, 2019.
12. Collins SR, Davis K, Doty MM, Ho A. Wages, health benefits, and workers' health. *Issue Brief (Commonw Fund)* 2004;(788):1–16.
13. Bostic RW, Thornton RL, Rudd EC, Sternthal MJ. Health in all policies: the role of the US Department of Housing and Urban Development and present and future challenges. *Health Aff* 2012;31(9): 2130–2137.
14. U.S. Census Bureau. American Community Survey and Puerto Rico Community Survey: 2017 subject definitions. <https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.2017.html>. Published August 2018. Accessed September 19, 2019.
15. U.S. Census Bureau. *Understanding and Using American Community Survey Data: What All Data Users Need to Know*. U.S. Government Printing Office, Washington, DC, 2018. <http://go.usa.gov/xP2df>. Accessed September 19, 2019.
16. U.S. Census Bureau. Poverty: glossary. <http://www.census.gov/topics/income-poverty/poverty/about/glossary.html>. Updated May 2016. Accessed September 19, 2019.
17. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. *Federal Register* 1997;62:58782–58790. <http://go.usa.gov/xP2dt>. Accessed September 19, 2019.
18. U.S. Census Bureau. Geographic terms and concepts—census tract. [http://www.census.gov/geo/reference/gtc/gtc\\_ct.html](http://www.census.gov/geo/reference/gtc/gtc_ct.html). Revised December 6, 2012. Accessed September 19, 2019.
19. Harrison KM, Kajese T, Hall HI, Song R. Risk factor redistribution of the national HIV/AIDS surveillance data: an alternative approach. *Public Health Rep* 2008;123(5):618–627. doi:10.1177/003335490812300512.
20. Rubin, DB. *Multiple Imputation for Nonresponse in Surveys*. New York: John Wiley & Sons Inc; 1987.

**Table 1. Diagnoses of HIV infection among adults, by race/ethnicity, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

Area of residence	American Indian/ Alaska Native		Asian		Black/African American		Hispanic/Latino <sup>a</sup>		Native Hawaiian/ Other Pacific Islander		White		Multiple races		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>Male</b>																
<b>Below federal poverty level (%)</b>																
<7	11	8.5	149	6.1	1,134	50.1	857	26.3	6	11.3	1,629	5.8	120	16.6	3,906	10.6
7.00–10.99	19	12.9	168	12.1	1,253	57.1	1,130	32.3	7	14.1	1,556	8.3	122	21.3	4,255	16.1
11.00–18.99	34	12.4	217	15.1	2,731	69.7	2,283	37.5	12	19.3	2,078	10.3	203	27.1	7,558	23.4
≥19	53	13.7	191	17.5	4,775	82.5	3,349	43.8	11	25.2	1,736	16.2	209	30.9	10,324	40.0
<b>Less than high school diploma (%)</b>																
<6	18	16.0	172	7.6	1,192	64.8	904	40.3	6	13.1	1,951	7.8	118	17.3	4,361	13.6
6.00–10.99	37	18.7	166	10.2	1,965	66.0	1,105	34.9	13	21.5	1,954	7.9	162	22.6	5,402	16.3
11.00–17.99	27	10.4	152	13.1	2,739	69.0	1,460	35.3	7	13.7	1,585	9.0	168	26.5	6,138	22.3
≥18	35	9.4	235	17.3	4,000	73.0	4,154	37.7	11	21.1	1,511	14.3	206	29.4	10,152	35.1
<b>Median household income (U.S. \$)</b>																
<40,000	41	11.8	127	17.0	4,723	83.2	2,950	44.7	7	21.1	1,479	13.8	186	31.7	9,513	39.3
40,000–53,999	40	14.6	156	15.8	2,368	68.5	2,027	37.2	9	20.6	1,835	9.6	149	23.5	6,584	22.2
54,000–74,999	21	10.8	229	14.6	1,743	60.2	1,613	33.1	10	15.2	2,012	8.6	171	23.6	5,799	17.4
≥75,000	15	12.4	213	6.9	1,050	50.3	1,026	28.9	10	15.3	1,669	6.8	148	19.3	4,131	12.2
<b>Without health insurance (%)</b>																
<6	12	12.1	155	7.0	824	44.7	720	27.8	10	17.7	1,495	5.7	113	16.4	3,329	9.9
6.00–9.99	14	9.7	157	10.3	1,499	58.0	979	31.5	9	16.8	1,603	7.8	120	18.4	4,381	15.5
10.00–15.99	24	10.5	179	13.1	2,620	66.1	1,551	35.6	4	8.0	1,874	10.2	177	26.0	6,429	22.4
≥16	67	14.4	234	18.3	4,951	85.7	4,369	41.9	13	26.7	2,029	16.1	244	34.9	11,907	38.6
<b>Subtotal<sup>b</sup></b>	<b>122</b>	<b>12.9</b>	<b>736</b>	<b>11.5</b>	<b>10,275</b>	<b>72.0</b>	<b>7,744</b>	<b>37.7</b>	<b>37</b>	<b>17.7</b>	<b>7,233</b>	<b>9.3</b>	<b>674</b>	<b>24.6</b>	<b>26,821</b>	<b>22.0</b>
<b>Female</b>																
<b>Below federal poverty level (%)</b>																
<7	5	3.8	20	0.7	370	15.3	104	3.1	4	7.7	223	0.8	26	3.5	752	1.9
7.00–10.99	3	2.0	21	1.3	448	18.7	137	4.0	1	2.0	224	1.1	22	3.7	856	3.1
11.00–18.99	12	4.3	39	2.4	968	21.9	272	4.6	1	1.5	328	1.5	42	5.4	1,662	4.9
≥19	7	1.7	24	2.1	1,828	26.1	512	6.6	3	6.8	353	3.2	57	7.8	2,784	10.1
<b>Less than high school diploma (%)</b>																
<6	6	5.0	19	0.7	304	14.8	85	3.6	2	4.6	184	0.7	17	2.4	617	1.8
6.00–10.99	4	1.9	23	1.2	615	18.0	134	4.1	2	3.1	300	1.2	32	4.2	1,110	3.1
11.00–17.99	11	4.0	31	2.3	1,002	21.2	188	4.5	0	0.0	305	1.6	34	5.1	1,571	5.3
≥18	6	1.6	31	2.1	1,693	27.9	618	5.8	5	9.3	339	3.2	64	9.1	2,756	9.4
<b>Median household income (U.S. \$)</b>																
<40,000	6	1.6	23	2.9	1,811	26.1	450	6.7	1	2.9	335	2.9	54	8.4	2,680	10.2
40,000–53,999	9	3.2	23	2.1	823	21.3	276	5.2	5	10.9	309	1.5	35	5.4	1,480	4.8
54,000–74,999	10	5.0	32	1.8	621	19.5	183	3.8	0	0.0	292	1.2	32	4.2	1,170	3.3
≥75,000	2	1.6	26	0.7	358	16.1	116	3.2	3	4.6	192	0.8	26	3.3	723	2.0
<b>Without health insurance (%)</b>																
<6	0	0.0	20	0.8	286	14.8	90	3.3	3	5.5	205	0.7	18	2.5	622	1.7
6.00–9.99	8	5.3	23	1.3	480	16.5	147	4.5	1	1.8	248	1.1	33	4.8	940	3.1
10.00–15.99	11	4.6	20	1.3	865	18.7	218	5.0	2	3.9	282	1.5	36	5.0	1,434	4.7
≥16	8	1.6	41	2.9	1,983	29.3	570	5.6	3	5.8	393	3.0	60	8.2	3,058	9.5
<b>Subtotal<sup>b</sup></b>	<b>27</b>	<b>2.8</b>	<b>104</b>	<b>1.4</b>	<b>3,713</b>	<b>22.9</b>	<b>1,044</b>	<b>5.1</b>	<b>9</b>	<b>4.2</b>	<b>1,160</b>	<b>1.4</b>	<b>149</b>	<b>5.2</b>	<b>6,206</b>	<b>4.8</b>
<b>Total<sup>c</sup></b>	<b>149</b>	<b>7.8</b>	<b>840</b>	<b>6.1</b>	<b>13,988</b>	<b>45.8</b>	<b>8,788</b>	<b>21.4</b>	<b>46</b>	<b>10.9</b>	<b>8,393</b>	<b>5.3</b>	<b>823</b>	<b>14.7</b>	<b>33,027</b>	<b>13.2</b>

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis. Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population. The American Community Survey (ACS) does not provide age- and sex-specific social determinants of health (SDH) variables stratified by race and ethnicity for racial groups except whites (i.e., white, not Hispanic/Latino). Therefore, the denominators used for computing race-specific rates may include Hispanics/Latinos, and should be interpreted with caution; see Technical Notes for more details. For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Hispanics/Latinos can be of any race.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 2. Diagnoses of HIV infection among adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

Area of residence	18–24 years		25–34 years		35–44 years		45–54 years		55–64 years		≥65 years		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>Male</b>														
<b>Below federal poverty level (%)</b>														
<7	810	21.1	1,406	24.7	677	10.6	600	8.3	318	4.8	95	1.3	3,906	10.6
7.00–10.99	847	27.9	1,572	32.2	774	17.4	686	14.7	307	6.9	69	1.4	4,255	16.1
11.00–18.99	1,653	39.7	2,835	44.1	1,432	26.4	1,016	18.5	479	9.3	143	2.5	7,558	23.4
≥19	2,582	51.6	3,923	72.8	1,797	43.2	1,207	30.0	615	17.0	200	5.5	10,324	40.0
<b>Less than high school diploma (%)</b>														
<6	899	19.6	1,649	30.3	737	14.1	656	11.5	328	6.2	92	1.6	4,361	13.6
6.00–10.99	1,227	31.0	2,001	34.0	918	16.9	764	13.0	392	6.9	100	1.6	5,402	16.3
11.00–17.99	1,453	42.1	2,253	44.1	1,091	23.8	814	16.8	413	9.0	114	2.3	6,138	22.3
≥18	2,316	56.0	3,835	63.4	1,935	37.2	1,278	25.4	587	13.7	201	4.8	10,152	35.1
<b>Median household income (U.S. \$)</b>														
<40,000	2,450	56.3	3,598	75.0	1,585	41.5	1,107	28.9	575	16.0	198	5.2	9,513	39.3
40,000–53,999	1,445	36.0	2,480	43.0	1,253	25.8	878	17.7	419	8.9	109	2.0	6,584	22.2
54,000–74,999	1,217	30.5	2,158	34.4	1,096	19.5	832	14.2	385	6.9	111	1.8	5,799	17.4
≥75,000	772	21.6	1,497	27.1	743	12.3	690	10.2	340	5.7	89	1.5	4,131	12.2
<b>Without health insurance (%)</b>														
<6	647	15.6	1,164	22.4	579	10.7	575	9.3	279	4.7	85	1.3	3,329	9.9
6.00–9.99	966	26.8	1,574	31.3	799	17.2	617	12.4	322	6.7	103	1.9	4,381	15.5
10.00–15.99	1,504	39.5	2,395	43.4	1,120	23.3	867	17.5	420	9.0	123	2.5	6,429	22.4
≥16	2,778	61.3	4,603	69.2	2,182	39.3	1,450	27.5	698	15.5	196	4.5	11,907	38.6
<b>Subtotal<sup>a</sup></b>	<b>6,088</b>	<b>37.7</b>	<b>10,020</b>	<b>44.6</b>	<b>4,817</b>	<b>23.6</b>	<b>3,611</b>	<b>16.8</b>	<b>1,766</b>	<b>8.9</b>	<b>519</b>	<b>2.4</b>	<b>26,821</b>	<b>22.0</b>
<b>Female</b>														
<b>Below federal poverty level (%)</b>														
<7	92	2.7	188	3.3	175	2.7	152	2.0	117	1.7	28	0.3	752	1.9
7.00–10.99	103	3.7	233	4.9	195	4.4	179	3.7	113	2.3	33	0.5	856	3.1
11.00–18.99	213	5.4	469	7.6	402	7.5	324	5.8	185	3.3	69	0.9	1,662	4.9
≥19	389	7.7	768	14.6	629	14.8	539	12.9	360	9.1	99	2.0	2,784	10.1
<b>Less than high school diploma (%)</b>														
<6	91	2.0	161	2.9	140	2.6	115	1.9	87	1.5	23	0.3	617	1.8
6.00–10.99	135	3.6	325	5.6	247	4.5	215	3.5	138	2.3	50	0.6	1,110	3.1
11.00–17.99	180	5.5	436	8.6	371	7.9	329	6.6	199	4.0	56	0.9	1,571	5.3
≥18	391	10.3	736	13.1	643	12.8	535	10.8	351	7.8	100	1.8	2,756	9.4
<b>Median household income (U.S. \$)</b>														
<40,000	368	8.4	737	15.5	622	15.7	528	13.1	333	8.4	92	1.7	2,680	10.2
40,000–53,999	200	5.4	427	7.8	351	7.3	273	5.4	175	3.4	54	0.8	1,480	4.8
54,000–74,999	144	3.8	313	5.1	262	4.7	237	3.9	166	2.8	48	0.6	1,170	3.3
≥75,000	85	2.5	181	3.2	166	2.6	155	2.2	101	1.6	35	0.5	723	2.0
<b>Without health insurance (%)</b>														
<6	85	2.2	159	3.1	133	2.4	118	1.8	95	1.5	32	0.4	622	1.7
6.00–9.99	110	3.2	253	5.1	221	4.7	194	3.8	126	2.4	36	0.5	940	3.1
10.00–15.99	189	5.2	373	6.9	309	6.3	306	5.9	194	3.8	63	1.0	1,434	4.7
≥16	413	9.5	873	13.7	738	13.4	576	10.8	360	7.4	98	1.7	3,058	9.5
<b>Subtotal<sup>a</sup></b>	<b>821</b>	<b>5.4</b>	<b>1,697</b>	<b>7.7</b>	<b>1,451</b>	<b>7.0</b>	<b>1,217</b>	<b>5.5</b>	<b>788</b>	<b>3.7</b>	<b>232</b>	<b>0.9</b>	<b>6,206</b>	<b>4.8</b>
<b>Total<sup>b</sup></b>	<b>6,909</b>	<b>21.9</b>	<b>11,717</b>	<b>26.3</b>	<b>6,268</b>	<b>15.3</b>	<b>4,828</b>	<b>11.1</b>	<b>2,554</b>	<b>6.2</b>	<b>751</b>	<b>1.6</b>	<b>33,027</b>	<b>13.2</b>

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis. Rates are per 100,000 population.

For the definitions of social determinants of health indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 3. Diagnoses of HIV infection among adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	Male-to-male sexual contact		Injection drug use		Male-to-male sexual contact and injection drug use		Heterosexual contact <sup>a</sup>	
	No.	%	No.	%	No.	%	No.	%
<b>Male</b>								
<b>Below federal poverty level (%)</b>								
<7	3,275	15.1	124	13.4	180	17.7	326	13.5
7.00–10.99	3,604	16.6	125	13.5	188	18.5	335	13.9
11.00–18.99	6,357	29.3	247	26.7	292	28.8	653	27.1
≥19	8,433	38.9	431	46.5	355	35.0	1,094	45.4
<b>Less than high school diploma (%)</b>								
<6	3,811	17.6	111	12.0	190	18.7	245	10.2
6.00–10.99	4,554	21.0	155	16.7	248	24.5	440	18.3
11.00–17.99	5,057	23.3	235	25.3	233	22.9	604	25.1
≥18	8,255	38.1	427	46.0	344	33.9	1,120	46.5
<b>Median household income (U.S. \$)</b>								
<40,000	7,716	35.6	389	42.0	322	31.7	1,078	44.8
40,000–53,999	5,497	25.4	244	26.4	264	26.0	572	23.8
54,000–74,999	4,927	22.8	174	18.8	231	22.8	460	19.1
≥75,000	3,516	16.2	118	12.8	198	19.5	297	12.3
<b>Without health insurance (%)</b>								
<6	2,738	12.6	138	14.9	181	17.9	268	11.1
6.00–9.99	3,681	17.0	176	18.9	167	16.4	355	14.7
10.00–15.99	5,360	24.7	250	27.0	268	26.4	541	22.5
≥16	9,893	45.6	363	39.2	399	39.3	1,244	51.7
<b>Subtotal<sup>b</sup></b>	<b>22,319</b>	<b>100</b>	<b>957</b>	<b>100</b>	<b>1,051</b>	<b>100</b>	<b>2,471</b>	<b>100</b>
<b>Female</b>								
<b>Below federal poverty level (%)</b>								
<7	—	—	94	12.2	—	—	654	12.4
7.00–10.99	—	—	112	14.6	—	—	739	14.1
11.00–18.99	—	—	199	26.0	—	—	1,454	27.6
≥19	—	—	362	47.2	—	—	2,412	45.9
<b>Less than high school diploma (%)</b>								
<6	—	—	85	11.0	—	—	528	10.0
6.00–10.99	—	—	142	18.5	—	—	962	18.3
11.00–17.99	—	—	195	25.5	—	—	1,367	26.0
≥18	—	—	345	44.9	—	—	2,402	45.7
<b>Median household income (U.S. \$)</b>								
<40,000	—	—	335	43.7	—	—	2,336	44.4
40,000–53,999	—	—	182	23.7	—	—	1,292	24.6
54,000–74,999	—	—	155	20.3	—	—	1,009	19.2
≥75,000	—	—	95	12.4	—	—	622	11.8
<b>Without health insurance (%)</b>								
<6	—	—	102	13.3	—	—	515	9.8
6.00–9.99	—	—	144	18.7	—	—	791	15.0
10.00–15.99	—	—	198	25.9	—	—	1,232	23.4
≥16	—	—	323	42.1	—	—	2,721	51.7
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>789</b>	<b>100</b>	<b>—</b>	<b>—</b>	<b>5,386</b>	<b>100</b>
<b>Total<sup>c</sup></b>	<b>22,319</b>	<b>100</b>	<b>1,746</b>	<b>100</b>	<b>1,051</b>	<b>100</b>	<b>7,857</b>	<b>100</b>

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis. Data have been statistically adjusted to account for missing transmission category.

For the definitions of social determinants of health (SDH) indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 4. Diagnoses of HIV infection among adults, by federal poverty level, sex, and area of residence, 2017—  
census tract level, United States and Puerto Rico**

Area of residence	Below federal poverty level (%)											
	<7			7.00–10.99			11.00–18.99			≥19		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Male</b>											
Alabama	39	12.1	9	46	14.4	18	134	21.4	19	195	37.6	16
Alaska	7	5.3	—	6	6.7	—	6	12.5	—	0	0.0	—
Arizona	69	10.6	16	89	16.6	15	130	20.8	21	232	31.4	23
Arkansas	12	9.0	22	28	13.4	23	57	13.4	29	81	24.3	31
California	468	11.9	10	651	19.8	10	1,071	25.5	13	1,307	40.6	12
Colorado	84	10.4	17	67	13.9	19	124	24.6	14	68	24.4	28
Connecticut	54	7.1	26	27	11.2	26	45	23.1	16	61	36.2	18
Delaware	13	10.2	19	16	15.9	16	28	31.6	9	19	51.8	10
District of Columbia	25	51.0	1	34	67.0	1	77	93.7	1	80	103.0	1
Florida	350	20.2	4	496	27.7	5	1,064	41.7	4	1,297	74.8	2
Georgia	187	23.2	2	224	30.8	3	441	37.0	5	565	58.4	7
Hawaii	20	8.3	24	20	13.5	22	17	14.4	27	10	21.7	—
Idaho	1	1.3	—	11	5.2	—	10	4.6	—	12	12.1	40
Illinois	157	9.2	20	167	15.1	17	249	21.3	20	431	52.9	9
Indiana	60	7.9	25	53	8.9	30	94	15.5	26	160	32.7	21
Iowa	23	5.8	35	14	4.1	38	28	10.0	37	29	18.9	35
Kansas	24	6.4	28	15	5.7	36	26	9.7	40	20	11.6	41
Kentucky	34	11.5	13	42	13.6	21	54	11.4	33	107	18.6	36
Louisiana	47	19.7	6	60	20.5	8	171	29.1	11	380	63.9	3
Maine	3	2.1	—	3	2.5	—	5	2.6	—	9	13.7	—
Maryland	229	20.1	5	158	30.0	4	176	51.6	2	121	62.0	5
Massachusetts	78	6.1	30	59	12.7	24	114	23.9	15	139	37.8	15
Michigan	68	6.0	33	51	6.3	35	96	9.8	39	226	28.1	26
Minnesota	48	5.0	36	49	9.1	29	47	12.9	30	45	21.3	33
Mississippi	13	11.9	11	27	17.1	14	78	22.0	17	168	36.8	17
Missouri	39	6.5	27	39	7.8	33	90	12.8	31	112	24.3	32
Montana	3	3.6	—	3	2.9	—	6	4.4	—	9	11.5	—
Nebraska	8	3.3	—	17	8.0	32	18	11.4	32	22	24.3	29
Nevada	51	15.8	8	86	32.0	2	122	42.3	3	141	61.8	6
New Hampshire	11	3.6	—	4	3.3	—	4	5.7	—	1	3.1	—
New Jersey	151	8.5	23	111	17.3	13	191	35.6	6	244	62.2	4
New Mexico	5	5.4	—	8	6.6	—	26	9.9	38	41	13.6	39
New York	274	11.4	14	274	17.3	12	538	31.1	10	940	55.0	8
North Carolina	79	10.3	18	97	11.9	25	199	15.5	25	274	32.3	22
North Dakota	2	2.0	—	10	11.0	—	8	11.5	—	8	23.6	—
Ohio	94	6.3	29	98	10.8	27	189	17.7	24	347	39.2	14
Oklahoma	27	9.0	21	38	13.8	20	56	10.8	35	88	25.3	27
Oregon	17	6.0	32	24	6.6	34	54	9.0	41	60	19.6	34
Pennsylvania	52	2.6	38	36	3.1	39	42	4.4	42	80	10.0	42
Puerto Rico	0	0.0	—	5	38.4	—	24	34.8	8	290	24.3	30
Rhode Island	10	6.0	—	9	11.9	—	16	20.7	22	25	29.0	24
South Carolina	62	16.1	7	77	21.9	7	162	26.9	12	190	40.2	13
South Dakota	5	5.0	—	9	11.0	—	10	11.2	—	4	7.9	—
Tennessee	60	11.8	12	101	20.0	9	144	18.0	23	218	34.4	19
Texas	586	20.6	3	523	26.8	6	968	35.2	7	1,163	49.5	11
Utah	26	6.1	31	22	8.7	31	23	10.3	36	22	16.9	38
Vermont	1	1.3	—	7	9.2	—	1	1.5	—	6	22.3	—
Virginia	146	10.7	15	136	18.6	11	149	21.6	18	123	33.6	20
Washington	52	5.9	34	77	10.3	28	110	14.2	28	66	18.4	37
West Virginia	0	0.0	—	3	2.0	—	8	2.7	—	10	4.9	—
Wisconsin	29	3.5	37	27	4.3	37	54	11.1	34	77	28.7	25
Wyoming	3	4.2	—	1	1.4	—	4	6.4	—	1	5.0	—
<b>Total<sup>b</sup></b>	<b>3,906</b>	<b>10.6</b>	<b>—</b>	<b>4,255</b>	<b>16.1</b>	<b>—</b>	<b>7,558</b>	<b>23.4</b>	<b>—</b>	<b>10,324</b>	<b>40.0</b>	<b>—</b>

**Table 4. Diagnoses of HIV infection among adults, by federal poverty level, sex, and area of residence, 2017—  
census tract level, United States and Puerto Rico (cont)**

Area of residence	Below federal poverty level (%)											
	<7			7.00–10.99			11.00–18.99			≥19		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	Female											
Alabama	5	1.4	—	8	2.4	—	18	2.6	28	63	10.7	16
Alaska	0	0.0	—	1	1.2	—	1	2.4	—	0	0.0	—
Arizona	10	1.4	—	24	4.2	8	21	3.3	22	32	4.4	29
Arkansas	3	2.1	—	2	0.9	—	14	3.1	24	20	5.5	26
California	65	1.6	15	64	1.9	18	114	2.6	27	186	5.6	25
Colorado	5	0.6	—	6	1.2	—	14	2.8	26	10	3.7	—
Connecticut	15	1.9	13	11	4.2	—	20	9.4	4	28	15.0	7
Delaware	6	4.4	—	7	6.5	—	8	7.9	—	7	16.8	—
District of Columbia	4	7.7	—	10	17.9	—	17	18.9	1	32	33.0	1
Florida	61	3.3	4	103	5.3	5	266	9.8	3	429	23.5	3
Georgia	34	4.0	3	58	7.3	2	109	8.4	6	191	18.1	6
Hawaii	2	0.8	—	1	0.7	—	0	0.0	—	0	0.0	—
Idaho	0	0.0	—	1	0.5	—	1	0.5	—	2	2.0	—
Illinois	12	0.7	17	16	1.4	19	49	4.0	16	110	12.3	11
Indiana	13	1.6	14	12	2.0	16	22	3.4	21	47	8.9	17
Iowa	3	0.7	—	1	0.3	—	9	3.0	—	10	6.7	—
Kansas	6	1.5	—	4	1.5	—	5	1.8	—	8	4.6	—
Kentucky	9	2.9	—	5	1.5	—	18	3.6	19	20	3.2	32
Louisiana	12	4.7	2	20	6.4	4	42	6.8	11	133	20.2	5
Maine	0	0.0	—	0	0.0	—	0	0.0	—	2	2.9	—
Maryland	92	7.4	1	71	12.3	1	65	17.0	2	47	20.7	4
Massachusetts	26	1.9	12	20	3.9	10	33	6.3	13	55	13.8	9
Michigan	7	0.6	—	10	1.2	—	25	2.4	30	57	6.5	20
Minnesota	19	1.9	11	14	2.5	15	17	4.5	15	11	5.3	—
Mississippi	2	1.7	—	10	5.9	—	29	7.6	7	56	10.9	15
Missouri	6	0.9	—	4	0.8	—	23	3.1	25	29	5.7	24
Montana	0	0.0	—	2	1.9	—	0	0.0	—	0	0.0	—
Nebraska	1	0.4	—	3	1.4	—	1	0.6	—	10	11.1	—
Nevada	8	2.4	—	10	3.7	—	13	4.6	14	28	12.9	10
New Hampshire	4	1.3	—	1	0.8	—	1	1.3	—	2	6.4	—
New Jersey	49	2.6	6	35	5.0	6	51	8.9	5	101	23.7	2
New Mexico	1	1.1	—	2	1.6	—	3	1.1	—	4	1.3	—
New York	63	2.4	7	58	3.4	12	129	6.9	10	283	14.6	8
North Carolina	17	2.1	8	31	3.5	11	45	3.2	23	58	6.1	21
North Dakota	1	1.1	—	2	2.3	—	3	4.5	—	0	0.0	—
Ohio	14	0.9	16	19	2.0	17	46	4.0	17	81	8.3	18
Oklahoma	7	2.2	—	7	2.4	—	14	2.6	29	18	5.0	27
Oregon	1	0.3	—	3	0.8	—	13	2.1	32	12	3.9	31
Pennsylvania	8	0.4	—	5	0.4	—	8	0.8	—	36	4.0	30
Puerto Rico	0	0.0	—	0	0.0	—	2	2.5	—	80	5.9	23
Rhode Island	2	1.1	—	1	1.2	—	2	2.3	—	10	10.7	—
South Carolina	9	2.2	—	26	6.9	3	49	7.5	9	60	11.3	14
South Dakota	1	1.0	—	2	2.4	—	3	3.3	—	0	0.0	—
Tennessee	10	1.8	—	15	2.7	14	29	3.4	20	54	7.7	19
Texas	86	2.9	5	86	4.3	7	215	7.6	8	277	11.5	12
Utah	1	0.2	—	3	1.2	—	2	0.9	—	1	0.8	—
Vermont	2	2.5	—	0	0.0	—	1	1.4	—	3	10.7	—
Virginia	28	2.0	10	32	4.1	9	47	6.3	12	45	11.4	13
Washington	18	2.0	9	23	3.0	13	30	3.8	18	16	4.5	28
West Virginia	0	0.0	—	1	0.6	—	2	0.7	—	3	1.4	—
Wisconsin	4	0.5	—	6	0.9	—	12	2.4	31	17	5.9	22
Wyoming	0	0.0	—	0	0.0	—	1	1.6	—	0	0.0	—
<b>Total<sup>b</sup></b>	<b>752</b>	<b>1.9</b>	<b>—</b>	<b>856</b>	<b>3.1</b>	<b>—</b>	<b>1,662</b>	<b>4.9</b>	<b>—</b>	<b>2,784</b>	<b>10.1</b>	<b>—</b>

**Table 4. Diagnoses of HIV infection among adults, by federal poverty level, sex, and area of residence, 2017—  
census tract level, United States and Puerto Rico (cont)**

Area of residence	Below federal poverty level (%)											
	<7			7.00–10.99			11.00–18.99			≥19		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Total</b>											
Alabama	44	6.6	15	54	8.2	17	152	11.6	21	258	23.3	15
Alaska	7	2.8	—	7	4.0	—	7	7.8	—	0	0.0	—
Arizona	79	5.9	18	113	10.2	15	151	12.0	20	264	18.0	24
Arkansas	15	5.5	20	30	7.0	26	71	8.1	29	101	14.5	31
California	533	6.6	12	715	10.6	14	1,185	13.9	16	1,493	22.9	18
Colorado	89	5.4	22	73	7.5	22	138	13.8	17	78	14.2	32
Connecticut	69	4.4	26	38	7.5	23	65	16.0	13	89	25.1	13
Delaware	19	7.2	9	23	11.0	11	36	19.0	8	26	33.2	9
District of Columbia	29	28.6	1	44	41.3	1	94	54.7	1	112	64.2	1
Florida	411	11.4	6	599	16.1	5	1,330	25.2	3	1,726	48.5	2
Georgia	221	13.3	3	282	18.5	3	550	22.1	5	756	37.4	7
Hawaii	22	4.6	25	21	7.1	25	17	7.0	33	10	10.9	—
Idaho	1	0.6	—	12	2.8	38	11	2.5	—	14	7.1	41
Illinois	169	4.8	23	183	8.1	19	298	12.5	19	541	31.6	10
Indiana	73	4.7	24	65	5.4	31	116	9.2	25	207	20.3	21
Iowa	26	3.2	35	15	2.1	40	37	6.4	36	39	12.9	34
Kansas	30	3.9	29	19	3.6	37	31	5.7	39	28	8.1	39
Kentucky	43	7.1	10	47	7.4	24	72	7.4	31	127	10.7	37
Louisiana	59	12.0	4	80	13.3	8	213	17.7	10	513	41.0	4
Maine	3	1.0	—	3	1.2	—	5	1.2	—	11	8.2	—
Maryland	321	13.5	2	229	20.8	2	241	33.4	2	168	39.8	5
Massachusetts	104	3.9	28	79	8.1	18	147	14.6	14	194	25.3	12
Michigan	75	3.2	34	61	3.7	35	121	6.0	37	283	16.8	27
Minnesota	67	3.5	33	63	5.7	30	64	8.6	28	56	13.3	33
Mississippi	15	6.6	14	37	11.3	9	107	14.6	15	224	23.1	16
Missouri	45	3.6	30	43	4.2	34	113	7.8	30	141	14.5	29
Montana	3	1.8	—	5	2.4	—	6	2.2	—	9	5.7	—
Nebraska	9	1.9	—	20	4.7	33	19	5.9	38	32	17.7	25
Nevada	59	8.9	7	96	17.8	4	135	23.6	4	169	38.0	6
New Hampshire	15	2.4	38	5	2.0	—	5	3.4	—	3	4.8	—
New Jersey	200	5.4	21	146	10.9	13	242	21.8	6	345	42.1	3
New Mexico	6	3.3	—	10	4.0	—	29	5.4	42	45	7.3	40
New York	337	6.7	11	332	10.1	16	667	18.6	9	1,223	33.5	8
North Carolina	96	6.0	17	128	7.6	21	244	9.1	26	332	18.5	23
North Dakota	3	1.5	—	12	6.7	27	11	8.0	—	8	12.4	—
Ohio	108	3.6	31	117	6.3	29	235	10.6	23	428	23.0	17
Oklahoma	34	5.5	19	45	8.0	20	70	6.6	35	106	15.0	28
Oregon	18	3.1	37	27	3.6	36	67	5.5	41	72	11.8	35
Pennsylvania	60	1.5	40	41	1.7	41	50	2.5	43	116	6.8	42
Puerto Rico	0	0.0	—	5	18.0	—	26	17.4	11	370	14.5	30
Rhode Island	12	3.5	32	10	6.3	—	18	11.1	22	35	19.5	22
South Carolina	71	8.9	8	103	14.2	7	211	16.8	12	250	24.9	14
South Dakota	6	3.0	—	11	6.7	—	13	7.2	32	4	4.0	—
Tennessee	70	6.6	13	116	11.0	12	173	10.5	24	272	20.4	20
Texas	672	11.5	5	609	15.3	6	1,183	21.2	7	1,440	30.2	11
Utah	27	3.1	36	25	4.9	32	25	5.5	40	23	9.1	38
Vermont	3	1.9	—	7	4.5	—	2	1.5	—	9	16.3	—
Virginia	174	6.3	16	168	11.1	10	196	13.7	18	168	22.0	19
Washington	70	3.9	27	100	6.6	28	140	9.0	27	82	11.5	36
West Virginia	0	0.0	—	4	1.3	—	10	1.7	—	13	3.1	43
Wisconsin	33	2.0	39	33	2.6	39	66	6.7	34	94	16.9	26
Wyoming	3	2.1	—	1	0.7	—	5	4.1	—	1	2.6	—
<b>Total<sup>b</sup></b>	<b>4,658</b>	<b>6.2</b>	<b>—</b>	<b>5,111</b>	<b>9.4</b>	<b>—</b>	<b>9,220</b>	<b>13.9</b>	<b>—</b>	<b>13,108</b>	<b>24.5</b>	<b>—</b>

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis, and the proportion of residents in the census tract who were living below the U.S. poverty level at any time during the 12 months before the survey response (individuals aged 18 years and older).

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of social determinants of health indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Based on rate.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.



**Table 5. Diagnoses of HIV infection among adults, by education level, sex, and area of residence, 2017—census tract level, United States and Puerto Rico**

Area of residence	Less than high school diploma (%)											
	<6			6.00–10.99			11.00–17.99			≥18		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Male</b>											
Alabama	53	18.5	7	86	24.3	11	115	22.1	18	160	25.5	24
Alaska	4	4.0	—	9	8.6	—	6	8.5	—	0	0.0	—
Arizona	105	14.7	14	93	14.9	21	117	22.9	15	206	29.1	21
Arkansas	21	14.9	13	43	18.3	15	59	13.5	28	55	19.2	33
California	588	16.6	11	531	17.7	17	579	22.5	16	1,801	32.2	17
Colorado	96	10.1	26	98	18.8	14	55	16.9	24	94	32.4	16
Connecticut	38	7.3	30	36	8.1	35	45	22.2	17	68	35.1	13
Delaware	6	7.6	—	20	16.5	19	26	27.0	12	24	41.9	8
District of Columbia	47	43.3	1	41	94.3	1	83	120.5	1	45	116.5	1
Florida	495	26.7	4	730	34.0	4	791	40.4	2	1,196	64.5	2
Georgia	234	33.8	2	345	40.5	2	413	39.7	3	425	38.3	10
Hawaii	21	9.1	28	21	10.8	29	21	21.5	19	4	12.4	—
Idaho	9	5.6	—	9	4.0	—	11	7.0	—	5	7.7	—
Illinois	205	13.7	17	192	13.5	25	274	28.3	10	333	36.4	12
Indiana	33	7.0	33	96	11.8	27	109	14.8	26	129	29.9	20
Iowa	29	6.5	37	30	6.3	42	19	12.0	32	16	17.4	37
Kansas	27	6.8	34	25	6.8	38	13	7.4	39	20	14.4	38
Kentucky	27	10.3	25	76	20.7	13	61	12.8	31	73	13.2	39
Louisiana	72	33.6	3	94	29.7	5	195	37.4	5	297	44.9	7
Maine	6	3.5	—	9	3.8	—	4	4.0	—	1	8.1	—
Maryland	129	18.4	8	215	28.5	8	166	37.9	4	174	53.6	5
Massachusetts	98	9.2	27	63	9.1	33	90	19.8	21	139	37.4	11
Michigan	90	8.2	29	93	7.1	37	124	13.6	27	134	30.6	18
Minnesota	60	6.7	35	73	9.1	32	30	11.7	33	26	21.3	31
Mississippi	20	20.4	6	54	29.1	7	88	26.1	13	124	27.1	23
Missouri	73	12.4	19	63	9.3	31	87	12.8	30	57	17.5	36
Montana	4	2.8	—	9	5.0	—	8	11.9	—	0	0.0	—
Nebraska	20	7.1	31	15	6.6	40	12	9.9	36	18	24.6	26
Nevada	35	17.7	9	77	23.7	12	91	35.2	6	197	60.4	3
New Hampshire	8	3.5	—	7	3.4	—	3	3.9	—	2	13.3	—
New Jersey	80	7.0	32	148	13.7	24	165	28.6	9	304	54.8	4
New Mexico	18	11.1	23	16	10.6	30	18	9.6	37	28	10.1	40
New York	217	11.6	21	294	14.9	20	457	28.1	11	1,058	53.1	6
North Carolina	119	14.2	16	139	17.2	18	168	15.7	25	223	22.1	30
North Dakota	7	7.4	—	16	10.9	28	4	9.1	—	1	12.2	—
Ohio	128	10.4	24	216	14.6	22	188	18.2	23	196	32.5	15
Oklahoma	40	15.3	12	55	13.9	23	44	9.3	38	70	22.5	29
Oregon	51	11.8	20	39	7.7	36	31	7.1	40	34	19.5	32
Pennsylvania	32	2.3	39	75	4.3	43	63	5.6	41	40	6.8	41
Puerto Rico	8	22.4	—	26	34.2	3	59	23.3	14	226	24.7	25
Rhode Island	9	10.3	—	19	12.0	26	9	12.1	—	23	27.2	22
South Carolina	67	17.3	10	126	29.2	6	137	28.9	8	161	30.4	19
South Dakota	7	6.5	—	10	8.1	—	8	12.3	—	3	11.1	—
Tennessee	68	14.3	15	134	25.5	10	171	21.0	20	151	23.7	27
Texas	542	26.3	5	515	26.6	9	623	29.4	7	1,561	40.9	9
Utah	29	6.6	36	21	6.7	39	25	13.0	29	18	18.5	35
Vermont	6	7.7	—	7	6.0	—	1	2.0	—	1	39.3	—
Virginia	124	12.7	18	151	18.0	16	158	19.3	22	121	22.9	28
Washington	110	11.3	22	75	8.4	34	64	10.8	35	56	19.1	34
West Virginia	2	2.6	—	4	2.3	—	7	2.4	—	8	4.6	—
Wisconsin	43	5.4	38	57	6.3	41	41	11.2	34	46	32.8	14
Wyoming	1	1.4	—	6	5.8	—	2	4.1	—	0	0.0	—
<b>Total<sup>b</sup></b>	<b>4,361</b>	<b>13.6</b>	<b>—</b>	<b>5,402</b>	<b>16.3</b>	<b>—</b>	<b>6,138</b>	<b>22.3</b>	<b>—</b>	<b>10,152</b>	<b>35.1</b>	<b>—</b>

**Table 5. Diagnoses of HIV infection among adults, by education level, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Less than high school diploma (%)											
	<6			6.00–10.99			11.00–17.99			≥18		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	Female											
Alabama	6	1.9	—	16	4.0	11	27	4.7	15	45	6.7	23
Alaska	0	0.0	—	1	1.0	—	1	1.6	—	0	0.0	—
Arizona	17	2.2	6	18	2.7	19	17	3.2	26	35	5.2	28
Arkansas	6	4.0	—	9	3.5	—	11	2.4	—	13	4.4	32
California	46	1.2	15	63	2.0	23	67	2.5	28	253	4.5	31
Colorado	5	0.5	—	10	1.9	—	6	1.8	—	14	5.1	29
Connecticut	7	1.3	—	16	3.3	14	20	9.1	7	31	15.0	7
Delaware	3	3.5	—	8	6.0	—	5	4.6	—	12	21.0	3
District of Columbia	10	8.2	—	11	23.7	—	23	28.0	1	19	43.6	1
Florida	67	3.3	4	140	6.0	6	226	10.6	5	426	23.0	2
Georgia	39	5.3	2	77	8.0	2	122	10.5	6	154	13.4	10
Hawaii	2	0.9	—	0	0.0	—	0	0.0	—	1	3.3	—
Idaho	0	0.0	—	4	1.7	—	0	0.0	—	0	0.0	—
Illinois	30	1.9	8	30	2.0	24	52	4.9	14	75	8.2	18
Indiana	10	2.0	—	22	2.6	21	29	3.7	22	33	7.4	20
Iowa	2	0.4	—	8	1.6	—	7	4.2	—	6	6.5	—
Kansas	7	1.7	—	2	0.5	—	4	2.2	—	10	7.6	—
Kentucky	6	2.1	—	5	1.3	—	18	3.6	24	23	4.0	33
Louisiana	12	5.2	3	21	6.2	5	64	11.2	4	110	15.9	6
Maine	0	0.0	—	0	0.0	—	2	1.9	—	0	0.0	—
Maryland	48	6.2	1	79	9.4	1	80	16.4	2	68	20.9	4
Massachusetts	22	1.9	9	27	3.6	12	28	5.7	11	57	14.3	9
Michigan	10	0.9	—	14	1.0	25	37	3.8	21	38	8.4	17
Minnesota	14	1.5	13	25	3.1	15	6	2.3	—	16	13.4	11
Mississippi	2	1.8	—	15	7.3	4	29	7.7	8	51	10.4	13
Missouri	5	0.8	—	16	2.2	22	25	3.5	25	16	4.8	30
Montana	1	0.7	—	1	0.6	—	0	0.0	—	0	0.0	—
Nebraska	4	1.3	—	3	1.3	—	3	2.5	—	5	7.1	—
Nevada	5	2.4	—	12	3.5	13	12	4.6	16	30	10.0	14
New Hampshire	2	0.8	—	3	1.4	—	1	1.3	—	2	13.7	—
New Jersey	25	2.0	7	48	4.1	9	72	11.3	3	91	16.0	5
New Mexico	4	2.3	—	0	0.0	—	3	1.5	—	3	1.1	—
New York	22	1.1	16	63	3.0	18	129	7.2	9	319	14.7	8
North Carolina	14	1.6	12	36	4.0	10	43	3.7	23	58	5.4	27
North Dakota	0	0.0	—	4	2.9	—	2	4.5	—	0	0.0	—
Ohio	17	1.3	14	42	2.6	20	46	4.1	19	55	8.9	16
Oklahoma	8	2.9	—	6	1.4	—	14	2.8	27	18	6.0	26
Oregon	2	0.4	—	6	1.1	—	10	2.2	—	11	6.4	—
Pennsylvania	5	0.3	—	8	0.4	—	20	1.7	29	24	3.9	34
Puerto Rico	2	4.6	—	2	2.2	—	14	4.5	17	64	6.3	25
Rhode Island	0	0.0	—	3	1.7	—	2	2.4	—	10	11.1	—
South Carolina	10	2.4	—	36	7.6	3	35	6.7	10	63	11.1	12
South Dakota	2	1.8	—	2	1.6	—	2	3.1	—	0	0.0	—
Tennessee	7	1.3	—	17	3.0	17	37	4.2	18	47	7.1	22
Texas	67	3.1	5	94	4.5	8	127	5.6	13	376	10.0	15
Utah	0	0.0	—	3	0.9	—	4	2.1	—	0	0.0	—
Vermont	2	2.4	—	1	0.8	—	1	1.9	—	2	69.0	—
Virginia	19	1.9	10	45	5.0	7	49	5.6	12	39	7.2	21
Washington	16	1.6	11	28	3.0	16	24	4.0	20	19	6.6	24
West Virginia	1	1.2	—	0	0.0	—	3	1.0	—	2	1.1	—
Wisconsin	6	0.7	—	10	1.1	—	11	3.0	—	12	8.1	19
Wyoming	0	0.0	—	0	0.0	—	1	2.2	—	0	0.0	—
<b>Total<sup>b</sup></b>	<b>617</b>	<b>1.8</b>	<b>—</b>	<b>1,110</b>	<b>3.1</b>	<b>—</b>	<b>1,571</b>	<b>5.3</b>	<b>—</b>	<b>2,756</b>	<b>9.4</b>	<b>—</b>

**Table 5. Diagnoses of HIV infection among adults, by education level, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Less than high school diploma (%)											
	<6			6.00–10.99			11.00–17.99			≥18		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Total</b>											
Alabama	59	9.9	8	102	13.5	11	142	12.9	17	205	15.8	26
Alaska	4	2.1	—	10	5.0	—	7	5.2	—	0	0.0	—
Arizona	122	8.3	14	111	8.6	22	134	12.9	16	241	17.4	24
Arkansas	27	9.2	11	52	10.6	16	70	7.7	31	68	11.6	35
California	634	8.7	13	594	9.6	19	646	12.2	20	2,054	18.4	22
Colorado	101	5.3	27	108	10.3	18	61	9.4	25	108	19.2	18
Connecticut	45	4.2	33	52	5.6	33	65	15.4	13	99	24.7	12
Delaware	9	5.4	—	28	11.0	14	31	15.1	14	36	31.5	7
District of Columbia	57	24.6	1	52	57.9	1	106	70.2	1	64	77.9	1
Florida	562	14.5	4	870	19.4	3	1,017	24.8	3	1,622	43.7	2
Georgia	273	19.1	2	422	23.3	2	535	24.2	4	579	25.6	9
Hawaii	23	5.0	28	21	5.3	34	21	10.6	23	5	8.0	—
Idaho	9	2.8	—	13	2.9	44	11	3.5	—	5	3.9	—
Illinois	235	7.6	16	222	7.5	24	326	16.1	12	408	22.3	13
Indiana	43	4.4	30	118	7.0	27	138	9.1	26	162	18.5	20
Iowa	31	3.4	36	38	3.9	39	26	8.0	30	22	11.9	34
Kansas	34	4.2	32	27	3.6	43	17	4.7	39	30	11.1	37
Kentucky	33	6.1	23	81	10.7	15	79	8.0	28	96	8.5	39
Louisiana	84	18.8	3	115	17.5	7	259	23.7	5	407	30.1	8
Maine	6	1.7	—	9	1.9	—	6	2.9	—	1	4.1	—
Maryland	177	11.9	6	294	18.5	4	246	26.6	2	242	37.3	3
Massachusetts	120	5.3	26	90	6.2	29	118	12.5	18	196	25.4	11
Michigan	100	4.4	29	107	4.0	38	161	8.5	27	172	19.3	17
Minnesota	74	4.1	35	98	6.0	30	36	7.0	35	42	17.4	23
Mississippi	22	10.6	7	69	17.6	6	117	16.4	11	175	18.5	21
Missouri	78	6.4	20	79	5.6	32	112	8.0	29	73	11.1	36
Montana	5	1.7	—	10	2.8	—	8	6.0	—	0	0.0	—
Nebraska	24	4.1	34	18	3.9	40	15	6.2	36	23	16.1	25
Nevada	40	9.8	9	89	13.4	12	103	19.8	6	227	36.3	4
New Hampshire	10	2.2	—	10	2.4	—	4	2.6	—	4	13.5	—
New Jersey	105	4.4	31	196	8.7	20	237	19.5	7	395	35.2	5
New Mexico	22	6.6	19	16	5.1	35	21	5.4	38	31	5.6	40
New York	239	6.1	22	357	8.7	21	586	17.1	9	1,377	33.0	6
North Carolina	133	7.7	15	175	10.3	17	211	9.4	24	281	13.4	31
North Dakota	7	3.8	—	20	7.1	26	6	6.8	—	1	6.2	—
Ohio	145	5.7	25	258	8.4	23	234	10.9	22	251	20.6	14
Oklahoma	48	8.9	12	61	7.5	25	58	6.0	37	88	14.4	30
Oregon	53	6.0	24	45	4.3	37	41	4.6	40	45	13.0	32
Pennsylvania	37	1.3	39	83	2.3	45	83	3.6	41	64	5.3	41
Puerto Rico	10	12.6	—	28	16.6	8	73	13.0	15	290	15.0	28
Rhode Island	9	5.0	—	22	6.6	28	11	6.9	—	33	18.9	19
South Carolina	77	9.6	10	162	17.9	5	172	17.2	8	224	20.5	15
South Dakota	9	4.2	—	12	4.9	36	10	7.7	—	3	5.6	—
Tennessee	75	7.5	17	151	13.8	10	208	12.2	21	198	15.2	27
Texas	609	14.4	5	609	15.2	9	750	17.1	10	1,937	25.5	10
Utah	29	3.3	37	24	3.8	41	29	7.5	32	18	9.4	38
Vermont	8	5.0	—	8	3.4	—	2	2.0	—	3	55.1	—
Virginia	143	7.2	18	196	11.3	13	207	12.3	19	160	14.9	29
Washington	126	6.4	21	103	5.7	31	88	7.4	33	75	12.9	33
West Virginia	3	1.9	—	4	1.1	—	10	1.7	—	10	2.8	—
Wisconsin	49	3.0	38	67	3.7	42	52	7.1	34	58	20.2	16
Wyoming	1	0.7	—	6	2.9	—	3	3.2	—	0	0.0	—
<b>Total<sup>b</sup></b>	<b>4,978</b>	<b>7.5</b>	<b>—</b>	<b>6,512</b>	<b>9.5</b>	<b>—</b>	<b>7,709</b>	<b>13.5</b>	<b>—</b>	<b>12,908</b>	<b>22.1</b>	<b>—</b>

*Note.* Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis, and the proportion of residents in the census tract with less than a high school diploma (individuals aged 18 years and older).

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of social determinants of health indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Based on rate.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 6. Diagnoses of HIV infection among adults, by median household income, sex, and area of residence, 2017—census tract level, United States and Puerto Rico**

Area of residence	Median household income (U.S. \$)											
	<40,000			40,000–53,999			54,000–74,999			≥75,000		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Male</b>											
Alabama	222	34.9	18	111	19.7	21	60	15.7	17	21	10.2	16
Alaska	0	0.0	—	4	15.6	—	9	9.4	—	6	3.9	—
Arizona	212	31.4	22	120	17.9	23	118	19.1	13	70	11.9	10
Arkansas	76	17.8	35	68	17.2	24	29	13.2	24	5	8.8	—
California	871	43.9	12	813	29.7	10	929	24.3	7	882	14.5	8
Colorado	53	23.5	28	120	26.2	12	86	14.1	22	84	10.8	13
Connecticut	63	43.0	14	31	21.0	19	46	14.5	21	47	6.3	28
Delaware	17	69.3	2	28	31.1	9	27	19.5	12	4	4.0	—
District of Columbia	58	143.0	1	28	104.8	1	31	90.8	1	98	62.7	1
Florida	1,350	67.4	3	960	40.1	5	608	28.6	4	289	22.7	3
Georgia	538	57.7	8	359	36.2	6	336	33.9	3	184	23.7	2
Hawaii	3	9.8	—	15	22.3	16	21	12.7	25	28	9.6	17
Idaho	12	10.7	41	10	4.4	—	12	5.4	42	0	0.0	—
Illinois	376	53.6	10	244	22.1	17	225	15.5	19	159	10.3	15
Indiana	181	34.0	19	92	13.0	31	66	8.2	37	28	7.0	24
Iowa	17	13.3	37	32	8.5	40	33	6.7	40	12	6.8	25
Kansas	25	13.1	38	28	7.8	41	21	7.1	38	11	4.6	—
Kentucky	120	20.0	32	50	10.6	37	45	11.7	27	22	11.3	12
Louisiana	371	66.3	5	151	29.5	11	103	23.9	8	33	15.8	6
Maine	8	8.8	—	5	2.8	—	5	2.5	—	2	3.6	—
Maryland	90	67.2	4	139	54.3	2	196	36.5	2	259	20.4	4
Massachusetts	101	40.8	15	71	24.6	13	98	14.5	20	119	8.7	21
Michigan	227	27.7	24	91	8.5	39	75	6.7	39	48	6.6	26
Minnesota	29	18.1	34	51	11.7	33	67	8.8	34	42	5.9	29
Mississippi	178	36.3	17	70	20.7	20	33	17.6	15	5	8.6	—
Missouri	129	23.4	29	67	9.4	38	62	10.2	30	22	5.5	30
Montana	9	10.9	—	4	2.8	—	6	4.0	—	2	7.5	—
Nebraska	18	23.4	30	27	10.7	36	14	6.0	41	6	4.4	—
Nevada	147	62.6	7	121	45.3	3	102	27.0	6	30	13.2	9
New Hampshire	2	6.8	—	3	4.4	—	10	4.9	—	5	2.3	—
New Jersey	204	64.5	6	175	43.4	4	172	21.7	10	146	8.0	22
New Mexico	37	12.9	40	27	11.6	34	14	8.7	35	2	2.0	—
New York	680	57.1	9	460	31.1	8	463	23.7	9	421	15.1	7
North Carolina	306	30.5	23	172	13.7	27	117	13.4	23	54	9.4	18
North Dakota	5	19.0	—	8	11.5	—	12	10.4	29	3	3.6	—
Ohio	363	37.4	16	179	15.2	26	148	10.9	28	38	4.6	32
Oklahoma	85	22.0	31	68	13.6	29	44	12.1	26	12	6.4	27
Oregon	33	13.1	39	54	12.0	32	44	8.3	36	24	7.6	23
Pennsylvania	74	9.4	42	52	4.1	43	46	2.9	44	37	3.1	34
Puerto Rico	299	25.2	27	16	23.4	14	3	18.0	—	1	30.4	—
Rhode Island	20	27.1	25	12	17.2	25	20	15.6	18	8	6.0	—
South Carolina	242	43.0	13	116	21.3	18	104	21.5	11	25	11.8	11
South Dakota	8	15.0	—	12	10.8	35	5	4.3	—	3	7.2	—
Tennessee	247	32.3	20	145	18.6	22	99	17.5	16	31	9.3	19
Texas	1,136	51.8	11	857	35.0	7	719	27.9	5	526	19.7	5
Utah	13	14.2	36	29	13.6	28	31	8.8	33	20	5.3	31
Vermont	1	4.4	—	2	2.9	—	12	9.6	32	0	0.0	—
Virginia	121	32.0	21	148	22.8	15	138	18.9	14	146	10.5	14
Washington	46	19.4	33	80	13.6	30	85	9.9	31	93	8.7	20
West Virginia	12	4.7	43	6	2.1	—	3	2.0	—	0	0.0	—
Wisconsin	77	27.0	26	51	7.8	42	42	5.3	43	17	3.7	33
Wyoming	1	7.5	—	2	3.9	—	5	4.5	—	1	1.9	—
<b>Total<sup>b</sup></b>	<b>9,513</b>	<b>39.3</b>	<b>—</b>	<b>6,584</b>	<b>22.2</b>	<b>—</b>	<b>5,799</b>	<b>17.4</b>	<b>—</b>	<b>4,131</b>	<b>12.2</b>	<b>—</b>

**Table 6. Diagnoses of HIV infection among adults, by median household income, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Median household income (U.S. \$)											
	<40,000			40,000–53,999			54,000–74,999			≥75,000		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Female</b>											
Alabama	61	8.5	17	20	3.3	19	11	2.7	—	2	0.9	—
Alaska	0	0.0	—	1	4.4	—	1	1.2	—	0	0.0	—
Arizona	29	4.2	29	21	3.1	21	25	3.9	11	12	1.9	11
Arkansas	22	4.8	28	10	2.4	—	6	2.6	—	1	1.7	—
California	134	6.5	21	97	3.5	17	96	2.4	16	102	1.6	12
Colorado	10	4.4	—	9	2.0	—	11	1.8	—	5	0.6	—
Connecticut	23	13.8	9	25	15.3	1	16	4.6	7	10	1.3	—
Delaware	7	23.6	—	5	5.0	—	11	7.3	—	5	4.7	—
District of Columbia	22	39.8	1	11	34.4	—	9	23.8	—	21	12.5	1
Florida	434	20.3	5	249	9.7	5	131	5.8	4	45	3.3	4
Georgia	192	18.7	6	95	8.8	7	75	7.0	2	30	3.6	3
Hawaii	0	0.0	—	0	0.0	—	2	1.2	—	1	0.3	—
Idaho	2	1.8	—	0	0.0	—	2	0.9	—	0	0.0	—
Illinois	99	12.5	12	47	4.1	15	22	1.4	21	19	1.2	13
Indiana	50	8.5	16	20	2.7	24	19	2.3	19	5	1.2	—
Iowa	7	5.5	—	10	2.5	—	5	1.0	—	1	0.6	—
Kansas	9	4.6	—	8	2.2	—	3	1.0	—	3	1.2	—
Kentucky	24	3.7	31	15	3.0	22	8	2.0	—	5	2.5	—
Louisiana	130	20.7	4	50	9.3	6	19	4.2	8	7	3.1	—
Maine	2	2.1	—	0	0.0	—	0	0.0	—	0	0.0	—
Maryland	34	20.8	3	44	15.1	2	101	17.0	1	96	7.0	2
Massachusetts	40	14.0	8	32	10.2	4	26	3.5	12	36	2.4	6
Michigan	57	6.3	22	23	2.0	26	14	1.2	22	5	0.7	—
Minnesota	10	6.0	—	22	4.9	14	18	2.3	18	11	1.5	—
Mississippi	64	11.6	13	23	6.3	12	10	4.9	—	0	0.0	—
Missouri	38	6.2	23	13	1.8	27	7	1.1	—	4	1.0	—
Montana	0	0.0	—	0	0.0	—	2	1.3	—	0	0.0	—
Nebraska	9	11.4	—	1	0.4	—	5	2.1	—	0	0.0	—
Nevada	24	10.9	14	18	6.8	10	13	3.3	14	4	1.7	—
New Hampshire	1	3.4	—	1	1.4	—	3	1.4	—	3	1.3	—
New Jersey	91	25.0	2	50	11.6	3	52	6.1	3	43	2.2	10
New Mexico	2	0.7	—	5	2.0	—	1	0.6	—	2	2.0	—
New York	237	16.7	7	113	7.1	8	104	5.0	6	79	2.6	5
North Carolina	63	5.6	25	45	3.4	18	32	3.4	13	11	1.8	—
North Dakota	1	4.4	—	2	2.9	—	2	1.8	—	1	1.3	—
Ohio	85	7.8	18	38	3.0	23	30	2.1	20	7	0.8	—
Oklahoma	22	5.4	26	12	2.4	25	10	2.6	—	2	1.0	—
Oregon	7	2.7	—	11	2.4	—	9	1.6	—	2	0.6	—
Pennsylvania	34	3.7	30	9	0.7	—	13	0.8	23	1	0.1	—
Puerto Rico	81	6.0	24	1	1.3	—	0	0.0	—	0	0.0	—
Rhode Island	10	12.3	—	2	2.6	—	2	1.4	—	1	0.7	—
South Carolina	80	12.5	11	36	6.2	13	22	4.2	9	6	2.6	—
South Dakota	2	3.7	—	3	2.7	—	0	0.0	—	1	2.3	—
Tennessee	64	7.6	19	26	3.2	20	14	2.3	17	4	1.1	—
Texas	288	12.5	10	171	6.8	9	137	5.2	5	68	2.4	7
Utah	1	1.1	—	3	1.4	—	2	0.6	—	1	0.3	—
Vermont	2	8.4	—	2	2.7	—	2	1.5	—	0	0.0	—
Virginia	39	9.6	15	47	6.7	11	32	4.2	10	34	2.3	9
Washington	13	5.4	27	22	3.7	16	26	2.9	15	26	2.4	8
West Virginia	3	1.1	—	2	0.7	—	1	0.7	—	0	0.0	—
Wisconsin	21	6.8	20	10	1.5	—	7	0.9	—	1	0.2	—
Wyoming	0	0.0	—	0	0.0	—	1	0.9	—	0	0.0	—
<b>Total<sup>b</sup></b>	<b>2,680</b>	<b>10.2</b>	<b>—</b>	<b>1,480</b>	<b>4.8</b>	<b>—</b>	<b>1,170</b>	<b>3.3</b>	<b>—</b>	<b>723</b>	<b>2.0</b>	<b>—</b>

**Table 6. Diagnoses of HIV infection among adults, by median household income, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Median household income (U.S. \$)											
	<40,000			40,000–53,999			54,000–74,999			≥75,000		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Total</b>											
Alabama	283	20.9	18	131	11.2	21	71	8.9	18	23	5.4	19
Alaska	0	0.0	—	5	10.3	—	10	5.6	—	6	2.0	—
Arizona	241	17.7	23	141	10.5	23	143	11.3	14	82	6.8	11
Arkansas	98	11.1	35	78	9.6	24	35	7.7	24	6	5.1	—
California	1,005	24.9	15	910	16.5	13	1,025	13.2	10	984	7.9	8
Colorado	63	14.0	30	129	14.1	15	97	7.9	23	89	5.6	14
Connecticut	86	27.4	12	56	18.0	10	62	9.3	17	57	3.7	25
Delaware	24	44.2	2	33	17.4	11	38	13.1	11	9	4.4	—
District of Columbia	80	83.5	1	39	66.5	1	40	55.6	1	119	36.7	1
Florida	1,784	43.1	4	1,209	24.4	5	739	16.8	4	334	12.7	4
Georgia	730	37.3	8	454	21.9	6	411	20.0	3	214	13.3	3
Hawaii	3	5.0	—	15	11.2	20	23	7.0	26	29	4.9	22
Idaho	14	6.2	42	10	2.2	—	14	3.1	42	0	0.0	—
Illinois	475	31.8	10	291	12.9	18	247	8.3	20	178	5.6	15
Indiana	231	20.6	19	112	7.7	31	85	5.2	34	33	4.1	23
Iowa	24	9.4	36	42	5.4	39	38	3.8	41	13	3.6	27
Kansas	34	8.8	37	36	5.0	41	24	4.0	38	14	2.9	31
Kentucky	144	11.5	34	65	6.7	35	53	6.7	27	27	6.8	12
Louisiana	501	42.2	5	201	19.2	8	122	13.9	8	40	9.3	6
Maine	10	5.3	—	5	1.4	—	5	1.2	—	2	1.8	—
Maryland	124	41.7	6	183	33.4	2	297	26.3	2	355	13.4	2
Massachusetts	141	26.5	14	103	17.1	12	124	8.8	19	155	5.4	18
Michigan	284	16.5	26	114	5.2	40	89	3.9	40	53	3.6	29
Minnesota	39	11.9	33	73	8.3	29	85	5.5	32	53	3.7	26
Mississippi	242	23.2	16	93	13.3	17	43	11.0	15	5	4.1	—
Missouri	167	14.4	29	80	5.5	37	69	5.5	31	26	3.2	30
Montana	9	5.5	—	4	1.4	—	8	2.6	—	2	3.9	—
Nebraska	27	17.3	24	28	5.5	38	19	4.0	39	6	2.2	—
Nevada	171	37.5	7	139	26.1	4	115	15.0	6	34	7.3	9
New Hampshire	3	5.1	—	4	2.8	—	13	3.1	43	8	1.8	—
New Jersey	295	43.4	3	225	27.0	3	224	13.6	9	189	5.0	20
New Mexico	39	6.7	40	32	6.6	36	15	4.6	37	4	2.0	—
New York	917	35.2	9	573	18.7	9	567	14.0	7	500	8.6	7
North Carolina	369	17.3	25	217	8.4	28	149	8.1	21	65	5.5	17
North Dakota	6	12.2	—	10	7.2	—	14	6.2	30	4	2.5	—
Ohio	448	21.8	17	217	8.9	26	178	6.4	28	45	2.7	33
Oklahoma	107	13.5	31	80	7.9	30	54	7.3	25	14	3.6	28
Oregon	40	7.8	38	65	7.1	33	53	4.9	35	26	4.0	24
Pennsylvania	108	6.4	41	61	2.3	43	59	1.8	45	38	1.6	35
Puerto Rico	380	14.9	28	17	11.9	19	3	8.5	—	1	13.0	—
Rhode Island	30	19.4	21	14	9.5	25	22	8.1	22	9	3.3	—
South Carolina	322	26.8	13	152	13.5	16	126	12.5	12	31	7.0	10
South Dakota	10	9.3	—	15	6.8	34	5	2.2	—	4	4.7	—
Tennessee	311	19.3	22	171	10.7	22	113	9.7	16	35	5.0	21
Texas	1,424	31.7	11	1,028	20.7	7	856	16.4	5	594	10.9	5
Utah	14	7.7	39	32	7.6	32	33	4.6	36	21	2.8	32
Vermont	3	6.4	—	4	2.8	—	14	5.4	33	0	0.0	—
Virginia	160	20.4	20	195	14.5	14	170	11.3	13	180	6.3	13
Washington	59	12.3	32	102	8.7	27	111	6.4	29	119	5.5	16
West Virginia	15	2.9	43	8	1.4	—	4	1.3	—	0	0.0	—
Wisconsin	98	16.5	27	61	4.6	42	49	3.0	44	18	1.9	34
Wyoming	1	4.0	—	2	2.0	—	6	2.8	—	1	1.0	—
<b>Total<sup>b</sup></b>	<b>12,193</b>	<b>24.1</b>	<b>—</b>	<b>8,064</b>	<b>13.3</b>	<b>—</b>	<b>6,969</b>	<b>10.2</b>	<b>—</b>	<b>4,854</b>	<b>7.0</b>	<b>—</b>

*Note.* Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis, and the median income (based on all age groups) for a household within the census tract during the 12 months before the survey response.

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of social determinants of health indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Based on rate.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 7. Diagnoses of HIV infection among adults, by health insurance coverage, sex, and area of residence, 2017—census tract level, United States and Puerto Rico**

Area of residence	Without health insurance (%)											
	<6			6.00–9.99			10.00–15.99			≥16		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Male</b>											
Alabama	32	12.9	9	72	18.8	15	135	21.2	20	175	33.7	17
Alaska	2	6.8	—	0	0.0	—	2	2.1	—	15	10.5	38
Arizona	53	9.1	21	92	16.7	17	127	19.7	22	248	31.9	21
Arkansas	17	16.0	7	32	11.3	30	73	15.7	27	56	22.8	29
California	449	12.2	10	629	19.0	14	904	26.2	14	1,517	36.2	15
Colorado	62	9.7	19	74	14.1	23	86	16.7	25	121	30.0	23
Connecticut	57	7.1	29	46	18.3	16	38	23.6	18	46	32.6	19
Delaware	15	10.4	17	36	26.1	5	16	29.0	9	9	59.4	—
District of Columbia	109	63.0	1	69	145.7	1	31	92.2	1	7	124.1	—
Florida	111	14.4	8	245	21.6	10	680	30.8	8	2,171	58.8	1
Georgia	73	22.6	2	134	29.2	4	318	28.9	10	892	49.3	8
Hawaii	43	12.1	11	21	12.4	27	3	10.2	—	0	0.0	—
Idaho	0	0.0	—	6	5.1	—	11	4.7	—	17	8.1	39
Illinois	191	10.4	16	168	14.5	21	262	28.2	11	383	43.3	10
Indiana	35	7.0	30	79	10.4	32	91	12.8	30	162	33.4	18
Iowa	42	6.2	34	25	7.8	37	14	10.4	35	13	26.7	26
Kansas	19	6.4	33	16	5.3	41	19	6.9	40	31	15.3	36
Kentucky	41	9.2	20	85	14.1	24	75	15.2	28	36	32.6	20
Louisiana	32	21.4	3	60	22.0	9	189	34.9	5	377	50.3	6
Maine	1	1.2	—	10	5.0	—	7	3.5	—	2	5.6	—
Maryland	185	17.7	5	176	31.1	3	196	55.2	2	127	53.3	5
Massachusetts	264	11.8	13	91	33.9	2	32	41.6	4	3	22.4	—
Michigan	88	6.6	32	127	9.8	34	139	16.6	26	87	33.8	16
Minnesota	77	6.0	35	52	9.7	35	44	23.7	17	16	21.7	31
Mississippi	6	10.3	—	26	21.5	12	82	23.8	16	172	31.0	22
Missouri	37	7.5	28	55	10.7	31	77	10.7	34	111	20.3	32
Montana	1	2.3	—	5	4.0	—	6	3.9	—	9	11.4	—
Nebraska	12	5.7	36	12	5.9	40	16	9.0	36	25	22.7	30
Nevada	16	10.5	15	36	19.1	13	112	32.5	7	236	55.9	3
New Hampshire	3	1.8	—	8	4.3	—	7	4.9	—	2	6.7	—
New Jersey	86	7.0	31	73	9.8	33	155	26.3	13	383	49.3	7
New Mexico	7	5.7	—	10	7.2	—	27	10.9	33	36	13.3	37
New York	359	11.6	14	498	25.6	6	612	44.1	3	557	54.9	4
North Carolina	45	10.2	18	97	13.1	25	178	14.5	29	329	25.1	27
North Dakota	4	3.5	—	15	14.6	20	6	10.0	—	3	15.7	—
Ohio	126	7.6	27	208	14.7	19	258	27.9	12	136	38.5	12
Oklahoma	9	9.0	—	23	11.6	28	54	12.8	31	123	17.0	33
Oregon	27	9.0	22	45	8.3	36	37	7.3	39	46	23.1	28
Pennsylvania	61	2.8	38	58	3.8	42	59	7.9	38	32	7.9	40
Puerto Rico	112	20.5	4	126	24.7	7	62	33.0	6	19	57.1	2
Rhode Island	17	7.9	26	15	16.2	18	8	15.8	—	20	43.7	9
South Carolina	23	12.1	12	73	22.6	8	161	23.4	19	234	38.4	13
South Dakota	4	4.8	—	5	4.2	—	9	13.6	—	10	18.3	—
Tennessee	28	8.7	23	76	12.9	26	176	19.6	23	244	38.2	14
Texas	141	16.9	6	271	21.5	11	473	25.0	15	2,355	39.7	11
Utah	8	3.5	—	19	7.6	38	26	8.6	37	40	15.7	34
Vermont	8	5.5	—	7	7.5	—	0	0.0	—	0	0.0	—
Virginia	67	8.6	24	114	14.5	22	192	20.3	21	181	28.1	25
Washington	70	8.5	25	101	11.4	29	82	11.5	32	52	15.3	35
West Virginia	4	3.9	—	8	2.3	—	6	2.5	—	3	11.1	—
Wisconsin	50	4.6	37	49	7.1	39	52	17.3	24	36	29.8	24
Wyoming	0	0.0	—	3	5.6	—	4	4.4	—	2	3.0	—
<b>Total<sup>b</sup></b>	<b>3,329</b>	<b>9.9</b>	<b>—</b>	<b>4,381</b>	<b>15.5</b>	<b>—</b>	<b>6,429</b>	<b>22.4</b>	<b>—</b>	<b>11,907</b>	<b>38.6</b>	<b>—</b>

**Table 7. Diagnoses of HIV infection among adults, by health insurance coverage, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Without health insurance (%)											
	<6			6.00–9.99			10.00–15.99			≥16		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	Female											
Alabama	2	0.7	—	17	4.1	11	21	3.0	24	54	9.2	14
Alaska	0	0.0	—	0	0.0	—	0	0.0	—	2	1.6	—
Arizona	13	2.1	7	21	3.6	13	14	2.2	31	39	5.0	26
Arkansas	1	0.9	—	6	1.9	—	18	3.7	20	14	5.3	24
California	48	1.2	15	82	2.4	25	85	2.4	29	214	5.1	25
Colorado	1	0.2	—	7	1.3	—	9	1.7	—	18	4.6	27
Connecticut	17	2.0	8	17	6.2	5	18	10.3	5	22	14.7	6
Delaware	6	3.8	—	13	8.6	4	5	8.2	—	4	25.6	—
District of Columbia	34	16.9	1	15	28.1	1	13	37.6	1	1	16.9	—
Florida	19	2.2	6	34	2.7	21	162	6.8	9	644	16.7	3
Georgia	10	3.0	—	28	5.7	9	75	6.2	10	279	14.1	7
Hawaii	2	0.6	—	1	0.6	—	0	0.0	—	0	0.0	—
Idaho	1	2.1	—	0	0.0	—	1	0.4	—	2	1.0	—
Illinois	21	1.1	16	31	2.5	23	54	5.4	13	81	8.9	15
Indiana	5	1.0	—	20	2.5	24	25	3.3	22	44	8.5	17
Iowa	6	0.9	—	3	0.9	—	9	6.5	—	5	10.6	—
Kansas	4	1.3	—	3	0.9	—	3	1.1	—	13	6.3	20
Kentucky	7	1.5	—	23	3.6	12	15	2.8	25	7	6.0	—
Louisiana	8	5.1	—	12	4.1	10	53	9.1	7	134	16.6	4
Maine	0	0.0	—	0	0.0	—	2	1.0	—	0	0.0	—
Maryland	60	5.3	2	69	10.8	3	78	19.1	2	68	28.1	1
Massachusetts	86	3.5	3	33	11.4	2	15	18.9	3	0	0.0	—
Michigan	11	0.8	—	26	1.9	26	39	4.3	17	23	8.5	18
Minnesota	22	1.7	11	17	3.1	18	10	5.2	—	12	16.8	2
Mississippi	1	1.6	—	10	7.4	—	22	5.9	11	64	10.4	10
Missouri	3	0.6	—	8	1.5	—	15	2.0	32	36	6.1	22
Montana	0	0.0	—	1	0.8	—	1	0.6	—	0	0.0	—
Nebraska	0	0.0	—	3	1.4	—	5	2.8	—	7	6.4	—
Nevada	1	0.6	—	6	3.1	—	14	4.0	18	38	9.3	13
New Hampshire	2	1.2	—	3	1.6	—	2	1.3	—	1	3.3	—
New Jersey	23	1.7	9	24	2.9	19	58	8.9	8	131	16.1	5
New Mexico	2	1.6	—	1	0.7	—	2	0.8	—	5	1.8	—
New York	83	2.5	5	123	5.7	7	190	12.1	4	137	13.0	8
North Carolina	10	2.2	—	27	3.4	15	37	2.8	26	77	5.4	23
North Dakota	0	0.0	—	4	4.0	—	1	1.9	—	1	5.5	—
Ohio	23	1.3	14	50	3.3	16	49	4.9	15	38	10.2	11
Oklahoma	1	1.0	—	5	2.3	—	12	2.7	27	28	3.8	29
Oregon	0	0.0	—	7	1.3	—	12	2.3	30	10	4.9	—
Pennsylvania	6	0.3	—	11	0.7	—	20	2.4	28	20	4.6	28
Puerto Rico	20	3.2	4	34	5.8	6	21	9.5	6	7	19.3	—
Rhode Island	2	0.8	—	1	1.0	—	4	7.4	—	8	16.9	—
South Carolina	4	2.0	—	20	5.7	8	42	5.6	12	78	11.6	9
South Dakota	2	2.3	—	0	0.0	—	3	4.5	—	1	1.9	—
Tennessee	4	1.1	—	22	3.4	14	31	3.2	23	51	7.4	19
Texas	13	1.5	13	36	2.8	20	76	3.8	19	539	8.8	16
Utah	2	0.9	—	0	0.0	—	2	0.6	—	3	1.2	—
Vermont	4	2.6	—	2	2.1	—	0	0.0	—	0	0.0	—
Virginia	14	1.7	10	22	2.6	22	47	4.7	16	69	10.2	12
Washington	13	1.5	12	29	3.2	17	25	3.4	21	20	6.2	21
West Virginia	1	0.9	—	2	0.6	—	3	1.2	—	0	0.0	—
Wisconsin	4	0.4	—	11	1.6	—	16	5.0	14	8	6.5	—
Wyoming	0	0.0	—	0	0.0	—	0	0.0	—	1	1.6	—
<b>Total<sup>b</sup></b>	<b>622</b>	<b>1.7</b>	<b>—</b>	<b>940</b>	<b>3.1</b>	<b>—</b>	<b>1,434</b>	<b>4.7</b>	<b>—</b>	<b>3,058</b>	<b>9.5</b>	<b>—</b>



**Table 7. Diagnoses of HIV infection among adults, by health insurance coverage, sex, and area of residence, 2017—census tract level, United States and Puerto Rico (cont)**

Area of residence	Without health insurance (%)											
	<6			6.00–9.99			10.00–15.99			≥16		
	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>	No.	Rate	Rank <sup>a</sup>
	<b>Total</b>											
Alabama	34	6.5	14	89	11.2	14	156	11.7	21	229	20.8	18
Alaska	2	3.7	—	0	0.0	—	2	1.1	—	17	6.2	39
Arizona	66	5.5	18	113	10.0	17	141	11.0	25	287	18.4	26
Arkansas	18	8.1	7	38	6.4	30	91	9.6	27	70	13.8	32
California	497	6.6	13	711	10.5	16	989	14.0	19	1,731	20.6	20
Colorado	63	4.9	23	81	7.7	26	95	9.2	28	139	17.5	28
Connecticut	74	4.4	25	63	12.0	12	56	16.6	12	68	23.4	15
Delaware	21	6.9	10	49	16.9	5	21	18.0	9	13	42.2	1
District of Columbia	143	38.3	1	84	83.4	1	44	64.5	1	8	69.3	—
Florida	130	8.0	8	279	11.7	13	842	18.3	7	2,815	37.3	4
Georgia	83	12.6	3	162	17.0	4	393	17.0	11	1,171	31.0	9
Hawaii	45	6.3	15	22	6.4	29	3	5.3	—	0	0.0	—
Idaho	1	1.0	—	6	2.5	—	12	2.5	43	19	4.5	41
Illinois	212	5.6	17	199	8.4	22	316	16.3	13	464	25.9	11
Indiana	40	3.9	32	99	6.4	32	116	7.9	33	206	20.6	19
Iowa	48	3.5	36	28	4.3	37	23	8.4	31	18	18.8	25
Kansas	23	3.8	33	19	3.0	41	22	4.0	42	44	10.8	35
Kentucky	48	5.2	20	108	8.8	20	90	8.8	30	43	18.9	24
Louisiana	40	13.0	2	72	12.8	10	242	21.5	5	511	32.9	7
Maine	1	0.6	—	10	2.4	—	9	2.2	—	2	2.8	—
Maryland	245	11.2	5	245	20.3	3	274	35.9	2	195	40.6	2
Massachusetts	350	7.5	9	124	22.3	2	47	30.1	3	3	11.3	—
Michigan	99	3.6	35	153	5.7	35	178	10.3	26	110	20.8	17
Minnesota	99	3.8	34	69	6.4	31	54	14.3	16	28	19.2	22
Mississippi	7	5.9	—	36	14.1	8	104	14.5	15	236	20.2	21
Missouri	40	3.9	31	63	6.0	34	92	6.2	36	147	13.0	33
Montana	1	1.2	—	6	2.4	—	7	2.3	—	9	5.7	—
Nebraska	12	2.7	37	15	3.7	40	21	5.9	37	32	14.5	30
Nevada	17	5.4	19	42	11.0	15	126	18.3	8	274	33.0	6
New Hampshire	5	1.5	—	11	2.9	—	9	3.1	—	3	5.0	—
New Jersey	109	4.3	28	97	6.2	33	213	17.2	10	514	32.4	8
New Mexico	9	3.6	—	11	3.8	—	29	5.7	38	41	7.5	38
New York	442	6.8	12	621	15.2	6	802	27.1	4	694	33.5	5
North Carolina	55	6.1	16	124	8.0	24	215	8.4	32	406	14.8	29
North Dakota	4	1.8	—	19	9.3	18	7	6.2	—	4	10.7	—
Ohio	149	4.4	26	258	8.8	19	307	16.0	14	174	24.0	13
Oklahoma	10	4.9	—	28	6.8	28	66	7.7	34	151	10.3	36
Oregon	27	4.3	27	52	4.7	36	49	4.8	40	56	14.0	31
Pennsylvania	67	1.5	39	69	2.2	42	79	5.0	39	52	6.2	40
Puerto Rico	132	11.4	4	160	14.6	7	83	20.2	6	26	37.4	3
Rhode Island	19	4.2	29	16	8.3	23	12	11.5	22	28	30.1	10
South Carolina	27	6.9	11	93	13.8	9	203	14.1	18	312	24.3	12
South Dakota	6	3.6	—	5	2.1	—	12	9.0	29	11	10.2	—
Tennessee	32	4.8	24	98	8.0	25	207	11.1	23	295	22.2	16
Texas	154	9.0	6	307	12.0	11	549	14.2	17	2,894	24.0	14
Utah	10	2.2	—	19	3.8	39	28	4.6	41	43	8.6	37
Vermont	12	4.0	30	9	4.7	—	0	0.0	—	0	0.0	—
Virginia	81	5.1	21	136	8.4	21	239	12.3	20	250	18.9	23
Washington	83	5.0	22	130	7.2	27	107	7.5	35	72	10.9	34
West Virginia	5	2.4	—	10	1.4	—	9	1.9	—	3	5.3	—
Wisconsin	54	2.4	38	60	4.3	38	68	11.0	24	44	18.1	27
Wyoming	0	0.0	—	3	2.8	—	4	2.2	—	3	2.3	—
<b>Total<sup>b</sup></b>	<b>3,951</b>	<b>5.7</b>	<b>—</b>	<b>5,321</b>	<b>9.1</b>	<b>—</b>	<b>7,863</b>	<b>13.3</b>	<b>—</b>	<b>14,965</b>	<b>23.8</b>	<b>—</b>

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis, and the proportion of residents within the census tract without health insurance or health coverage plan (individuals aged 18 years and older).

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of social determinants of health indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Based on rate.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 8a. Diagnoses of HIV infection among black/African American adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	Male-to-male sexual contact		Injection drug use		Male-to-male sexual contact and injection drug use		Heterosexual contact <sup>a</sup>	
	No.	%	No.	%	No.	%	No.	%
<b>Male</b>								
<b>Below federal poverty level (%)</b>								
<7	902	11.4	30	9.6	28	13.1	173	11.8
7.00–10.99	1,004	12.7	33	10.6	30	14.0	185	12.6
11.00–18.99	2,207	28.0	74	24.0	48	22.3	398	27.2
≥19	3,779	47.9	172	55.8	109	50.6	708	48.4
<b>Less than high school diploma (%)</b>								
<6	1,015	12.9	26	8.3	26	12.1	123	8.4
6.00–10.99	1,621	20.5	46	14.9	51	23.7	246	16.8
11.00–17.99	2,195	27.8	93	30.1	52	24.0	392	26.8
≥18	3,063	38.8	144	46.7	87	40.2	704	48.0
<b>Median household income (U.S. \$)</b>								
<40,000	3,727	47.3	159	51.6	103	47.4	730	49.9
40,000–53,999	1,920	24.4	71	23.1	49	22.6	325	22.2
54,000–74,999	1,403	17.8	48	15.5	36	16.5	253	17.3
≥75,000	835	10.6	30	9.8	29	13.5	155	10.6
<b>Without health insurance (%)</b>								
<6	628	8.0	32	10.3	33	15.3	130	8.8
6.00–9.99	1,228	15.6	48	15.5	24	11.3	197	13.5
10.00–15.99	2,133	27.0	88	28.6	59	27.3	334	22.8
≥16	3,905	49.5	140	45.5	100	46.1	804	54.9
<b>Subtotal<sup>b</sup></b>	<b>8,215</b>	<b>100</b>	<b>317</b>	<b>100</b>	<b>225</b>	<b>100</b>	<b>1,506</b>	<b>100</b>
<b>Female</b>								
<b>Below federal poverty level (%)</b>								
<7	—	—	25	9.3	—	—	342	10.3
7.00–10.99	—	—	30	11.2	—	—	414	12.4
11.00–18.99	—	—	61	22.7	—	—	902	27.1
≥19	—	—	152	56.8	—	—	1,668	50.2
<b>Less than high school diploma (%)</b>								
<6	—	—	25	9.4	—	—	276	8.3
6.00–10.99	—	—	42	15.5	—	—	569	17.1
11.00–17.99	—	—	70	26.2	—	—	925	27.8
≥18	—	—	131	48.9	—	—	1,555	46.8
<b>Median household income (U.S. \$)</b>								
<40,000	—	—	146	54.5	—	—	1,657	49.8
40,000–53,999	—	—	48	17.9	—	—	771	23.2
54,000–74,999	—	—	43	16.1	—	—	573	17.2
≥75,000	—	—	31	11.5	—	—	323	9.7
<b>Without health insurance (%)</b>								
<6	—	—	27	9.9	—	—	256	7.7
6.00–9.99	—	—	40	15.0	—	—	436	13.1
10.00–15.99	—	—	72	26.8	—	—	791	23.8
≥16	—	—	129	48.3	—	—	1,843	55.4
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>277</b>	<b>100</b>	<b>—</b>	<b>—</b>	<b>3,414</b>	<b>100</b>
<b>Total<sup>c</sup></b>	<b>8,215</b>	<b>100</b>	<b>593</b>	<b>100</b>	<b>225</b>	<b>100</b>	<b>4,920</b>	<b>100</b>

Abbreviation. SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Data have been statistically adjusted to account for missing transmission category.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 8b. Diagnoses of HIV infection among Hispanic/Latino adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	Male-to-male sexual contact		Injection drug use		Male-to-male sexual contact and injection drug use		Heterosexual contact <sup>a</sup>	
	No.	%	No.	%	No.	%	No.	%
<b>Male</b>								
<b>Below federal poverty level (%)</b>								
<7	759	11.4	16	6.8	37	15.2	45	9.0
7.00–10.99	1,006	15.2	23	10.0	42	17.3	58	11.5
11.00–18.99	2,015	30.4	65	27.9	80	32.9	121	24.0
≥19	2,854	43.0	129	55.3	85	34.6	278	55.5
<b>Less than high school diploma (%)</b>								
<6	821	12.4	15	6.4	35	14.5	32	6.4
6.00–10.99	967	14.6	24	10.2	43	17.4	71	14.1
11.00–17.99	1,269	19.1	38	16.3	47	19.1	105	21.0
≥18	3,581	53.9	157	67.1	120	49.0	294	58.5
<b>Median household income (U.S. \$)</b>								
<40,000	2,501	37.7	113	48.8	78	32.1	256	50.9
40,000–53,999	1,776	26.8	63	27.1	61	25.0	125	24.9
54,000–74,999	1,434	21.6	37	16.1	60	24.5	81	16.1
≥75,000	921	13.9	19	8.1	45	18.5	41	8.1
<b>Without health insurance (%)</b>								
<6	598	9.0	37	15.8	31	12.6	55	10.9
6.00–9.99	824	12.4	39	16.8	44	17.8	72	14.4
10.00–15.99	1,362	20.5	49	21.1	47	19.2	91	18.1
≥16	3,850	58.0	108	46.4	123	50.4	284	56.6
<b>Subtotal<sup>b</sup></b>	<b>6,732</b>	<b>100</b>	<b>239</b>	<b>100</b>	<b>252</b>	<b>100</b>	<b>517</b>	<b>100</b>
<b>Female</b>								
<b>Below federal poverty level (%)</b>								
<7	—	—	9	7.8	—	—	95	10.5
7.00–10.99	—	—	10	8.6	—	—	127	14.0
11.00–18.99	—	—	31	26.5	—	—	240	26.5
≥19	—	—	66	57.0	—	—	446	49.1
<b>Less than high school diploma (%)</b>								
<6	—	—	10	8.3	—	—	75	8.3
6.00–10.99	—	—	10	9.0	—	—	124	13.6
11.00–17.99	—	—	22	19.1	—	—	166	18.3
≥18	—	—	73	63.5	—	—	543	59.8
<b>Median household income (U.S. \$)</b>								
<40,000	—	—	51	44.3	—	—	398	43.9
40,000–53,999	—	—	35	30.3	—	—	240	26.4
54,000–74,999	—	—	19	16.3	—	—	164	18.1
≥75,000	—	—	11	9.1	—	—	105	11.6
<b>Without health insurance (%)</b>								
<6	—	—	10	8.3	—	—	80	8.8
6.00–9.99	—	—	14	11.9	—	—	133	14.7
10.00–15.99	—	—	34	29.3	—	—	184	20.3
≥16	—	—	58	50.4	—	—	510	56.2
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>118</b>	<b>100</b>	<b>—</b>	<b>—</b>	<b>924</b>	<b>100</b>
<b>Total<sup>c</sup></b>	<b>6,732</b>	<b>100</b>	<b>357</b>	<b>100</b>	<b>252</b>	<b>100</b>	<b>1,440</b>	<b>100</b>

Abbreviation. SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Data have been statistically adjusted to account for missing transmission category.

Hispanics/Latinos can be of any race.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 8c. Diagnoses of HIV infection among white adults, by transmission category, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	Male-to-male sexual contact		Injection drug use		Male-to-male sexual contact and injection drug use		Heterosexual contact <sup>a</sup>	
	No.	%	No.	%	No.	%	No.	%
<b>Male</b>								
<b>Below federal poverty level (%)</b>								
<7	1,359	23.5	72	20.7	108	21.9	88	24.7
7.00–10.99	1,313	22.7	62	17.9	98	19.7	81	22.7
11.00–18.99	1,720	29.7	100	28.9	147	29.8	109	30.4
≥19	1,401	24.2	113	32.5	141	28.6	79	22.2
<b>Less than high school diploma (%)</b>								
<6	1,688	29.1	64	18.4	122	24.7	76	21.2
6.00–10.99	1,628	28.1	79	22.9	135	27.2	110	30.7
11.00–17.99	1,291	22.3	94	27.0	115	23.3	83	23.2
≥18	1,188	20.5	110	31.7	122	24.8	89	24.9
<b>Median household income (U.S. \$)</b>								
<40,000	1,177	20.3	104	29.9	127	25.8	70	19.5
40,000–53,999	1,501	25.9	101	29.2	130	26.4	101	28.2
54,000–74,999	1,705	29.5	81	23.2	120	24.3	104	29.1
≥75,000	1,407	24.3	61	17.7	117	23.6	83	23.1
<b>Without health insurance (%)</b>								
<6	1,252	21.6	64	18.5	110	22.2	68	18.9
6.00–9.99	1,360	23.5	82	23.5	90	18.1	71	19.8
10.00–15.99	1,530	26.4	106	30.4	142	28.7	94	26.4
≥16	1,654	28.5	96	27.6	153	31.0	125	34.9
<b>Subtotal<sup>b</sup></b>	<b>5,992</b>	<b>100</b>	<b>361</b>	<b>100</b>	<b>512</b>	<b>100</b>	<b>362</b>	<b>100</b>
<b>Female</b>								
<b>Below federal poverty level (%)</b>								
<7	—	—	51	14.8	—	—	172	22.0
7.00–10.99	—	—	65	18.9	—	—	158	20.3
11.00–18.99	—	—	94	27.5	—	—	233	29.8
≥19	—	—	133	38.8	—	—	219	28.0
<b>Less than high school diploma (%)</b>								
<6	—	—	44	12.9	—	—	139	17.8
6.00–10.99	—	—	81	23.6	—	—	217	27.8
11.00–17.99	—	—	91	26.5	—	—	214	27.3
≥18	—	—	127	37.0	—	—	211	27.0
<b>Median household income (U.S. \$)</b>								
<40,000	—	—	126	36.7	—	—	208	26.6
40,000–53,999	—	—	90	26.1	—	—	219	28.0
54,000–74,999	—	—	81	23.5	—	—	211	27.0
≥75,000	—	—	47	13.7	—	—	143	18.4
<b>Without health insurance (%)</b>								
<6	—	—	60	17.4	—	—	144	18.4
6.00–9.99	—	—	78	22.8	—	—	170	21.7
10.00–15.99	—	—	84	24.4	—	—	197	25.2
≥16	—	—	121	35.4	—	—	271	34.6
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>354</b>	<b>100</b>	<b>—</b>	<b>—</b>	<b>802</b>	<b>100</b>
<b>Total<sup>c</sup></b>	<b>5,992</b>	<b>100</b>	<b>715</b>	<b>100</b>	<b>512</b>	<b>100</b>	<b>1,164</b>	<b>100</b>

Abbreviation. SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Data have been statistically adjusted to account for missing transmission category.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 9a. Diagnoses of HIV infection among black/African American adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	18–24 years		25–34 years		35–44 years		45–54 years		55–64 years		≥65 years	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>Male</b>												
<b>Below federal poverty level (%)</b>												
<7	299	88.5	455	107.2	153	34.4	138	29.9	69	20.4	20	7.7
7.00–10.99	340	98.7	503	108.6	192	46.2	134	33.0	72	23.0	12	4.8
11.00–18.99	773	123.3	1,035	123.0	440	63.1	264	38.4	171	29.2	48	10.0
≥19	1,464	137.5	1,791	152.9	663	71.8	465	47.6	295	32.6	97	13.0
<b>Less than high school diploma (%)</b>												
<6	361	94.7	489	129.7	153	46.3	121	37.4	50	20.8	18	9.6
6.00–10.99	598	121.4	766	125.9	271	49.5	190	34.7	115	26.4	25	7.2
11.00–17.99	800	123.7	1,034	128.9	401	57.7	271	38.4	182	29.5	51	10.1
≥18	1,118	127.6	1,495	130.8	623	66.9	420	43.3	261	30.4	83	11.8
<b>Median household income (U.S. \$)</b>												
<40,000	1,466	144.1	1,777	155.5	643	71.3	449	47.1	292	32.4	96	12.6
40,000–53,999	686	118.3	908	119.3	368	59.7	231	38.5	137	27.6	38	9.4
54,000–74,999	468	101.8	687	113.4	288	52.7	174	32.7	100	23.7	26	7.9
≥75,000	250	83.3	411	109.0	149	36.7	145	33.1	78	24.5	17	6.9
<b>Without health insurance (%)</b>												
<6	198	61.0	331	96.1	109	32.8	105	30.5	61	22.7	20	8.7
6.00–9.99	431	100.4	568	111.1	229	49.9	150	32.0	91	23.3	30	9.2
10.00–15.99	819	125.5	949	118.1	376	54.3	272	38.4	153	25.2	51	10.2
≥16	1,429	147.1	1,936	156.0	734	73.6	474	47.0	302	34.5	76	11.1
<b>Subtotal<sup>a</sup></b>	<b>3,010</b>	<b>125.6</b>	<b>3,923</b>	<b>133.9</b>	<b>1,508</b>	<b>60.2</b>	<b>1,032</b>	<b>40.5</b>	<b>624</b>	<b>29.0</b>	<b>178</b>	<b>10.2</b>
<b>Female</b>												
<b>Below federal poverty level (%)</b>												
<7	36	12.5	92	21.9	91	19.1	75	15.0	62	16.2	14	4.0
7.00–10.99	56	18.3	119	25.9	108	23.8	86	19.3	58	15.5	21	5.9
11.00–18.99	121	20.3	267	30.6	239	31.1	179	22.9	108	15.4	54	7.6
≥19	277	24.5	510	37.8	396	35.8	331	28.9	248	22.6	66	5.7
<b>Less than high school diploma (%)</b>												
<6	42	10.8	84	21.5	72	19.6	55	15.3	40	14.3	11	4.2
6.00–10.99	79	16.3	171	25.9	142	22.5	112	17.8	78	14.9	33	6.7
11.00–17.99	111	17.3	288	32.2	238	29.1	194	23.1	125	16.5	46	6.0
≥18	258	31.7	445	38.5	382	38.6	310	29.5	233	23.5	65	6.1
<b>Median household income (U.S. \$)</b>												
<40,000	263	24.3	506	37.8	410	37.5	341	30.0	232	21.1	59	5.0
40,000–53,999	122	22.8	233	30.0	189	28.0	138	20.4	103	17.0	38	6.4
54,000–74,999	68	16.4	170	27.7	143	23.6	114	19.1	88	17.7	38	8.2
≥75,000	37	13.5	79	21.1	92	21.4	77	16.8	53	15.1	20	6.0
<b>Without health insurance (%)</b>												
<6	37	12.7	70	21.5	64	18.8	53	14.9	43	14.5	19	5.9
6.00–9.99	61	15.0	127	23.9	117	23.3	89	17.0	59	12.8	27	5.6
10.00–15.99	114	17.8	226	25.8	184	22.9	175	21.3	123	16.6	43	5.8
≥16	278	28.3	565	41.3	469	40.4	354	30.2	251	23.7	66	6.4
<b>Subtotal<sup>a</sup></b>	<b>506</b>	<b>21.7</b>	<b>1,011</b>	<b>32.6</b>	<b>869</b>	<b>31.0</b>	<b>687</b>	<b>23.9</b>	<b>482</b>	<b>18.9</b>	<b>158</b>	<b>6.1</b>
<b>Total<sup>b</sup></b>	<b>3,516</b>	<b>74.4</b>	<b>4,934</b>	<b>81.8</b>	<b>2,377</b>	<b>44.8</b>	<b>1,719</b>	<b>31.7</b>	<b>1,106</b>	<b>23.5</b>	<b>336</b>	<b>7.8</b>

Abbreviations. ACS, American Community Survey [footnotes only]; SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

The ACS does not provide age- and sex-specific SDH variables stratified by race and ethnicity for racial groups except whites (i.e., white, not Hispanic/Latino). Therefore, the denominators used for computing race-specific rates may include Hispanics/Latinos, and should be interpreted with caution; see Technical Notes for more details. For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 9b. Diagnoses of HIV infection among Hispanic/Latino adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	18–24 years		25–34 years		35–44 years		45–54 years		55–64 years		≥65 years	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>Male</b>												
<b>Below federal poverty level (%)</b>												
<7	190	35.2	338	47.1	181	24.6	105	17.0	29	7.8	14	5.0
7.00–10.99	224	37.8	463	54.0	221	28.7	164	27.2	49	12.8	9	3.1
11.00–18.99	452	42.7	941	61.7	496	37.4	277	27.1	84	13.1	33	6.5
≥19	703	49.6	1,321	73.2	704	46.0	412	33.5	157	18.4	52	6.5
<b>Less than high school diploma (%)</b>												
<6	154	33.0	391	76.3	191	41.6	120	31.7	36	15.2	12	6.4
6.00–10.99	245	45.2	452	59.2	206	29.8	146	27.0	51	14.7	5	1.8
11.00–17.99	327	46.4	581	58.2	301	33.6	177	25.3	49	10.8	25	6.6
≥18	843	44.0	1,640	61.7	905	38.8	517	27.8	183	15.0	66	6.4
<b>Median household income (U.S. \$)</b>												
<40,000	619	51.7	1,158	75.6	613	47.1	363	34.3	145	19.1	52	6.9
40,000–53,999	396	40.1	831	60.5	435	36.8	257	28.6	82	14.5	26	5.9
54,000–74,999	328	39.0	675	55.8	336	31.3	201	23.9	56	10.8	17	4.4
≥75,000	226	39.7	397	50.5	217	27.1	137	20.4	36	8.7	13	4.3
<b>Without health insurance (%)</b>												
<6	139	29.7	267	50.4	150	29.2	119	26.3	36	11.4	9	2.9
6.00–9.99	227	42.2	379	53.7	189	29.7	126	24.0	43	11.9	15	4.4
10.00–15.99	312	40.5	657	62.0	308	33.4	190	26.0	60	12.6	24	6.0
≥16	891	48.5	1,760	67.4	955	41.7	523	29.7	180	16.4	60	7.1
<b>Subtotal<sup>a</sup></b>	<b>1,588</b>	<b>43.8</b>	<b>3,124</b>	<b>63.4</b>	<b>1,626</b>	<b>37.1</b>	<b>974</b>	<b>28.0</b>	<b>323</b>	<b>14.3</b>	<b>109</b>	<b>5.8</b>
<b>Female</b>												
<b>Below federal poverty level (%)</b>												
<7	21	4.3	22	3.2	25	3.4	19	3.0	15	3.6	2	0.5
7.00–10.99	17	3.1	42	5.4	26	3.5	30	5.0	17	4.2	5	1.3
11.00–18.99	40	4.1	72	5.3	64	5.2	60	6.1	28	4.1	8	1.2
≥19	62	4.6	130	7.8	118	7.9	119	9.6	57	6.1	26	2.5
<b>Less than high school diploma (%)</b>												
<6	14	3.1	19	3.8	16	3.4	18	4.4	12	4.3	6	2.3
6.00–10.99	21	4.0	36	5.0	32	4.6	26	4.7	16	4.1	3	0.8
11.00–17.99	26	3.9	47	5.1	48	5.5	45	6.4	19	3.8	3	0.6
≥18	79	4.5	164	7.0	137	6.3	139	7.7	70	5.5	29	2.2
<b>Median household income (U.S. \$)</b>												
<40,000	54	4.7	112	7.9	99	7.7	105	9.7	55	6.6	25	2.5
40,000–53,999	40	4.4	77	6.3	64	5.8	64	7.3	23	3.8	8	1.4
54,000–74,999	29	3.7	46	4.1	44	4.3	34	4.2	27	4.9	3	0.6
≥75,000	17	3.2	31	4.1	26	3.2	25	3.6	12	2.6	5	1.2
<b>Without health insurance (%)</b>												
<6	13	3.0	24	4.6	24	4.5	12	2.5	13	3.6	4	1.0
6.00–9.99	14	2.7	36	5.3	29	4.5	44	8.1	21	5.2	3	0.7
10.00–15.99	33	4.5	47	4.8	40	4.5	58	7.9	30	5.7	10	1.9
≥16	80	4.7	159	6.8	140	6.5	114	6.7	53	4.6	24	2.2
<b>Subtotal<sup>a</sup></b>	<b>142</b>	<b>4.2</b>	<b>275</b>	<b>6.1</b>	<b>236</b>	<b>5.6</b>	<b>229</b>	<b>6.6</b>	<b>121</b>	<b>5.0</b>	<b>41</b>	<b>1.6</b>
<b>Total<sup>b</sup></b>	<b>1,730</b>	<b>24.7</b>	<b>3,399</b>	<b>36.0</b>	<b>1,862</b>	<b>21.7</b>	<b>1,203</b>	<b>17.3</b>	<b>444</b>	<b>9.5</b>	<b>150</b>	<b>3.4</b>

Abbreviation. SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Hispanics/Latinos can be of any race.

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 9c. Diagnoses of HIV infection among white adults, by age at diagnosis, sex, and selected social determinants of health, 2017—census tract level, United States and Puerto Rico**

	18–24 years		25–34 years		35–44 years		45–54 years		55–64 years		≥65 years	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>Male</b>												
<b>Below federal poverty level (%)</b>												
<7	256	9.9	507	12.8	289	6.5	320	5.8	197	3.6	60	1.0
7.00–10.99	216	11.8	491	15.9	294	10.2	343	10.2	169	4.8	43	1.0
11.00–18.99	316	14.8	683	19.4	413	13.8	408	11.9	204	5.6	54	1.2
≥19	299	14.3	619	31.0	344	23.6	280	17.4	151	9.0	43	2.3
<b>Less than high school diploma (%)</b>												
<6	305	9.4	644	16.5	339	8.9	374	8.3	228	5.1	61	1.2
6.00–10.99	299	11.6	628	15.8	372	10.0	385	8.7	205	4.5	65	1.2
11.00–17.99	246	13.5	510	17.7	313	11.8	324	10.3	159	4.9	33	0.9
≥18	239	22.1	518	28.3	316	19.6	268	14.2	129	6.6	41	1.9
<b>Median household income (U.S. \$)</b>												
<40,000	270	14.8	504	27.5	273	19.0	260	15.7	130	7.3	42	1.9
40,000–53,999	274	12.7	610	18.9	389	14.0	338	10.5	181	5.3	43	1.0
54,000–74,999	324	13.8	641	16.4	379	10.6	400	9.7	210	4.9	58	1.1
≥75,000	217	9.6	545	15.2	297	7.4	353	7.2	200	4.3	57	1.1
<b>Without health insurance (%)</b>												
<6	238	8.1	461	12.3	271	6.9	307	6.3	165	3.3	53	0.9
6.00–9.99	248	10.7	509	15.3	312	10.0	307	8.4	173	4.6	54	1.2
10.00–15.99	281	13.7	642	20.2	365	12.9	354	11.1	188	5.7	44	1.1
≥16	322	23.0	688	29.7	392	20.7	383	17.7	195	8.7	49	1.9
<b>Subtotal<sup>b</sup></b>	<b>1,124</b>	<b>12.9</b>	<b>2,371</b>	<b>18.8</b>	<b>1,383</b>	<b>11.7</b>	<b>1,399</b>	<b>10.0</b>	<b>746</b>	<b>5.2</b>	<b>210</b>	<b>1.3</b>
<b>Female</b>												
<b>Below federal poverty level (%)</b>												
<7	31	1.3	58	1.5	40	0.9	49	0.9	33	0.6	12	0.2
7.00–10.99	23	1.3	60	2.0	54	1.9	50	1.5	31	0.8	6	0.1
11.00–18.99	43	2.1	106	3.1	72	2.5	61	1.8	41	1.1	5	0.1
≥19	39	1.9	106	5.7	90	6.5	70	4.5	44	2.5	4	0.2
<b>Less than high school diploma (%)</b>												
<6	29	0.9	48	1.2	38	1.0	33	0.7	30	0.6	6	0.1
6.00–10.99	30	1.2	100	2.6	57	1.5	63	1.4	38	0.8	12	0.2
11.00–17.99	39	2.3	84	3.0	66	2.5	68	2.2	42	1.2	6	0.1
≥18	38	3.8	98	5.8	95	6.3	66	3.7	39	2.0	3	0.1
<b>Median household income (U.S. \$)</b>												
<40,000	41	2.3	98	5.7	93	6.7	62	3.8	37	2.0	4	0.1
40,000–53,999	33	1.6	96	3.1	71	2.6	57	1.8	45	1.2	7	0.1
54,000–74,999	36	1.6	81	2.1	61	1.7	68	1.6	40	0.9	6	0.1
≥75,000	26	1.2	55	1.5	31	0.8	43	0.9	27	0.6	10	0.2
<b>Without health insurance (%)</b>												
<6	28	1.0	56	1.5	37	0.9	44	0.9	31	0.6	9	0.1
6.00–9.99	27	1.2	74	2.3	54	1.7	51	1.4	36	0.9	6	0.1
10.00–15.99	36	1.8	81	2.6	68	2.5	51	1.6	39	1.1	7	0.1
≥16	45	3.4	119	5.5	97	5.4	84	4.0	43	1.9	5	0.2
<b>Subtotal<sup>b</sup></b>	<b>142</b>	<b>1.7</b>	<b>337</b>	<b>2.7</b>	<b>266</b>	<b>2.3</b>	<b>236</b>	<b>1.7</b>	<b>152</b>	<b>1.0</b>	<b>27</b>	<b>0.1</b>
<b>Total<sup>b</sup></b>	<b>1,266</b>	<b>7.5</b>	<b>2,708</b>	<b>10.9</b>	<b>1,649</b>	<b>7.0</b>	<b>1,635</b>	<b>5.8</b>	<b>898</b>	<b>3.1</b>	<b>237</b>	<b>0.6</b>

Abbreviation. SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Reported numbers less than 12, and rates based on these numbers, should be interpreted with caution. Rates are per 100,000 population.

For the definitions of SDH variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Totals do not represent all adults whose HIV infection was diagnosed during 2017 in these areas. See Technical Notes for exclusion criteria.

**Table 10. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Black/African American</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	1,038	11.3	797	76.8	874	84.2
7.00–10.99	1,145	12.5	881	76.9	984	85.9
11.00–18.99	2,563	27.9	1,919	74.9	2,147	83.8
≥19	4,427	48.3	3,259	73.6	3,695	83.5
<b>Less than high school diploma (%)</b>						
<6	1,124	12.2	837	74.5	948	84.3
6.00–10.99	1,796	19.6	1,358	75.6	1,504	83.7
11.00–17.99	2,528	27.6	1,943	76.9	2,162	85.5
≥18	3,728	40.6	2,720	73.0	3,089	82.9
<b>Median household income (U.S. \$)</b>						
<40,000	4,389	47.9	3,198	72.9	3,631	82.7
40,000–53,999	2,186	23.9	1,656	75.8	1,861	85.1
54,000–74,999	1,609	17.6	1,236	76.8	1,374	85.4
≥75,000	980	10.7	760	77.6	826	84.3
<b>Without health insurance (%)</b>						
<6	757	8.3	599	79.1	657	86.8
6.00–9.99	1,396	15.2	1,080	77.4	1,188	85.1
10.00–15.99	2,391	26.1	1,853	77.5	2,040	85.3
≥16	4,630	50.5	3,324	71.8	3,816	82.4
<b>Subtotal<sup>b</sup></b>	<b>9,531</b>	<b>100</b>	<b>7,106</b>	<b>74.6</b>	<b>7,990</b>	<b>83.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	327	9.9	273	83.5	300	91.7
7.00–10.99	409	12.3	339	82.9	368	90.0
11.00–18.99	898	27.1	689	76.7	784	87.3
≥19	1,681	50.7	1,307	77.8	1,450	86.3
<b>Less than high school diploma (%)</b>						
<6	277	8.4	227	81.9	247	89.2
6.00–10.99	558	16.8	455	81.5	502	90.0
11.00–17.99	901	27.2	716	79.5	793	88.0
≥18	1,579	47.6	1,210	76.6	1,360	86.1
<b>Median household income (U.S. \$)</b>						
<40,000	1,667	50.3	1,282	76.9	1,439	86.3
40,000–53,999	758	22.9	598	78.9	665	87.7
54,000–74,999	569	17.2	460	80.8	503	88.4
≥75,000	320	9.7	267	83.4	294	91.9
<b>Without health insurance (%)</b>						
<6	268	8.1	232	86.6	246	91.8
6.00–9.99	438	13.2	365	83.3	397	90.6
10.00–15.99	780	23.5	625	80.1	700	89.7
≥16	1,829	55.2	1,386	75.8	1,559	85.2
<b>Subtotal<sup>b</sup></b>	<b>3,408</b>	<b>100</b>	<b>2,681</b>	<b>78.7</b>	<b>2,983</b>	<b>87.5</b>
<b>Total</b>	<b>12,939</b>	<b>100</b>	<b>9,787</b>	<b>75.6</b>	<b>10,973</b>	<b>84.8</b>



**Table 10. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
			Hispanic/Latino <sup>c</sup>			
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	780	11.8	635	81.4	684	87.7
7.00–10.99	1,016	15.4	827	81.4	904	89.0
11.00–18.99	2,037	30.9	1,605	78.8	1,771	86.9
≥19	2,754	41.8	2,162	78.5	2,401	87.2
<b>Less than high school diploma (%)</b>						
<6	826	12.5	678	82.1	732	88.6
6.00–10.99	977	14.8	793	81.2	867	88.7
11.00–17.99	1,261	19.1	993	78.7	1,113	88.3
≥18	3,527	53.5	2,769	78.5	3,052	86.5
<b>Median household income (U.S. \$)</b>						
<40,000	2,364	35.9	1,843	78.0	2,036	86.1
40,000–53,999	1,811	27.5	1,426	78.7	1,594	88.0
54,000–74,999	1,458	22.1	1,168	80.1	1,274	87.4
≥75,000	952	14.5	790	83.0	854	89.7
<b>Without health insurance (%)</b>						
<6	564	8.6	479	84.9	516	91.5
6.00–9.99	776	11.8	643	82.9	701	90.3
10.00–15.99	1,350	20.5	1,090	80.7	1,195	88.5
≥16	3,897	59.2	3,017	77.4	3,348	85.9
<b>Subtotal<sup>b</sup></b>	<b>6,681</b>	<b>100</b>	<b>5,306</b>	<b>79.4</b>	<b>5,844</b>	<b>87.5</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	94	11.1	72	76.6	79	84.0
7.00–10.99	122	14.4	103	84.4	109	89.3
11.00–18.99	249	29.4	202	81.1	221	88.8
≥19	383	45.2	301	78.6	340	88.8
<b>Less than high school diploma (%)</b>						
<6	71	8.4	57	80.3	63	88.7
6.00–10.99	122	14.4	98	80.3	108	88.5
11.00–17.99	160	18.9	123	76.9	143	89.4
≥18	495	58.4	400	80.8	435	87.9
<b>Median household income (U.S. \$)</b>						
<40,000	326	38.4	261	80.1	290	89.0
40,000–53,999	253	29.8	198	78.3	222	87.7
54,000–74,999	162	19.1	131	80.9	146	90.1
≥75,000	107	12.6	88	82.2	91	85.0
<b>Without health insurance (%)</b>						
<6	66	7.8	56	84.8	57	86.4
6.00–9.99	103	12.1	78	75.7	91	88.3
10.00–15.99	175	20.6	147	84.0	164	93.7
≥16	504	59.4	397	78.8	437	86.7
<b>Subtotal<sup>b</sup></b>	<b>862</b>	<b>100</b>	<b>689</b>	<b>79.9</b>	<b>762</b>	<b>88.4</b>
<b>Total</b>	<b>7,543</b>	<b>100</b>	<b>5,995</b>	<b>79.5</b>	<b>6,606</b>	<b>87.6</b>

**Table 10. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	%	No.	%	No.	%
<b>White</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	1,439	23.3	1,188	82.6	1,303	90.5
7.00–10.99	1,368	22.1	1,140	83.3	1,251	91.4
11.00–18.99	1,865	30.2	1,523	81.7	1,671	89.6
≥19	1,513	24.5	1,223	80.8	1,345	88.9
<b>Less than high school diploma (%)</b>						
<6	1,771	28.6	1,500	84.7	1,621	91.5
6.00–10.99	1,703	27.5	1,390	81.6	1,545	90.7
11.00–17.99	1,391	22.5	1,148	82.5	1,251	89.9
≥18	1,322	21.4	1,038	78.5	1,155	87.4
<b>Median household income (U.S. \$)</b>						
<40,000	1,265	20.5	995	78.7	1,106	87.4
40,000–53,999	1,626	26.3	1,324	81.4	1,457	89.6
54,000–74,999	1,772	28.7	1,489	84.0	1,633	92.2
≥75,000	1,518	24.6	1,264	83.3	1,370	90.3
<b>Without health insurance (%)</b>						
<6	1,328	21.5	1,140	85.8	1,218	91.7
6.00–9.99	1,397	22.6	1,152	82.5	1,274	91.2
10.00–15.99	1,647	26.6	1,349	81.9	1,490	90.5
≥16	1,815	29.3	1,435	79.1	1,590	87.6
<b>Subtotal<sup>b</sup></b>	<b>6,372</b>	<b>100</b>	<b>5,229</b>	<b>82.1</b>	<b>5,739</b>	<b>90.1</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	186	18.9	157	84.4	173	93.0
7.00–10.99	197	20.0	159	80.7	180	91.4
11.00–18.99	294	29.9	232	78.9	255	86.7
≥19	306	31.1	230	75.2	257	84.0
<b>Less than high school diploma (%)</b>						
<6	155	15.8	130	83.9	142	91.6
6.00–10.99	267	27.2	220	82.4	239	89.5
11.00–17.99	269	27.4	208	77.3	240	89.2
≥18	292	29.7	220	75.3	244	83.6
<b>Median household income (U.S. \$)</b>						
<40,000	293	29.8	220	75.1	247	84.3
40,000–53,999	269	27.4	215	79.9	238	88.5
54,000–74,999	248	25.2	195	78.6	218	87.9
≥75,000	173	17.6	148	85.5	162	93.6
<b>Without health insurance (%)</b>						
<6	172	17.5	151	87.8	158	91.9
6.00–9.99	209	21.3	159	76.1	182	87.1
10.00–15.99	250	25.4	206	82.4	226	90.4
≥16	352	35.8	262	74.4	299	84.9
<b>Subtotal<sup>b</sup></b>	<b>1,008</b>	<b>100</b>	<b>798</b>	<b>79.2</b>	<b>887</b>	<b>88.0</b>
<b>Total</b>	<b>7,380</b>	<b>100</b>	<b>6,027</b>	<b>81.7</b>	<b>6,626</b>	<b>89.8</b>

**Table 10. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
			Other <sup>d</sup>			
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	254	18.1	204	80.3	224	88.2
7.00–10.99	296	21.1	252	85.1	271	91.6
11.00–18.99	436	31.1	353	81.0	386	88.5
≥19	417	29.7	327	78.4	365	87.5
<b>Less than high school diploma (%)</b>						
<6	290	20.7	243	83.8	259	89.3
6.00–10.99	347	24.7	281	81.0	309	89.0
11.00–17.99	318	22.7	251	78.9	278	87.4
≥18	448	31.9	361	80.6	400	89.3
<b>Median household income (U.S. \$)</b>						
<40,000	325	23.2	253	77.8	283	87.1
40,000–53,999	319	22.7	259	81.2	290	90.9
54,000–74,999	400	28.5	326	81.5	354	88.5
≥75,000	359	25.6	298	83.0	319	88.9
<b>Without health insurance (%)</b>						
<6	267	19.0	223	83.5	239	89.5
6.00–9.99	281	20.0	228	81.1	247	87.9
10.00–15.99	348	24.8	283	81.3	309	88.8
≥16	507	36.1	402	79.3	451	89.0
<b>Subtotal<sup>b</sup></b>	<b>1,438</b>	<b>100</b>	<b>1,164</b>	<b>80.9</b>	<b>1,277</b>	<b>88.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	50	19.0	43	86.0	47	94.0
7.00–10.99	42	16.0	33	78.6	38	90.5
11.00–18.99	87	33.1	72	82.8	76	87.4
≥19	84	31.9	62	73.8	70	83.3
<b>Less than high school diploma (%)</b>						
<6	39	14.8	32	82.1	33	84.6
6.00–10.99	54	20.5	44	81.5	49	90.7
11.00–17.99	72	27.4	59	81.9	64	88.9
≥18	98	37.3	75	76.5	85	86.7
<b>Median household income (U.S. \$)</b>						
<40,000	76	28.9	52	68.4	61	80.3
40,000–53,999	66	25.1	57	86.4	62	93.9
54,000–74,999	67	25.5	59	88.1	62	92.5
≥75,000	54	20.5	42	77.8	46	85.2
<b>Without health insurance (%)</b>						
<6	36	13.7	28	77.8	30	83.3
6.00–9.99	60	22.8	50	83.3	57	95.0
10.00–15.99	65	24.7	54	83.1	57	87.7
≥16	102	38.8	78	76.5	87	85.3
<b>Subtotal<sup>b</sup></b>	<b>265</b>	<b>100</b>	<b>211</b>	<b>79.6</b>	<b>233</b>	<b>87.9</b>
<b>Total</b>	<b>1,703</b>	<b>100</b>	<b>1,375</b>	<b>80.7</b>	<b>1,510</b>	<b>88.7</b>

**Table 10. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by race/ethnicity, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	%	No.	%	No.	%
<b>Total</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	3,511	15.0	2,824	80.4	3,085	87.9
7.00–10.99	3,825	16.4	3,100	81.0	3,410	89.2
11.00–18.99	6,901	29.6	5,400	78.2	5,975	86.6
≥19	9,111	39.0	6,971	76.5	7,806	85.7
<b>Less than high school diploma (%)</b>						
<6	4,011	17.2	3,258	81.2	3,560	88.8
6.00–10.99	4,823	20.6	3,822	79.2	4,225	87.6
11.00–17.99	5,498	23.5	4,335	78.8	4,804	87.4
≥18	9,025	38.6	6,888	76.3	7,696	85.3
<b>Median household income (U.S. \$)</b>						
<40,000	8,343	35.8	6,289	75.4	7,056	84.6
40,000–53,999	5,942	25.5	4,665	78.5	5,202	87.5
54,000–74,999	5,239	22.5	4,219	80.5	4,635	88.5
≥75,000	3,809	16.3	3,112	81.7	3,369	88.4
<b>Without health insurance (%)</b>						
<6	2,916	12.5	2,441	83.7	2,630	90.2
6.00–9.99	3,850	16.5	3,103	80.6	3,410	88.6
10.00–15.99	5,736	24.6	4,575	79.8	5,034	87.8
≥16	10,849	46.5	8,178	75.4	9,205	84.8
<b>Subtotal<sup>b</sup></b>	<b>24,022</b>	<b>100</b>	<b>18,805</b>	<b>78.3</b>	<b>20,850</b>	<b>86.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	657	12.1	545	83.0	599	91.2
7.00–10.99	770	14.2	634	82.3	695	90.3
11.00–18.99	1,528	28.2	1,195	78.2	1,336	87.4
≥19	2,454	45.4	1,900	77.4	2,117	86.3
<b>Less than high school diploma (%)</b>						
<6	542	10.0	446	82.3	485	89.5
6.00–10.99	1,001	18.5	817	81.6	898	89.7
11.00–17.99	1,402	25.9	1,106	78.9	1,240	88.4
≥18	2,464	45.6	1,905	77.3	2,124	86.2
<b>Median household income (U.S. \$)</b>						
<40,000	2,362	43.7	1,815	76.8	2,037	86.2
40,000–53,999	1,346	24.9	1,068	79.3	1,187	88.2
54,000–74,999	1,046	19.3	845	80.8	929	88.8
≥75,000	654	12.1	545	83.3	593	90.7
<b>Without health insurance (%)</b>						
<6	542	10.0	467	86.2	491	90.6
6.00–9.99	810	15.0	652	80.5	727	89.8
10.00–15.99	1,270	23.5	1,032	81.3	1,147	90.3
≥16	2,787	51.5	2,123	76.2	2,382	85.5
<b>Subtotal<sup>b</sup></b>	<b>5,543</b>	<b>100</b>	<b>4,379</b>	<b>79.0</b>	<b>4,865</b>	<b>87.8</b>
<b>Total</b>	<b>29,565</b>	<b>100</b>	<b>23,184</b>	<b>78.4</b>	<b>25,715</b>	<b>87.0</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Hispanics/Latinos can be of any race.

<sup>d</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, and multiple races.

**Table 11. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>18–24</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	728	13.6	562	77.2	628	86.3
7.00–10.99	775	14.5	608	78.5	679	87.6
11.00–18.99	1,515	28.3	1,138	75.1	1,272	84.0
≥19	2,333	43.6	1,701	72.9	1,966	84.3
<b>Less than high school diploma (%)</b>						
<6	826	15.4	639	77.4	723	87.5
6.00–10.99	1,103	20.6	823	74.6	929	84.2
11.00–17.99	1,324	24.7	997	75.3	1,128	85.2
≥18	2,101	39.2	1,552	73.9	1,768	84.2
<b>Median household income (U.S. \$)</b>						
<40,000	2,212	41.4	1,600	72.3	1,843	83.3
40,000–53,999	1,316	24.6	989	75.2	1,120	85.1
54,000–74,999	1,100	20.6	848	77.1	949	86.3
≥75,000	715	13.4	569	79.6	626	87.6
<b>Without health insurance (%)</b>						
<6	569	10.6	460	80.8	507	89.1
6.00–9.99	860	16.1	662	77.0	748	87.0
10.00–15.99	1,360	25.4	1,049	77.1	1,167	85.8
≥16	2,565	47.9	1,840	71.7	2,126	82.9
<b>Subtotal<sup>b</sup></b>	<b>5,522</b>	<b>100</b>	<b>4,133</b>	<b>74.8</b>	<b>4,688</b>	<b>84.9</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	84	11.7	69	82.1	78	92.9
7.00–10.99	86	12.0	74	86.0	79	91.9
11.00–18.99	192	26.7	140	72.9	163	84.9
≥19	356	49.6	265	74.4	299	84.0
<b>Less than high school diploma (%)</b>						
<6	80	11.1	67	83.8	72	90.0
6.00–10.99	117	16.3	90	76.9	105	89.7
11.00–17.99	164	22.8	130	79.3	146	89.0
≥18	357	49.7	261	73.1	296	82.9
<b>Median household income (U.S. \$)</b>						
<40,000	334	46.5	240	71.9	280	83.8
40,000–53,999	184	25.6	140	76.1	155	84.2
54,000–74,999	124	17.3	104	83.9	114	91.9
≥75,000	76	10.6	64	84.2	70	92.1
<b>Without health insurance (%)</b>						
<6	77	10.7	67	87.0	69	89.6
6.00–9.99	94	13.1	76	80.9	85	90.4
10.00–15.99	163	22.7	131	80.4	148	90.8
≥16	384	53.5	274	71.4	317	82.6
<b>Subtotal<sup>b</sup></b>	<b>735</b>	<b>100</b>	<b>562</b>	<b>76.5</b>	<b>634</b>	<b>86.3</b>
<b>Total</b>	<b>6,257</b>	<b>100</b>	<b>4,695</b>	<b>75</b>	<b>5,322</b>	<b>85.1</b>

**Table 11. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>25–34</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	1,282	14.6	1,012	78.9	1,119	87.3
7.00–10.99	1,413	16.1	1,108	78.4	1,240	87.8
11.00–18.99	2,581	29.5	1,982	76.8	2,217	85.9
≥19	3,478	39.7	2,658	76.4	2,972	85.5
<b>Less than high school diploma (%)</b>						
<6	1,529	17.5	1,211	79.2	1,338	87.5
6.00–10.99	1,795	20.5	1,400	78.0	1,571	87.5
11.00–17.99	2,031	23.2	1,575	77.5	1,755	86.4
≥18	3,400	38.8	2,575	75.7	2,885	84.9
<b>Median household income (U.S. \$)</b>						
<40,000	3,175	36.3	2,379	74.9	2,674	84.2
40,000–53,999	2,219	25.4	1,711	77.1	1,928	86.9
54,000–74,999	1,957	22.4	1,563	79.9	1,725	88.1
≥75,000	1,400	16.0	1,104	78.9	1,218	87.0
<b>Without health insurance (%)</b>						
<6	1,024	11.7	841	82.1	919	89.7
6.00–9.99	1,399	16	1,107	79.1	1,220	87.2
10.00–15.99	2,148	24.5	1,669	77.7	1,857	86.5
≥16	4,183	47.8	3,143	75.1	3,552	84.9
<b>Subtotal<sup>b</sup></b>	<b>9,007</b>	<b>100</b>	<b>6,952</b>	<b>77.2</b>	<b>7,766</b>	<b>86.2</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	169	11.3	139	82.2	149	88.2
7.00–10.99	217	14.5	169	77.9	183	84.3
11.00–18.99	435	29.1	343	78.9	380	87.4
≥19	674	45.1	529	78.5	592	87.8
<b>Less than high school diploma (%)</b>						
<6	149	10.0	123	82.6	132	88.6
6.00–10.99	292	19.5	238	81.5	255	87.3
11.00–17.99	399	26.7	299	74.9	341	85.5
≥18	655	43.8	520	79.4	576	87.9
<b>Median household income (U.S. \$)</b>						
<40,000	652	43.6	511	78.4	571	87.6
40,000–53,999	383	25.6	307	80.2	338	88.3
54,000–74,999	289	19.3	224	77.5	245	84.8
≥75,000	171	11.4	138	80.7	150	87.7
<b>Without health insurance (%)</b>						
<6	139	9.3	118	84.9	124	89.2
6.00–9.99	220	14.7	174	79.1	189	85.9
10.00–15.99	339	22.7	278	82.0	304	89.7
≥16	797	53.3	610	76.5	687	86.2
<b>Subtotal<sup>b</sup></b>	<b>1,529</b>	<b>100</b>	<b>1,203</b>	<b>78.7</b>	<b>1,333</b>	<b>87.2</b>
<b>Total</b>	<b>10,536</b>	<b>100</b>	<b>8,155</b>	<b>77.4</b>	<b>9,099</b>	<b>86.4</b>

**Table 11. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>35–44</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	605	14.4	500	82.6	539	89.1
7.00–10.99	698	16.6	587	84.1	634	90.8
11.00–18.99	1,318	31.4	1,066	80.9	1,157	87.8
≥19	1,575	37.5	1,242	78.9	1,359	86.3
<b>Less than high school diploma (%)</b>						
<6	679	16.2	580	85.4	615	90.6
6.00–10.99	815	19.4	665	81.6	724	88.8
11.00–17.99	973	23.2	809	83.1	878	90.2
≥18	1,730	41.2	1,342	77.6	1,473	85.1
<b>Median household income (U.S. \$)</b>						
<40,000	1,376	32.8	1,060	77.0	1,162	84.4
40,000–53,999	1,147	27.3	945	82.4	1,031	89.9
54,000–74,999	995	23.7	817	82.1	888	89.2
≥75,000	676	16.1	571	84.5	606	89.6
<b>Without health insurance (%)</b>						
<6	513	12.2	440	85.8	467	91.0
6.00–9.99	694	16.5	583	84.0	635	91.5
10.00–15.99	990	23.6	824	83.2	889	89.8
≥16	1,999	47.6	1,548	77.4	1,698	84.9
<b>Subtotal<sup>b</sup></b>	<b>4,312</b>	<b>100</b>	<b>3,484</b>	<b>80.8</b>	<b>3,786</b>	<b>87.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	152	12.2	124	81.6	140	92.1
7.00–10.99	172	13.7	139	80.8	157	91.3
11.00–18.99	369	29.5	287	77.8	324	87.8
≥19	558	44.6	422	75.6	472	84.6
<b>Less than high school diploma (%)</b>						
<6	121	9.7	95	78.5	105	86.8
6.00–10.99	222	17.7	174	78.4	194	87.4
11.00–17.99	325	26.0	250	76.9	291	89.5
≥18	583	46.6	453	77.7	503	86.3
<b>Median household income (U.S. \$)</b>						
<40,000	550	44.0	415	75.5	468	85.1
40,000–53,999	320	25.6	253	79.1	283	88.4
54,000–74,999	232	18.5	182	78.4	205	88.4
≥75,000	149	11.9	122	81.9	137	91.9
<b>Without health insurance (%)</b>						
<6	115	9.2	100	87.0	106	92.2
6.00–9.99	186	14.9	141	75.8	165	88.7
10.00–15.99	279	22.3	221	79.2	249	89.2
≥16	671	53.6	510	76.0	573	85.4
<b>Subtotal<sup>b</sup></b>	<b>1,299</b>	<b>100</b>	<b>1,009</b>	<b>77.7</b>	<b>1,135</b>	<b>87.4</b>
<b>Total</b>	<b>5,611</b>	<b>100</b>	<b>4,493</b>	<b>80.1</b>	<b>4,921</b>	<b>87.7</b>

**Table 11. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>45–54</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	533	17.2	446	83.7	474	88.9
7.00–10.99	610	19.7	521	85.4	557	91.3
11.00–18.99	923	29.8	764	82.8	825	89.4
≥19	1,033	33.3	805	77.9	893	86.4
<b>Less than high school diploma (%)</b>						
<6	600	19.3	509	84.8	541	90.2
6.00–10.99	673	21.7	567	84.2	605	89.9
11.00–17.99	713	23.0	585	82.0	640	89.8
≥18	1,116	36.0	878	78.7	966	86.6
<b>Median household income (U.S. \$)</b>						
<40,000	932	30.1	721	77.4	798	85.6
40,000–53,999	781	25.2	640	81.9	694	88.9
54,000–74,999	748	24.2	634	84.8	681	91.0
≥75,000	636	20.5	539	84.7	574	90.3
<b>Without health insurance (%)</b>						
<6	502	16.2	433	86.3	454	90.4
6.00–9.99	534	17.2	453	84.8	483	90.4
10.00–15.99	764	24.7	640	83.8	694	90.8
≥16	1,299	41.9	1,010	77.8	1,118	86.1
<b>Subtotal<sup>b</sup></b>	<b>3,185</b>	<b>100</b>	<b>2,604</b>	<b>81.8</b>	<b>2,823</b>	<b>88.6</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	124	11.8	102	82.3	112	90.3
7.00–10.99	162	15.4	137	84.6	151	93.2
11.00–18.99	301	28.6	243	80.7	271	90.0
≥19	467	44.3	367	78.6	404	86.5
<b>Less than high school diploma (%)</b>						
<6	96	9.1	81	84.4	87	90.6
6.00–10.99	200	19.0	168	84.0	190	95.0
11.00–17.99	288	27.3	245	85.1	262	91.0
≥18	470	44.6	355	75.5	399	84.9
<b>Median household income (U.S. \$)</b>						
<40,000	455	43.2	350	76.9	390	85.7
40,000–53,999	249	23.6	206	82.7	229	92.0
54,000–74,999	212	20.1	177	83.5	193	91.0
≥75,000	137	13.0	115	83.9	125	91.2
<b>Without health insurance (%)</b>						
<6	99	9.4	83	83.8	89	89.9
6.00–9.99	166	15.7	136	81.9	153	92.2
10.00–15.99	264	25.0	216	81.8	244	92.4
≥16	525	49.8	414	78.9	452	86.1
<b>Subtotal<sup>b</sup></b>	<b>1,075</b>	<b>100</b>	<b>868</b>	<b>80.7</b>	<b>958</b>	<b>89.1</b>
<b>Total</b>	<b>4,260</b>	<b>100</b>	<b>3,472</b>	<b>81.5</b>	<b>3,781</b>	<b>88.8</b>



**Table 11. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by age group, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
			≥55			
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	363	18.6	304	83.7	325	89.5
7.00–10.99	329	16.9	276	83.9	300	91.2
11.00–18.99	564	29.0	450	79.8	504	89.4
≥19	692	35.5	565	81.6	616	89.0
<b>Less than high school diploma (%)</b>						
<6	377	19.3	319	84.6	343	91.0
6.00–10.99	437	22.4	367	84.0	396	90.6
11.00–17.99	457	23.4	369	80.7	403	88.2
≥18	678	34.8	541	79.8	604	89.1
<b>Median household income (U.S. \$)</b>						
<40,000	648	33.3	529	81.6	579	89.4
40,000–53,999	479	24.6	380	79.3	429	89.6
54,000–74,999	439	22.5	357	81.3	392	89.3
≥75,000	382	19.6	329	86.1	345	90.3
<b>Without health insurance (%)</b>						
<6	308	15.8	267	86.7	283	91.9
6.00–9.99	363	18.6	298	82.1	324	89.3
10.00–15.99	474	24.3	393	82.9	427	90.1
≥16	803	41.2	637	79.3	711	88.5
<b>Subtotal<sup>b</sup></b>	<b>1,996</b>	<b>100</b>	<b>1,632</b>	<b>81.8</b>	<b>1,787</b>	<b>89.5</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	128	14.4	111	86.7	120	93.8
7.00–10.99	133	14.9	115	86.5	125	94.0
11.00–18.99	231	25.9	182	78.8	198	85.7
≥19	399	44.8	317	79.4	350	87.7
<b>Less than high school diploma (%)</b>						
<6	96	10.8	80	83.3	89	92.7
6.00–10.99	170	19.1	147	86.5	154	90.6
11.00–17.99	226	25.4	182	80.5	200	88.5
≥18	399	44.8	316	79.2	350	87.7
<b>Median household income (U.S. \$)</b>						
<40,000	371	41.6	299	80.6	328	88.4
40,000–53,999	210	23.6	162	77.1	182	86.7
54,000–74,999	189	21.2	158	83.6	172	91.0
≥75,000	121	13.6	106	87.6	111	91.7
<b>Without health insurance (%)</b>						
<6	112	12.6	99	88.4	103	92.0
6.00–9.99	144	16.2	125	86.8	135	93.8
10.00–15.99	225	25.3	186	82.7	202	89.8
≥16	410	46.0	315	76.8	353	86.1
<b>Subtotal<sup>b</sup></b>	<b>905</b>	<b>100</b>	<b>737</b>	<b>81.4</b>	<b>805</b>	<b>89.0</b>
<b>Total</b>	<b>2,901</b>	<b>100</b>	<b>2,369</b>	<b>81.7</b>	<b>2,592</b>	<b>89.3</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

**Table 12. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by transmission category, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Male-to-male sexual contact</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	2,960	15.1	2,391	80.8	2,604	88.0
7.00–10.99	3,255	16.6	2,648	81.4	2,910	89.4
11.00–18.99	5,814	29.7	4,576	78.7	5,051	86.9
≥19	7,528	38.5	5,771	76.7	6,463	85.9
<b>Less than high school diploma (%)</b>						
<6	3,521	18.0	2,872	81.6	3,132	89.0
6.00–10.99	4,085	20.9	3,255	79.7	3,587	87.8
11.00–17.99	4,556	23.3	3,607	79.2	3,993	87.6
≥18	7,404	37.8	5,659	76.4	6,324	85.4
<b>Median household income (U.S. \$)</b>						
<40,000	6,836	35.0	5,160	75.5	5,793	84.7
40,000–53,999	4,986	25.5	3,932	78.9	4,373	87.7
54,000–74,999	4,463	22.8	3,622	81.1	3,962	88.8
≥75,000	3,259	16.7	2,663	81.7	2,887	88.6
<b>Without health insurance (%)</b>						
<6	2,427	12.4	2,041	84.1	2,197	90.5
6.00–9.99	3,268	16.7	2,632	80.5	2,899	88.7
10.00–15.99	4,817	24.6	3,867	80.3	4,237	88.0
≥16	9,048	46.3	6,848	75.7	7,698	85.1
<b>Subtotal<sup>b</sup></b>	<b>20,127</b>	<b>100</b>	<b>15,828</b>	<b>78.6</b>	<b>17,521</b>	<b>87.1</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	—	—	—	—	—	—
7.00–10.99	—	—	—	—	—	—
11.00–18.99	—	—	—	—	—	—
≥19	—	—	—	—	—	—
<b>Less than high school diploma (%)</b>						
<6	—	—	—	—	—	—
6.00–10.99	—	—	—	—	—	—
11.00–17.99	—	—	—	—	—	—
≥18	—	—	—	—	—	—
<b>Median household income (U.S. \$)</b>						
<40,000	—	—	—	—	—	—
40,000–53,999	—	—	—	—	—	—
54,000–74,999	—	—	—	—	—	—
≥75,000	—	—	—	—	—	—
<b>Without health insurance (%)</b>						
<6	—	—	—	—	—	—
6.00–9.99	—	—	—	—	—	—
10.00–15.99	—	—	—	—	—	—
≥16	—	—	—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>20,127</b>	<b>100</b>	<b>15,828</b>	<b>78.6</b>	<b>17,521</b>	<b>87.1</b>

**Table 12. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by transmission category, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	107	14.0	84	79.0	92	86.3
7.00–10.99	102	13.4	80	77.6	89	86.5
11.00–18.99	215	28.2	157	72.9	177	82.3
≥19	339	44.4	260	76.7	285	84.1
<b>Less than high school diploma (%)</b>						
<6	98	12.9	75	76.0	81	82.3
6.00–10.99	131	17.2	97	73.9	113	86.3
11.00–17.99	191	25.0	144	75.3	158	82.5
≥18	344	44.9	266	77.4	292	85.0
<b>Median household income (U.S. \$)</b>						
<40,000	306	40.1	235	76.9	256	83.8
40,000–53,999	207	27.1	154	74.6	174	84.3
54,000–74,999	146	19.2	108	74.1	124	84.6
≥75,000	104	13.7	83	79.3	88	84.8
<b>Without health insurance (%)</b>						
<6	110	14.5	83	75.5	91	82.4
6.00–9.99	144	18.9	115	79.7	123	85.0
10.00–15.99	202	26.5	158	78.1	177	87.7
≥16	306	40.1	224	73.2	251	82.1
<b>Subtotal<sup>b</sup></b>	<b>786</b>	<b>100</b>	<b>594</b>	<b>75.6</b>	<b>659</b>	<b>83.9</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	78	11.7	60	77.7	70	89.8
7.00–10.99	100	15.2	81	80.4	90	89.1
11.00–18.99	175	26.5	137	78.2	150	85.7
≥19	307	46.5	232	75.4	258	83.9
<b>Less than high school diploma (%)</b>						
<6	72	10.8	60	83.9	64	89.7
6.00–10.99	128	19.4	100	77.9	112	87.1
11.00–17.99	169	25.6	127	75.3	148	87.6
≥18	292	44.2	223	76.3	243	83.3
<b>Median household income (U.S. \$)</b>						
<40,000	286	43.2	217	76.0	241	84.4
40,000–53,999	155	23.5	119	76.8	133	85.8
54,000–74,999	137	20.7	105	77.1	118	86.5
≥75,000	83	12.6	69	82.2	75	89.9
<b>Without health insurance (%)</b>						
<6	88	13.3	72	82.3	81	91.6
6.00–9.99	121	18.4	90	73.9	105	86.5
10.00–15.99	171	25.8	136	80.0	148	86.5
≥16	281	42.5	211	75.3	234	83.4
<b>Subtotal<sup>b</sup></b>	<b>676</b>	<b>100</b>	<b>523</b>	<b>77.4</b>	<b>581</b>	<b>85.9</b>
<b>Total</b>	<b>1,461</b>	<b>100</b>	<b>1,117</b>	<b>76.4</b>	<b>1,240</b>	<b>84.9</b>

**Table 12. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by transmission category, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤ 1 month		≤ 3 months	
	No.	% <sup>a</sup>	≥ 1 CD4 or VL tests		≥ 1 CD4 or VL tests	
			No.	%	No.	%
<b>Male-to-male sexual contact and injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	158	17.9	124	78.7	141	88.9
7.00–10.99	165	18.7	134	80.8	150	90.7
11.00–18.99	263	29.8	193	73.6	221	84.3
≥19	296	33.5	217	73.5	241	81.3
<b>Less than high school diploma (%)</b>						
<6	170	19.3	137	80.4	154	90.4
6.00–10.99	214	24.3	163	76.1	186	86.9
11.00–17.99	203	23.0	161	79.4	178	88.0
≥18	295	33.4	208	70.5	234	79.4
<b>Median household income (U.S. \$)</b>						
<40,000	267	30.3	183	68.7	210	78.5
40,000–53,999	230	26.1	177	76.9	200	86.8
54,000–74,999	202	23.0	157	77.8	181	89.5
≥75,000	182	20.7	151	82.8	162	88.9
<b>Without health insurance (%)</b>						
<6	156	17.7	134	85.4	144	91.9
6.00–9.99	144	16.3	119	82.7	132	91.6
10.00–15.99	227	25.7	167	73.7	193	85.2
≥16	355	40.3	249	70.1	284	79.9
<b>Subtotal<sup>b</sup></b>	<b>911</b>	<b>100</b>	<b>686</b>	<b>75.3</b>	<b>774</b>	<b>85.0</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	—	—	—	—	—	—
7.00–10.99	—	—	—	—	—	—
11.00–18.99	—	—	—	—	—	—
≥19	—	—	—	—	—	—
<b>Less than high school diploma (%)</b>						
<6	—	—	—	—	—	—
6.00–10.99	—	—	—	—	—	—
11.00–17.99	—	—	—	—	—	—
≥18	—	—	—	—	—	—
<b>Median household income (U.S. \$)</b>						
<40,000	—	—	—	—	—	—
40,000–53,999	—	—	—	—	—	—
54,000–74,999	—	—	—	—	—	—
≥75,000	—	—	—	—	—	—
<b>Without health insurance (%)</b>						
<6	—	—	—	—	—	—
6.00–9.99	—	—	—	—	—	—
10.00–15.99	—	—	—	—	—	—
≥16	—	—	—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>911</b>	<b>100</b>	<b>686</b>	<b>75.3</b>	<b>774</b>	<b>85.0</b>

**Table 12. Linkage to HIV medical care after HIV diagnosis during 2017, among adults, by transmission category, sex, and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Heterosexual contact<sup>c</sup></b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<7	285	13.4	224	78.6	247	86.7
7.00–10.99	299	14.1	236	78.9	259	86.5
11.00–18.99	602	28.3	468	77.8	520	86.4
≥19	938	44.2	715	76.2	809	86.2
<b>Less than high school diploma (%)</b>						
<6	218	10.3	171	78.6	190	87.1
6.00–10.99	388	18.3	304	78.2	335	86.1
11.00–17.99	540	25.4	417	77.2	469	86.8
≥18	977	46.0	750	76.8	841	86.1
<b>Median household income (U.S. \$)</b>						
<40,000	927	43.7	705	76.1	792	85.5
40,000–53,999	513	24.2	397	77.4	450	87.6
54,000–74,999	420	19.8	325	77.4	361	86.0
≥75,000	262	12.3	214	81.6	230	87.8
<b>Without health insurance (%)</b>						
<6	219	10.3	181	82.5	195	89.2
6.00–9.99	291	13.7	234	80.6	253	87.2
10.00–15.99	481	22.7	376	78.2	419	87.1
≥16	1,132	53.3	851	75.2	966	85.3
<b>Subtotal<sup>b</sup></b>	<b>2,176</b>	<b>100</b>	<b>1,679</b>	<b>77.2</b>	<b>1,877</b>	<b>86.2</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<7	576	12.2	481	83.6	526	91.4
7.00–10.99	665	14.1	550	82.6	602	90.5
11.00–18.99	1,346	28.5	1,053	78.2	1,180	87.7
≥19	2,137	45.2	1,660	77.7	1,851	86.6
<b>Less than high school diploma (%)</b>						
<6	467	9.9	383	82.0	418	89.4
6.00–10.99	867	18.4	713	82.2	782	90.2
11.00–17.99	1,226	26.0	973	79.3	1,086	88.5
≥18	2,164	45.8	1,676	77.4	1,874	86.6
<b>Median household income (U.S. \$)</b>						
<40,000	2,067	43.8	1,590	76.9	1,788	86.5
40,000–53,999	1,187	25.1	945	79.7	1,050	88.5
54,000–74,999	904	19.1	735	81.3	806	89.1
≥75,000	566	12.0	472	83.5	514	90.9
<b>Without health insurance (%)</b>						
<6	449	9.5	391	87.1	407	90.6
6.00–9.99	684	14.5	558	81.6	618	90.3
10.00–15.99	1,096	23.2	893	81.4	997	90.9
≥16	2,495	52.8	1,901	76.2	2,137	85.7
<b>Subtotal<sup>b</sup></b>	<b>4,842</b>	<b>100</b>	<b>3,835</b>	<b>79.2</b>	<b>4,262</b>	<b>88.0</b>
<b>Total</b>	<b>7,018</b>	<b>100</b>	<b>5,514</b>	<b>78.6</b>	<b>6,138</b>	<b>87.5</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Data have been statistically adjusted to account for missing transmission category.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Heterosexual contact with a persons known to have, or to be at high risk for, HIV infection.

**Table 13. Linkage to HIV medical care after HIV diagnosis during 2017, among male adults, with infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—census tract level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Black/African American</b>						
<b>Below federal poverty level (%)</b>						
<7	831	11.3	637	76.7	700	84.2
7.00–10.99	927	12.6	713	76.9	800	86.3
11.00–18.99	2,074	28.2	1,553	74.9	1,736	83.7
≥19	3,520	47.9	2,586	73.5	2,940	83.5
<b>Less than high school diploma (%)</b>						
<6	960	13.1	715	74.5	814	84.7
6.00–10.99	1,495	20.3	1,132	75.7	1,257	84.1
11.00–17.99	2,037	27.7	1,559	76.6	1,738	85.3
≥18	2,863	38.9	2,085	72.8	2,370	82.8
<b>Median household income (U.S. \$)</b>						
<40,000	3,470	47.3	2,526	72.8	2,874	82.8
40,000–53,999	1,787	24.3	1,349	75.5	1,516	84.8
54,000–74,999	1,299	17.7	1,003	77.2	1,115	85.8
≥75,000	787	10.7	607	77.1	665	84.5
<b>Without health insurance (%)</b>						
<6	578	7.9	455	78.7	503	87.0
6.00–9.99	1,145	15.6	884	77.2	977	85.3
10.00–15.99	1,959	26.6	1,522	77.7	1,677	85.6
≥16	3,671	49.9	2,629	71.6	3,022	82.3
<b>Total<sup>b</sup></b>	<b>7,655</b>	<b>100</b>	<b>5,705</b>	<b>74.5</b>	<b>6,426</b>	<b>83.9</b>
<b>Hispanic/Latino<sup>c</sup></b>						
<b>Below federal poverty level (%)</b>						
<7	693	11.9	566	81.7	607	87.6
7.00–10.99	909	15.6	742	81.7	811	89.2
11.00–18.99	1,804	31.0	1,431	79.3	1,578	87.5
≥19	2,409	41.4	1,886	78.3	2,100	87.2
<b>Less than high school diploma (%)</b>						
<6	755	13.0	622	82.3	671	88.8
6.00–10.99	856	14.7	696	81.3	760	88.8
11.00–17.99	1,111	19.1	888	79.9	989	89.0
≥18	3,097	53.2	2,423	78.2	2,681	86.6
<b>Median household income (U.S. \$)</b>						
<40,000	2,062	35.5	1,601	77.6	1,777	86.2
40,000–53,999	1,596	27.4	1,265	79.3	1,410	88.4
54,000–74,999	1,298	22.3	1,046	80.6	1,138	87.6
≥75,000	858	14.8	711	82.9	770	89.8
<b>Without health insurance (%)</b>						
<6	488	8.4	415	85.1	449	92.0
6.00–9.99	681	11.7	565	82.9	616	90.4
10.00–15.99	1,196	20.6	968	80.9	1,057	88.4
≥16	3,451	59.3	2,678	77.6	2,975	86.2
<b>Total<sup>b</sup></b>	<b>5,891</b>	<b>100</b>	<b>4,691</b>	<b>79.6</b>	<b>5,166</b>	<b>87.7</b>

**Table 13. Linkage to HIV medical care after HIV diagnosis during 2017, among male adults with infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month ≥1 CD4 or VL tests		≤3 months ≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>White</b>						
<b>Below federal poverty level (%)</b>						
<7	1,209	23.5	1,006	83.2	1,098	90.8
7.00–10.99	1,156	22.4	965	83.5	1,056	91.4
11.00–18.99	1,548	30.0	1,276	82.4	1,393	89.9
≥19	1,240	24.1	1,019	82.2	1,110	89.5
<b>Less than high school diploma (%)</b>						
<6	1,539	29.9	1,312	85.2	1,410	91.6
6.00–10.99	1,424	27.6	1,175	82.5	1,295	91.0
11.00–17.99	1,140	22.1	947	83.0	1,031	90.5
≥18	1,051	20.4	835	79.4	923	87.8
<b>Median household income (U.S. \$)</b>						
<40,000	1,022	19.9	815	79.7	898	87.9
40,000–53,999	1,334	25.9	1,101	82.5	1,203	90.2
54,000–74,999	1,509	29.3	1,278	84.7	1,394	92.4
≥75,000	1,284	24.9	1,071	83.4	1,159	90.3
<b>Without health insurance (%)</b>						
<6	1,120	21.7	970	86.6	1,029	91.9
6.00–9.99	1,191	23.1	981	82.4	1,087	91.3
10.00–15.99	1,361	26.4	1,129	83.0	1,236	90.8
≥16	1,482	28.8	1,187	80.1	1,307	88.2
<b>Total<sup>b</sup></b>	<b>5,315</b>	<b>100</b>	<b>4,405</b>	<b>82.9</b>	<b>4,808</b>	<b>90.4</b>
<b>Other<sup>d</sup></b>						
<b>Below federal poverty level (%)</b>						
<7	227	18.3	181	79.8	198	87.6
7.00–10.99	264	21.3	228	86.4	242	91.8
11.00–18.99	387	31.3	315	81.4	344	88.8
≥19	359	29.0	281	78.2	313	87.1
<b>Less than high school diploma (%)</b>						
<6	266	21.5	223	83.9	237	89.3
6.00–10.99	310	25.1	252	81.3	275	88.6
11.00–17.99	268	21.7	213	79.5	235	87.5
≥18	393	31.7	316	80.6	350	89.3
<b>Median household income (U.S. \$)</b>						
<40,000	281	22.7	219	78.1	244	86.8
40,000–53,999	269	21.8	217	80.6	244	90.8
54,000–74,999	357	28.8	294	82.5	316	88.7
≥75,000	330	26.7	274	83.1	293	88.7
<b>Without health insurance (%)</b>						
<6	241	19.5	200	83.2	216	89.7
6.00–9.99	251	20.3	202	80.4	220	87.5
10.00–15.99	301	24.4	248	82.2	268	88.8
≥16	443	35.9	355	80.0	394	88.9
<b>Total<sup>b</sup></b>	<b>1,266</b>	<b>100</b>	<b>1,028</b>	<b>81.2</b>	<b>1,122</b>	<b>88.7</b>

**Table 13. Linkage to HIV medical care after HIV diagnosis during 2017, among male adults with infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—census tract level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Total</b>						
<b>Below federal poverty level (%)</b>						
<7	2,960	15.1	2,391	80.8	2,604	88.0
7.00–10.99	3,255	16.6	2,648	81.4	2,910	89.4
11.00–18.99	5,814	29.7	4,576	78.7	5,051	86.9
≥19	7,528	38.5	5,771	76.7	6,463	85.9
<b>Less than high school diploma (%)</b>						
<6	3,521	18.0	2,872	81.6	3,132	89.0
6.00–10.99	4,085	20.9	3,255	79.7	3,587	87.8
11.00–17.99	4,556	23.3	3,607	79.2	3,993	87.6
≥18	7,404	37.8	5,659	76.4	6,324	85.4
<b>Median household income (U.S. \$)</b>						
<40,000	6,836	35.0	5,160	75.5	5,793	84.7
40,000–53,999	4,986	25.5	3,932	78.9	4,373	87.7
54,000–74,999	4,463	22.8	3,622	81.1	3,962	88.8
≥75,000	3,259	16.7	2,663	81.7	2,887	88.6
<b>Without health insurance (%)</b>						
<6	2,427	12.4	2,041	84.1	2,197	90.5
6.00–9.99	3,268	16.7	2,632	80.5	2,899	88.7
10.00–15.99	4,817	24.6	3,867	80.3	4,237	88.0
≥16	9,048	46.3	6,848	75.7	7,698	85.1
<b>Total<sup>b</sup></b>	<b>20,127</b>	<b>100</b>	<b>15,828</b>	<b>78.6</b>	<b>17,521</b>	<b>87.1</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

Data have been statistically adjusted to account for missing transmission category.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column totals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Hispanics/Latinos can be of any race.

<sup>d</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, and multiple races.



**Table S1. Adults living below federal poverty level, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico**

Area of residence	Below federal poverty level (%)							
	<7		7.00–10.99		11.00–18.99		≥19	
	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>
<b>Male</b>								
Alabama	323,368	18.1	318,349	17.8	627,512	35.1	518,251	29.0
Alaska	132,358	45.6	90,107	31.0	48,183	16.6	19,763	6.8
Arizona	651,496	25.5	536,930	21.0	624,564	24.5	738,684	28.9
Arkansas	133,397	12.1	208,956	19.0	424,215	38.5	333,863	30.3
California	3,928,150	26.8	3,281,859	22.4	4,200,142	28.7	3,220,109	22.0
Colorado	810,302	39.0	482,753	23.2	505,072	24.3	278,771	13.4
Connecticut	757,140	55.6	241,216	17.7	194,779	14.3	168,385	12.4
Delaware	127,159	36.0	100,801	28.5	88,656	25.1	36,714	10.4
District of Columbia	49,065	18.9	50,722	19.5	82,134	31.6	77,640	29.9
Florida	1,729,149	22.2	1,788,940	22.9	2,549,787	32.7	1,734,401	22.2
Georgia	806,130	21.8	726,417	19.7	1,191,461	32.3	967,158	26.2
Hawaii	241,906	43.6	148,579	26.8	118,242	21.3	46,189	8.3
Idaho	79,522	13.1	212,460	34.9	216,804	35.7	99,270	16.3
Illinois	1,715,478	35.7	1,103,734	23.0	1,168,004	24.3	815,486	17.0
Indiana	757,345	30.9	593,806	24.3	607,130	24.8	489,551	20.0
Iowa	398,504	33.9	343,420	29.2	280,020	23.8	153,115	13.0
Kansas	377,496	35.0	260,982	24.2	268,452	24.9	171,971	15.9
Kentucky	296,027	17.9	308,224	18.6	474,534	28.7	575,182	34.8
Louisiana	238,841	13.9	292,412	17.1	586,798	34.3	594,338	34.7
Maine	141,944	27.3	118,093	22.7	193,490	37.3	65,640	12.6
Maryland	1,141,468	51.8	526,031	23.9	341,041	15.5	195,057	8.9
Massachusetts	1,274,790	49.3	466,029	18.0	477,086	18.5	367,517	14.2
Michigan	1,140,559	30.6	809,682	21.7	974,757	26.1	804,188	21.6
Minnesota	956,571	46.2	540,080	26.1	363,748	17.6	211,142	10.2
Mississippi	109,315	10.1	157,572	14.6	353,902	32.8	457,001	42.4
Missouri	602,335	26.5	501,625	22.1	704,407	31.0	461,749	20.3
Montana	82,767	20.6	103,073	25.7	136,697	34.1	78,446	19.6
Nebraska	238,881	34.2	211,741	30.3	157,331	22.5	90,411	12.9
Nevada	322,040	29.1	269,096	24.3	288,286	26.0	228,204	20.6
New Hampshire	301,502	57.5	120,177	22.9	70,655	13.5	32,013	6.1
New Jersey	1,766,471	52.9	643,473	19.3	536,727	16.1	392,182	11.7
New Mexico	91,808	11.8	121,914	15.7	262,871	33.8	301,877	38.8
New York	2,407,787	32.4	1,583,804	21.3	1,730,577	23.3	1,708,813	23.0
North Carolina	765,665	20.6	818,019	22.0	1,285,048	34.6	847,906	22.8
North Dakota	100,074	33.9	91,055	30.9	69,838	23.7	33,853	11.5
Ohio	1,481,723	34.2	903,537	20.8	1,067,672	24.6	884,981	20.4
Oklahoma	299,579	20.8	275,402	19.1	517,970	35.9	348,364	24.2
Oregon	281,967	18.2	363,408	23.4	599,305	38.6	306,162	19.7
Pennsylvania	1,969,223	40.4	1,152,399	23.6	959,800	19.7	796,443	16.3
Puerto Rico	1,832	0.1	13,031	1.0	68,986	5.4	1,192,671	93.4
Rhode Island	165,748	40.9	75,450	18.6	77,414	19.1	86,148	21.3
South Carolina	384,815	21.3	351,488	19.4	601,679	33.2	472,803	26.1
South Dakota	100,366	31.1	81,698	25.4	89,575	27.8	50,564	15.7
Tennessee	508,391	20.8	505,544	20.7	798,095	32.6	634,175	25.9
Texas	2,843,408	28.7	1,954,193	19.7	2,753,029	27.8	2,349,391	23.7
Utah	428,626	41.4	253,118	24.4	223,955	21.6	129,944	12.5
Vermont	76,990	31.3	75,971	30.8	66,386	27.0	26,958	10.9
Virginia	1,359,029	43.2	731,723	23.2	691,199	22.0	366,102	11.6
Washington	875,345	31.8	744,785	27.0	775,390	28.2	358,915	13.0
West Virginia	68,455	9.6	147,141	20.6	294,771	41.3	204,227	28.6
Wisconsin	825,039	37.5	623,669	28.3	484,613	22.0	268,259	12.2
Wyoming	71,890	31.7	72,367	32.0	62,166	27.5	20,004	8.8
<b>Total<sup>a</sup></b>	<b>36,739,236</b>	<b>30.3</b>	<b>26,497,055</b>	<b>21.8</b>	<b>32,334,955</b>	<b>26.6</b>	<b>25,810,951</b>	<b>21.3</b>

**Table S1. Adults living below federal poverty level, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Below federal poverty level (%)							
	<7		7.00–10.99		11.00–18.99		≥19	
	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>
	Female							
Alabama	347,299	17.7	339,150	17.3	683,382	34.9	590,046	30.1
Alaska	117,892	45.0	85,462	32.6	41,402	15.8	17,152	6.5
Arizona	695,413	26.5	569,798	21.7	631,629	24.0	729,557	27.8
Arkansas	139,732	11.9	219,557	18.7	449,128	38.3	363,378	31.0
California	4,106,294	27.1	3,435,536	22.7	4,311,747	28.5	3,294,708	21.7
Colorado	834,050	39.9	488,602	23.4	497,501	23.8	271,514	13.0
Connecticut	803,985	54.8	264,901	18.0	212,646	14.5	186,696	12.7
Delaware	136,026	35.2	107,539	27.8	101,186	26.2	41,598	10.8
District of Columbia	52,231	17.7	55,866	19.0	89,736	30.4	96,939	32.9
Florida	1,868,883	22.4	1,933,861	23.2	2,724,352	32.6	1,823,791	21.8
Georgia	858,009	21.4	794,284	19.8	1,299,767	32.4	1,053,780	26.3
Hawaii	239,861	43.0	147,251	26.4	125,610	22.5	45,244	8.1
Idaho	82,651	13.4	211,987	34.5	221,632	36.1	98,438	16.0
Illinois	1,819,265	35.7	1,163,636	22.9	1,213,743	23.8	895,708	17.6
Indiana	791,550	30.6	605,940	23.5	654,896	25.4	530,286	20.5
Iowa	411,616	33.9	354,501	29.2	298,140	24.6	150,082	12.4
Kansas	393,034	35.5	265,818	24.0	273,372	24.7	174,421	15.8
Kentucky	312,203	17.8	323,612	18.5	500,383	28.5	616,460	35.2
Louisiana	253,556	13.8	310,820	16.9	614,563	33.5	657,328	35.8
Maine	152,096	27.4	125,903	22.7	207,089	37.4	69,076	12.5
Maryland	1,242,556	51.2	577,027	23.8	381,566	15.7	227,210	9.4
Massachusetts	1,378,738	48.9	512,468	18.2	526,962	18.7	399,291	14.2
Michigan	1,195,528	30.2	850,629	21.5	1,032,734	26.1	880,652	22.2
Minnesota	981,175	46.1	557,109	26.2	381,386	17.9	209,377	9.8
Mississippi	118,534	10.0	169,463	14.3	380,726	32.2	513,311	43.4
Missouri	641,038	26.5	521,215	21.6	745,056	30.8	508,466	21.0
Montana	83,598	20.8	104,824	26.1	135,258	33.6	78,462	19.5
Nebraska	247,452	34.5	218,106	30.4	162,311	22.6	90,262	12.6
Nevada	339,484	30.6	269,894	24.3	283,665	25.6	217,043	19.6
New Hampshire	311,700	57.3	124,720	22.9	76,112	14.0	31,112	5.7
New Jersey	1,912,986	53.0	693,962	19.2	575,238	15.9	426,551	11.8
New Mexico	92,717	11.5	126,900	15.7	276,100	34.1	312,914	38.7
New York	2,620,183	32.2	1,705,333	21.0	1,862,486	22.9	1,941,571	23.9
North Carolina	821,986	20.4	876,600	21.7	1,387,485	34.4	946,985	23.5
North Dakota	95,014	33.9	87,555	31.2	67,280	24.0	30,436	10.9
Ohio	1,549,875	33.4	961,649	20.7	1,153,242	24.8	976,061	21.0
Oklahoma	314,820	21.0	288,057	19.2	535,789	35.8	359,995	24.0
Oregon	298,729	18.6	379,551	23.6	625,153	38.8	306,596	19.0
Pennsylvania	2,072,531	39.7	1,199,193	23.0	1,036,703	19.9	909,559	17.4
Puerto Rico	2,497	0.2	14,771	1.0	80,547	5.5	1,361,162	93.3
Rhode Island	178,789	40.6	83,682	19.0	85,162	19.3	93,163	21.1
South Carolina	416,142	21.0	374,662	18.9	654,840	33.1	531,925	26.9
South Dakota	100,073	31.1	82,344	25.6	90,271	28.0	49,592	15.4
Tennessee	551,811	20.9	548,705	20.7	846,036	32.0	698,637	26.4
Texas	2,993,611	29.2	2,019,798	19.7	2,827,496	27.6	2,418,462	23.6
Utah	432,843	41.4	259,403	24.8	228,382	21.9	123,949	11.9
Vermont	81,303	31.4	78,826	30.5	70,272	27.2	28,150	10.9
Virginia	1,419,430	42.6	776,115	23.3	742,663	22.3	395,865	11.9
Washington	898,035	32.1	767,193	27.4	781,210	27.9	353,718	12.6
West Virginia	68,488	9.2	153,866	20.6	306,759	41.2	216,267	29.0
Wisconsin	840,378	37.1	637,982	28.1	499,434	22.0	288,812	12.7
Wyoming	70,060	32.1	69,323	31.7	60,723	27.8	18,309	8.4
<b>Total<sup>b</sup></b>	<b>38,787,750</b>	<b>30.2</b>	<b>27,894,949</b>	<b>21.7</b>	<b>34,050,951</b>	<b>26.5</b>	<b>27,650,067</b>	<b>21.5</b>

**Table S1. Adults living below federal poverty level, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Below federal poverty level (%)											
	<7			7.00–10.99			11.00–18.99			≥19		
	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>
	<b>Total</b>											
Alabama	670,667	17.9	0.9	657,499	17.5	1.2	1,310,894	35.0	2.0	1,108,297	29.6	2.1
Alaska	250,250	45.3	0.3	175,569	31.8	0.3	89,585	16.2	0.1	36,915	6.7	0.1
Arizona	1,346,909	26.0	1.8	1,106,728	21.4	2.0	1,256,193	24.3	1.9	1,468,241	28.4	2.7
Arkansas	273,129	12.0	0.4	428,513	18.9	0.8	873,343	38.4	1.3	697,241	30.7	1.3
California	8,034,444	27.0	10.6	6,717,395	22.6	12.3	8,511,889	28.6	12.8	6,514,817	21.9	12.2
Colorado	1,644,352	39.4	2.2	971,355	23.3	1.8	1,002,573	24.1	1.5	550,285	13.2	1.0
Connecticut	1,561,125	55.2	2.1	506,117	17.9	0.9	407,425	14.4	0.6	355,081	12.5	0.7
Delaware	263,185	35.6	0.3	208,340	28.2	0.4	189,842	25.7	0.3	78,312	10.6	0.1
District of Columbia	101,296	18.3	0.1	106,588	19.2	0.2	171,870	31.0	0.3	174,579	31.5	0.3
Florida	3,598,032	22.3	4.8	3,722,801	23.0	6.8	5,274,139	32.7	7.9	3,558,192	22.0	6.7
Georgia	1,664,139	21.6	2.2	1,520,701	19.8	2.8	2,491,228	32.4	3.8	2,020,938	26.3	3.8
Hawaii	481,767	43.3	0.6	295,830	26.6	0.5	243,852	21.9	0.4	91,433	8.2	0.2
Idaho	162,173	13.3	0.2	424,447	34.7	0.8	438,436	35.9	0.7	197,708	16.2	0.4
Illinois	3,534,743	35.7	4.7	2,267,370	22.9	4.2	2,381,747	24.1	3.6	1,711,194	17.3	3.2
Indiana	1,548,895	30.8	2.1	1,199,746	23.8	2.2	1,262,026	25.1	1.9	1,019,837	20.3	1.9
Iowa	810,120	33.9	1.1	697,921	29.2	1.3	578,160	24.2	0.9	303,197	12.7	0.6
Kansas	770,530	35.3	1.0	526,800	24.1	1.0	541,824	24.8	0.8	346,392	15.8	0.6
Kentucky	608,230	17.9	0.8	631,836	18.5	1.2	974,917	28.6	1.5	1,191,642	35.0	2.2
Louisiana	492,397	13.9	0.7	603,232	17.0	1.1	1,201,361	33.9	1.8	1,251,666	35.3	2.3
Maine	294,040	27.4	0.4	243,996	22.7	0.4	400,579	37.3	0.6	134,716	12.6	0.3
Maryland	2,384,024	51.5	3.2	1,103,058	23.8	2.0	722,607	15.6	1.1	422,267	9.1	0.8
Massachusetts	2,653,528	49.1	3.5	978,497	18.1	1.8	1,004,048	18.6	1.5	766,808	14.2	1.4
Michigan	2,336,087	30.4	3.1	1,660,311	21.6	3.1	2,007,491	26.1	3.0	1,684,840	21.9	3.2
Minnesota	1,937,746	46.1	2.6	1,097,189	26.1	2.0	745,134	17.7	1.1	420,519	10.0	0.8
Mississippi	227,849	10.1	0.3	327,035	14.5	0.6	734,628	32.5	1.1	970,312	42.9	1.8
Missouri	1,243,373	26.5	1.6	1,022,840	21.8	1.9	1,449,463	30.9	2.2	970,215	20.7	1.8
Montana	166,365	20.7	0.2	207,897	25.9	0.4	271,955	33.9	0.4	156,908	19.5	0.3
Nebraska	486,333	34.3	0.6	429,847	30.3	0.8	319,642	22.6	0.5	180,673	12.8	0.3
Nevada	661,524	29.8	0.9	538,990	24.3	1.0	571,951	25.8	0.9	445,247	20.1	0.8
New Hampshire	613,202	57.4	0.8	244,897	22.9	0.5	146,767	13.7	0.2	63,125	5.9	0.1
New Jersey	3,679,457	53.0	4.9	1,337,435	19.3	2.5	1,111,965	16.0	1.7	818,733	11.8	1.5
New Mexico	184,525	11.6	0.2	248,814	15.7	0.5	538,971	34.0	0.8	614,791	38.7	1.1
New York	5,027,970	32.3	6.7	3,289,137	21.1	6.0	3,593,063	23.1	5.4	3,650,384	23.5	6.8
North Carolina	1,587,651	20.5	2.1	1,694,619	21.9	3.1	2,672,533	34.5	4.0	1,794,891	23.2	3.4
North Dakota	195,088	33.9	0.3	178,610	31.1	0.3	137,118	23.8	0.2	64,289	11.2	0.1
Ohio	3,031,598	33.8	4.0	1,865,186	20.8	3.4	2,220,914	24.7	3.3	1,861,042	20.7	3.5
Oklahoma	614,399	20.9	0.8	563,459	19.2	1.0	1,053,759	35.8	1.6	708,359	24.1	1.3
Oregon	580,696	18.4	0.8	742,959	23.5	1.4	1,224,458	38.7	1.8	612,758	19.4	1.1
Pennsylvania	4,041,754	40.0	5.4	2,351,592	23.3	4.3	1,996,503	19.8	3.0	1,706,002	16.9	3.2
Puerto Rico	4,329	0.2	0.0	27,802	1.0	0.1	149,533	5.5	0.2	2,553,833	93.4	4.8
Rhode Island	344,537	40.7	0.5	159,132	18.8	0.3	162,576	19.2	0.2	179,311	21.2	0.3
South Carolina	800,957	21.1	1.1	726,150	19.2	1.3	1,256,519	33.2	1.9	1,004,728	26.5	1.9
South Dakota	200,439	31.1	0.3	164,042	25.5	0.3	179,846	27.9	0.3	100,156	15.5	0.2
Tennessee	1,060,202	20.8	1.4	1,054,249	20.7	1.9	1,644,131	32.3	2.5	1,332,812	26.2	2.5
Texas	5,837,019	29.0	7.7	3,973,991	19.7	7.3	5,580,525	27.7	8.4	4,767,853	23.7	8.9
Utah	861,469	41.4	1.1	512,521	24.6	0.9	452,337	21.7	0.7	253,893	12.2	0.5
Vermont	158,293	31.4	0.2	154,797	30.7	0.3	136,658	27.1	0.2	55,108	10.9	0.1
Virginia	2,778,459	42.9	3.7	1,507,838	23.3	2.8	1,433,862	22.1	2.2	761,967	11.8	1.4
Washington	1,773,380	31.9	2.3	1,511,978	27.2	2.8	1,556,600	28.0	2.3	712,633	12.8	1.3
West Virginia	136,943	9.4	0.2	301,007	20.6	0.6	601,530	41.2	0.9	420,494	28.8	0.8
Wisconsin	1,665,417	37.3	2.2	1,261,651	28.2	2.3	984,047	22.0	1.5	557,071	12.5	1.0
Wyoming	141,950	31.9	0.2	141,690	31.9	0.3	122,889	27.6	0.2	38,313	8.6	0.1
<b>Total</b>	<b>75,526,986</b>	<b>30.2</b>	<b>100</b>	<b>54,392,004</b>	<b>21.8</b>	<b>100</b>	<b>66,385,906</b>	<b>26.6</b>	<b>100</b>	<b>53,461,018</b>	<b>21.4</b>	<b>100</b>

Abbreviations. ACS, American Community Survey; SDH, social determinants of health [footnotes only].

Note. Proportion of residents in the census tract who were living below the U.S. poverty level at any time during the 12 months before the survey response (individuals aged 18 years and older).

- <sup>a</sup> Percentage of male residents of area.
- <sup>b</sup> Percentage of female residents of area.
- <sup>c</sup> Percentage of residents of area.
- <sup>d</sup> Percentage of SDH subpopulation total.

**Table S2. Adults with less than high school diploma, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico**

Area of residence	Less than high school diploma (%)							
	<6		6.00–10.99		11.00–17.99		≥18	
	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>
	<b>Male</b>							
Alabama	287,015	16.1	353,670	19.8	520,414	29.1	626,589	35.1
Alaska	100,919	34.8	104,412	36.0	70,495	24.3	14,585	5.0
Arizona	713,639	27.9	625,161	24.4	510,782	20.0	708,462	27.7
Arkansas	140,847	12.8	234,650	21.3	437,801	39.8	287,133	26.1
California	3,539,311	24.1	3,000,918	20.4	2,572,356	17.5	5,597,541	38.1
Colorado	952,677	45.6	522,214	25.0	326,253	15.6	289,767	13.9
Connecticut	521,216	38.2	445,833	32.7	202,968	14.9	193,501	14.2
Delaware	78,852	22.3	120,980	34.2	96,255	27.2	57,243	16.2
District of Columbia	108,612	41.8	43,464	16.7	68,855	26.5	38,630	14.9
Florida	1,854,376	23.7	2,145,087	27.5	1,959,268	25.1	1,855,277	23.7
Georgia	692,591	18.7	851,282	23.0	1,041,367	28.2	1,110,984	30.1
Hawaii	231,752	41.7	194,544	35.0	97,461	17.5	32,187	5.8
Idaho	160,123	26.3	225,412	37.1	157,306	25.9	65,215	10.7
Illinois	1,496,911	31.2	1,421,636	29.6	969,548	20.2	914,922	19.0
Indiana	471,776	19.2	812,980	33.2	735,076	30.0	431,457	17.6
Iowa	447,308	38.1	477,195	40.6	158,784	13.5	91,772	7.8
Kansas	394,387	36.6	368,559	34.2	176,834	16.4	139,121	12.9
Kentucky	262,851	15.8	367,277	22.1	477,357	28.8	551,415	33.2
Louisiana	214,280	12.5	316,713	18.5	521,503	30.4	661,656	38.6
Maine	171,823	33.1	235,431	45.3	99,625	19.2	12,288	2.4
Maryland	701,219	31.6	755,469	34.0	437,604	19.7	324,545	14.6
Massachusetts	1,065,645	41.2	696,044	26.9	453,561	17.5	371,571	14.4
Michigan	1,094,539	29.2	1,307,187	34.9	911,866	24.3	437,266	11.7
Minnesota	891,475	43.0	805,154	38.8	255,461	12.3	122,114	5.9
Mississippi	98,262	9.1	185,516	17.2	336,649	31.2	457,458	42.4
Missouri	587,594	25.9	676,172	29.8	680,539	30.0	325,811	14.4
Montana	143,520	35.7	178,278	44.4	67,130	16.7	12,634	3.1
Nebraska	282,635	40.2	225,917	32.2	120,942	17.2	73,089	10.4
Nevada	197,986	17.9	325,402	29.4	258,194	23.3	326,055	29.4
New Hampshire	227,385	43.4	204,434	39.0	77,438	14.8	15,090	2.9
New Jersey	1,140,388	34.0	1,078,175	32.2	577,870	17.2	555,005	16.6
New Mexico	161,704	20.8	151,436	19.5	188,018	24.2	277,312	35.6
New York	1,864,508	25.0	1,969,054	26.4	1,628,383	21.8	1,993,783	26.7
North Carolina	838,155	22.5	809,453	21.7	1,070,887	28.7	1,008,650	27.1
North Dakota	95,147	32.3	147,321	50.0	44,138	15.0	8,214	2.8
Ohio	1,230,553	28.3	1,475,188	34.0	1,033,183	23.8	602,837	13.9
Oklahoma	260,905	18.1	396,060	27.5	473,663	32.9	310,687	21.6
Oregon	433,680	28.0	504,053	32.5	438,860	28.3	174,249	11.2
Pennsylvania	1,410,285	28.9	1,762,926	36.1	1,121,216	23.0	589,175	12.1
Puerto Rico	35,686	2.8	75,944	5.9	253,654	19.8	913,375	71.4
Rhode Island	87,488	21.6	157,928	39.0	74,680	18.5	84,664	20.9
South Carolina	386,601	21.2	431,238	23.7	474,731	26.1	528,786	29.0
South Dakota	106,889	33.2	122,965	38.2	65,269	20.3	27,080	8.4
Tennessee	475,339	19.4	524,709	21.4	816,083	33.3	635,856	25.9
Texas	2,063,884	20.8	1,935,209	19.5	2,121,314	21.4	3,815,226	38.4
Utah	436,829	42.1	311,117	30.0	192,768	18.6	97,137	9.4
Vermont	78,350	31.8	116,160	47.2	49,253	20.0	2,542	1.0
Virginia	975,456	30.9	837,211	26.5	820,400	26.0	528,327	16.7
Washington	971,457	35.3	896,838	32.6	593,571	21.5	292,569	10.6
West Virginia	78,141	10.9	173,301	24.3	287,954	40.3	175,198	24.5
Wisconsin	794,264	36.1	903,373	41.0	364,774	16.6	140,250	6.4
Wyoming	71,811	31.7	103,037	45.5	48,979	21.6	2,600	1.1
<b>Total<sup>a</sup></b>	<b>32,129,046</b>	<b>26.4</b>	<b>33,109,687</b>	<b>27.2</b>	<b>27,539,340</b>	<b>22.6</b>	<b>28,908,900</b>	<b>23.8</b>

**Table S2. Adults with less than high school diploma, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Less than high school diploma (%)							
	<6		6.00–10.99		11.00–17.99		≥18	
	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>
	<b>Female</b>							
Alabama	310,910	15.9	399,381	20.4	578,641	29.5	671,469	34.3
Alaska	90,487	34.5	95,367	36.4	63,921	24.4	12,133	4.6
Arizona	755,937	28.7	669,074	25.4	525,063	20.0	679,402	25.8
Arkansas	151,685	12.9	255,281	21.8	466,867	39.8	297,962	25.4
California	3,727,128	24.6	3,156,484	20.8	2,711,467	17.9	5,562,922	36.7
Colorado	967,082	46.2	529,133	25.3	326,008	15.6	272,052	13.0
Connecticut	556,532	37.9	486,323	33.1	218,717	14.9	206,656	14.1
Delaware	86,923	22.5	132,918	34.4	109,377	28.3	57,131	14.8
District of Columbia	122,657	41.6	46,400	15.7	82,162	27.9	43,553	14.8
Florida	2,026,741	24.3	2,337,568	28.0	2,134,391	25.6	1,854,157	22.2
Georgia	735,589	18.4	958,470	23.9	1,165,242	29.1	1,146,907	28.6
Hawaii	225,311	40.4	201,648	36.1	100,727	18.0	30,445	5.5
Idaho	164,670	26.8	229,982	37.4	157,214	25.6	62,842	10.2
Illinois	1,600,865	31.4	1,528,093	30.0	1,051,809	20.7	911,745	17.9
Indiana	498,957	19.3	861,950	33.3	779,387	30.1	444,980	17.2
Iowa	465,245	38.3	489,444	40.3	167,215	13.8	92,435	7.6
Kansas	411,247	37.2	378,824	34.2	184,289	16.7	132,285	12.0
Kentucky	280,393	16.0	393,000	22.4	504,927	28.8	574,564	32.8
Louisiana	232,440	12.7	340,852	18.6	571,036	31.1	692,248	37.7
Maine	188,728	34.1	249,227	45.0	103,859	18.7	12,350	2.2
Maryland	780,400	32.1	836,630	34.4	487,910	20.1	324,689	13.4
Massachusetts	1,177,602	41.8	753,151	26.7	488,385	17.3	399,828	14.2
Michigan	1,160,677	29.3	1,380,498	34.8	972,021	24.5	452,993	11.4
Minnesota	934,917	43.9	815,509	38.3	260,165	12.2	119,593	5.6
Mississippi	110,020	9.3	205,802	17.4	375,685	31.8	490,527	41.5
Missouri	629,057	26.0	730,503	30.2	723,544	30.0	332,671	13.8
Montana	144,363	35.9	178,823	44.5	66,638	16.6	12,318	3.1
Nebraska	297,494	41.2	233,034	32.3	120,852	16.7	70,139	9.7
Nevada	208,369	18.8	339,800	30.6	262,744	23.7	299,173	27.0
New Hampshire	237,309	43.7	213,961	39.4	77,778	14.3	14,596	2.7
New Jersey	1,234,369	34.2	1,170,380	32.4	635,463	17.6	568,690	15.8
New Mexico	174,003	21.5	160,398	19.8	198,093	24.5	276,137	34.1
New York	2,041,223	25.1	2,134,044	26.2	1,789,902	22.0	2,174,027	26.7
North Carolina	894,601	22.2	890,612	22.1	1,167,689	28.9	1,082,835	26.8
North Dakota	91,301	32.6	136,361	48.7	44,701	15.9	7,922	2.8
Ohio	1,313,834	28.3	1,598,070	34.4	1,114,205	24.0	614,718	13.2
Oklahoma	279,610	18.7	419,419	28.0	500,040	33.4	299,592	20.0
Oregon	456,205	28.3	534,397	33.2	447,066	27.8	172,361	10.7
Pennsylvania	1,529,947	29.3	1,880,745	36.0	1,197,797	23.0	609,497	11.7
Puerto Rico	43,430	3.0	92,579	6.3	309,093	21.2	1,013,875	69.5
Rhode Island	93,849	21.3	173,238	39.3	83,749	19.0	89,960	20.4
South Carolina	418,108	21.1	472,983	23.9	524,883	26.5	565,159	28.5
South Dakota	108,690	33.7	122,939	38.1	64,473	20.0	26,178	8.1
Tennessee	528,674	20.0	568,630	21.5	886,661	33.5	663,782	25.1
Texas	2,172,026	21.1	2,068,746	20.1	2,258,717	22.0	3,771,373	36.7
Utah	441,294	42.2	316,839	30.3	193,019	18.5	93,527	9.0
Vermont	83,167	32.2	121,144	46.9	51,341	19.9	2,899	1.1
Virginia	1,021,440	30.6	904,951	27.1	869,114	26.0	542,779	16.3
Washington	994,278	35.5	921,271	32.9	596,618	21.3	287,989	10.3
West Virginia	80,052	10.7	183,853	24.7	301,023	40.4	180,452	24.2
Wisconsin	829,687	36.6	926,430	40.9	363,065	16.0	147,424	6.5
Wyoming	69,671	31.9	100,675	46.1	45,470	20.8	2,599	1.2
<b>Total<sup>a</sup></b>	<b>34,179,194</b>	<b>26.6</b>	<b>35,325,834</b>	<b>27.5</b>	<b>29,480,223</b>	<b>23.0</b>	<b>29,468,540</b>	<b>22.9</b>

**Table S2. Adults with less than high school diploma, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Less than high school diploma (%)											
	<6			6.00–10.99			11.00–17.99			≥18		
	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>
	<b>Total</b>											
Alabama	597,925	16.0	0.9	753,051	20.1	1.1	1,099,055	29.3	1.9	1,298,058	34.6	2.2
Alaska	191,406	34.7	0.3	199,779	36.2	0.3	134,416	24.3	0.2	26,718	4.8	0.0
Arizona	1,469,576	28.3	2.2	1,294,235	24.9	1.9	1,035,845	20.0	1.8	1,387,864	26.8	2.4
Arkansas	292,532	12.9	0.4	489,931	21.6	0.7	904,668	39.8	1.6	585,095	25.7	1.0
California	7,266,439	24.3	11.0	6,157,402	20.6	9.0	5,283,823	17.7	9.3	11,160,463	37.4	19.1
Colorado	1,919,759	45.9	2.9	1,051,347	25.1	1.5	652,261	15.6	1.1	561,819	13.4	1.0
Connecticut	1,077,748	38.1	1.6	932,156	32.9	1.4	421,685	14.9	0.7	400,157	14.1	0.7
Delaware	165,775	22.4	0.3	253,898	34.3	0.4	205,632	27.8	0.4	114,374	15.5	0.2
District of Columbia	231,269	41.7	0.3	89,864	16.2	0.1	151,017	27.2	0.3	82,183	14.8	0.1
Florida	3,881,117	24.0	5.9	4,482,655	27.7	6.6	4,093,659	25.3	7.2	3,709,434	22.9	6.4
Georgia	1,428,180	18.5	2.2	1,809,752	23.5	2.6	2,206,609	28.6	3.9	2,257,891	29.3	3.9
Hawaii	457,063	41.0	0.7	396,192	35.6	0.6	198,188	17.8	0.3	62,632	5.6	0.1
Idaho	324,793	26.6	0.5	455,394	37.2	0.7	314,520	25.7	0.6	128,057	10.5	0.2
Illinois	3,097,776	31.3	4.7	2,949,729	29.8	4.3	2,021,357	20.4	3.5	1,826,667	18.5	3.1
Indiana	970,733	19.3	1.5	1,674,930	33.3	2.4	1,514,463	30.1	2.7	876,437	17.4	1.5
Iowa	912,553	38.2	1.4	966,639	40.5	1.4	325,999	13.6	0.6	184,207	7.7	0.3
Kansas	805,634	36.9	1.2	747,383	34.2	1.1	361,123	16.5	0.6	271,406	12.4	0.5
Kentucky	543,244	15.9	0.8	760,277	22.3	1.1	982,284	28.8	1.7	1,125,979	33.0	1.9
Louisiana	446,720	12.6	0.7	657,565	18.5	1.0	1,092,539	30.8	1.9	1,353,904	38.1	2.3
Maine	360,551	33.6	0.5	484,658	45.2	0.7	203,484	19.0	0.4	24,638	2.3	0.0
Maryland	1,481,619	31.9	2.2	1,592,099	34.2	2.3	925,514	19.9	1.6	649,234	14.0	1.1
Massachusetts	2,243,247	41.5	3.4	1,449,195	26.8	2.1	941,946	17.4	1.7	771,399	14.3	1.3
Michigan	2,255,216	29.2	3.4	2,687,685	34.8	3.9	1,883,887	24.4	3.3	890,259	11.5	1.5
Minnesota	1,826,392	43.4	2.8	1,620,663	38.5	2.4	515,626	12.3	0.9	241,707	5.7	0.4
Mississippi	208,282	9.2	0.3	391,318	17.3	0.6	712,334	31.5	1.2	947,985	41.9	1.6
Missouri	1,216,651	26.0	1.8	1,406,675	30.0	2.1	1,404,083	30.0	2.5	658,482	14.1	1.1
Montana	287,883	35.8	0.4	357,101	44.4	0.5	133,768	16.6	0.2	24,952	3.1	0.0
Nebraska	580,129	40.7	0.9	458,951	32.2	0.7	241,794	17.0	0.4	143,228	10.1	0.2
Nevada	406,355	18.3	0.6	665,202	30.0	1.0	520,938	23.5	0.9	625,228	28.2	1.1
New Hampshire	464,694	43.5	0.7	418,395	39.2	0.6	155,216	14.5	0.3	29,686	2.8	0.1
New Jersey	2,374,757	34.1	3.6	2,248,555	32.3	3.3	1,213,333	17.4	2.1	1,123,695	16.1	1.9
New Mexico	335,707	21.2	0.5	311,834	19.6	0.5	386,111	24.3	0.7	553,449	34.9	0.9
New York	3,905,731	25.0	5.9	4,103,098	26.3	6.0	3,418,285	21.9	6.0	4,167,810	26.7	7.1
North Carolina	1,732,756	22.3	2.6	1,700,065	21.9	2.5	2,238,576	28.8	3.9	2,091,485	26.9	3.6
North Dakota	186,448	32.4	0.3	283,682	49.3	0.4	88,839	15.4	0.2	16,136	2.8	0.0
Ohio	2,544,387	28.3	3.8	3,073,258	34.2	4.5	2,147,388	23.9	3.8	1,217,555	13.6	2.1
Oklahoma	540,515	18.4	0.8	815,479	27.7	1.2	973,703	33.1	1.7	610,279	20.8	1.0
Oregon	889,885	28.2	1.3	1,038,450	32.9	1.5	885,926	28.0	1.6	346,610	11.0	0.6
Pennsylvania	2,940,232	29.1	4.4	3,643,671	36.1	5.3	2,319,013	23.0	4.1	1,198,672	11.9	2.1
Puerto Rico	79,116	2.9	0.1	168,523	6.2	0.2	562,747	20.6	1.0	1,927,250	70.4	3.3
Rhode Island	181,337	21.4	0.3	331,166	39.2	0.5	158,429	18.7	0.3	174,624	20.7	0.3
South Carolina	804,709	21.2	1.2	904,221	23.8	1.3	999,614	26.3	1.8	1,093,945	28.8	1.9
South Dakota	215,579	33.4	0.3	245,904	38.2	0.4	129,742	20.1	0.2	53,258	8.3	0.1
Tennessee	1,004,013	19.7	1.5	1,093,339	21.4	1.6	1,702,744	33.4	3.0	1,299,638	25.5	2.2
Texas	4,235,910	21.0	6.4	4,003,955	19.8	5.9	4,380,031	21.7	7.7	7,586,599	37.5	13.0
Utah	878,123	42.2	1.3	627,956	30.2	0.9	385,787	18.5	0.7	190,664	9.2	0.3
Vermont	161,517	32.0	0.2	237,304	47.0	0.3	100,594	19.9	0.2	5,441	1.1	0.0
Virginia	1,996,896	30.7	3.0	1,742,162	26.8	2.5	1,689,514	26.0	3.0	1,071,106	16.5	1.8
Washington	1,965,735	35.4	3.0	1,818,109	32.7	2.7	1,190,189	21.4	2.1	580,558	10.5	1.0
West Virginia	158,193	10.8	0.2	357,154	24.5	0.5	588,977	40.3	1.0	355,650	24.4	0.6
Wisconsin	1,623,951	36.3	2.4	1,829,803	40.9	2.7	727,839	16.3	1.3	287,674	6.4	0.5
Wyoming	141,482	31.8	0.2	203,712	45.8	0.3	94,449	21.2	0.2	5,199	1.2	0.0
<b>Total<sup>a</sup></b>	<b>66,308,240</b>	<b>26.5</b>	<b>100</b>	<b>68,435,521</b>	<b>27.4</b>	<b>100</b>	<b>57,019,563</b>	<b>22.8</b>	<b>100</b>	<b>58,377,440</b>	<b>23.3</b>	<b>100</b>

Abbreviation. ACS, American Community Survey.

Note. Proportion of residents in the census tract with less than a high school diploma at the time of the survey response (individuals aged 18 years and older).

<sup>a</sup> Percentage of male residents of area.

<sup>b</sup> Percentage of female residents of area.

<sup>c</sup> Percentage of residents of area.

<sup>d</sup> Percentage of SDH subpopulation total.

**Table S3. Median household income among adults, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico**

Area of residence	Median household income (U.S. \$)							
	<40,000		40,000–53,999		54,000–74,999		≥75,000	
	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>
<b>Male</b>								
Alabama	636,770	35.6	562,104	31.4	382,400	21.4	206,202	11.5
Alaska	12,844	4.5	25,609	8.9	95,418	33.1	154,273	53.5
Arizona	675,552	26.5	671,309	26.3	617,571	24.2	587,134	23.0
Arkansas	425,819	38.8	395,687	36.0	220,450	20.1	56,629	5.2
California	1,983,116	13.6	2,733,587	18.7	3,819,155	26.1	6,075,839	41.6
Colorado	225,434	10.9	458,117	22.1	610,251	29.4	781,132	37.6
Connecticut	146,661	10.8	147,620	10.9	318,261	23.5	743,590	54.8
Delaware	24,548	6.9	90,067	25.5	138,251	39.1	100,464	28.4
District of Columbia	40,558	15.7	26,706	10.4	34,155	13.2	156,419	60.7
Florida	2,002,079	25.7	2,391,550	30.7	2,122,769	27.2	1,274,494	16.4
Georgia	932,055	25.3	990,442	26.8	989,728	26.8	776,849	21.1
Hawaii	30,483	5.5	67,206	12.1	165,733	29.9	290,667	52.5
Idaho	112,626	18.5	227,764	37.5	221,534	36.4	46,132	7.6
Illinois	701,830	14.6	1,106,301	23.1	1,449,241	30.2	1,540,838	32.1
Indiana	531,804	21.8	706,977	29.0	804,730	33.0	397,549	16.3
Iowa	127,763	10.9	376,717	32.1	492,042	42.0	175,416	15.0
Kansas	190,547	17.7	356,729	33.1	294,089	27.3	237,536	22.0
Kentucky	601,170	36.4	469,669	28.4	385,489	23.3	195,212	11.8
Louisiana	559,758	32.7	512,422	29.9	431,080	25.2	208,911	12.2
Maine	91,425	17.6	176,481	34.0	196,394	37.8	54,867	10.6
Maryland	134,009	6.1	255,850	11.6	536,506	24.4	1,271,721	57.9
Massachusetts	247,649	9.6	288,741	11.2	676,371	26.2	1,368,983	53.0
Michigan	818,176	22.0	1,068,199	28.7	1,111,763	29.8	726,983	19.5
Minnesota	159,803	7.7	434,307	21.0	765,349	36.9	712,082	34.4
Mississippi	491,034	45.7	338,670	31.5	187,135	17.4	58,209	5.4
Missouri	550,378	24.3	714,807	31.5	607,668	26.8	396,421	17.5
Montana	82,425	20.6	140,694	35.1	151,309	37.7	26,522	6.6
Nebraska	76,857	11.0	251,430	36.0	233,622	33.5	136,455	19.5
Nevada	234,827	21.2	267,012	24.1	377,952	34.1	227,835	20.6
New Hampshire	29,527	5.6	68,620	13.1	204,329	39.0	221,871	42.3
New Jersey	316,046	9.5	403,492	12.1	793,835	23.8	1,825,314	54.7
New Mexico	287,303	36.9	232,944	29.9	160,582	20.6	97,641	12.5
New York	1,190,104	16.1	1,479,263	20.0	1,950,857	26.4	2,781,047	37.6
North Carolina	1,004,493	27.1	1,254,944	33.9	874,010	23.6	572,335	15.4
North Dakota	26,322	8.9	69,458	23.6	115,770	39.3	83,270	28.2
Ohio	969,701	22.4	1,177,220	27.2	1,357,911	31.4	818,878	18.9
Oklahoma	386,964	26.9	499,584	34.8	362,964	25.3	186,984	13.0
Oregon	251,886	16.2	450,954	29.1	530,419	34.2	317,583	20.5
Pennsylvania	787,488	16.2	1,274,221	26.2	1,607,002	33.1	1,186,367	24.4
Puerto Rico	1,188,015	93.1	68,478	5.4	16,655	1.3	3,294	0.3
Rhode Island	73,917	18.3	69,889	17.3	128,104	31.6	132,850	32.8
South Carolina	562,186	31.2	544,356	30.2	484,158	26.9	212,106	11.8
South Dakota	53,324	16.5	111,114	34.5	115,823	35.9	41,942	13.0
Tennessee	765,518	31.3	778,086	31.9	564,272	23.1	334,115	13.7
Texas	2,194,210	22.2	2,449,645	24.8	2,576,368	26.0	2,672,096	27.0
Utah	91,347	8.8	212,889	20.6	351,069	33.9	380,338	36.7
Vermont	22,876	9.3	69,592	28.3	125,168	50.8	28,669	11.6
Virginia	377,621	12.0	649,489	20.7	730,933	23.3	1,384,839	44.1
Washington	236,682	8.6	588,627	21.4	860,578	31.3	1,063,816	38.7
West Virginia	255,092	35.7	286,222	40.1	149,480	20.9	23,242	3.3
Wisconsin	284,737	12.9	654,584	29.7	799,117	36.3	462,648	21.0
Wyoming	13,414	5.9	50,991	22.5	110,091	48.6	51,931	22.9
<b>Total<sup>a</sup></b>	<b>24,216,773</b>	<b>20.0</b>	<b>29,697,436</b>	<b>24.5</b>	<b>33,405,911</b>	<b>27.6</b>	<b>33,868,540</b>	<b>27.9</b>

**Table S3. Median household income among adults, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Median household income (U.S. \$)							
	<40,000		40,000–53,999		54,000–74,999		≥75,000	
	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>
	<b>Female</b>							
Alabama	719,323	36.7	610,577	31.2	411,152	21.0	218,821	11.2
Alaska	11,351	4.3	22,888	8.8	83,263	31.9	143,890	55.0
Arizona	685,362	26.1	671,364	25.6	647,960	24.7	621,636	23.7
Arkansas	458,739	39.2	417,707	35.6	235,013	20.1	60,285	5.1
California	2,057,281	13.6	2,794,982	18.5	3,962,681	26.2	6,325,501	41.8
Colorado	225,298	10.8	454,817	21.8	614,947	29.4	795,711	38.1
Connecticut	166,663	11.4	163,458	11.1	349,655	23.8	787,104	53.7
Delaware	29,702	7.7	99,369	25.7	151,332	39.2	105,946	27.4
District of Columbia	55,291	18.9	31,983	10.9	37,800	12.9	167,715	57.3
Florida	2,139,531	25.7	2,568,763	30.8	2,272,545	27.2	1,359,719	16.3
Georgia	1,024,633	25.6	1,085,216	27.1	1,067,986	26.7	827,838	20.7
Hawaii	29,792	5.3	66,823	12.0	164,233	29.4	297,104	53.2
Idaho	112,115	18.2	230,577	37.5	223,254	36.3	48,762	7.9
Illinois	792,464	15.6	1,154,171	22.7	1,521,262	29.9	1,622,905	31.9
Indiana	588,811	22.8	742,918	28.8	830,942	32.2	416,145	16.1
Iowa	126,407	10.4	395,771	32.7	508,475	42.0	181,398	15.0
Kansas	196,748	17.8	360,449	32.6	303,156	27.4	246,292	22.3
Kentucky	648,723	37.1	494,292	28.3	402,235	23.0	203,934	11.7
Louisiana	627,624	34.2	535,842	29.2	449,468	24.5	223,053	12.1
Maine	96,557	17.4	188,859	34.1	209,537	37.8	59,211	10.7
Maryland	163,433	6.7	291,654	12.0	593,876	24.5	1,378,065	56.8
Massachusetts	285,132	10.1	314,945	11.2	736,592	26.2	1,479,171	52.5
Michigan	900,021	22.8	1,130,732	28.6	1,168,494	29.5	755,951	19.1
Minnesota	166,949	7.8	448,248	21.1	780,925	36.7	732,925	34.4
Mississippi	551,653	46.7	362,493	30.7	202,294	17.1	64,169	5.4
Missouri	612,768	25.4	736,930	30.5	647,257	26.8	417,340	17.3
Montana	82,638	20.6	140,706	35.0	153,908	38.3	24,864	6.2
Nebraska	78,935	11.0	257,856	35.9	239,266	33.3	142,074	19.8
Nevada	220,696	19.9	265,667	23.9	388,648	35.0	235,075	21.2
New Hampshire	29,801	5.5	72,522	13.3	210,893	38.8	230,428	42.4
New Jersey	363,726	10.1	431,315	12.0	854,534	23.7	1,958,962	54.3
New Mexico	293,298	36.3	248,757	30.8	166,331	20.6	100,245	12.4
New York	1,417,127	17.5	1,582,983	19.5	2,088,914	25.8	3,021,644	37.3
North Carolina	1,128,920	28.0	1,329,420	33.0	954,763	23.7	619,478	15.4
North Dakota	22,665	8.1	68,711	24.5	111,084	39.6	77,825	27.8
Ohio	1,089,999	23.5	1,260,866	27.2	1,426,639	30.8	858,640	18.5
Oklahoma	406,185	27.2	509,264	34.1	381,724	25.5	197,723	13.2
Oregon	259,169	16.1	465,780	28.9	554,612	34.4	330,468	20.5
Pennsylvania	907,724	17.4	1,349,115	25.9	1,693,111	32.5	1,260,098	24.2
Puerto Rico	1,361,037	93.3	74,851	5.1	18,583	1.3	4,408	0.3
Rhode Island	81,005	18.4	77,136	17.5	143,171	32.5	139,484	31.6
South Carolina	638,291	32.4	581,404	29.5	522,575	26.5	229,330	11.6
South Dakota	54,091	16.8	110,773	34.4	113,431	35.2	43,985	13.6
Tennessee	845,585	32.0	823,845	31.2	605,416	22.9	367,180	13.9
Texas	2,295,215	22.4	2,504,679	24.4	2,654,313	25.9	2,801,336	27.3
Utah	91,077	8.7	208,207	19.9	363,163	34.8	382,130	36.6
Vermont	23,716	9.2	73,110	28.3	131,914	51.0	29,811	11.5
Virginia	406,680	12.2	698,650	21.0	770,949	23.2	1,451,522	43.6
Washington	241,203	8.6	590,139	21.1	884,050	31.6	1,084,454	38.7
West Virginia	270,143	36.3	296,949	39.9	152,814	20.5	24,838	3.3
Wisconsin	310,049	13.7	671,298	29.6	812,731	35.9	471,934	20.8
Wyoming	11,806	5.4	51,361	23.5	106,501	48.8	48,747	22.3
<b>Total<sup>a</sup></b>	<b>26,403,152</b>	<b>20.6</b>	<b>31,121,192</b>	<b>24.3</b>	<b>35,080,372</b>	<b>27.3</b>	<b>35,677,274</b>	<b>27.8</b>



**Table S3. Median household income among adults, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Median household income (U.S. \$)											
	<40,000			40,000–53,999			54,000–74,999			≥75,000		
	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>
	<b>Total</b>											
Alabama	1,356,093	36.2	2.7	1,172,681	31.3	1.9	793,552	21.2	1.2	425,023	11.3	0.6
Alaska	24,195	4.4	0.0	48,497	8.8	0.1	178,681	32.5	0.3	298,163	54.3	0.4
Arizona	1,360,914	26.3	2.7	1,342,673	25.9	2.2	1,265,531	24.4	1.8	1,208,770	23.3	1.7
Arkansas	884,558	39.0	1.7	813,394	35.8	1.3	455,463	20.1	0.7	116,914	5.1	0.2
California	4,040,397	13.6	8.0	5,528,569	18.6	9.1	7,781,836	26.2	11.4	12,401,340	41.7	17.8
Colorado	450,732	10.8	0.9	912,934	21.9	1.5	1,225,198	29.4	1.8	1,576,843	37.9	2.3
Connecticut	313,324	11.1	0.6	311,078	11.0	0.5	667,916	23.7	1.0	1,530,694	54.2	2.2
Delaware	54,250	7.3	0.1	189,436	25.6	0.3	289,583	39.1	0.4	206,410	27.9	0.3
District of Columbia	95,849	17.4	0.2	58,689	10.7	0.1	71,955	13.1	0.1	324,134	58.9	0.5
Florida	4,141,610	25.7	8.2	4,960,313	30.7	8.2	4,395,314	27.2	6.4	2,634,213	16.3	3.8
Georgia	1,956,688	25.4	3.9	2,075,658	27.0	3.4	2,057,714	26.7	3.0	1,604,687	20.9	2.3
Hawaii	60,275	5.4	0.1	134,029	12.1	0.2	329,966	29.7	0.5	587,771	52.9	0.8
Idaho	224,741	18.4	0.4	458,341	37.5	0.8	444,788	36.4	0.6	94,894	7.8	0.1
Illinois	1,494,294	15.1	3.0	2,260,472	22.9	3.7	2,970,503	30.0	4.3	3,163,743	32.0	4.5
Indiana	1,120,615	22.3	2.2	1,449,895	28.9	2.4	1,635,672	32.6	2.4	813,694	16.2	1.2
Iowa	254,170	10.7	0.5	772,488	32.4	1.3	1,000,517	42.0	1.5	356,814	15.0	0.5
Kansas	387,295	17.7	0.8	717,178	32.8	1.2	597,245	27.3	0.9	483,828	22.1	0.7
Kentucky	1,249,893	36.8	2.5	963,961	28.3	1.6	787,724	23.2	1.2	399,146	11.7	0.6
Louisiana	1,187,382	33.5	2.3	1,048,264	29.5	1.7	880,548	24.8	1.3	431,964	12.2	0.6
Maine	187,982	17.5	0.4	365,340	34.0	0.6	405,931	37.8	0.6	114,078	10.6	0.2
Maryland	297,442	6.4	0.6	547,504	11.8	0.9	1,130,382	24.4	1.7	2,649,786	57.3	3.8
Massachusetts	532,781	9.9	1.1	603,686	11.2	1.0	1,412,963	26.2	2.1	2,848,154	52.8	4.1
Michigan	1,718,197	22.4	3.4	2,198,931	28.6	3.6	2,280,257	29.7	3.3	1,482,934	19.3	2.1
Minnesota	326,752	7.8	0.6	882,555	21.0	1.5	1,546,274	36.8	2.3	1,445,007	34.4	2.1
Mississippi	1,042,687	46.2	2.1	701,163	31.1	1.2	389,429	17.3	0.6	122,378	5.4	0.2
Missouri	1,163,146	24.8	2.3	1,451,737	31.0	2.4	1,254,925	26.8	1.8	813,761	17.4	1.2
Montana	165,063	20.6	0.3	281,400	35.0	0.5	305,217	38.0	0.4	51,386	6.4	0.1
Nebraska	155,792	11.0	0.3	509,286	36.0	0.8	472,888	33.4	0.7	278,529	19.7	0.4
Nevada	455,523	20.5	0.9	532,679	24.0	0.9	766,600	34.6	1.1	462,910	20.9	0.7
New Hampshire	59,328	5.6	0.1	141,142	13.2	0.2	415,222	38.9	0.6	452,299	42.4	0.7
New Jersey	679,772	9.8	1.3	834,807	12.0	1.4	1,648,369	23.7	2.4	3,784,276	54.5	5.4
New Mexico	580,601	36.6	1.1	481,701	30.4	0.8	326,913	20.6	0.5	197,886	12.5	0.3
New York	2,607,231	16.8	5.2	3,062,246	19.7	5.0	4,039,771	26.0	5.9	5,802,691	37.4	8.3
North Carolina	2,133,413	27.6	4.2	2,584,364	33.4	4.2	1,828,773	23.6	2.7	1,191,813	15.4	1.7
North Dakota	48,987	8.5	0.1	138,169	24.0	0.2	226,854	39.4	0.3	161,095	28.0	0.2
Ohio	2,059,700	23.0	4.1	2,438,086	27.2	4.0	2,784,550	31.1	4.1	1,677,518	18.7	2.4
Oklahoma	793,149	27.1	1.6	1,008,848	34.4	1.7	744,688	25.4	1.1	384,707	13.1	0.6
Oregon	511,055	16.2	1.0	916,734	29.0	1.5	1,085,031	34.3	1.6	648,051	20.5	0.9
Pennsylvania	1,695,212	16.8	3.3	2,623,336	26.1	4.3	3,300,113	32.8	4.8	2,446,465	24.3	3.5
Puerto Rico	2,549,052	93.2	5.0	143,329	5.2	0.2	35,238	1.3	0.1	7,702	0.3	0.0
Rhode Island	154,922	18.3	0.3	147,025	17.4	0.2	271,275	32.1	0.4	272,334	32.2	0.4
South Carolina	1,200,477	31.8	2.4	1,125,760	29.8	1.9	1,006,733	26.7	1.5	441,436	11.7	0.6
South Dakota	107,415	16.7	0.2	221,887	34.4	0.4	229,254	35.6	0.3	85,927	13.3	0.1
Tennessee	1,611,103	31.7	3.2	1,601,931	31.5	2.6	1,169,688	23.0	1.7	701,295	13.8	1.0
Texas	4,489,425	22.3	8.9	4,954,324	24.6	8.1	5,230,681	26.0	7.6	5,473,432	27.2	7.9
Utah	182,424	8.8	0.4	421,096	20.2	0.7	714,232	34.3	1.0	762,468	36.7	1.1
Vermont	46,592	9.2	0.1	142,702	28.3	0.2	257,082	50.9	0.4	58,480	11.6	0.1
Virginia	784,301	12.1	1.5	1,348,139	20.8	2.2	1,501,882	23.2	2.2	2,836,361	43.8	4.1
Washington	477,885	8.6	0.9	1,178,766	21.2	1.9	1,744,628	31.4	2.5	2,148,270	38.7	3.1
West Virginia	525,235	36.0	1.0	583,171	40.0	1.0	302,294	20.7	0.4	48,080	3.3	0.1
Wisconsin	594,786	13.3	1.2	1,325,882	29.7	2.2	1,611,848	36.1	2.4	934,582	20.9	1.3
Wyoming	25,220	5.7	0.0	102,352	23.0	0.2	216,592	48.7	0.3	100,678	22.6	0.1
<b>Total<sup>a</sup></b>	<b>50,619,925</b>	<b>20.3</b>	<b>100</b>	<b>60,818,628</b>	<b>24.4</b>	<b>100</b>	<b>68,486,283</b>	<b>27.5</b>	<b>100</b>	<b>69,545,814</b>	<b>27.9</b>	<b>100</b>

Abbreviations. ACS, American Community Survey; SDH, social determinants of health [footnotes only].

Note. Median household income (all age groups) in the census tract.

<sup>a</sup> Percentage of male residents of area.

<sup>b</sup> Percentage of female residents of area.

<sup>c</sup> Percentage of residents of area.

<sup>d</sup> Percentage of SDH subpopulation total.

**Table S4. Adults without health insurance, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico**

Area of residence	Without health insurance (%)							
	<6		6.00–9.99		10.00–15.99		≥16	
	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>	No.	% <sup>a</sup>
<b>Male</b>								
Alabama	248,664	13.9	382,094	21.4	638,277	35.7	518,653	29.0
Alaska	29,392	10.1	24,067	8.3	93,469	32.2	143,483	49.4
Arizona	579,710	22.7	549,409	21.5	646,016	25.3	776,539	30.4
Arkansas	106,566	9.7	282,918	25.7	465,619	42.3	245,328	22.3
California	3,685,799	25.2	3,306,653	22.6	3,456,385	23.6	4,187,563	28.6
Colorado	638,394	30.7	523,409	25.2	515,894	24.8	403,037	19.4
Connecticut	808,124	59.4	251,077	18.4	161,333	11.8	140,986	10.4
Delaware	144,856	41.0	138,108	39.1	55,227	15.6	15,139	4.3
District of Columbia	172,924	66.6	47,357	18.2	33,640	13.0	5,640	2.2
Florida	772,251	9.9	1,131,964	14.5	2,209,298	28.3	3,689,750	47.3
Georgia	323,401	8.8	459,270	12.4	1,099,767	29.8	1,808,728	49.0
Hawaii	353,926	63.8	169,450	30.5	29,537	5.3	2,003	0.4
Idaho	47,584	7.8	118,009	19.4	233,226	38.4	209,237	34.4
Illinois	1,835,273	38.2	1,155,393	24.1	927,904	19.3	884,132	18.4
Indiana	498,932	20.4	758,273	30.9	709,175	28.9	484,909	19.8
Iowa	672,353	57.2	319,685	27.2	134,392	11.4	48,629	4.1
Kansas	297,652	27.6	304,670	28.2	273,661	25.4	202,918	18.8
Kentucky	447,976	27.1	601,581	36.4	493,918	29.9	110,492	6.7
Louisiana	149,738	8.7	272,790	15.9	540,872	31.6	748,989	43.7
Maine	85,409	16.5	200,927	38.7	197,337	38.0	35,494	6.8
Maryland	1,044,571	47.4	565,794	25.7	354,821	16.1	238,411	10.8
Massachusetts	2,228,200	86.1	268,153	10.4	76,882	3.0	13,377	0.5
Michigan	1,341,495	35.9	1,299,281	34.8	837,626	22.4	257,519	6.9
Minnesota	1,278,871	61.7	533,689	25.8	185,784	9.0	73,886	3.6
Mississippi	58,078	5.4	121,075	11.2	344,577	32.0	554,060	51.4
Missouri	492,065	21.7	512,649	22.6	718,734	31.7	546,668	24.1
Montana	42,790	10.7	124,650	31.1	154,885	38.6	78,658	19.6
Nebraska	212,220	30.3	201,952	28.8	176,819	25.2	110,223	15.7
Nevada	152,292	13.7	188,596	17.0	344,184	31.1	422,554	38.1
New Hampshire	164,369	31.3	185,923	35.5	144,106	27.5	29,949	5.7
New Jersey	1,229,378	36.8	742,787	22.2	590,145	17.7	776,543	23.3
New Mexico	123,514	15.9	138,350	17.8	246,722	31.7	269,884	34.7
New York	3,086,660	41.5	1,948,917	26.2	1,387,086	18.6	1,015,409	13.7
North Carolina	441,232	11.9	739,065	19.9	1,228,100	33.0	1,310,006	35.2
North Dakota	113,015	38.3	102,954	34.9	59,794	20.3	19,057	6.5
Ohio	1,649,712	38.0	1,411,283	32.5	923,739	21.3	353,179	8.1
Oklahoma	100,455	7.0	197,991	13.7	420,841	29.2	722,028	50.1
Oregon	301,115	19.4	541,441	34.9	509,440	32.8	198,846	12.8
Pennsylvania	2,198,999	45.1	1,525,982	31.3	745,837	15.3	407,047	8.3
Puerto Rico	545,550	42.7	509,727	39.9	187,970	14.7	33,273	2.6
Rhode Island	215,687	53.3	92,790	22.9	50,499	12.5	45,784	11.3
South Carolina	190,450	10.5	323,269	17.9	687,982	38.0	609,084	33.6
South Dakota	82,817	25.7	118,508	36.8	66,106	20.5	54,772	17.0
Tennessee	321,294	13.1	590,127	24.1	897,022	36.6	639,348	26.1
Texas	834,035	8.4	1,258,409	12.7	1,889,282	19.1	5,930,225	59.8
Utah	229,865	22.2	249,908	24.1	301,589	29.1	254,281	24.6
Vermont	144,584	58.7	92,993	37.8	8,728	3.5	0	0.0
Virginia	778,075	24.7	784,827	24.9	944,970	30.0	644,809	20.5
Washington	820,611	29.8	883,088	32.1	711,254	25.8	339,482	12.3
West Virginia	101,339	14.2	350,608	49.1	235,508	33.0	27,139	3.8
Wisconsin	1,085,642	49.3	694,033	31.5	301,273	13.7	120,632	5.5
Wyoming	14,960	6.6	53,357	23.6	91,323	40.3	66,787	29.5
<b>Total<sup>a</sup></b>	<b>33,522,864</b>	<b>27.6</b>	<b>28,349,280</b>	<b>23.3</b>	<b>28,738,575</b>	<b>23.7</b>	<b>30,824,569</b>	<b>25.4</b>

**Table S4. Adults without health insurance, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Without health insurance (%)							
	<6		6.00–9.99		10.00–15.99		≥16	
	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>	No.	% <sup>b</sup>
	<b>Female</b>							
Alabama	271,206	13.8	413,444	21.1	691,833	35.3	583,918	29.8
Alaska	24,414	9.3	21,994	8.4	86,536	33.0	128,964	49.2
Arizona	621,600	23.7	581,069	22.1	639,838	24.4	783,890	29.8
Arkansas	114,675	9.8	307,874	26.3	486,818	41.5	262,428	22.4
California	3,887,617	25.6	3,448,144	22.8	3,590,470	23.7	4,230,260	27.9
Colorado	654,717	31.3	532,533	25.4	516,474	24.7	390,506	18.6
Connecticut	867,769	59.1	276,119	18.8	175,089	11.9	149,251	10.2
Delaware	157,780	40.8	151,606	39.2	61,320	15.9	15,643	4.0
District of Columbia	200,898	68.2	53,378	18.1	34,594	11.7	5,902	2.0
Florida	853,882	10.2	1,244,924	14.9	2,389,848	28.6	3,863,508	46.3
Georgia	334,922	8.4	492,527	12.3	1,205,844	30.1	1,972,547	49.2
Hawaii	355,656	63.7	172,568	30.9	27,540	4.9	2,202	0.4
Idaho	48,221	7.8	119,218	19.4	237,734	38.7	209,535	34.1
Illinois	1,949,285	38.3	1,226,357	24.1	1,009,275	19.8	907,435	17.8
Indiana	523,642	20.3	794,836	30.7	750,913	29.0	515,883	20.0
Iowa	698,393	57.5	330,193	27.2	138,518	11.4	47,235	3.9
Kansas	302,051	27.3	318,747	28.8	281,005	25.4	204,842	18.5
Kentucky	474,675	27.1	632,674	36.1	528,084	30.1	117,225	6.7
Louisiana	156,813	8.5	289,309	15.8	584,883	31.9	805,262	43.9
Maine	94,595	17.1	216,646	39.1	206,219	37.2	36,704	6.6
Maryland	1,137,780	46.9	639,423	26.3	408,970	16.8	242,186	10.0
Massachusetts	2,437,293	86.5	289,017	10.3	79,509	2.8	13,132	0.5
Michigan	1,431,157	36.1	1,366,184	34.4	898,721	22.7	270,119	6.8
Minnesota	1,322,998	62.1	542,482	25.5	193,126	9.1	71,578	3.4
Mississippi	61,217	5.2	134,772	11.4	373,303	31.6	612,742	51.8
Missouri	528,118	21.9	538,855	22.3	763,255	31.6	585,547	24.2
Montana	42,641	10.6	124,834	31.0	155,800	38.7	78,867	19.6
Nebraska	224,455	31.1	208,093	28.8	178,800	24.8	110,139	15.3
Nevada	162,742	14.7	194,664	17.5	346,146	31.2	406,534	36.6
New Hampshire	171,987	31.6	192,927	35.5	148,868	27.4	29,862	5.5
New Jersey	1,332,682	36.9	814,796	22.6	649,159	18.0	812,100	22.5
New Mexico	126,044	15.6	147,699	18.3	258,488	32.0	276,400	34.2
New York	3,371,120	41.4	2,143,773	26.3	1,567,397	19.3	1,056,024	13.0
North Carolina	459,899	11.4	802,481	19.9	1,342,796	33.3	1,429,927	35.4
North Dakota	108,363	38.7	101,256	36.1	52,469	18.7	18,197	6.5
Ohio	1,745,501	37.6	1,524,833	32.9	999,678	21.5	370,815	8.0
Oklahoma	103,895	6.9	213,225	14.2	438,219	29.2	743,322	49.6
Oregon	326,474	20.3	559,773	34.8	521,318	32.4	202,464	12.6
Pennsylvania	2,335,996	44.8	1,622,671	31.1	822,436	15.8	436,883	8.4
Puerto Rico	617,166	42.3	583,482	40.0	222,006	15.2	36,323	2.5
Rhode Island	239,420	54.3	99,988	22.7	54,146	12.3	47,242	10.7
South Carolina	202,499	10.2	348,924	17.6	753,120	38.1	673,026	34.0
South Dakota	85,364	26.5	117,026	36.3	67,161	20.8	52,729	16.4
Tennessee	352,013	13.3	640,494	24.2	963,828	36.4	690,941	26.1
Texas	873,428	8.5	1,308,734	12.7	1,974,610	19.2	6,113,525	59.5
Utah	233,140	22.3	252,994	24.2	310,232	29.7	248,211	23.8
Vermont	153,235	59.3	96,537	37.3	8,779	3.4	0	0.0
Virginia	819,960	24.6	834,427	25.0	1,005,176	30.1	678,289	20.3
Washington	841,331	30.0	911,187	32.5	724,643	25.9	322,995	11.5
West Virginia	110,266	14.8	363,092	48.7	242,889	32.6	29,133	3.9
Wisconsin	1,119,754	49.4	705,548	31.1	318,335	14.0	122,969	5.4
Wyoming	14,048	6.4	52,206	23.9	87,874	40.2	64,287	29.4
<b>Total<sup>a</sup></b>	<b>35,684,797</b>	<b>27.8</b>	<b>30,100,557</b>	<b>23.4</b>	<b>30,574,092</b>	<b>23.8</b>	<b>32,079,648</b>	<b>25.0</b>

**Table S4. Adults without health insurance, by sex and area of residence, 2013–2017 5-year ACS estimates—census tract level, United States and Puerto Rico (cont)**

Area of residence	Without health insurance (%)											
	<6			6.00–9.99			10.00–15.99			≥16		
	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>	No.	% <sup>c</sup>	% <sup>d</sup>
	<b>Total</b>											
Alabama	519,870	13.9	0.8	795,538	21.2	1.4	1,330,110	35.5	2.2	1,102,571	29.4	1.8
Alaska	53,806	9.7	0.1	46,061	8.3	0.1	180,005	32.6	0.3	272,447	49.3	0.4
Arizona	1,201,310	23.2	1.7	1,130,478	21.8	1.9	1,285,854	24.8	2.2	1,560,429	30.1	2.5
Arkansas	221,241	9.7	0.3	590,792	26.0	1.0	952,437	41.9	1.6	507,756	22.3	0.8
California	7,573,416	25.4	10.9	6,754,797	22.7	11.6	7,046,855	23.7	11.9	8,417,823	28.3	13.4
Colorado	1,293,111	31.0	1.9	1,055,942	25.3	1.8	1,032,368	24.7	1.7	793,543	19.0	1.3
Connecticut	1,675,893	59.2	2.4	527,196	18.6	0.9	336,422	11.9	0.6	290,237	10.3	0.5
Delaware	302,636	40.9	0.4	289,714	39.2	0.5	116,547	15.8	0.2	30,782	4.2	0.0
District of Columbia	373,822	67.4	0.5	100,735	18.2	0.2	68,234	12.3	0.1	11,542	2.1	0.0
Florida	1,626,133	10.1	2.3	2,376,888	14.7	4.1	4,599,146	28.5	7.8	7,553,258	46.8	12.0
Georgia	658,323	8.6	1.0	951,797	12.4	1.6	2,305,611	30.0	3.9	3,781,275	49.1	6.0
Hawaii	709,582	63.8	1.0	342,018	30.7	0.6	57,077	5.1	0.1	4,205	0.4	0.0
Idaho	95,805	7.8	0.1	237,227	19.4	0.4	470,960	38.5	0.8	418,772	34.2	0.7
Illinois	3,784,558	38.2	5.5	2,381,750	24.1	4.1	1,937,179	19.6	3.3	1,791,567	18.1	2.8
Indiana	1,022,574	20.3	1.5	1,553,109	30.8	2.7	1,460,088	29.0	2.5	1,000,792	19.9	1.6
Iowa	1,370,746	57.4	2.0	649,878	27.2	1.1	272,910	11.4	0.5	95,864	4.0	0.2
Kansas	599,703	27.4	0.9	623,417	28.5	1.1	554,666	25.4	0.9	407,760	18.7	0.6
Kentucky	922,651	27.1	1.3	1,234,255	36.2	2.1	1,022,002	30.0	1.7	227,717	6.7	0.4
Louisiana	306,551	8.6	0.4	562,099	15.8	1.0	1,125,755	31.7	1.9	1,554,251	43.8	2.5
Maine	180,004	16.8	0.3	417,573	38.9	0.7	403,556	37.6	0.7	72,198	6.7	0.1
Maryland	2,182,351	47.1	3.2	1,205,217	26.0	2.1	763,791	16.5	1.3	480,597	10.4	0.8
Massachusetts	4,665,493	86.3	6.7	557,170	10.3	1.0	156,391	2.9	0.3	26,509	0.5	0.0
Michigan	2,772,652	36.0	4.0	2,665,465	34.6	4.6	1,736,347	22.5	2.9	527,638	6.9	0.8
Minnesota	2,601,869	61.9	3.8	1,076,171	25.6	1.8	378,910	9.0	0.6	145,464	3.5	0.2
Mississippi	119,295	5.3	0.2	255,847	11.3	0.4	717,880	31.8	1.2	1,166,802	51.6	1.9
Missouri	1,020,183	21.8	1.5	1,051,504	22.4	1.8	1,481,989	31.6	2.5	1,132,215	24.2	1.8
Montana	85,431	10.6	0.1	249,484	31.1	0.4	310,685	38.7	0.5	157,525	19.6	0.3
Nebraska	436,675	30.7	0.6	410,045	28.8	0.7	355,619	25.0	0.6	220,362	15.5	0.4
Nevada	315,034	14.2	0.5	383,260	17.3	0.7	690,330	31.1	1.2	829,088	37.4	1.3
New Hampshire	336,356	31.5	0.5	378,850	35.5	0.6	292,974	27.4	0.5	59,811	5.6	0.1
New Jersey	2,562,060	36.9	3.7	1,557,583	22.4	2.7	1,239,304	17.8	2.1	1,588,643	22.9	2.5
New Mexico	249,558	15.7	0.4	286,049	18.0	0.5	505,210	31.8	0.9	546,284	34.4	0.9
New York	6,457,780	41.5	9.3	4,092,690	26.3	7.0	2,954,483	19.0	5.0	2,071,433	13.3	3.3
North Carolina	901,131	11.6	1.3	1,541,546	19.9	2.6	2,570,896	33.2	4.3	2,739,933	35.3	4.4
North Dakota	221,378	38.5	0.3	204,210	35.5	0.3	112,263	19.5	0.2	37,254	6.5	0.1
Ohio	3,395,213	37.8	4.9	2,936,116	32.7	5.0	1,923,417	21.4	3.2	723,994	8.1	1.2
Oklahoma	204,350	7.0	0.3	411,216	14.0	0.7	859,060	29.2	1.4	1,465,350	49.8	2.3
Oregon	627,589	19.9	0.9	1,101,214	34.8	1.9	1,030,758	32.6	1.7	401,310	12.7	0.6
Pennsylvania	4,534,995	44.9	6.6	3,148,653	31.2	5.4	1,568,273	15.5	2.6	843,930	8.4	1.3
Puerto Rico	1,162,716	42.5	1.7	1,093,209	40.0	1.9	409,976	15.0	0.7	69,596	2.5	0.1
Rhode Island	455,107	53.8	0.7	192,778	22.8	0.3	104,645	12.4	0.2	93,026	11.0	0.1
South Carolina	392,949	10.4	0.6	672,193	17.7	1.2	1,441,102	38.0	2.4	1,282,110	33.8	2.0
South Dakota	168,181	26.1	0.2	235,534	36.5	0.4	133,267	20.7	0.2	107,501	16.7	0.2
Tennessee	673,307	13.2	1.0	1,230,621	24.2	2.1	1,860,850	36.5	3.1	1,330,289	26.1	2.1
Texas	1,707,463	8.5	2.5	2,567,143	12.7	4.4	3,863,892	19.1	6.5	12,043,750	59.7	19.1
Utah	463,005	22.3	0.7	502,902	24.2	0.9	611,821	29.4	1.0	502,492	24.2	0.8
Vermont	297,819	59.0	0.4	189,530	37.5	0.3	17,507	3.5	0.0	0	0.0	0.0
Virginia	1,598,035	24.6	2.3	1,619,254	24.9	2.8	1,950,146	30.0	3.3	1,323,098	20.4	2.1
Washington	1,661,942	29.9	2.4	1,794,275	32.3	3.1	1,435,897	25.9	2.4	662,477	11.9	1.1
West Virginia	211,605	14.5	0.3	713,700	48.9	1.2	478,397	32.8	0.8	56,272	3.9	0.1
Wisconsin	2,205,396	49.4	3.2	1,399,581	31.3	2.4	619,608	13.9	1.0	243,601	5.5	0.4
Wyoming	29,008	6.5	0.0	105,563	23.7	0.2	179,197	40.3	0.3	131,074	29.5	0.2
<b>Total<sup>a</sup></b>	<b>69,207,661</b>	<b>27.7</b>	<b>100</b>	<b>58,449,837</b>	<b>23.4</b>	<b>100</b>	<b>59,312,667</b>	<b>23.7</b>	<b>100</b>	<b>62,904,217</b>	<b>25.2</b>	<b>100</b>

Abbreviation. ACS, American Community Survey.

Note. Proportion of residents in the census tract without health insurance or health coverage plan at the time of the survey response (individuals aged 18 years and older).

<sup>a</sup> Percentage of male residents of area.

<sup>b</sup> Percentage of female residents of area.

<sup>c</sup> Percentage of residents of area.

<sup>d</sup> Percentage of SDH subpopulation total.

# **Social Determinants of Health Among Adults with Diagnosed HIV Infection, 2017**

## **Part B: County-level Social Determinants of Health, Selected Care Outcomes, and Diagnosed HIV Infection 41 States and the District of Columbia**

# Contents

---

<b>Abbreviations</b>	71
<b>Commentary</b>	72
<b>Technical Notes</b>	80
<b>References</b>	86
<b>Tables</b>	
1 Stage 3 (AIDS) at the time of diagnosis of HIV infection, among persons aged $\geq 18$ years, by race/ethnicity, sex, and selected social determinants of health, 2017—county level, 41 states and the District of Columbia	88
2 Stage of disease at diagnosis of HIV infection during 2017, among persons aged $\geq 18$ years, by sex and selected social determinants of health—county level, 41 states and the District of Columbia	89
3 Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged $\geq 18$ years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	91
4 Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged $\geq 18$ years, by age and selected social determinants of health—county level, 41 states and the District of Columbia	96
5 Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged $\geq 18$ years, by transmission category and selected social determinants of health—county level, 41 states and the District of Columbia	101
6a Receipt of HIV medical care among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	105
6b Receipt of HIV medical care and viral suppression among males aged $\geq 18$ years and alive at year-end 2016 with HIV infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—county level, 41 states and the District of Columbia	110
7 Receipt of HIV medical care among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	112
8 Receipt of HIV medical care among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	117
9 HIV viral suppression at most recent viral load test in 2016, among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	121
10 HIV viral suppression at most recent viral load test in 2016, among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	126
11 HIV viral suppression at most recent viral load test in 2016, among persons aged $\geq 18$ years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia	131

## Abbreviations

---

ACS	American Community Survey
AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
CD4	CD4+ T-lymphocyte count (cells/ $\mu$ L) or percentage
CDC	Centers for Disease Control and Prevention
DHAP	Division of HIV/AIDS Prevention
HIV	human immunodeficiency virus
IDU	injection drug use
NHSS	National HIV Surveillance System
NIR	no identified risk factor
OMB	Office of Management and Budget
SDH	social determinants of health
VA	U.S. Department of Veterans Affairs
VL	viral load (copies/mL)

This *HIV Surveillance Supplemental Report* presents the results of county-level analyses of National HIV Surveillance System (NHSS) data on social determinants of health (SDH) and selected care outcomes among adults with diagnosed HIV infection [1]. This report, Part B, is released in conjunction with Part A, which presents census tract-level surveillance and SDH data that can be used to assess the geographic distribution of HIV, the social determinants associated with HIV, and the relationship of HIV to other diseases and health care resources in a defined area. This report complements the 2017 *HIV Surveillance Report* [2] and the *Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2017* surveillance supplemental report [3]. Data from this report can be used to assess the social determinants associated with HIV and measure progress toward achieving national HIV prevention and care goals.

*Social determinants of health* (SDH) are overlapping social structures and economic systems (e.g., social environment, physical environment, health services, and structural and societal factors) that are responsible for most health inequities [4]. SDH are linked to a lack of opportunity and to a lack of resources to protect, improve, and maintain health [4]. Addressing the SDH that adversely affect health outcomes may (1) advance efforts in reducing disparities in HIV diagnosis rates between populations, and (2) help to quantify health differences between populations or geographic areas, which can provide insight for identifying populations or areas that may benefit from HIV testing, prevention, and treatment initiatives.

The Centers for Disease Control and Prevention (CDC) collects data to monitor progress toward achieving the national goals for HIV testing, care, and treatment outcomes and HIV-related disparities in the United States set forth in the CDC Division of HIV/AIDS Prevention's Strategic Plan [5] and other federal directives [6, 7]. Examining social determinants that affect the health of populations may be useful in identifying and monitoring health inequities, such as disparities in HIV testing, engagement in care, and treatment.

This report presents HIV data from the NHSS on (1) persons aged  $\geq 18$  years with HIV infection diag-

nosed during 2017 and (2) persons living with diagnosed HIV infection at year-end 2016 [5]. It also presents SDH data from the U.S. Census Bureau's American Community Survey (ACS). Data were limited to persons aged  $\geq 18$  years to more accurately represent the population from which the SDH indicator variables were collected by ACS.

Monitoring stage of disease at diagnosis, linkage to HIV medical care, receipt of HIV medical care, and viral suppression (on the basis of NHSS data) is dependent upon complete reporting of HIV-related laboratory results (including CD4+ T-lymphocyte [CD4] and viral load results) to HIV surveillance programs and CDC. Although most jurisdictions have regulations that require laboratories and providers to report at least a subset of CD4 and viral load test results to health departments, not all jurisdictions have mandatory reporting of all levels of CD4 and viral load (i.e., detectable and undetectable) results. As of December 2018, 42 jurisdictions (41 states and the District of Columbia) required reporting of all levels of CD4 and viral load test results and had reported to CDC at least 95% of the test results they had received by December 2018 (for specimens collected from January 2016 through September 2018). Data from these 42 jurisdictions represent 88.5% of all persons aged  $\geq 18$  years living with diagnosed HIV infection at year-end 2016 in the United States and are therefore not necessarily representative of data on all persons living with diagnosed HIV infection in the United States. See Technical Notes for a list of the 42 jurisdictions.

For tables that include data by transmission category, the data were statistically adjusted to account for missing transmission category (see Technical Notes).

## REPORT CHANGES

This report includes data from 42 jurisdictions that reported complete CD4 and viral load data. The jurisdictions included in this report differ from those in the previous report. A jurisdiction's data are included only if that jurisdiction met CDC's criteria (see Technical Notes) for the collection and reporting of CD4 and viral load test results for all the data years examined. In com-



parison with the 2016 report, the 2017 report includes data from 2 additional states that met the criteria.

Table 2 now displays data on persons with infection classified as stage 0 at diagnosis. In previous reports, data on persons with infection classified as stage 0 were included in the unknown category (i.e., not displayed).

Presentation of data by employment status is no longer included in this report. When measuring employment status, it is important to account for underemployment, which is the condition in which people in a labor force are employed at less than full-time or regular jobs or at jobs inadequate with respect to their training or economic needs [8]. Underemployment has been associated with health challenges, and research has shown that those earners with the lowest wages are the most likely to be uninsured [9]. Because we do not have data on persons who may be underemployed to provide additional context on the potential impact of employment status on persons with diagnosed HIV, data on employment status are no longer included in this report.

Vacant housing is no longer included in this report. Although vacant housing is associated with poor health outcomes, the variable does not take into account confounding factors such as stability, quality, safety, affordability, and neighborhood [10].

Additional data and tables are now included in this report:

- Tables 1 and 2 displays SDH data
- Table 6b displays county-level receipt of HIV medical care and viral suppression among males with HIV infection attributed to male-to-male sexual contact

## DEFINITIONS AND DATA SPECIFICATIONS

This report presents numbers and percentages of diagnoses of HIV infection through 2017 among persons aged  $\geq 18$  years by 4 SDH indicators and selected characteristics that include sex, age, race/ethnicity, transmission category, and area of residence. Data by race/ethnicity are presented for blacks/African Americans, Hispanics/Latinos, whites, and other. “Other” includes American Indians/Alaska Natives, Asians, Native Hawaiians/other Pacific Islanders, and persons of multiple races.

The SDH data presented in this report are the result of the linkage of county-level HIV diagnosis data to SDH indicator variables from the 2013–2017 ACS.

HIV diagnosis, stage 3 (AIDS), and linkage to care data for the year 2017 were calculated based on where the person was living at the time of diagnosis. Receipt of care and viral suppression analyses were assessed for persons with HIV infection diagnosed by year-end 2015 and alive at year-end 2016 using the person’s address of residence at the end of 2016 (i.e., most recent known address).

SDH indicator measures are as follows:

- **Federal poverty status:** proportion of residents in the county who were living below the U.S. poverty level (i.e., below a specified threshold) at any time during the 12 months before the survey response (individuals aged  $\geq 18$  years)
- **Education level:** proportion of residents in the county with less than a high school diploma (individuals aged  $\geq 18$  years)
- **Median household income:** median income for a household within the county at any time during the 12 months before the survey response
- **Health insurance coverage:** proportion of residents in the county without health insurance or health coverage plan (individuals aged  $\geq 18$  years)

The data presented in this HIV surveillance supplemental report are a snapshot of the environment in which people lived at the time of HIV diagnosis or most recently. Some SDH indicators may be correlated (e.g., lack of education has been associated with both poverty and low income in the United States [11, 12], but correlations between SDH indicators were not analyzed for this report. Also, use of county-level data may not fully represent an individual’s socioeconomic status [13, 14]. Caution should be used when interpreting results.

## HIGHLIGHTS OF ANALYSES

**Important note:** The statements in this section for social determinants of health data focus on the lowest percentages at the SDH extremes only (e.g., highest poverty, highest uninsured) and not the overall values within the column, unless otherwise indicated. Also, when highlighting care outcomes the “other” racial group is not considered when making comparisons across groups. Please read all table titles and footnotes carefully to ensure a complete understanding of the displayed data.

### Stage 3 (AIDS) Classification at Diagnosis of HIV Infection

Among 33,539 persons aged  $\geq 18$  years with an HIV infection diagnosis during 2017 in the 42 jurisdictions that reported completed CD4 and viral load test results to CDC, 21.0% of infections were classified as stage 3 (AIDS) at the time of diagnosis (Table 1).

The following percentages are for persons with HIV infection classified as stage 3 (AIDS) at the time of initial diagnosis during 2017, within each characteristic of interest presented (Table 1). Overall, the highest percentage was among Hispanic/Latino males (21.5%) and black/African American females (22.5%) than in all other racial/ethnic groups, and lowest among black/African American males (19.5%) and white females (20.7%) than in all other racial/ethnic groups.

- **Blacks/African Americans:** Among black/African American males, the highest percentages were among those who lived in counties with the lowest poverty (21.7%) and lowest income (21.4%). Among black/African American females, the highest percentages were among those who lived in counties with the highest education (25.6%), lowest income (24.5%), and highest health insurance or health care coverage (26.8%).
- **Hispanics/Latinos:** Among Hispanic/Latino males, the highest percentages were among those who lived in counties with the lowest poverty (23.3%) and lowest health insurance or health care coverage (21.9%). Among Hispanic/Latino females, the highest percentage (23.5%) was among those who lived in counties with the lowest health insurance or health care coverage.
- **Whites:** Among white males, the highest percentages were among those who lived in counties with the lowest poverty (22.4%) and highest and third lowest education level (22.4%). Among white females, the highest percentages were among those who lived in counties with the highest poverty (23.2%), lowest education (25.6%), lowest income (24.1%) and lowest health insurance or health care coverage (22.8%).

### Stage of Disease at Diagnosis of HIV Infection

Stage of disease at diagnosis (i.e., HIV infection, stage 0, 1, 2, 3 [AIDS], or unknown) was based on data for persons with HIV infection diagnosed during 2017 in

the 42 jurisdictions that reported complete CD4 and viral load test results to CDC. Among 33,539 persons, the stage of disease at diagnosis was classified as follows (Table 2): stage 0 (6.2%), stage 1 (25.5%), stage 2 (30.3%), stage 3 (AIDS) (21.0%), and stage unknown (17.0%).

- **Poverty:** The highest percentages of HIV diagnoses for both males (32.4% [stage 2]) and females (29.3% [stage 2]) were among those who lived in counties where 17% or more of the residents lived below the federal poverty level.
- **Education:** The highest percentage of HIV diagnosis for males (31.3% [stage 2]) were among those who lived in counties where 18% or more of the residents had less than a high school diploma. The highest percentage of HIV diagnosis for females (females: 30.3% [stage 1]) were among those who lived in counties where 9% or less of the residents had less than a high school diploma.
- **Income:** The highest percentages of HIV diagnoses for both males (32.3% [stage 2]) and females (30.3% [stage 1]) were among those who lived in counties where the median household income was \$41,000–\$47,999 a year.
- **Insurance:** The highest percentage of HIV diagnosis for males (32.4% [stage 2]) were among those who lived in counties where fewer than 8% of the residents did not have health insurance or health coverage plan. The highest percentage of HIV diagnosis for females (29.8% [stage 2]) were among those who lived in counties where 8% or more but fewer than 12% of the residents did not have health insurance or health coverage plan.

### Linkage to HIV Medical Care after Diagnosis of HIV Infection, by Selected Characteristics and Selected Social Determinants of Health

Linkage to HIV medical care was based on data for persons with infection diagnosed during 2017 in the 42 jurisdictions that reported complete CD4 and viral load test results to CDC. Linkage to HIV medical care was measured by documentation of at least 1 CD4 or viral load test performed  $\leq 1$  month or  $\leq 3$  months after diagnosis. Of the 33,539 persons whose infection was diagnosed during 2017, 78.3% (26,273 persons) were linked to HIV medical care  $\leq 1$  month after diagnosis, and 86.7% (29,087) were linked to HIV medical care  $\leq 3$  months after diagnosis (Table 3).

These highlights focus on linkage  $\leq 1$  month after diagnosis, one of the current national goals for HIV prevention and care. The SDH data focus on the lowest percentages at the SDH extremes only (e.g., highest poverty, highest uninsured). The following percentages are for persons who were linked to HIV medical care  $\leq 1$  month after diagnosis (Tables 3–5).

### Race/ethnicity by sex (Table 3)

Overall, linkage to care was lower among black/African American males (74.6%) and higher among white males (81.9%) than in all other male racial/ethnic groups, and lower among white females (78.5%) and higher among Hispanic/Latino females (79.9%) than in all other female racial/ethnic groups.

- **Blacks/African Americans:** Among black/African American males, the lowest percentages were among those who lived in counties with the lowest education (72.8%) and lowest health insurance or health care coverage (73.0%). Among black/African American females, linkage was lowest among those who lived in counties with the lowest education (74.7%) and lowest health insurance or health care coverage (75.2%).
- **Hispanics/Latinos:** Among Hispanic/Latino males, the lowest percentage (77.5%) was among those who lived in counties with the lowest education. Among Hispanic/Latino females, there were no lowest percentages at the SDH extremes.
- **Whites:** Among white males, the lowest percentages were among those who lived in counties with the highest poverty (79.4%), the two lowest education levels (79.4%), lowest income (76.3%), and lowest health insurance or health care coverage (79.1%). Among white females, linkage was lowest among those who lived in counties with highest poverty (73.0%), lowest education (73.4%), and lowest income (68.7%).

### Age by sex (Table 4)

Overall, linkage to care was lower among both males (74.6%) and females (76.6%) aged 18–24 years than in all other age groups, and linkage was higher among both males (81.7%) and females (81.4%) aged  $\geq 55$  years than in all other age groups.

- **Ages 18–24 years:** Among males aged 18–24 years, the lowest percentage was among those who lived in counties with the lowest education (73.5%) and lowest health insurance or health care coverage (70.7%). Among females aged 18–

24 years, linkage was lowest among those who lived in counties with the lowest education (68.3%), lowest income (69.1%), and lowest health insurance or health care coverage (72.0%).

- **Ages 25–34 years:** Among males and females aged 25–34 years, the lowest percentages were among those who lived in counties with the lowest education (75.9% and 74.8%, respectively).
- **Ages 35–44 years:** Among males aged 35–44 years, the lowest percentages were among those who lived in counties with the lowest education (77.9%) and lowest health insurance or health care coverage (78.0%). Among females aged 35–44 years, linkage was lowest among those who lived in counties with the highest poverty (74.8%) and lowest health insurance or health care coverage (75.2%).
- **Ages 45–54 years:** Among males aged 45–54 years, the lowest percentages were among those who lived in counties with the lowest education (77.6%) and lowest health insurance or health care coverage (78.8%). Among females aged 45–54 years, linkage was lowest among those who lived in counties with the lowest education (79.9%), lowest income (75.9%), and 2 lowest health insurance or health care coverage levels (79.3%).
- **Ages  $\geq 55$  years:** Among males aged  $\geq 55$  years, the lowest percentage (79.4%) was among those who lived in counties with the lowest income. Among females aged  $\geq 55$  years, the lowest percentage (76.2%) was among those who lived in counties with the lowest education.

### Transmission category by sex (Table 5)

Overall, among males, linkage to care was lower among males with infection attributed to male-to-male sexual contact *and* injection drug use (75.4%) and higher among males with infection attributed to male-to-male sexual contact (78.5%) than all other transmission categories. For females, among the 2 transmission categories for which data are presented, linkage was lower among females with infection attributed to injection drug use (76.8%) compared to females with infection attributed to heterosexual contact (79.2%). Data were statistically adjusted to account for missing transmission category.

- **Male-to-male sexual contact:** Among males with infection attributed to male-to-male sexual contact, the lowest percentages were among

those who lived in counties with the lowest education (76.7%) and lowest health insurance or health care coverage (76.5%).

- **Injection drug use:** Among males with infection attributed to injection drug use, the lowest percentage (73.3%) was among those who lived in counties with the lowest education. Among females with infection attributed to injection drug use, the lowest percentage (75.1%) was among those who lived in counties with the lowest health insurance or health care coverage.
- **Male-to-male sexual contact and injection drug use:** Among males with infection attributed to male-to-male sexual contact and injection drug use, the lowest percentages were among those who lived in counties with the highest poverty (72.9%) and lowest health insurance or health care coverage (69.9%).
- **Heterosexual contact:** Among males with infection attributed to heterosexual contact, the lowest percentage (75.3) was among those who lived in counties with the lowest education. Among females with infection attributed to heterosexual contact, linkage was lowest among those who lived in counties with the lowest education (75.6%) and lowest health insurance or health care coverage (76.7%).

#### Receipt of HIV Medical Care, by Selected Characteristics and Selected Social Determinants of Health

Receipt of HIV medical care was based on data for persons with HIV infection diagnosed by year-end 2015 and alive at year-end 2016 in the 42 jurisdictions that reported complete CD4 and viral load test results to CDC. Receipt of any HIV medical care was measured by documentation of  $\geq 1$  CD4 or viral load tests performed during 2016; retention in HIV medical care (receipt of continuous care) was measured by documentation of  $\geq 2$  CD4 or viral load tests performed at least 3 months apart during 2016. During 2016, 74.1% of 834,498 persons received HIV medical care, and 57.6% met the criteria for continuous HIV medical care (Table 6a).

The highlights below are based on persons who were retained in, or received, continuous HIV medical care, one of the current national goals for HIV prevention and care. The SDH data focus on the lowest percentages at the SDH extremes only (e.g., highest

poverty, highest uninsured). The following percentages are for persons who were retained in continuous HIV medical care (Tables 6a/b–8).

#### Race/ethnicity by sex (Table 6a)

Overall, retention in HIV medical care ( $\geq 2$  CD4 or VL tests) was lower among black/African American males (54.1%) than all other male racial/ethnic groups and lower among white females (54.5%) than all other female racial/ethnic groups.

- **Blacks/African Americans:** Among black/African American males and females, the lowest percentages were among those who lived in counties with the lowest poverty (51.0% and 52.0%, respectively) and highest education (52.0% and 53.1%, respectively).
- **Hispanics/Latinos:** Among Hispanic/Latino males, the lowest percentages were among those who lived in counties with the lowest poverty (53.4%), highest education (54.2%), and highest income (56.8%). Among Hispanic/Latino females, the lowest percentage (61.9%) was among those who lived in counties with the lowest health insurance or health care coverage.
- **Whites:** Among white males, the lowest percentages were among those who lived in counties with the lowest poverty (58.7%) and highest income (59.1%). Among white females, retention in care was lowest among those who lived in counties with the lowest education (52.5%) and highest income (54.0%).

#### Male-to-male sexual contact by race/ethnicity (Table 6b)

Overall, among males with infection attributed to male-to-male sexual contact, retention in HIV medical care was lower among blacks/African Americans (54.6%) and higher among white (60.4%) than all other racial/ethnic groups. Data were statistically adjusted to account for missing transmission category.

- **Blacks/African Americans:** Among black/African American males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in counties with the lowest poverty (51.3%) and highest education (52.6%).
- **Hispanics/Latinos:** Among Hispanic/Latino males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in counties with the low-

est poverty (54.5%), highest education (55.2%), and highest income (57.8%).

- **Whites:** Among white males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in counties with the lowest poverty (58.8%) and highest income (59.3%).

### Age by sex (Table 7)

Overall, retention in HIV medical care was lower among males (54.6%) and females (51.9%) aged 25–34 years than all other age groups, and higher among males (59.0%) and females (62.2%) aged  $\geq 55$  years than all other age groups.

- **Ages 18–24 years:** Among males aged 18–24 years, there were no lowest percentages at the SDH extremes. Among females aged 18–24 years, the lowest percentages were among those who lived in counties with the lowest and 2nd highest health insurance or health care coverage levels (53.8%).
- **Ages 25–34 years:** Among males aged 25–34 years, the lowest percentages were among those who lived in counties with the lowest poverty (52.2%) and highest education (52.4%). Among females aged 25–34 years, retention in care was lowest (50.6%) among those who lived in counties with the lowest health insurance or health care coverage.
- **Ages 35–44 years:** Among males aged 35–44 years, the lowest percentage (54.0%) was among those who lived in counties with the lowest poverty. Among females aged 35–44 years, retention in care was lowest among those who lived in counties with the lowest poverty (51.2%) and highest education (51.9%).
- **Ages 45–54 years:** Among males aged 45–54 years, the lowest percentage (56.8%) was among those who lived in counties with the lowest poverty. Among females aged 45–54 years, retention in care was lowest among those who lived in counties with the lowest poverty (55.3%) and highest education (56.0%).
- **Ages  $\geq 55$  years:** Among males aged  $\geq 55$  years, the lowest percentage was among those who lived in counties with the lowest poverty (57.4%). Among females aged  $\geq 55$  years, retention in care was lowest among those who lived in

counties with the lowest poverty (57.7%) and highest education (59.3%).

### Transmission category by sex (Table 8)

Overall, among males, retention in HIV medical care was lower among those with infection attributed to injection drug use (51.0%) and higher among those with infection attributed to male-to-male sexual contact *and* injection drug use (61.8%) than all other transmission categories. For females, among the 2 transmission categories for which data are presented, retention in care was slightly lower among those with infection attributed to injection drug use (57.1%) compared to those with infection attributed to heterosexual contact (57.7%). Data were statistically adjusted to account for missing transmission category.

- **Male-to-male sexual contact:** Among males with infection attributed to male-to-male sexual contact, the lowest percentage (56.3%) was among those who lived in counties with the lowest poverty.
- **Injection drug use:** Among males and females with infection attributed to injection drug use, there were no lowest percentages at the SDH extremes.
- **Male-to-male sexual contact *and* injection drug use:** Among males with infection attributed to male-to-male sexual contact *and* injection drug use, there were no lowest percentages at the SDH extremes.
- **Heterosexual contact:** Among males and females with infection attributed to heterosexual contact, the lowest percentages were among those who lived in counties with the lowest poverty (52.1% and 54.4%, respectively) and highest education (52.6% and 55.2%, respectively).

### Viral Suppression, by Selected Characteristics and Selected Social Determinants of Health

Viral suppression was measured for persons with HIV infection diagnosed by year-end 2015 and alive at year-end 2016 in the 42 jurisdictions that reported complete CD4 and viral load laboratory results to CDC. Viral suppression was defined as a viral load result of  $< 200$  copies/mL at the most recent viral load test during 2016. During 2016, 61.5% of 834,498 persons living with diagnosed HIV infection were virally suppressed (Table 9).

The SDH data focus on the lowest percentages at the SDH extremes only (e.g., highest poverty, highest uninsured). The following percentages are for persons whose most recent viral load test in 2016 indicated viral suppression (denominator: persons who were alive at year-end 2016) (Tables 9–11).

### Race/ethnicity by sex (Table 9)

Overall, viral suppression was lower among both black/African American males (55.3%) and females (57.6%) than all other racial/ethnic groups. Viral suppression was higher among white males (68.9%) than all other male racial/ethnic groups, and higher among Hispanic/Latino females (62.8%) than all other female racial/ethnic groups.

- **Blacks/African Americans:** Among black/African American males and females, the lowest percentages were among those who lived in counties with the lowest health insurance or health care coverage (53.2% and 56.0%, respectively).
- **Hispanics/Latinos:** Among Hispanic/Latino males, the lowest percentages were among those who lived in counties with the lowest poverty (60.1%) and lowest income (60.2%). Among Hispanic/Latino females, the lowest percentages were among those who lived in counties with the lowest education (62.7%) and lowest health insurance or health care coverage (61.9%).
- **Whites:** Among white males, there were no lowest percentages at the SDH extremes. Among white females, the lowest percentages were among those who lived in counties with the highest poverty (56.7%), lowest education (57.3%), and lowest health insurance or health care coverage (58.4%).

### Male-to-male sexual contact by race/ethnicity (Table 6b)

Overall, among males with infection attributed to male-to-male sexual contact, viral suppression was lower among blacks/African Americans (56.7%) and higher among white (70.1%) than all other racial/ethnic groups. Data were statistically adjusted to account for missing transmission category.

- **Blacks/African Americans:** Among black/African American males with infection attributed to male-to-male sexual contact, the lowest percentage (54.5%) was among those who lived in counties with the lowest health insurance or health care coverage.

- **Hispanics/Latinos:** Among Hispanic/Latino males with infection attributed to male-to-male sexual contact, the lowest percentage (63.0%) was among those who lived in counties with the lowest income.
- **Whites:** Among white males with infection attributed to male-to-male sexual contact, there were no lowest percentages at the SDH extremes.

### Age by sex (Table 10)

Overall, viral suppression was lower among both males (55.1%) and females (47.3%) aged 18–24 years than all other age groups, highest among males aged 45–54 years (64.4%) than all other male age groups, and highest among females (65.7%) aged ≥55 years than all other female age groups.

- **Ages 18–24 years:** Among males aged 18–24 years, the lowest percentages were among those who lived in counties with the lowest education (53.8%), lowest income (51.2%), and lowest health insurance or health care coverage (52.4%). Among females aged 18–24 years, viral suppression was lowest among those who lived in counties with the lowest education (45.7%) and lowest health insurance or health care coverage (44.2%).
- **Ages 25–34 years:** Among males aged 25–34 years, the lowest percentage (55.4%) was among those who lived in counties with the lowest health insurance or health care coverage. Among females aged 25–34 years, viral suppression was lowest among those who lived in counties with the lowest education (49.5%) and lowest health insurance or health care coverage (47.1%).
- **Ages 35–44 years:** Among males and females aged 35–44 years, the lowest percentages were among those who lived in counties with the lowest health insurance or health care coverage (58.5% and 54.1%, respectively).
- **Ages 45–54 years:** Among males aged 45–54 years, the lowest percentage (62.2%) was among those who lived in counties with the highest poverty. Among females aged 45–54 years, there were no lowest percentages at the SDH extremes.
- **Ages ≥55 years:** Among males aged ≥55 years, the lowest percentage (60.8%) was among those who lived in counties with the highest poverty. Among females aged ≥55 years, there were no lowest percentages at the SDH extremes.

### Transmission category by sex (Table 11)

Overall, among males, viral suppression was lower among those with infection attributed to injection drug use (51.2%) and higher among those with infection attributed to male-to-male sexual contact (64.4%) than all other transmission categories. For females, among the 2 transmission categories for which data are presented, viral suppression was lower among those with infection attributed to injection drug use (57.0%) compared to those with infection attributed to heterosexual contact (60.4%). Data were statistically adjusted to account for missing transmission category.

- **Male-to-male sexual contact:** Among males with infection attributed to male-to-male sexual contact, the lowest percentages were among those who lived in counties with the 2 lowest health insurance or health care coverage levels (63.4%).
- **Injection drug use:** Among males and females with infection attributed to injection drug use, viral suppression was lowest among those who lived in counties with the lowest health insurance or health care coverage (50.1% and 55.1%, respectively).
- **Male-to-male sexual contact *and* injection drug use:** Among males with infection attributed to male-to-male sexual contact *and* injection drug use, the lowest percentage (59.5%) was among those who lived in counties with the lowest health insurance or health care coverage.
- **Heterosexual contact:** Among males and females with infection attributed to heterosexual contact, the lowest percentages were among those who lived in counties with the lowest health insurance or health care coverage (54.1% and 58.2%, respectively).

## SURVEILLANCE OF HIV INFECTION

This report includes data reported to the Centers for Disease Control and Prevention (CDC) through December 31, 2018, from 42 jurisdictions (41 states and the District of Columbia). Personally identifiable information was removed before the data were submitted to CDC. As of December 2018, 42 jurisdictions had met the following criteria for the collection and reporting of complete CD4+ T-lymphocyte (CD4) and viral load test results to CDC:

- The jurisdiction's laws/regulations required the reporting of all CD4 and viral load results to the state or local health department.
- Laboratories that perform HIV-related testing for the jurisdictions had reported a minimum of 95% of HIV-related test results to the state or local health department.
- By December 31, 2018, the jurisdiction had reported (to CDC) at least 95% of all CD4 and viral load test results received from January 2016 through September 2018.

The 41 states are Alabama, Alaska, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Please use caution when interpreting data on diagnosed HIV infection. HIV surveillance data may not be representative of all persons infected with HIV because not all infected persons have been (1) tested or (2) tested at a time when their infection could be detected and diagnosed. Also, some states offer anonymous HIV testing; the results of anonymous tests are not reported to the confidential name-based HIV surveillance programs of state and local health departments.

Please also use caution when interpreting laboratory data for persons with diagnosed HIV infection. Laboratory data presented in this report are from 42 jurisdictions with complete CD4 and viral load reporting as of December 2018. Data from these 42 jurisdictions

represent 88.5% of all persons aged  $\geq 18$  years living with diagnosed HIV infection at year-end 2016 in the United States and are therefore not necessarily representative of data on all persons living with diagnosed HIV infection in the United States.

## TABULATION AND PRESENTATION OF DATA

### Stages of HIV Infection

Both the 2008 and 2014 HIV case definitions were used to classify HIV infection among adults and adolescents [15, 16].

The 2008 case definition was used to classify cases diagnosed from the beginning of the epidemic through 2013. For adults and adolescents, this definition incorporates an HIV infection staging system that includes AIDS (HIV infection, stage 3). The 2008 stages of HIV infection are defined as follows:

- **HIV infection, stage 0:** First positive HIV test result within 6 months after a negative HIV test result. The stage remains stage 0 until 6 months after the first positive test result. After 6 months, the stage may be reclassified as 1, 2, 3, or unknown if based on a CD4 test result or the diagnosis of an opportunistic illness. The diagnosis of an AIDS-defining condition or a low CD4 test result before the 6 months have elapsed does not change the stage from stage 0 to stage 3.
- **HIV infection, stage 1:** No AIDS-defining condition and either a CD4 count of  $\geq 500$  cells/ $\mu\text{L}$  or a CD4 percentage of total lymphocytes of  $\geq 29$ .
- **HIV infection, stage 2:** No AIDS-defining condition and either a CD4 count of 200–499 cells/ $\mu\text{L}$  or a CD4 percentage of total lymphocytes of 14–28.
- **HIV infection, stage 3 (AIDS):** Documentation of an AIDS-defining condition or either a CD4 count of  $< 200$  cells/ $\mu\text{L}$  or a CD4 percentage of total lymphocytes of  $< 14$ . Documentation of an AIDS-defining condition supersedes a CD4 count or percentage that would not, by itself, be the basis for a stage 3 (AIDS) classification.
- **HIV infection, stage unknown:** No reported information on AIDS-defining conditions and no information available on CD4 count or percentage.



The 2014 case definition was used to classify cases diagnosed in 2014 and later. It is similar to the 2008 case definition except for the inclusion of criteria for stage 0. The stages of HIV infection in the 2014 case definition are based on age-specific CD4 counts or percentages of total lymphocytes and are defined as follows:

- **HIV infection, stages 1, 2, and 3:** Documentation of an AIDS-defining condition is stage 3. Otherwise, the stage is determined by the lowest CD4 test result.
- **HIV infection, stage unknown:** No reported information on AIDS-defining conditions and no information available on CD4 count or percentage.

Data on persons with HIV infection, stage 3 (AIDS), include persons whose infection has ever been classified as stage 3 (AIDS). These data do not necessarily represent the current stage of disease.

Stage 3 (AIDS) at the time of HIV diagnosis (Table 1) and stage of disease at time of diagnosis (Table 2) were determined by using the first CD4 test result or documentation of an AIDS-defining condition  $\leq 3$  months after the HIV diagnosis date. If  $\geq 2$  events occurred during the same month and could thus qualify as “first,” the following conditions were applied:

- If an AIDS-defining condition was documented, the AIDS-defining condition was used; if a CD4 count or a CD4 percentage had been reported and an AIDS-defining condition was documented, the AIDS-defining condition was used.
- If an AIDS-defining condition was not documented, but a CD4 count and a CD4 percentage had been reported, the CD4 count was used.
- If an AIDS-defining condition was not documented, but  $> 1$  CD4 count had been reported, the lowest CD4 count (indicative of the most severe disease state) was used.
- If an AIDS-defining condition was not documented and a CD4 count had not been reported, but a CD4 percentage had been reported, the CD4 percentage was used. If  $> 1$  CD4 percentage was reported, the lowest CD4 percentage (indicative of the most severe disease state) was used.

For stage of disease at diagnosis, infections were classified as “stage unknown” if the month of HIV diagnosis was missing, or if,  $\leq 3$  months after HIV diagnosis, neither a CD4 count nor a CD4 percentage had been determined and no AIDS-defining condition was documented.

## SOCIAL DETERMINANTS OF HEALTH INDICATOR VARIABLES

SDH indicator variables [17] and definitions [18] were obtained from the American Community Survey (ACS). This report uses data from the 2013–2017 estimates. The U.S. Census Bureau collected these data over the course of the 5 years and created period estimates based on the information collected. Period estimates are estimates based on information collected over time (60 months for this report) [19]. Period estimates were not calculated as an average of 60 monthly values. The U.S. Census Bureau collected survey information continuously and then aggregated the results over a specific period (5 years). The data collection was spread evenly across the entire period represented so as not to over-represent any particular year within the period. All areas were sampled regardless of population size.

For this report, the SDH indicator variables were categorized by using empirically derived quartiles. The quartile cut-points were determined by using Census data from all counties in the 41 states and from the District of Columbia and not just from the data applicable to persons in this report (i.e., persons with an HIV diagnosis). This report presents 4 SDH indicator variables: federal poverty status, education level, median household income, and health insurance coverage.

- **Federal poverty status:** proportion of residents in the county who were living below the federal poverty level (i.e., below a specified threshold) during the 12 months before the survey response (individuals aged  $\geq 18$  years)
- **Education level:** proportion of residents in the county with less than a high school diploma (individuals aged  $\geq 18$  years)
- **Median household income:** median income for a household within the county during the 12 months before the survey response
- **Health insurance coverage:** proportion of residents in the county without health insurance or health coverage plan (individuals aged  $\geq 18$  years)

The 4 selected SDH variables were included in this report because SDH research has emphasized the need to incorporate these specific structural and societal factors into analyses of public health data in order to contribute to a better understanding of their effects on health outcomes [20–23]. Although correlations between SDH indicators were not analyzed

for this report, some SDH indicators may be correlated. For example, lack of education has been associated with poverty and income in the United States [11, 12]. Additionally, use of county-level data may not fully represent an individual's socioeconomic status [13, 14]. Therefore, caution should be used when interpreting results.

HIV case surveillance data were linked with ACS estimates for 2013–2017. Each person with diagnosed HIV infection was assigned a value for each of the SDH indicator variables. Cases or counties were excluded if no county information was available for the case, no SDH information was available for the county, or if the county from the surveillance data could not be matched to a county provided by the ACS. Although HIV diagnosis data associated with these exclusions were not included in all SDH subpopulation totals, they were included in the subtotals stratified by sex. Therefore, Tables 3–11 display differing denominators for SDH subpopulation categories.

### **Poverty**

The percentage of the population aged  $\geq 18$  years who were living below the poverty level was determined by using the sum of the number of family members and the number of unrelated persons in the household whose incomes, during the 12 months before the survey response, were below the federal poverty level. The U.S. Census Bureau uses a set of dollar-value thresholds (i.e., income cutoffs) that vary by family size and composition to determine who lives below the poverty level. A person's poverty status is determined by comparing the person's total family income during the 12 months before the survey response with the poverty threshold appropriate for that person's family size and composition. If the total income of that person's family is less than the threshold appropriate for that family, then the person, together with every member of his or her family, is considered "below the poverty level." In the Census Bureau's determination of poverty status, the following populations were excluded: (1) institutionalized persons, (2) persons residing in military group quarters, (3) persons in college dormitories, and (4) unrelated persons aged  $< 15$  years.

### **Education**

The percentage of persons with less than a high school diploma was defined as the percentage of persons aged  $\geq 18$  years who were not enrolled in school and were not high school graduates. These people may be referred to

as "high school dropouts." There is no restriction on when they "dropped out" of school; therefore, they may have dropped out before high school and never attended high school.

### **Household Income**

The median household income was determined by dividing the income distribution into 2 equal parts: one-half of the persons resided in counties that fall below the median income and one-half above the median. The median income was based on the distribution of the total number of households, including those with no income. Median income for households was computed on the basis of a standard distribution, rounded to the nearest whole dollar. Median household income are categorized and represent quartiles of median income.

### **Health Insurance Coverage**

The percentage of persons aged  $\geq 18$  years without health insurance coverage was determined based on the number of persons without plans or programs that provide comprehensive health coverage (both private health insurance and public coverage). Insured persons include persons who are covered by: (1) insurance through a current or former employer (of this person or another family member) or union, (2) insurance purchased directly from an insurance company (by this person or another family member), (3) Medicare, for persons aged 65 years and older, or persons with certain disabilities, (4) Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability, (5) TRICARE or other military health care, and (6) U.S. Department of Veterans Affairs (VA), including those who have ever used or enrolled for VA health care. Persons who had no reported health coverage, or those whose only health coverage was Indian Health Service, were considered uninsured. Also, plans that provide insurance for specific conditions or situations such as cancer and long-term care policies are not considered coverage. Likewise, other types of insurance like dental, vision, life, and disability insurance are not considered health insurance coverage. The population estimates for health insurance coverage excludes active-duty military personnel and the population living in correctional facilities and nursing homes.

### **LINKAGE TO, AND RECEIPT OF, HIV MEDICAL CARE**

National guidelines for the clinical care and treatment of adults and adolescents with HIV [24] recommend

CD4 and viral load testing during the first care visit after HIV diagnosis to direct the course of treatment. For patients on a stable, suppressive antiretroviral therapy (ART) regimen for  $\leq 2$  years, viral load testing is recommended every 3 to 4 months or as clinically indicated to confirm continuous viral suppression. For adherent patients with suppressed viral load and stable immunologic status for  $> 2$  years, monitoring at 6-month intervals may be considered. For patients who have not taken ART, CD4 count should be monitored every 3 to 6 months. Frequent monitoring of CD4 counts, especially among persons with higher counts ( $> 300$  cells/ $\mu\text{L}$ ) and consistently suppressed viral loads, is generally not required for patient management. For patients who have been taking ART and whose CD4 counts have consistently ranged between 300 and 500 cells/ $\mu\text{L}$  for  $\geq 2$  years, annual monitoring of CD4 count is recommended. Continued CD4 monitoring for virologically suppressed patients whose CD4 counts have consistently been  $> 500$  cells/ $\mu\text{L}$  for  $\geq 2$  years is optional. If clinically indicated, the CD4 count should be monitored more frequently (e.g., when changes in a patient's clinical status decrease CD4 count and thus prompt the need for prophylaxis for opportunistic infection).

The data on linkage to HIV medical care were based on persons whose infection was diagnosed during 2017 and who resided in any of the 42 jurisdictions at the time of diagnosis (Tables 3–5). Linkage to HIV medical care within 1 month after HIV diagnosis was measured by documentation of  $\geq 1$  CD4 (count or percentage) or viral load test performed  $\leq 1$  month after HIV diagnosis, including tests performed on the same date as the date of diagnosis. Linkage to HIV medical care within 3 months after HIV diagnosis was measured by documentation of  $\geq 1$  CD4 (count or percentage) or viral load tests performed  $\leq 3$  months after HIV diagnosis, including tests performed on the same date as the date of diagnosis.

The data on receipt of HIV medical care were based on persons whose infection was diagnosed by year-end 2015, who resided in any of the 42 jurisdictions as of their most recent known address, and who were alive at year-end 2016 (Tables 6a/b–8). Receipt of any HIV medical care was measured by documentation of  $\geq 1$  CD4 or viral load tests performed during 2016. Retention in continuous HIV medical care was measured by documentation of  $\geq 2$  CD4 or viral load tests performed at least 3 months apart during 2016.

For analyses of linkage to, and retention in, care, the month and the year of the earliest HIV-positive test result reported to the surveillance system were used to determine the diagnosis date. Test results were excluded if the month of the sample collection was missing. For linkage to care, data were excluded if the month of diagnosis was missing. For retention in care, data were excluded if the date of death (where applicable) was missing.

## VIRAL SUPPRESSION

Viral suppression was measured among persons whose infection was diagnosed by year-end 2015, who resided in any of the 42 jurisdictions as of their most recent known address during 2016, and who were alive at year-end 2016. Viral suppression was defined as a viral load result of  $< 200$  copies/mL at the most recent viral load test during 2016. The cut-off value of  $< 200$  copies/mL was based on the following definition of virologic failure: viral load of  $\geq 200$  copies/mL [24]. If multiple viral load tests were performed during the same month and could thus qualify as “most recent,” the highest viral load (most severe) was selected. If the numerical result was missing or the result was a logarithmic value, the interpretation of the result (e.g., below limit) was used to determine viral suppression. Virologic failure may indicate lack of adherence to ART.

## AGE

All tables in this report reflect data for persons aged  $\geq 18$  years (i.e., adults). This report was limited to adults aged  $\geq 18$  years with diagnosed HIV infection in order to more accurately represent the population from which data are collected for ACS SDH indicator variables.

- Tables 1–5 (diagnosed HIV infection): age was based on the person's age at the time of HIV diagnosis.
- Tables 6a/b–11 (persons living with diagnosed HIV infection): age was based on the person's age at year-end 2015.

## RACE AND ETHNICITY

The data presented in this report were collected using the OMB's revised 1997 standards for ethnic and racial data, which calls for splitting Asian/Pacific Islander into 2 categories (Asian and Native Hawaiian/other Pacific Islander) and collecting 2 categories of

ethnicity (Hispanic or Latino and not Hispanic or Latino) [25]. Hispanics and Latinos can be of any race.

Due to confidentiality concerns, the ACS does not provide age- and sex-specific SDH variables stratified by race and ethnicity for racial groups, except whites (i.e., white, non-Hispanic/Latino). Therefore, the data used for computing the race-specific, empirically derived quartiles may include Hispanics/Latinos and should be interpreted with caution. Also, the number of persons reported in each race category may include persons whose ethnicity was not reported.

## GEOGRAPHIC DESIGNATION

Data by area of residence reflect the county of the residential address at the time of diagnosis of HIV infection or at the time of stage 3 (AIDS) classification for Tables 1–5. In Tables 6a/b–11, area of residence is based on most recent known address as of December 31, 2016.

## TRANSMISSION CATEGORIES

*Transmission category* is the term used to summarize a person’s possible HIV risk factors; the summary classification results from selecting, from the presumed hierarchical order of probability, the 1 risk factor most likely to have been responsible for transmission. For surveillance purposes, a diagnosis of HIV infection is counted only once in the hierarchy of transmission categories. Persons with > 1 reported risk factor for HIV infection are classified in the transmission category listed first in the hierarchy. The exception is the category for male-to-male sexual contact *and* injection drug use; this group makes up a separate transmission category.

Persons whose transmission category is classified as male-to-male sexual contact include men who have ever had sexual contact with other men (i.e., homosexual contact) and men who have ever had sexual contact with both men and women (i.e., bisexual contact). Persons whose transmission category is classified as heterosexual contact are persons who have ever had heterosexual contact with a person known to have, or to be at high risk for, HIV infection (e.g., a person who injects drugs).

Cases of HIV infection reported without a risk factor listed in the hierarchy of transmission categories are classified as “no identified risk (NIR).” Cases classified as NIR include cases that are being followed up by local health department staff; cases in persons whose risk-factor information is missing because they

died, declined to be interviewed, or were lost to follow-up; and cases in persons who were interviewed or for whom other follow-up information was available but for whom no risk factor was identified.

Because a substantial proportion of cases of HIV infection are reported to CDC without an identified risk factor, multiple imputation is used to assign a transmission category [26]. Multiple imputation is a statistical approach in which each missing transmission category is replaced with a set of plausible values that represent the uncertainty about the true, but missing, value [27]. The plausible values are analyzed by using standard procedures, and the results of these analyses are then combined to produce the final results.

## SUGGESTED READINGS

- CDC. Addressing social determinants of health: accelerating the prevention and control of HIV/AIDS, viral hepatitis, STD and TB. External consultation, December 9–10, 2008. [http://www.cdc.gov/socialdeterminants/docs/final\\_SDHConsultation\\_ForWeb\\_061109.pdf](http://www.cdc.gov/socialdeterminants/docs/final_SDHConsultation_ForWeb_061109.pdf). Published April 2009. Accessed September 19, 2019.
- CDC [Dailey A, Satcher Johnson A, Wu B]. HIV care outcomes among blacks with diagnosed HIV—United States, 2014. *MMWR* 2017;66(04):97–103. <http://www.cdc.gov/mmwr/index2017.html>. Accessed September 19, 2019.
- CDC [Gant Z, Dailey A, Hu X, Satcher Johnson A]. HIV care outcomes among Hispanics or Latinos with diagnosed HIV infection—United States, 2015. *MMWR* 2017;66(40):1065–1072. <http://www.cdc.gov/mmwr/volumes/66/wr/mm6640a2.htm>. Accessed September 19, 2019.
- CDC [Singh S, Mitsch A, Wu B]. HIV care outcomes among men who have sex with men with diagnosed HIV infection—United States, 2015. *MMWR* 2017;66(37):969–974. <http://www.cdc.gov/mmwr/volumes/66/wr/mm6637a2.htm>. Accessed September 19, 2019.
- CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2017. *HIV Surveillance Supplemental Report* 2019;24(No. 3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published June 2019. Accessed September 19, 2019.

- CDC [Crepaz N, Dong X, Wang X, Hernandez A, Hall HI]. Racial and ethnic disparities in sustained viral suppression and transmission risk potential among persons receiving HIV care—United States, 2014. *MMWR* 2018;67(4):113–118. <http://www.cdc.gov/mmwr/volumes/67/wr/mm6704a2.htm>. Accessed September 19, 2019.
- CDC [Selik RM, Mokotoff ED, Branson B, Owen SM, Whitmore S, Hall HI]. Revised surveillance case definition for HIV infection—United States, 2014. *MMWR* 2014;63(RR-03):1–10. [http://www.cdc.gov/mmwr/indrr\\_2014.html](http://www.cdc.gov/mmwr/indrr_2014.html). Accessed September 19, 2019.
- CDC. Social determinants of health among adults with diagnosed HIV infection, 2016. Part B: County-level social determinants of health and selected care outcomes among adults with diagnosed HIV infection—39 states and the District of Columbia. *HIV Surveillance Supplemental Report* 2018;23(No. 6, pt B). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published October 2018. Accessed September 19, 2019.
- Cohen SM, Hu X, Sweeney P, Satcher Johnson A, Hall HI. HIV viral suppression among persons with varying levels of engagement in HIV medical care, 19 U.S. jurisdictions. *J Acquir Immune Defic Syndr* 2014;67(5):519–527. doi:10.1097/QAI.0000000000000349.
- Gray KM, Cohen SM, Hu X, Li J, Mermin J, Hall HI. Jurisdiction level differences in HIV diagnosis, retention in care, and viral suppression in the United States. *J Acquir Immune Defic Syndr* 2014;65(2):129–132. doi:10.1097/QAI.0000000000000028.
- Greenberg AE, Purcell DW, Gordon CM, Barasky RJ, del Rio C. Addressing the challenges of the HIV continuum of care in high-prevalence cities in the United States. *J Acquir Immune Defic Syndr* 2015;69(suppl 1):S1–S7. doi:10.1097/QAI.0000000000000569.
- Hess KL, Hall HI. HIV viral suppression, 37 states and the District of Columbia, 2014. *J Community Health* 2018;43(2):338–347. doi:10.1007/s10900-017-0427-3.
- Hall HI, Frazier EL, Rhodes P, et al. Differences in human immunodeficiency virus care and treatment among subpopulations in the United States. *JAMA Intern Med* 2013;173(14):1337–1344. doi:10.1001/jamainternmed.2013.6841.
- Institute of Medicine. Monitoring HIV care in the United States: indicators and data systems [consensus report]. <http://www.nationalacademies.org/hmd/Reports/2012/Monitoring-HIV-Care-in-the-United-States.aspx>. Published March 15, 2012. Accessed September 19, 2019.
- Mahle Gray K, Tang T, Shouse L, Li J, Mermin J, Hall HI. Using the HIV surveillance system to monitor the National HIV/AIDS Strategy. *Am J Public Health* 2013;103(1):141–147. doi:10.2105/AJPH.2012.300859.

## References

---

1. Cohen SM, Gray KM, Bañez Ocfemia MC, Satcher Johnson A, Hall HI. The status of the National HIV Surveillance System, United States, 2013. *Public Health Rep* 2014;129(4):335–341. doi:10.1177/003335491412900408.
2. CDC. *HIV Surveillance Report 2017*; vol. 29. <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2018. Accessed September 19, 2019.
3. CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2017. *HIV Surveillance Supplemental Report* 2019;24(No. 3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published June 2019. Accessed September 19, 2019.
4. CDC. Establishing a holistic framework to reduce inequities in HIV, viral hepatitis, STDs, and tuberculosis in the United States: an NCHHSTP white paper on social determinants of health, 2010. <http://go.usa.gov/AH2z>. Published October 2010. Accessed September 19, 2019.
5. CDC. Division of HIV/AIDS Prevention Strategic Plan 2017–2020. <http://www.cdc.gov/hiv/dhap/strategicplan/index.html>. Updated July 2017. Accessed September 19, 2019.
6. Valdiserri RO, Forsyth AD, Yakovchenko V, Koh HK. Measuring what matters: development of standard HIV core indicators across the U.S. Department of Health and Human Services. *Public Health Rep* 2013;128(5):354–359. doi:10.1177/003335491312800504.
7. U.S. Department of Health and Human Services. Common indicators for HHS-funded HIV programs and services. <https://web.archive.org/web/20170516093137/http://hab.hrsa.gov/stateprofiles/HHS-Indicators.aspx>. Updated February 2017. Accessed September 19, 2019.
8. Merriam-Webster. Underemployment. <https://www.merriam-webster.com/dictionary/underemployment>. Accessed September 19, 2019.
9. Collins SR, Davis K, Doty MM, Ho A. Wages, health benefits, and workers' health. *Issue Brief (Commonw Fund)* 2004;(788):1–16.
10. Bostic RW, Thornton RL, Rudd EC, Sternthal MJ. Health in all policies: the role of the US Department of Housing and Urban Development and present and future challenges. *Health Aff* 2012;31(9): 2130–2137.
11. Ladd, HF. Education and poverty: confronting the evidence. *J Pol Anal Manage* 2012;31(2):203–227. doi:10.1002/pam.21615.
12. Egerter S, Braveman P, Sadegh-Nobari T, Grossman-Kahn R, Dekker M. Issue Brief 6: Education and Health. <http://www.commissiononhealth.org>. Published September 2009. Accessed September 19, 2019.
13. Poundstone KE, Strathdee SA, Celentano DD. The social epidemiology of human immunodeficiency virus/acquired immunodeficiency syndrome. *Epidemiol Rev* 2004;26:22–35. doi:10.1093/epirev/mxh005.
14. Wallace R. Traveling waves of HIV infection on a low dimensional 'socio-geographic' network. *Soc Sci Med* 1991;32(7):847–852.
15. CDC. Revised surveillance case definitions for HIV infection among adults, adolescents, and children aged <18 months and for HIV infection and AIDS among children aged 18 months to <13 years—United States, 2008. *MMWR* 2008;57(RR-10):1–12. <http://go.usa.gov/x82zV>. Accessed September 19, 2019.
16. CDC [Selik RM, Mokotoff ED, Branson B, Owen SM, Whitmore S, Hall HI]. Revised surveillance case definition for HIV infection—United States, 2014. *MMWR* 2014;63(RR-03):1–10. <http://go.usa.gov/x82zG>. Accessed September 19, 2019.
17. U.S. Census Bureau. American Community Survey: 2013–2017 5-year estimates. [https://www.census.gov/programs-surveys/acs/news/data-releases/2017/release.html#par\\_textimage\\_700933727](https://www.census.gov/programs-surveys/acs/news/data-releases/2017/release.html#par_textimage_700933727). Published December 2018. Accessed September 19, 2019.
18. U.S. Census Bureau. American Community Survey and Puerto Rico Community Survey: 2017 subject definitions. <https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.2017.html>. Published August 2018. Accessed September 19, 2019.
19. U.S. Census Bureau. *Understanding and Using American Community Survey Data: What All Data Users Need to Know*. U.S. Government Printing Office, Washington, DC, 2018. <http://go.usa.gov/xP2df>. Accessed September 19, 2019.

20. Tarlov AR. Public policy frameworks for improving population health. *Ann N Y Acad Sci* 1999;896:281–293.
21. Gupta G, Parkhurst J, Ogden J, Aggleton P, Mahal A. Structural approaches to HIV prevention. *Lancet* 2008;372(9640):764–765. doi:10.1016/S0140-6736(08)60887-9.
22. Adler NE, Newman K. Socioeconomic disparities in health: pathways and policies. *Health Aff* 2002;21(2):60–76.
23. Williams DR, Jackson PB. Social sources of racial disparities in health. *Health Aff* 2005;24(2):325–334.
24. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1–infected adults and adolescents. <http://go.usa.gov/vdGA>. Updated July 10, 2019. Accessed September 19, 2019.
25. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. *Federal Register* 1997;62:58782–58790. <http://go.usa.gov/xP2dt>. Accessed September 19, 2019.
26. Harrison KM, Kajese T, Hall HI, Song R. Risk factor redistribution of the national HIV/AIDS surveillance data: an alternative approach. *Public Health Rep* 2008;123(5):618–627.
27. Rubin, DB. *Multiple Imputation for Nonresponse in Surveys*. New York: John Wiley & Sons Inc; 1987.

**Table 1. Stage 3 (AIDS) at the time of diagnosis of HIV infection, among persons aged ≥ 18 years, by race/ethnicity, sex, and selected social determinants of health, 2017—county level, 41 states and the District of Columbia**

	Black/African American			Hispanic/Latino <sup>a</sup>			White			Other <sup>b</sup>			Total		
	Total	Stage 3 (AIDS) <sup>c</sup>		Total	Stage 3 (AIDS) <sup>c</sup>		Total	Stage 3 (AIDS) <sup>c</sup>		Total	Stage 3 (AIDS) <sup>c</sup>		Total	Stage 3 (AIDS) <sup>c</sup>	
	No.	No.	%	No.	No.	%	No.	No.	%	No.	No.	%	No.	No.	%
<b>Male</b>															
<b>Below federal poverty level (%)</b>															
<10	1,394	302	21.7	931	217	23.3	1,409	316	22.4	353	80	22.7	4,087	915	22.4
10.00–12.99	1,848	359	19.4	1,531	322	21.0	1,932	427	22.1	442	115	26.0	5,753	1,223	21.3
13.00–16.99	4,771	883	18.5	3,167	707	22.3	2,993	627	20.9	635	119	18.7	11,566	2,336	20.2
≥17	2,602	528	20.3	1,809	354	19.6	912	180	19.7	199	41	20.6	5,522	1,103	20.0
<b>Less than high school diploma (%)</b>															
<9	1,430	281	19.7	534	114	21.3	1,416	317	22.4	276	66	23.9	3,656	778	21.3
9.00–12.99	4,224	823	19.5	2,084	426	20.4	2,960	636	21.5	635	127	20.0	9,903	2,012	20.3
13.00–17.99	2,605	538	20.7	1,300	322	24.8	1,534	343	22.4	285	61	21.4	5,724	1,264	22.1
≥18	2,356	430	18.3	3,520	738	21.0	1,336	254	19.0	433	101	23.3	7,645	1,523	19.9
<b>Median household income (U.S. \$)</b>															
<41,000	1,015	217	21.4	463	104	22.5	376	88	23.4	70	19	27.1	1,924	428	22.2
41,000–47,999	1,936	391	20.2	1,173	225	19.2	1,016	247	24.3	132	21	15.9	4,257	884	20.8
48,000–55,999	3,066	581	18.9	1,704	386	22.7	2,033	460	22.6	335	80	23.9	7,138	1,507	21.1
≥56,000	4,598	883	19.2	4,098	885	21.6	3,821	755	19.8	1,092	235	21.5	13,609	2,758	20.3
<b>Without health insurance (%)</b>															
<8	1,216	249	20.5	910	183	20.1	1,431	307	21.5	380	78	20.5	3,937	817	20.8
8.00–11.99	2,007	420	20.9	938	202	21.5	1,689	383	22.7	328	69	21.0	4,962	1,074	21.6
12.00–15.99	4,172	749	18.0	2,695	581	21.6	2,469	522	21.1	616	138	22.4	9,952	1,990	20.0
≥16	3,220	654	20.3	2,895	634	21.9	1,657	338	20.4	305	70	23.0	8,077	1,696	21.0
<b>Subtotal<sup>d</sup></b>	<b>10,787</b>	<b>2,104</b>	<b>19.5</b>	<b>7,472</b>	<b>1,608</b>	<b>21.5</b>	<b>7,293</b>	<b>1,559</b>	<b>21.4</b>	<b>1,632</b>	<b>355</b>	<b>21.8</b>	<b>27,184</b>	<b>5,626</b>	<b>20.7</b>
<b>Female</b>															
<b>Below federal poverty level (%)</b>															
<10	609	151	24.8	144	32	22.2	265	55	20.8	76	22	28.9	1,094	260	23.8
10.00–12.99	676	171	25.3	212	47	22.2	306	68	22.2	76	29	38.2	1,270	315	24.8
13.00–16.99	1,504	309	20.5	363	87	24.0	474	88	18.6	106	24	22.6	2,447	508	20.8
≥17	1,006	219	21.8	239	45	18.8	185	43	23.2	35	5	14.3	1,465	312	21.3
<b>Less than high school diploma (%)</b>															
<9	504	129	25.6	90	17	18.9	246	47	19.1	53	18	34.0	893	211	23.6
9.00–12.99	1,461	330	22.6	278	71	25.5	520	100	19.2	121	44	36.4	2,380	545	22.9
13.00–17.99	992	218	22.0	176	33	18.8	257	54	21.0	44	8	18.2	1,469	313	21.3
≥18	838	173	20.6	414	90	21.7	207	53	25.6	75	10	13.3	1,534	326	21.3
<b>Median household income (U.S. \$)</b>															
<41,000	372	91	24.5	85	18	21.2	83	20	24.1	10	0	0.0	550	129	23.5
41,000–47,999	737	147	19.9	157	39	24.8	228	49	21.5	31	8	25.8	1,153	243	21.1
48,000–55,999	1,065	244	22.9	221	50	22.6	369	76	20.6	65	19	29.2	1,720	389	22.6
≥56,000	1,621	368	22.7	495	104	21.0	550	109	19.8	187	53	28.3	2,853	634	22.2
<b>Without health insurance (%)</b>															
<8	482	129	26.8	142	30	21.1	238	53	22.3	63	24	38.1	925	236	25.5
8.00–11.99	708	152	21.5	134	31	23.1	302	57	18.9	67	23	34.3	1,211	263	21.7
12.00–15.99	1,276	276	21.6	324	66	20.4	418	82	19.6	98	20	20.4	2,116	444	21.0
≥16	1,329	293	22.0	358	84	23.5	272	62	22.8	65	13	20.0	2,024	452	22.3
<b>Subtotal<sup>d</sup></b>	<b>3,857</b>	<b>868</b>	<b>22.5</b>	<b>961</b>	<b>212</b>	<b>22.1</b>	<b>1,242</b>	<b>257</b>	<b>20.7</b>	<b>295</b>	<b>80</b>	<b>27.1</b>	<b>6,355</b>	<b>1,417</b>	<b>22.3</b>
<b>Total</b>	<b>14,644</b>	<b>2,972</b>	<b>20.3</b>	<b>8,433</b>	<b>1,820</b>	<b>21.6</b>	<b>8,535</b>	<b>1,816</b>	<b>21.3</b>	<b>1,927</b>	<b>435</b>	<b>22.6</b>	<b>33,539</b>	<b>7,043</b>	<b>21.0</b>

Abbreviations. SDH, social determinants of health [footnotes only]; CD4, CD4+ T-lymphocyte count (cells/μL) or percentage [footnotes only].

Note. Data are based on residence at diagnosis.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Hispanics/Latinos can be of any race.

<sup>b</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, and multiple races.

<sup>c</sup> Based on first CD4 test performed or documentation of an AIDS-defining condition ≤ 3 months after a diagnosis of HIV infection.

<sup>d</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for the criteria used to define SDH subpopulations.



**Table 2. Stage of disease at diagnosis of HIV infection during 2017, among persons aged ≥18 years, by sex and selected social determinants of health—county level, 41 states and the District of Columbia**

	Total No.	Stage 0 <sup>a</sup>		Stage 1 (CD4 ≥500 cells/μL or ≥26%)		Stage 2 (CD4 200–499 cells/μL or 14%-25%)		Stage 3 (AIDS) (OI or CD4 <200 cells/μL or <14%)		Stage unknown <sup>b</sup>	
		No.	%	No.	%	No.	%	No.	%	No.	%
<b>Male</b>											
<b>Below federal poverty level (%)</b>											
<10	4,087	270	6.6	1,096	26.8	1,224	29.9	915	22.4	582	14.2
10.00–12.99	5,753	401	7.0	1,500	26.1	1,733	30.1	1,223	21.3	896	15.6
13.00–16.99	11,566	732	6.3	2,743	23.7	3,553	30.7	2,336	20.2	2,202	19.0
≥17	5,522	372	6.7	1,397	25.3	1,790	32.4	1,103	20.0	860	15.6
<b>Less than high school diploma (%)</b>											
<9	3,656	229	6.3	974	26.6	1,137	31.1	778	21.3	538	14.7
9.00–12.99	9,903	622	6.3	2,543	25.7	3,062	30.9	2,012	20.3	1,664	16.8
13.00–17.99	5,724	350	6.1	1,393	24.3	1,710	29.9	1,264	22.1	1,007	17.6
≥18	7,645	574	7.5	1,826	23.9	2,391	31.3	1,523	19.9	1,331	17.4
<b>Median household income (U.S. \$)</b>											
<41,000	1,924	149	7.7	423	22.0	576	29.9	428	22.2	348	18.1
41,000–47,999	4,257	202	4.7	1,101	25.9	1,373	32.3	884	20.8	697	16.4
48,000–55,999	7,138	393	5.5	1,792	25.1	2,178	30.5	1,507	21.1	1,268	17.8
≥56,000	13,609	1,031	7.6	3,420	25.1	4,173	30.7	2,758	20.3	2,227	16.4
<b>Without health insurance (%)</b>											
<8	3,937	321	8.2	1,064	27.0	1,277	32.4	817	20.8	458	11.6
8.00–11.99	4,962	366	7.4	1,252	25.2	1,501	30.2	1,074	21.6	769	15.5
12.00–15.99	9,952	645	6.5	2,354	23.7	3,032	30.5	1,990	20.0	1,931	19.4
≥16	8,077	443	5.5	2,066	25.6	2,490	30.8	1,696	21.0	1,382	17.1
<b>Subtotal<sup>c</sup></b>	<b>27,184</b>	<b>1,785</b>	<b>6.6</b>	<b>6,782</b>	<b>24.9</b>	<b>8,385</b>	<b>30.8</b>	<b>5,626</b>	<b>20.7</b>	<b>4,606</b>	<b>16.9</b>

**Table 2. Stage of disease at diagnosis of HIV infection during 2017, among persons aged ≥18 years, by sex and selected social determinants of health—county level, 41 states and the District of Columbia**

	Total No.	Stage 0 <sup>a</sup>		Stage 1 (CD4 ≥500 cells/μL or ≥26%)		Stage 2 (CD4 200–499 cells/μL or 14%-25%)		Stage 3 (AIDS) (OI or CD4 <200 cells/μL or <14%)		Stage unknown <sup>b</sup>	
		No.	%	No.	%	No.	%	No.	%	No.	%
<b>Female</b>											
<b>Below federal poverty level (%)</b>											
<10	1,094	51	4.7	312	28.5	308	28.2	260	23.8	163	14.9
10.00–12.99	1,270	61	4.8	359	28.3	345	27.2	315	24.8	190	15.0
13.00–16.99	2,447	107	4.4	662	27.1	684	28.0	508	20.8	486	19.9
≥17	1,465	82	5.6	418	28.5	429	29.3	312	21.3	224	15.3
<b>Less than high school diploma (%)</b>											
<9	893	38	4.3	271	30.3	242	27.1	211	23.6	131	14.7
9.00–12.99	2,380	103	4.3	644	27.1	668	28.1	545	22.9	420	17.6
13.00–17.99	1,469	71	4.8	422	28.7	424	28.9	313	21.3	239	16.3
≥18	1,534	89	5.8	414	27.0	432	28.2	326	21.3	273	17.8
<b>Median household income (U.S. \$)</b>											
<41,000	550	35	6.4	143	26.0	158	28.7	129	23.5	85	15.5
41,000–47,999	1,153	51	4.4	349	30.3	324	28.1	243	21.1	186	16.1
48,000–55,999	1,720	68	4.0	466	27.1	495	28.8	389	22.6	302	17.6
≥56,000	2,853	147	5.2	793	27.8	789	27.7	634	22.2	490	17.2
<b>Without health insurance (%)</b>											
<8	925	57	6.2	260	28.1	247	26.7	236	25.5	125	13.5
8.00–11.99	1,211	52	4.3	340	28.1	361	29.8	263	21.7	195	16.1
12.00–15.99	2,116	108	5.1	571	27.0	578	27.3	444	21.0	415	19.6
≥16	2,024	84	4.2	580	28.7	580	28.7	452	22.3	328	16.2
<b>Subtotal<sup>c</sup></b>	<b>6,355</b>	<b>303</b>	<b>4.8</b>	<b>1,767</b>	<b>27.8</b>	<b>1,784</b>	<b>28.1</b>	<b>1,417</b>	<b>22.3</b>	<b>1,084</b>	<b>17.1</b>
<b>Total</b>	<b>33,539</b>	<b>2,088</b>	<b>6.2</b>	<b>8,549</b>	<b>25.5</b>	<b>10,169</b>	<b>30.3</b>	<b>7,043</b>	<b>21.0</b>	<b>5,690</b>	<b>17.0</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; OI, opportunistic infection (i.e., AIDS-defining condition); SDH, social determinants of health [footnotes only].

Note. Stage of disease at diagnosis of HIV infection based on first CD4 test performed or documentation of an AIDS-defining condition ≤3 months after a diagnosis of HIV infection.

Data are based on residence at diagnosis.

See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> First positive HIV test result is within 6 months after a negative HIV test result. The diagnosis of an AIDS-defining condition or a low CD4 test result before the 6 months has elapsed does not change the state from stage 0 to stage 3.

<sup>b</sup> Includes persons with no CD4 information.

<sup>c</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for the criteria used to define SDH subpopulations.

**Table 3. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	%	No.	%	No.	%
<b>Black/African American</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	1,394	13.1	1,080	77.5	1,198	85.9
10.00–12.99	1,848	17.4	1,378	74.6	1,555	84.1
13.00–16.99	4,771	44.9	3,471	72.8	3,894	81.6
≥17	2,602	24.5	1,990	76.5	2,235	85.9
<b>Less than high school diploma (%)</b>						
<9	1,430	13.5	1,087	76.0	1,217	85.1
9.00–12.99	4,224	39.8	3,121	73.9	3,529	83.5
13.00–17.99	2,605	24.5	1,997	76.7	2,222	85.3
≥18	2,356	22.2	1,714	72.8	1,914	81.2
<b>Median household income (U.S. \$)</b>						
<41,000	1,015	9.6	761	75.0	862	84.9
41,000–47,999	1,936	18.2	1,477	76.3	1,642	84.8
48,000–55,999	3,066	28.9	2,205	71.9	2,526	82.4
≥56,000	4,598	43.3	3,476	75.6	3,852	83.8
<b>Without health insurance (%)</b>						
<8	1,216	11.5	976	80.3	1,051	86.4
8.00–11.99	2,007	18.9	1,515	75.5	1,717	85.6
12.00–15.99	4,172	39.3	3,078	73.8	3,464	83.0
≥16	3,220	30.3	2,350	73.0	2,650	82.3
<b>Subtotal<sup>b</sup></b>	<b>10,787</b>	<b>100</b>	<b>8,047</b>	<b>74.6</b>	<b>9,020</b>	<b>83.6</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	609	16.0	517	84.9	557	91.5
10.00–12.99	676	17.8	524	77.5	592	87.6
13.00–16.99	1,504	39.6	1,164	77.4	1,285	85.4
≥17	1,006	26.5	790	78.5	881	87.6
<b>Less than high school diploma (%)</b>						
<9	504	13.3	435	86.3	461	91.5
9.00–12.99	1,461	38.5	1,141	78.1	1,275	87.3
13.00–17.99	992	26.1	793	79.9	871	87.8
≥18	838	22.1	626	74.7	708	84.5
<b>Median household income (U.S. \$)</b>						
<41,000	372	9.8	290	78.0	325	87.4
41,000–47,999	737	19.4	577	78.3	642	87.1
48,000–55,999	1,065	28.1	812	76.2	916	86.0
≥56,000	1,621	42.7	1,316	81.2	1,432	88.3
<b>Without health insurance (%)</b>						
<8	482	12.7	420	87.1	445	92.3
8.00–11.99	708	18.7	580	81.9	636	89.8
12.00–15.99	1,276	33.6	996	78.1	1,093	85.7
≥16	1,329	35.0	999	75.2	1,141	85.9
<b>Subtotal<sup>b</sup></b>	<b>3,857</b>	<b>100</b>	<b>3,036</b>	<b>78.7</b>	<b>3,362</b>	<b>87.2</b>
<b>Total</b>	<b>14,644</b>	<b>100</b>	<b>11,083</b>	<b>75.7</b>	<b>12,382</b>	<b>84.6</b>

**Table 3. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
	Hispanic/Latino <sup>c</sup>					
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	931	12.5	783	84.1	847	91.0
10.00–12.99	1,531	20.6	1,234	80.6	1,360	88.8
13.00–16.99	3,167	42.6	2,406	76.0	2,653	83.8
≥17	1,809	24.3	1,473	81.4	1,619	89.5
<b>Less than high school diploma (%)</b>						
<9	534	7.2	454	85.0	485	90.8
9.00–12.99	2,084	28.0	1,692	81.2	1,853	88.9
13.00–17.99	1,300	17.5	1,023	78.7	1,132	87.1
≥18	3,520	47.3	2,727	77.5	3,009	85.5
<b>Median household income (U.S. \$)</b>						
<41,000	463	6.2	388	83.8	417	90.1
41,000–47,999	1,173	15.8	962	82.0	1,056	90.0
48,000–55,999	1,704	22.9	1,310	76.9	1,459	85.6
≥56,000	4,098	55.1	3,236	79.0	3,547	86.6
<b>Without health insurance (%)</b>						
<8	910	12.2	782	85.9	839	92.2
8.00–11.99	938	12.6	791	84.3	851	90.7
12.00–15.99	2,695	36.2	2,064	76.6	2,271	84.3
≥16	2,895	38.9	2,259	78.0	2,518	87.0
<b>Subtotal<sup>b</sup></b>	<b>7,472</b>	<b>100</b>	<b>5,919</b>	<b>79.2</b>	<b>6,504</b>	<b>87.0</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	144	15.0	122	84.7	130	90.3
10.00–12.99	212	22.1	166	78.3	190	89.6
13.00–16.99	363	37.9	277	76.3	308	84.8
≥17	239	24.9	201	84.1	219	91.6
<b>Less than high school diploma (%)</b>						
<9	90	9.4	73	81.1	82	91.1
9.00–12.99	278	29.0	219	78.8	245	88.1
13.00–17.99	176	18.4	143	81.3	154	87.5
≥18	414	43.2	331	80.0	366	88.4
<b>Median household income (U.S. \$)</b>						
<41,000	85	8.9	73	85.9	78	91.8
41,000–47,999	157	16.4	129	82.2	141	89.8
48,000–55,999	221	23.1	169	76.5	195	88.2
≥56,000	495	51.7	395	79.8	433	87.5
<b>Without health insurance (%)</b>						
<8	142	14.8	121	85.2	131	92.3
8.00–11.99	134	14.0	110	82.1	121	90.3
12.00–15.99	324	33.8	242	74.7	275	84.9
≥16	358	37.4	293	81.8	320	89.4
<b>Subtotal<sup>b</sup></b>	<b>961</b>	<b>100</b>	<b>768</b>	<b>79.9</b>	<b>850</b>	<b>88.4</b>
<b>Total</b>	<b>8,433</b>	<b>100</b>	<b>6,687</b>	<b>79.3</b>	<b>7,354</b>	<b>87.2</b>

**Table 3. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>White</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	1,409	19.4	1,201	85.2	1,298	92.1
10.00–12.99	1,932	26.7	1,578	81.7	1,741	90.1
13.00–16.99	2,993	41.3	2,434	81.3	2,662	88.9
≥17	912	12.6	724	79.4	823	90.2
<b>Less than high school diploma (%)</b>						
<9	1,416	19.5	1,205	85.1	1,313	92.7
9.00–12.99	2,960	40.9	2,453	82.9	2,681	90.6
13.00–17.99	1,534	21.2	1,218	79.4	1,357	88.5
≥18	1,336	18.4	1,061	79.4	1,173	87.8
<b>Median household income (U.S. \$)</b>						
<41,000	376	5.2	287	76.3	332	88.3
41,000–47,999	1,016	14.0	813	80.0	903	88.9
48,000–55,999	2,033	28.1	1,642	80.8	1,818	89.4
≥56,000	3,821	52.7	3,195	83.6	3,471	90.8
<b>Without health insurance (%)</b>						
<8	1,431	19.7	1,247	87.1	1,339	93.6
8.00–11.99	1,689	23.3	1,397	82.7	1,529	90.5
12.00–15.99	2,469	34.1	1,983	80.3	2,195	88.9
≥16	1,657	22.9	1,310	79.1	1,461	88.2
<b>Subtotal<sup>b</sup></b>	<b>7,293</b>	<b>100</b>	<b>5,970</b>	<b>81.9</b>	<b>6,561</b>	<b>90.0</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	265	21.5	219	82.6	242	91.3
10.00–12.99	306	24.9	246	80.4	273	89.2
13.00–16.99	474	38.5	365	77.0	402	84.8
≥17	185	15.0	135	73.0	156	84.3
<b>Less than high school diploma (%)</b>						
<9	246	20.0	212	86.2	229	93.1
9.00–12.99	520	42.3	400	76.9	450	86.5
13.00–17.99	257	20.9	201	78.2	227	88.3
≥18	207	16.8	152	73.4	167	80.7
<b>Median household income (U.S. \$)</b>						
<41,000	83	6.7	57	68.7	72	86.7
41,000–47,999	228	18.5	174	76.3	192	84.2
48,000–55,999	369	30.0	289	78.3	321	87.0
≥56,000	550	44.7	445	80.9	488	88.7
<b>Without health insurance (%)</b>						
<8	238	19.3	204	85.7	217	91.2
8.00–11.99	302	24.6	243	80.5	267	88.4
12.00–15.99	418	34.0	310	74.2	350	83.7
≥16	272	22.1	208	76.5	239	87.9
<b>Subtotal<sup>b</sup></b>	<b>1,242</b>	<b>100</b>	<b>975</b>	<b>78.5</b>	<b>1,083</b>	<b>87.2</b>
<b>Total</b>	<b>8,535</b>	<b>100</b>	<b>6,945</b>	<b>81.4</b>	<b>7,644</b>	<b>89.6</b>

**Table 3. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
	<b>Other<sup>d</sup></b>					
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	353	21.7	303	85.8	326	92.4
10.00–12.99	442	27.1	369	83.5	399	90.3
13.00–16.99	635	39.0	500	78.7	546	86.0
≥17	199	12.2	149	74.9	173	86.9
<b>Less than high school diploma (%)</b>						
<9	276	16.9	237	85.9	254	92.0
9.00–12.99	635	39.0	523	82.4	567	89.3
13.00–17.99	285	17.5	220	77.2	246	86.3
≥18	433	26.6	341	78.8	377	87.1
<b>Median household income (U.S. \$)</b>						
<41,000	70	4.3	51	72.9	60	85.7
41,000–47,999	132	8.1	106	80.3	119	90.2
48,000–55,999	335	20.6	252	75.2	292	87.2
≥56,000	1,092	67.0	912	83.5	973	89.1
<b>Without health insurance (%)</b>						
<8	380	23.3	317	83.4	338	88.9
8.00–11.99	328	20.1	278	84.8	301	91.8
12.00–15.99	616	37.8	485	78.7	535	86.9
≥16	305	18.7	241	79.0	270	88.5
<b>Subtotal<sup>b</sup></b>	<b>1,632</b>	<b>100</b>	<b>1,322</b>	<b>81.0</b>	<b>1,447</b>	<b>88.7</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	76	25.9	67	88.2	70	92.1
10.00–12.99	76	25.9	58	76.3	71	93.4
13.00–16.99	106	36.2	79	74.5	83	78.3
≥17	35	11.9	30	85.7	34	97.1
<b>Less than high school diploma (%)</b>						
<9	53	18.1	45	84.9	46	86.8
9.00–12.99	121	41.3	103	85.1	114	94.2
13.00–17.99	44	15.0	33	75.0	39	88.6
≥18	75	25.6	53	70.7	59	78.7
<b>Median household income (U.S. \$)</b>						
<41,000	10	3.4	8	80.0	10	100
41,000–47,999	31	10.6	27	87.1	31	100
48,000–55,999	65	22.2	49	75.4	56	86.2
≥56,000	187	63.8	150	80.2	161	86.1
<b>Without health insurance (%)</b>						
<8	63	21.5	56	88.9	60	95.2
8.00–11.99	67	22.9	55	82.1	59	88.1
12.00–15.99	98	33.4	74	75.5	83	84.7
≥16	65	22.2	49	75.4	56	86.2
<b>Subtotal<sup>b</sup></b>	<b>295</b>	<b>100</b>	<b>236</b>	<b>80.0</b>	<b>260</b>	<b>88.1</b>
<b>Total</b>	<b>1,927</b>	<b>100</b>	<b>1,558</b>	<b>80.9</b>	<b>1,707</b>	<b>88.6</b>

**Table 3. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	4,087	15.2	3,367	82.4	3,669	89.8
10.00–12.99	5,753	21.4	4,559	79.2	5,055	87.9
13.00–16.99	11,566	43.0	8,811	76.2	9,755	84.3
≥17	5,522	20.5	4,336	78.5	4,850	87.8
<b>Less than high school diploma (%)</b>						
<9	3,656	13.6	2,983	81.6	3,269	89.4
9.00–12.99	9,903	36.8	7,789	78.7	8,630	87.1
13.00–17.99	5,724	21.3	4,458	77.9	4,957	86.6
≥18	7,645	28.4	5,843	76.4	6,473	84.7
<b>Median household income (U.S. \$)</b>						
<41,000	1,924	7.1	1,487	77.3	1,671	86.9
41,000–47,999	4,257	15.8	3,358	78.9	3,720	87.4
48,000–55,999	7,138	26.5	5,409	75.8	6,095	85.4
≥56,000	13,609	50.5	10,819	79.5	11,843	87.0
<b>Without health insurance (%)</b>						
<8	3,937	14.6	3,322	84.4	3,567	90.6
8.00–11.99	4,962	18.4	3,981	80.2	4,398	88.6
12.00–15.99	9,952	37.0	7,610	76.5	8,465	85.1
≥16	8,077	30.0	6,160	76.3	6,899	85.4
<b>Subtotal<sup>b</sup></b>	<b>27,184</b>	<b>100</b>	<b>21,258</b>	<b>78.2</b>	<b>23,532</b>	<b>86.6</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	1,094	17.4	925	84.6	999	91.3
10.00–12.99	1,270	20.2	994	78.3	1,126	88.7
13.00–16.99	2,447	39.0	1,885	77.0	2,078	84.9
≥17	1,465	23.3	1,156	78.9	1,290	88.1
<b>Less than high school diploma (%)</b>						
<9	893	14.2	765	85.7	818	91.6
9.00–12.99	2,380	37.9	1,863	78.3	2,084	87.6
13.00–17.99	1,469	23.4	1,170	79.6	1,291	87.9
≥18	1,534	24.4	1,162	75.7	1,300	84.7
<b>Median household income (U.S. \$)</b>						
<41,000	550	8.8	428	77.8	485	88.2
41,000–47,999	1,153	18.4	907	78.7	1,006	87.3
48,000–55,999	1,720	27.4	1,319	76.7	1,488	86.5
≥56,000	2,853	45.5	2,306	80.8	2,514	88.1
<b>Without health insurance (%)</b>						
<8	925	14.7	801	86.6	853	92.2
8.00–11.99	1,211	19.3	988	81.6	1,083	89.4
12.00–15.99	2,116	33.7	1,622	76.7	1,801	85.1
≥16	2,024	32.2	1,549	76.5	1,756	86.8
<b>Subtotal<sup>b</sup></b>	<b>6,355</b>	<b>100</b>	<b>5,015</b>	<b>78.9</b>	<b>5,555</b>	<b>87.4</b>
<b>Total</b>	<b>33,539</b>	<b>100</b>	<b>26,273</b>	<b>78.3</b>	<b>29,087</b>	<b>86.7</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on residence at diagnosis.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Hispanics/Latinos can be of any race.

<sup>d</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, and multiple races.

**Table 4. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by age and selected social determinants of health—county level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>18–24</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	837	13.9	649	77.5	735	87.8
10.00–12.99	1,178	19.5	879	74.6	1,007	85.5
13.00–16.99	2,698	44.7	1,968	72.9	2,227	82.5
≥17	1,324	21.9	1,005	75.9	1,137	85.9
<b>Less than high school diploma (%)</b>						
<9	813	13.5	632	77.7	719	88.4
9.00–12.99	2,250	37.3	1,677	74.5	1,900	84.4
13.00–17.99	1,367	22.6	1,011	74.0	1,152	84.3
≥18	1,607	26.6	1,181	73.5	1,335	83.1
<b>Median household income (U.S. \$)</b>						
<41,000	497	8.2	383	77.1	436	87.7
41,000–47,999	967	16.0	722	74.7	806	83.4
48,000–55,999	1,692	28.0	1,215	71.8	1,403	82.9
≥56,000	2,881	47.7	2,181	75.7	2,461	85.4
<b>Without health insurance (%)</b>						
<8	784	13.0	633	80.7	696	88.8
8.00–11.99	1,132	18.8	875	77.3	995	87.9
12.00–15.99	2,376	39.4	1,759	74.0	1,993	83.9
≥16	1,745	28.9	1,234	70.7	1,422	81.5
<b>Subtotal<sup>b</sup></b>	<b>6,094</b>	<b>100</b>	<b>4,544</b>	<b>74.6</b>	<b>5,153</b>	<b>84.6</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	129	15.8	102	79.1	113	87.6
10.00–12.99	155	18.9	120	77.4	140	90.3
13.00–16.99	351	42.9	262	74.6	295	84.0
≥17	183	22.4	143	78.1	157	85.8
<b>Less than high school diploma (%)</b>						
<9	111	13.6	88	79.3	95	85.6
9.00–12.99	305	37.3	235	77.0	268	87.9
13.00–17.99	203	24.8	168	82.8	186	91.6
≥18	199	24.3	136	68.3	156	78.4
<b>Median household income (U.S. \$)</b>						
<41,000	68	8.3	47	69.1	56	82.4
41,000–47,999	162	19.8	125	77.2	139	85.8
48,000–55,999	231	28.2	174	75.3	203	87.9
≥56,000	357	43.6	281	78.7	307	86.0
<b>Without health insurance (%)</b>						
<8	120	14.7	97	80.8	105	87.5
8.00–11.99	133	16.3	111	83.5	119	89.5
12.00–15.99	272	33.3	208	76.5	233	85.7
≥16	293	35.8	211	72.0	248	84.6
<b>Subtotal<sup>b</sup></b>	<b>832</b>	<b>100</b>	<b>637</b>	<b>76.6</b>	<b>718</b>	<b>86.3</b>
<b>Total</b>	<b>6,926</b>	<b>100</b>	<b>5,181</b>	<b>74.8</b>	<b>5,871</b>	<b>84.8</b>



**Table 4. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by age and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>25–34</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	1,527	15.2	1,245	81.5	1,371	89.8
10.00–12.99	2,086	20.8	1,637	78.5	1,828	87.6
13.00–16.99	4,360	43.5	3,287	75.4	3,647	83.6
≥17	2,042	20.4	1,575	77.1	1,788	87.6
<b>Less than high school diploma (%)</b>						
<9	1,381	13.8	1,105	80.0	1,218	88.2
9.00–12.99	3,644	36.4	2,829	77.6	3,175	87.1
13.00–17.99	2,106	21.0	1,620	76.9	1,806	85.8
≥18	2,884	28.8	2,190	75.9	2,435	84.4
<b>Median household income (U.S. \$)</b>						
<41,000	679	6.8	509	75.0	580	85.4
41,000–47,999	1,524	15.2	1,194	78.3	1,332	87.4
48,000–55,999	2,651	26.5	1,978	74.6	2,257	85.1
≥56,000	5,161	51.5	4,063	78.7	4,465	86.5
<b>Without health insurance (%)</b>						
<8	1,429	14.3	1,197	83.8	1,291	90.3
8.00–11.99	1,873	18.7	1,465	78.2	1,630	87.0
12.00–15.99	3,678	36.7	2,767	75.2	3,117	84.7
≥16	3,035	30.3	2,315	76.3	2,596	85.5
<b>Subtotal<sup>b</sup></b>	<b>10,103</b>	<b>100</b>	<b>7,806</b>	<b>77.3</b>	<b>8,701</b>	<b>86.1</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	289	16.7	238	82.4	258	89.3
10.00–12.99	361	20.9	282	78.1	316	87.5
13.00–16.99	678	39.3	518	76.4	573	84.5
≥17	398	23.1	324	81.4	360	90.5
<b>Less than high school diploma (%)</b>						
<9	248	14.4	211	85.1	225	90.7
9.00–12.99	632	36.6	500	79.1	554	87.7
13.00–17.99	429	24.9	339	79.0	372	86.7
≥18	417	24.2	312	74.8	356	85.4
<b>Median household income (U.S. \$)</b>						
<41,000	157	9.1	126	80.3	145	92.4
41,000–47,999	329	19.1	259	78.7	284	86.3
48,000–55,999	460	26.7	358	77.8	402	87.4
≥56,000	780	45.2	619	79.4	676	86.7
<b>Without health insurance (%)</b>						
<8	237	13.7	207	87.3	221	93.2
8.00–11.99	335	19.4	272	81.2	296	88.4
12.00–15.99	609	35.3	459	75.4	516	84.7
≥16	545	31.6	424	77.8	474	87.0
<b>Subtotal<sup>b</sup></b>	<b>1,749</b>	<b>100</b>	<b>1,376</b>	<b>78.7</b>	<b>1,523</b>	<b>87.1</b>
<b>Total</b>	<b>11,852</b>	<b>100</b>	<b>9,182</b>	<b>77.5</b>	<b>10,224</b>	<b>86.3</b>

**Table 4. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by age and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>35–44</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	725	14.7	620	85.5	658	90.8
10.00–12.99	1,080	21.9	896	83.0	969	89.7
13.00–16.99	2,106	42.8	1,625	77.2	1,782	84.6
≥17	1,011	20.5	824	81.5	896	88.6
<b>Less than high school diploma (%)</b>						
<9	589	12.0	499	84.7	529	89.8
9.00–12.99	1,783	36.2	1,446	81.1	1,565	87.8
13.00–17.99	1,031	20.9	836	81.1	913	88.6
≥18	1,519	30.9	1,184	77.9	1,298	85.5
<b>Median household income (U.S. \$)</b>						
<41,000	355	7.2	279	78.6	306	86.2
41,000–47,999	762	15.5	611	80.2	679	89.1
48,000–55,999	1,278	26.0	990	77.5	1,084	84.8
≥56,000	2,527	51.3	2,085	82.5	2,236	88.5
<b>Without health insurance (%)</b>						
<8	741	15.1	647	87.3	685	92.4
8.00–11.99	857	17.4	709	82.7	774	90.3
12.00–15.99	1,784	36.2	1,408	78.9	1,520	85.2
≥16	1,540	31.3	1,201	78.0	1,326	86.1
<b>Subtotal<sup>b</sup></b>	<b>4,974</b>	<b>100</b>	<b>4,000</b>	<b>80.4</b>	<b>4,345</b>	<b>87.4</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	262	17.8	216	82.4	237	90.5
10.00–12.99	306	20.7	232	75.8	269	87.9
13.00–16.99	559	37.9	431	77.1	471	84.3
≥17	349	23.6	261	74.8	300	86.0
<b>Less than high school diploma (%)</b>						
<9	201	13.6	172	85.6	183	91.0
9.00–12.99	566	38.3	418	73.9	482	85.2
13.00–17.99	355	24.1	277	78.0	310	87.3
≥18	354	24.0	273	77.1	302	85.3
<b>Median household income (U.S. \$)</b>						
<41,000	128	8.7	97	75.8	113	88.3
41,000–47,999	254	17.2	191	75.2	220	86.6
48,000–55,999	402	27.2	302	75.1	338	84.1
≥56,000	692	46.9	550	79.5	606	87.6
<b>Without health insurance (%)</b>						
<8	222	15.0	191	86.0	201	90.5
8.00–11.99	289	19.6	219	75.8	253	87.5
12.00–15.99	489	33.1	372	76.1	410	83.8
≥16	476	32.2	358	75.2	413	86.8
<b>Subtotal<sup>b</sup></b>	<b>1,489</b>	<b>100</b>	<b>1,149</b>	<b>77.2</b>	<b>1,287</b>	<b>86.4</b>
<b>Total</b>	<b>6,463</b>	<b>100</b>	<b>5,149</b>	<b>79.7</b>	<b>5,632</b>	<b>87.1</b>

**Table 4. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by age and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>45–54</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	618	16.9	540	87.4	566	91.6
10.00–12.99	857	23.5	702	81.9	760	88.7
13.00–16.99	1,518	41.6	1,207	79.5	1,315	86.6
≥17	659	18.0	533	80.9	582	88.3
<b>Less than high school diploma (%)</b>						
<9	541	14.8	465	86.0	495	91.5
9.00–12.99	1,343	36.8	1,126	83.8	1,208	89.9
13.00–17.99	746	20.4	598	80.2	659	88.3
≥18	1,022	28.0	793	77.6	861	84.2
<b>Median household income (U.S. \$)</b>						
<41,000	223	6.1	181	81.2	194	87.0
41,000–47,999	577	15.8	472	81.8	509	88.2
48,000–55,999	924	25.3	747	80.8	821	88.9
≥56,000	1,928	52.8	1,582	82.1	1,699	88.1
<b>Without health insurance (%)</b>						
<8	614	16.8	544	88.6	566	92.2
8.00–11.99	665	18.2	567	85.3	606	91.1
12.00–15.99	1,303	35.7	1,028	78.9	1,116	85.6
≥16	1,070	29.3	843	78.8	935	87.4
<b>Subtotal<sup>b</sup></b>	<b>3,686</b>	<b>100</b>	<b>3,006</b>	<b>81.6</b>	<b>3,250</b>	<b>88.2</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	225	18.3	202	89.8	215	95.6
10.00–12.99	246	20.0	196	79.7	221	89.8
13.00–16.99	472	38.3	369	78.2	404	85.6
≥17	289	23.5	231	79.9	255	88.2
<b>Less than high school diploma (%)</b>						
<9	182	14.8	159	87.4	172	94.5
9.00–12.99	466	37.8	373	80.0	415	89.1
13.00–17.99	264	21.4	211	79.9	231	87.5
≥18	320	26.0	255	79.7	277	86.6
<b>Median household income (U.S. \$)</b>						
<41,000	112	9.1	85	75.9	95	84.8
41,000–47,999	220	17.9	182	82.7	197	89.5
48,000–55,999	333	27.0	260	78.1	291	87.4
≥56,000	567	46.0	471	83.1	512	90.3
<b>Without health insurance (%)</b>						
<8	201	16.3	171	85.1	187	93.0
8.00–11.99	224	18.2	187	83.5	203	90.6
12.00–15.99	426	34.6	338	79.3	368	86.4
≥16	381	30.9	302	79.3	337	88.5
<b>Subtotal<sup>b</sup></b>	<b>1,250</b>	<b>100</b>	<b>1,011</b>	<b>80.9</b>	<b>1,109</b>	<b>88.7</b>
<b>Total</b>	<b>4,936</b>	<b>100</b>	<b>4,017</b>	<b>81.4</b>	<b>4,359</b>	<b>88.3</b>

**Table 4. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged  $\geq 18$  years, by age and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		$\leq 1$ month		$\leq 3$ months	
	No.	% <sup>a</sup>	$\geq 1$ CD4 or VL tests		$\geq 1$ CD4 or VL tests	
			No.	%	No.	%
$\geq 55$						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	380	16.5	313	82.4	339	89.2
10.00–12.99	552	24.0	445	80.6	491	88.9
13.00–16.99	884	38.4	724	81.9	784	88.7
$\geq 17$	486	21.1	399	82.1	447	92.0
<b>Less than high school diploma (%)</b>						
<9	332	14.4	282	84.9	308	92.8
9.00–12.99	883	38.4	711	80.5	782	88.6
13.00–17.99	474	20.6	393	82.9	427	90.1
$\geq 18$	613	26.6	495	80.8	544	88.7
<b>Median household income (U.S. \$)</b>						
<41,000	170	7.4	135	79.4	155	91.2
41,000–47,999	427	18.5	359	84.1	394	92.3
48,000–55,999	593	25.8	479	80.8	530	89.4
$\geq 56,000$	1,112	48.3	908	81.7	982	88.3
<b>Without health insurance (%)</b>						
<8	369	16.0	301	81.6	329	89.2
8.00–11.99	435	18.9	365	83.9	393	90.3
12.00–15.99	811	35.2	648	79.9	719	88.7
$\geq 16$	687	29.8	567	82.5	620	90.2
<b>Subtotal<sup>b</sup></b>	<b>2,327</b>	<b>100</b>	<b>1,902</b>	<b>81.7</b>	<b>2,083</b>	<b>89.5</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	189	18.5	167	88.4	176	93.1
10.00–12.99	202	19.7	164	81.2	180	89.1
13.00–16.99	387	37.8	305	78.8	335	86.6
$\geq 17$	246	24.0	197	80.1	218	88.6
<b>Less than high school diploma (%)</b>						
<9	151	14.7	135	89.4	143	94.7
9.00–12.99	411	40.1	337	82.0	365	88.8
13.00–17.99	218	21.3	175	80.3	192	88.1
$\geq 18$	244	23.8	186	76.2	209	85.7
<b>Median household income (U.S. \$)</b>						
<41,000	85	8.3	73	85.9	76	89.4
41,000–47,999	188	18.4	150	79.8	166	88.3
48,000–55,999	294	28.7	225	76.5	254	86.4
$\geq 56,000$	457	44.6	385	84.2	413	90.4
<b>Without health insurance (%)</b>						
<8	145	14.2	135	93.1	139	95.9
8.00–11.99	230	22.5	199	86.5	212	92.2
12.00–15.99	320	31.3	245	76.6	274	85.6
$\geq 16$	329	32.1	254	77.2	284	86.3
<b>Subtotal<sup>b</sup></b>	<b>1,035</b>	<b>100</b>	<b>842</b>	<b>81.4</b>	<b>918</b>	<b>88.7</b>
<b>Total</b>	<b>3,362</b>	<b>100</b>	<b>2,744</b>	<b>81.6</b>	<b>3,001</b>	<b>89.3</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/ $\mu$ L) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on residence at diagnosis.

Linkage to HIV medical care was measured by documentation of  $\geq 1$  CD4 or VL tests  $\leq 1$  month or  $\leq 3$  months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

**Table 5. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by transmission category and selected social determinants of health—county level, 41 states and the District of Columbia**

	Total		≤1 month		≤3 months	
	No.	% <sup>a</sup>	≥1 CD4 or VL tests		≥1 CD4 or VL tests	
			No.	%	No.	%
<b>Male-to-male sexual contact</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	3,290	14.8	2,724	82.8	2,961	90.0
10.00–12.99	4,642	20.9	3,695	79.6	4,095	88.2
13.00–16.99	9,849	44.2	7,540	76.6	8,319	84.5
≥17	4,482	20.1	3,537	78.9	3,954	88.2
<b>Less than high school diploma (%)</b>						
<9	2,978	13.4	2,459	82.6	2,671	89.7
9.00–12.99	8,051	36.2	6,354	78.9	7,044	87.5
13.00–17.99	4,712	21.2	3,678	78.1	4,083	86.6
≥18	6,521	29.3	5,005	76.7	5,532	84.8
<b>Median household income (U.S. \$)</b>						
<41,000	1,490	6.7	1,157	77.6	1,302	87.3
41,000–47,999	3,470	15.6	2,760	79.5	3,043	87.7
48,000–55,999	5,829	26.2	4,441	76.2	4,997	85.7
≥56,000	11,472	51.5	9,138	79.7	9,988	87.1
<b>Without health insurance (%)</b>						
<8	3,123	14.0	2,650	84.9	2,838	90.9
8.00–11.99	4,075	18.3	3,293	80.8	3,639	89.3
12.00–15.99	8,419	37.8	6,470	76.8	7,177	85.2
≥16	6,644	29.8	5,084	76.5	5,676	85.4
<b>Subtotal<sup>b</sup></b>	<b>22,451</b>	<b>100</b>	<b>17,632</b>	<b>78.5</b>	<b>19,479</b>	<b>86.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	—	—	—	—	—	—
10.00–12.99	—	—	—	—	—	—
13.00–16.99	—	—	—	—	—	—
≥17	—	—	—	—	—	—
<b>Less than high school diploma (%)</b>						
<9	—	—	—	—	—	—
9.00–12.99	—	—	—	—	—	—
13.00–17.99	—	—	—	—	—	—
≥18	—	—	—	—	—	—
<b>Median household income (U.S. \$)</b>						
<41,000	—	—	—	—	—	—
41,000–47,999	—	—	—	—	—	—
48,000–55,999	—	—	—	—	—	—
≥56,000	—	—	—	—	—	—
<b>Without health insurance (%)</b>						
<8	—	—	—	—	—	—
8.00–11.99	—	—	—	—	—	—
12.00–15.99	—	—	—	—	—	—
≥16	—	—	—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>22,451</b>	<b>100</b>	<b>17,632</b>	<b>78.5</b>	<b>19,479</b>	<b>86.8</b>

**Table 5. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by transmission category and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>Injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	208	19.5	163	78.6	185	89.2
10.00–12.99	226	21.2	177	78.3	197	87.1
13.00–16.99	397	37.2	295	74.4	325	81.8
≥17	236	22.1	179	76.0	200	84.8
<b>Less than high school diploma (%)</b>						
<9	166	15.6	122	73.7	141	85.2
9.00–12.99	397	37.2	315	79.5	346	87.2
13.00–17.99	218	20.4	167	76.8	183	84.0
≥18	286	26.8	210	73.3	236	82.5
<b>Median household income (U.S. \$)</b>						
<41,000	101	9.4	77	76.2	83	82.4
41,000–47,999	148	13.8	117	79.0	131	89.0
48,000–55,999	300	28.1	223	74.3	252	84.1
≥56,000	519	48.6	399	76.9	440	84.9
<b>Without health insurance (%)</b>						
<8	257	24.1	200	78.0	220	85.8
8.00–11.99	239	22.4	190	79.4	206	86.4
12.00–15.99	337	31.6	244	72.5	279	82.9
≥16	234	22.0	181	77.1	201	85.7
<b>Subtotal<sup>b</sup></b>	<b>1,077</b>	<b>100</b>	<b>822</b>	<b>76.4</b>	<b>914</b>	<b>84.9</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	159	18.9	122	76.5	140	87.7
10.00–12.99	170	20.2	126	74.4	140	82.6
13.00–16.99	348	41.4	275	79.1	298	85.6
≥17	164	19.5	123	75.0	138	83.7
<b>Less than high school diploma (%)</b>						
<9	135	16.0	110	81.4	121	90.1
9.00–12.99	325	38.6	241	74.1	267	82.3
13.00–17.99	199	23.6	155	78.0	171	85.9
≥18	183	21.7	141	77.1	156	85.3
<b>Median household income (U.S. \$)</b>						
<41,000	61	7.3	46	75.7	53	86.3
41,000–47,999	143	17.0	106	73.8	118	82.1
48,000–55,999	226	26.8	171	75.8	191	84.6
≥56,000	411	48.9	323	78.6	354	86.1
<b>Without health insurance (%)</b>						
<8	175	20.8	137	78.0	153	87.1
8.00–11.99	209	24.8	166	79.6	182	87.5
12.00–15.99	277	32.9	208	75.2	224	80.8
≥16	180	21.4	135	75.1	156	86.6
<b>Subtotal<sup>b</sup></b>	<b>847</b>	<b>100</b>	<b>651</b>	<b>76.8</b>	<b>720</b>	<b>85.0</b>
<b>Total</b>	<b>1,923</b>	<b>100</b>	<b>1,473</b>	<b>76.6</b>	<b>1,634</b>	<b>84.9</b>

**Table 5. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by transmission category and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>Male-to-male sexual contact and injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	212	19.4	171	80.4	188	88.8
10.00–12.99	296	27.0	227	76.7	258	87.4
13.00–16.99	417	38.1	305	73.2	344	82.6
≥17	169	15.5	123	72.9	143	84.4
<b>Less than high school diploma (%)</b>						
<9	195	17.9	156	79.8	177	90.8
9.00–12.99	434	39.7	334	76.9	372	85.8
13.00–17.99	210	19.2	148	70.4	176	83.7
≥18	255	23.3	188	74.0	208	81.8
<b>Median household income (U.S. \$)</b>						
<41,000	84	7.7	63	74.7	74	88.0
41,000–47,999	132	12.0	91	69.1	106	80.9
48,000–55,999	284	25.9	200	70.6	233	82.3
≥56,000	595	54.4	472	79.4	520	87.4
<b>Without health insurance (%)</b>						
<8	233	21.3	201	86.2	217	93.1
8.00–11.99	243	22.2	180	74.0	205	84.4
12.00–15.99	347	31.7	256	73.8	285	82.1
≥16	271	24.7	189	69.9	226	83.6
<b>Subtotal<sup>b</sup></b>	<b>1,106</b>	<b>100</b>	<b>833</b>	<b>75.4</b>	<b>942</b>	<b>85.2</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	—	—	—	—	—	—
10.00–12.99	—	—	—	—	—	—
13.00–16.99	—	—	—	—	—	—
≥17	—	—	—	—	—	—
<b>Less than high school diploma (%)</b>						
<9	—	—	—	—	—	—
9.00–12.99	—	—	—	—	—	—
13.00–17.99	—	—	—	—	—	—
≥18	—	—	—	—	—	—
<b>Median household income (U.S. \$)</b>						
<41,000	—	—	—	—	—	—
41,000–47,999	—	—	—	—	—	—
48,000–55,999	—	—	—	—	—	—
≥56,000	—	—	—	—	—	—
<b>Without health insurance (%)</b>						
<8	—	—	—	—	—	—
8.00–11.99	—	—	—	—	—	—
12.00–15.99	—	—	—	—	—	—
≥16	—	—	—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>1,106</b>	<b>100</b>	<b>833</b>	<b>75.4</b>	<b>942</b>	<b>85.2</b>

**Table 5. Linkage to HIV medical care after HIV diagnosis during 2017, among persons aged ≥18 years, by transmission category and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Total		≤1 month		≤3 months	
			≥1 CD4 or VL tests		≥1 CD4 or VL tests	
	No.	% <sup>a</sup>	No.	%	No.	%
<b>Heterosexual contact<sup>c</sup></b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	376	15.1	307	81.7	332	88.4
10.00–12.99	583	23.5	456	78.1	500	85.7
13.00–16.99	891	35.9	661	74.2	756	84.9
≥17	630	25.4	492	78.1	549	87.1
<b>Less than high school diploma (%)</b>						
<9	313	12.6	242	77.4	276	88.1
9.00–12.99	1,012	40.8	778	76.9	860	85.0
13.00–17.99	576	23.2	459	79.6	509	88.3
≥18	579	23.3	436	75.3	492	85.0
<b>Median household income (U.S. \$)</b>						
<41,000	247	10.0	189	76.4	211	85.3
41,000–47,999	504	20.3	387	76.9	436	86.5
48,000–55,999	719	29.0	540	75.0	608	84.5
≥56,000	1,010	40.7	800	79.2	883	87.4
<b>Without health insurance (%)</b>						
<8	319	12.9	267	83.7	288	90.1
8.00–11.99	400	16.1	314	78.5	343	85.8
12.00–15.99	839	33.8	632	75.3	715	85.2
≥16	922	37.2	702	76.1	791	85.8
<b>Subtotal<sup>b</sup></b>	<b>2,524</b>	<b>100</b>	<b>1,950</b>	<b>77.2</b>	<b>2,174</b>	<b>86.1</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	927	17.1	797	85.9	853	92.0
10.00–12.99	1,095	20.2	863	78.8	980	89.6
13.00–16.99	2,091	38.7	1,604	76.7	1,774	84.8
≥17	1,295	23.9	1,028	79.4	1,147	88.6
<b>Less than high school diploma (%)</b>						
<9	752	13.9	649	86.4	691	91.9
9.00–12.99	2,047	37.8	1,615	78.9	1,809	88.4
13.00–17.99	1,264	23.4	1,010	79.9	1,114	88.2
≥18	1,346	24.9	1,017	75.6	1,140	84.7
<b>Median household income (U.S. \$)</b>						
<41,000	487	9.0	381	78.2	431	88.4
41,000–47,999	1,006	18.6	798	79.3	885	87.9
48,000–55,999	1,488	27.5	1,142	76.8	1,291	86.8
≥56,000	2,426	44.9	1,970	81.2	2,147	88.5
<b>Without health insurance (%)</b>						
<8	741	13.7	657	88.6	692	93.4
8.00–11.99	998	18.5	818	82.0	896	89.8
12.00–15.99	1,833	33.9	1,410	76.9	1,573	85.8
≥16	1,836	33.9	1,408	76.7	1,592	86.7
<b>Subtotal<sup>b</sup></b>	<b>5,482</b>	<b>100</b>	<b>4,342</b>	<b>79.2</b>	<b>4,812</b>	<b>87.8</b>
<b>Total</b>	<b>8,006</b>	<b>100</b>	<b>6,292</b>	<b>78.6</b>	<b>6,986</b>	<b>87.3</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on residence at diagnosis. Data have been statistically adjusted to account for missing transmission category.

Linkage to HIV medical care was measured by documentation of ≥1 CD4 or VL tests ≤1 month or ≤3 months after HIV diagnosis. See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Represents percentage of the sum of each SDH subpopulation.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.



**Table 6a. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016		≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.		No.	%	No.	%
<b>Black/African American</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	26,622		18,637	70.0	13,587	51.0
10.00–12.99	36,992		26,740	72.3	20,877	56.4
13.00–16.99	97,430		68,809	70.6	51,585	52.9
≥17	59,507		42,230	71.0	33,414	56.2
<b>Less than high school diploma (%)</b>						
<9	25,629		18,128	70.7	13,330	52.0
9.00–12.99	85,820		61,011	71.1	46,256	53.9
13.00–17.99	52,754		37,256	70.6	27,697	52.5
≥18	56,348		40,021	71.0	32,180	57.1
<b>Median household income (U.S. \$)</b>						
<41,000	22,490		16,722	74.4	13,613	60.5
41,000–47,999	40,070		27,393	68.4	20,724	51.7
48,000–55,999	58,328		42,219	72.4	32,651	56.0
≥56,000	99,663		70,082	70.3	52,475	52.7
<b>Without health insurance (%)</b>						
<8	33,649		23,646	70.3	18,058	53.7
8.00–11.99	44,142		30,846	69.9	22,846	51.8
12.00–15.99	83,886		60,598	72.2	46,285	55.2
≥16	58,874		41,326	70.2	32,274	54.8
<b>Subtotal<sup>b</sup></b>	<b>230,342</b>		<b>163,331</b>	<b>70.9</b>	<b>124,603</b>	<b>54.1</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	15,649		11,040	70.5	8,137	52.0
10.00–12.99	21,503		16,248	75.6	12,794	59.5
13.00–16.99	43,621		31,588	72.4	23,742	54.4
≥17	34,329		25,194	73.4	20,127	58.6
<b>Less than high school diploma (%)</b>						
<9	12,756		9,136	71.6	6,778	53.1
9.00–12.99	45,378		33,383	73.6	25,453	56.1
13.00–17.99	26,353		19,302	73.2	14,494	55.0
≥18	30,615		22,249	72.7	18,075	59.0
<b>Median household income (U.S. \$)</b>						
<41,000	12,538		9,393	74.9	7,676	61.2
41,000–47,999	21,112		15,075	71.4	11,468	54.3
48,000–55,999	32,478		24,338	74.9	18,967	58.4
≥56,000	48,974		35,264	72.0	26,689	54.5
<b>Without health insurance (%)</b>						
<8	17,834		13,180	73.9	10,040	56.3
8.00–11.99	22,890		16,305	71.2	12,410	54.2
12.00–15.99	40,042		29,719	74.2	22,823	57.0
≥16	34,336		24,866	72.4	19,527	56.9
<b>Subtotal<sup>b</sup></b>	<b>119,146</b>		<b>87,003</b>	<b>73.0</b>	<b>67,004</b>	<b>56.2</b>
<b>Total</b>	<b>349,488</b>		<b>250,334</b>	<b>71.6</b>	<b>191,607</b>	<b>54.8</b>

**Table 6a. Receipt of HIV medical care among persons aged  $\geq 18$  years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016	$\geq 1$ CD4 or VL tests		$\geq 2$ CD4 or VL tests <sup>a</sup>	
	Total No.	No.	%	No.	%
		Hispanic/Latino <sup>c</sup>			
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	16,477	11,498	69.8	8,804	53.4
10.00–12.99	30,898	22,276	72.1	18,166	58.8
13.00–16.99	62,020	43,948	70.9	35,410	57.1
$\geq 17$	33,553	24,133	71.9	20,359	60.7
<b>Less than high school diploma (%)</b>					
<9	9,822	6,942	70.7	5,324	54.2
9.00–12.99	43,861	31,371	71.5	25,139	57.3
13.00–17.99	22,328	15,631	70.0	12,320	55.2
$\geq 18$	66,937	47,911	71.6	39,956	59.7
<b>Median household income (U.S. \$)</b>					
<41,000	12,490	9,114	73.0	7,923	63.4
41,000–47,999	17,451	12,160	69.7	9,943	57.0
48,000–55,999	27,815	20,112	72.3	16,451	59.1
$\geq 56,000$	85,192	60,469	71.0	48,422	56.8
<b>Without health insurance (%)</b>					
<8	26,016	18,584	71.4	14,934	57.4
8.00–11.99	20,377	14,495	71.1	11,414	56.0
12.00–15.99	55,437	39,164	70.6	32,101	57.9
$\geq 16$	41,118	29,612	72.0	24,290	59.1
<b>Subtotal<sup>b</sup></b>	<b>145,757</b>	<b>103,429</b>	<b>71.0</b>	<b>83,880</b>	<b>57.5</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	4,825	3,659	75.8	2,922	60.6
10.00–12.99	6,903	5,395	78.2	4,489	65.0
13.00–16.99	11,816	8,695	73.6	7,107	60.1
$\geq 17$	10,699	8,249	77.1	7,087	66.2
<b>Less than high school diploma (%)</b>					
<9	2,412	1,873	77.7	1,495	62.0
9.00–12.99	10,707	8,188	76.5	6,684	62.4
13.00–17.99	5,201	3,975	76.4	3,202	61.6
$\geq 18$	15,923	11,962	75.1	10,224	64.2
<b>Median household income (U.S. \$)</b>					
<41,000	5,475	4,366	79.7	3,832	70.0
41,000–47,999	3,656	2,630	71.9	2,111	57.7
48,000–55,999	7,713	6,000	77.8	4,987	64.7
$\geq 56,000$	17,399	13,002	74.7	10,675	61.4
<b>Without health insurance (%)</b>					
<8	7,278	5,698	78.3	4,671	64.2
8.00–11.99	5,714	4,320	75.6	3,566	62.4
12.00–15.99	12,805	9,680	75.6	8,139	63.6
$\geq 16$	8,446	6,300	74.6	5,229	61.9
<b>Subtotal<sup>b</sup></b>	<b>34,977</b>	<b>26,433</b>	<b>75.6</b>	<b>21,937</b>	<b>62.7</b>
<b>Total</b>	<b>180,734</b>	<b>129,862</b>	<b>71.9</b>	<b>105,817</b>	<b>58.5</b>

**Table 6a. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.	No.	%	No.	%
<b>White</b>					
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	39,630	31,452	79.4	23,275	58.7
10.00–12.99	58,370	47,556	81.5	36,781	63.0
13.00–16.99	91,760	70,910	77.3	54,619	59.5
≥17	23,421	18,032	77.0	14,066	60.1
<b>Less than high school diploma (%)</b>					
<9	38,389	30,613	79.7	22,803	59.4
9.00–12.99	94,621	74,965	79.2	57,273	60.5
13.00–17.99	39,614	30,358	76.6	23,207	58.6
≥18	40,557	32,014	78.9	25,458	62.8
<b>Median household income (U.S. \$)</b>					
<41,000	9,041	7,104	78.6	5,679	62.8
41,000–47,999	24,507	19,117	78.0	14,718	60.1
48,000–55,999	50,301	40,379	80.3	31,955	63.5
≥56,000	129,332	101,350	78.4	76,389	59.1
<b>Without health insurance (%)</b>					
<8	52,711	41,342	78.4	31,347	59.5
8.00–11.99	48,827	39,169	80.2	28,726	58.8
12.00–15.99	68,988	53,716	77.9	41,440	60.1
≥16	42,655	33,723	79.1	27,228	63.8
<b>Subtotal<sup>b</sup></b>	<b>220,943</b>	<b>173,331</b>	<b>78.5</b>	<b>132,533</b>	<b>60.0</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	6,617	4,954	74.9	3,594	54.3
10.00–12.99	8,550	6,596	77.1	5,027	58.8
13.00–16.99	10,847	7,731	71.3	5,759	53.1
≥17	4,392	3,062	69.7	2,339	53.3
<b>Less than high school diploma (%)</b>					
<9	5,804	4,435	76.4	3,241	55.8
9.00–12.99	12,984	9,628	74.2	7,162	55.2
13.00–17.99	6,610	4,821	72.9	3,685	55.7
≥18	5,008	3,459	69.1	2,631	52.5
<b>Median household income (U.S. \$)</b>					
<41,000	2,143	1,547	72.2	1,198	55.9
41,000–47,999	5,164	3,758	72.8	2,853	55.2
48,000–55,999	8,132	6,056	74.5	4,585	56.4
≥56,000	14,967	10,982	73.4	8,083	54.0
<b>Without health insurance (%)</b>					
<8	7,371	5,588	75.8	4,180	56.7
8.00–11.99	7,259	5,323	73.3	3,798	52.3
12.00–15.99	9,330	6,788	72.8	5,128	55.0
≥16	6,446	4,644	72.0	3,613	56.1
<b>Subtotal<sup>b</sup></b>	<b>31,682</b>	<b>23,136</b>	<b>73.0</b>	<b>17,279</b>	<b>54.5</b>
<b>Total</b>	<b>252,625</b>	<b>196,467</b>	<b>77.8</b>	<b>149,812</b>	<b>59.3</b>

**Table 6a. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.	No.	%	No.	%
<b>Male</b>		<b>Other<sup>d</sup></b>			
<b>Below federal poverty level (%)</b>					
<10	7,233	5,942	82.2	4,475	61.9
10.00–12.99	9,145	7,579	82.9	5,960	65.2
13.00–16.99	16,274	13,163	80.9	10,326	63.5
≥17	6,015	4,987	82.9	4,087	67.9
<b>Less than high school diploma (%)</b>					
<9	6,183	5,106	82.6	3,866	62.5
9.00–12.99	15,173	12,424	81.9	9,624	63.4
13.00–17.99	6,708	5,372	80.1	4,169	62.1
≥18	10,603	8,769	82.7	7,189	67.8
<b>Median household income (U.S. \$)</b>					
<41,000	2,252	1,898	84.3	1,567	69.6
41,000–47,999	3,733	2,924	78.3	2,277	61.0
48,000–55,999	7,912	6,615	83.6	5,302	67.0
≥56,000	24,770	20,234	81.7	15,702	63.4
<b>Without health insurance (%)</b>					
<8	10,206	8,437	82.7	6,590	64.6
8.00–11.99	8,193	6,709	81.9	5,134	62.7
12.00–15.99	13,609	11,094	81.5	8,746	64.3
≥16	6,659	5,431	81.6	4,378	65.7
<b>Subtotal<sup>b</sup></b>	<b>40,216</b>	<b>32,782</b>	<b>81.5</b>	<b>25,698</b>	<b>63.9</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	2,403	1,923	80.0	1,491	62.0
10.00–12.99	2,627	2,168	82.5	1,732	65.9
13.00–16.99	3,654	2,934	80.3	2,296	62.8
≥17	2,287	1,920	84.0	1,569	68.6
<b>Less than high school diploma (%)</b>					
<9	1,875	1,504	80.2	1,160	61.9
9.00–12.99	4,068	3,302	81.2	2,620	64.4
13.00–17.99	1,993	1,621	81.3	1,242	62.3
≥18	3,035	2,518	83.0	2,066	68.1
<b>Median household income (U.S. \$)</b>					
<41,000	962	822	85.4	682	70.9
41,000–47,999	1,363	1,093	80.2	837	61.4
48,000–55,999	2,594	2,172	83.7	1,758	67.8
≥56,000	6,052	4,858	80.3	3,811	63.0
<b>Without health insurance (%)</b>					
<8	2,837	2,334	82.3	1,839	64.8
8.00–11.99	2,426	1,941	80.0	1,509	62.2
12.00–15.99	3,482	2,840	81.6	2,277	65.4
≥16	2,226	1,830	82.2	1,463	65.7
<b>Subtotal<sup>b</sup></b>	<b>11,435</b>	<b>9,275</b>	<b>81.1</b>	<b>7,339</b>	<b>64.2</b>
<b>Total</b>	<b>51,651</b>	<b>42,057</b>	<b>81.4</b>	<b>33,037</b>	<b>64.0</b>

**Table 6a. Receipt of HIV medical care among persons aged  $\geq 18$  years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		$\geq 1$ CD4 or VL tests		$\geq 2$ CD4 or VL tests <sup>a</sup>	
	Total No.		No.	%	No.	%
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	89,962		67,529	75.1	50,141	55.7
10.00–12.99	135,405		104,151	76.9	81,784	60.4
13.00–16.99	267,484		196,830	73.6	151,940	56.8
$\geq 17$	122,496		89,382	73.0	71,926	58.7
<b>Less than high school diploma (%)</b>						
<9	80,023		60,789	76.0	45,323	56.6
9.00–12.99	239,475		179,771	75.1	138,292	57.7
13.00–17.99	121,404		88,617	73.0	67,393	55.5
$\geq 18$	174,445		128,715	73.8	104,783	60.1
<b>Median household income (U.S. \$)</b>						
<41,000	46,273		34,838	75.3	28,782	62.2
41,000–47,999	85,761		61,594	71.8	47,662	55.6
48,000–55,999	144,356		109,325	75.7	86,359	59.8
$\geq 56,000$	338,957		252,135	74.4	192,988	56.9
<b>Without health insurance (%)</b>						
<8	122,582		92,009	75.1	70,929	57.9
8.00–11.99	121,539		91,219	75.1	68,120	56.0
12.00–15.99	221,920		164,572	74.2	128,572	57.9
$\geq 16$	149,306		110,092	73.7	88,170	59.1
<b>Subtotal<sup>b</sup></b>	<b>637,258</b>		<b>472,873</b>	<b>74.2</b>	<b>366,714</b>	<b>57.5</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	29,494		21,576	73.2	16,144	54.7
10.00–12.99	39,583		30,407	76.8	24,042	60.7
13.00–16.99	69,938		50,948	72.8	38,904	55.6
$\geq 17$	51,707		38,425	74.3	31,122	60.2
<b>Less than high school diploma (%)</b>						
<9	22,847		16,948	74.2	12,674	55.5
9.00–12.99	73,137		54,501	74.5	41,919	57.3
13.00–17.99	40,157		29,719	74.0	22,623	56.3
$\geq 18$	54,581		40,188	73.6	32,996	60.5
<b>Median household income (U.S. \$)</b>						
<41,000	21,118		16,128	76.4	13,388	63.4
41,000–47,999	31,295		22,556	72.1	17,269	55.2
48,000–55,999	50,917		38,566	75.7	30,297	59.5
$\geq 56,000$	87,392		64,106	73.4	49,258	56.4
<b>Without health insurance (%)</b>						
<8	35,320		26,800	75.9	20,730	58.7
8.00–11.99	38,289		27,889	72.8	21,283	55.6
12.00–15.99	65,659		49,027	74.7	38,367	58.4
$\geq 16$	51,454		37,640	73.2	29,832	58.0
<b>Subtotal<sup>b</sup></b>	<b>197,240</b>		<b>145,847</b>	<b>73.9</b>	<b>113,559</b>	<b>57.6</b>
<b>Total</b>	<b>834,498</b>		<b>618,720</b>	<b>74.1</b>	<b>480,273</b>	<b>57.6</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/ $\mu$ L) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Performed  $\geq 3$  months apart during 2016.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Hispanics/Latinos can be of any race.

<sup>d</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, multiple races, and unknown races.

**Table 6b. Receipt of HIV medical care and viral suppression among males aged ≥18 years and alive at year-end 2016 with HIV infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—county level, 41 states and the District of Columbia**

	Males alive at year-end 2016		≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>		VL <200 copies <sup>b</sup>	
	Total No.	No.	%	No.	%	No.	%	
<b>Black/African American</b>								
<b>Below federal poverty level (%)</b>								
<10	16,144	11,578	71.7	8,284	51.3	9,333	57.8	
10.00–12.99	20,514	15,175	74.0	11,514	56.1	12,064	58.8	
13.00–16.99	66,329	47,968	72.3	35,520	53.6	36,620	55.2	
≥17	33,943	24,904	73.4	19,437	57.3	19,553	57.6	
<b>Less than high school diploma (%)</b>								
<9	17,184	12,401	72.2	9,044	52.6	9,777	56.9	
9.00–12.99	52,902	38,581	72.9	28,674	54.2	30,087	56.9	
13.00–17.99	32,778	23,652	72.2	17,324	52.9	18,311	55.9	
≥18	34,066	24,990	73.4	19,713	57.9	19,395	56.9	
<b>Median household income (U.S. \$)</b>								
<41,000	13,149	9,939	75.6	7,984	60.7	7,657	58.2	
41,000–47,999	23,499	16,618	70.7	12,350	52.6	12,944	55.1	
48,000–55,999	36,442	27,004	74.1	20,534	56.3	20,601	56.5	
≥56,000	63,841	46,065	72.2	33,887	53.1	36,368	57.0	
<b>Without health insurance (%)</b>								
<8	18,727	13,683	73.1	10,205	54.5	11,146	59.5	
8.00–11.99	26,977	19,441	72.1	14,069	52.2	15,407	57.1	
12.00–15.99	55,378	40,683	73.5	30,607	55.3	31,480	56.8	
≥16	35,850	25,817	72.0	19,874	55.4	19,537	54.5	
<b>Total<sup>c</sup></b>	<b>143,327</b>	<b>104,278</b>	<b>72.8</b>	<b>78,204</b>	<b>54.6</b>	<b>81,262</b>	<b>56.7</b>	
<b>Hispanic/Latino<sup>d</sup></b>								
<b>Below federal poverty level (%)</b>								
<10	11,103	8,037	72.4	6,053	54.5	7,002	63.1	
10.00–12.99	22,609	16,735	74.0	13,574	60.0	14,859	65.7	
13.00–16.99	48,287	35,072	72.6	28,196	58.4	30,188	62.5	
≥17	21,951	16,338	74.4	13,578	61.9	14,364	65.4	
<b>Less than high school diploma (%)</b>								
<9	7,092	5,164	72.8	3,912	55.2	4,527	63.8	
9.00–12.99	30,656	22,749	74.2	18,045	58.9	19,937	65.0	
13.00–17.99	16,004	11,474	71.7	9,016	56.3	9,870	61.7	
≥18	50,198	36,796	73.3	30,429	60.6	32,081	63.9	
<b>Median household income (U.S. \$)</b>								
<41,000	6,651	4,956	74.5	4,215	63.4	4,189	63.0	
41,000–47,999	13,125	9,481	72.2	7,755	59.1	8,491	64.7	
48,000–55,999	19,270	14,576	75.6	11,888	61.7	12,356	64.1	
≥56,000	64,904	47,170	72.7	37,544	57.8	41,378	63.8	
<b>Without health insurance (%)</b>								
<8	16,541	12,336	74.6	9,728	58.8	10,988	66.4	
8.00–11.99	14,000	10,320	73.7	8,000	57.1	8,902	63.6	
12.00–15.99	41,406	29,848	72.1	24,222	58.5	25,940	62.6	
≥16	32,004	23,679	74.0	19,452	60.8	20,584	64.3	
<b>Total<sup>c</sup></b>	<b>105,883</b>	<b>77,349</b>	<b>73.1</b>	<b>62,231</b>	<b>58.8</b>	<b>67,371</b>	<b>63.6</b>	
<b>White</b>								
<b>Below federal poverty level (%)</b>								
<10	31,959	25,453	79.6	18,802	58.8	22,828	71.4	
10.00–12.99	47,551	38,961	81.9	30,167	63.4	34,904	73.4	
13.00–16.99	77,876	60,517	77.7	46,636	59.9	53,278	68.4	
≥17	18,670	14,550	77.9	11,338	60.7	12,943	69.3	
<b>Less than high school diploma (%)</b>								
<9	31,406	25,132	80.0	18,734	59.7	22,566	71.9	
9.00–12.99	78,605	62,468	79.5	47,761	60.8	55,135	70.1	
13.00–17.99	31,941	24,635	77.1	18,805	58.9	21,700	67.9	
≥18	34,104	27,248	79.9	21,644	63.5	24,553	72.0	
<b>Median household income (U.S. \$)</b>								
<41,000	6,907	5,488	79.5	4,373	63.3	4,786	69.3	
41,000–47,999	19,482	15,307	78.6	11,795	60.5	13,427	68.9	
48,000–55,999	41,561	33,608	80.9	26,671	64.2	29,298	70.5	
≥56,000	108,105	85,080	78.7	64,104	59.3	76,443	70.7	
<b>Without health insurance (%)</b>								
<8	43,360	34,084	78.6	25,826	59.6	31,321	72.2	
8.00–11.99	39,605	31,934	80.6	23,391	59.1	27,577	69.6	
12.00–15.99	57,511	45,117	78.4	34,799	60.5	39,863	69.3	
≥16	35,580	28,348	79.7	22,928	64.4	25,192	70.8	
<b>Total<sup>c</sup></b>	<b>182,386</b>	<b>143,935</b>	<b>78.9</b>	<b>110,074</b>	<b>60.4</b>	<b>127,822</b>	<b>70.1</b>	

**Table 6b. Receipt of HIV medical care and viral suppression among males aged ≥18 years and alive at year-end 2016 with HIV infection attributed to male-to-male sexual contact, by race/ethnicity and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Males alive at year-end 2016		≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>		VL <200 copies <sup>b</sup>	
	Total No.	No.	%	No.	%	No.	%	
<b>Other<sup>e</sup></b>								
<b>Below federal poverty level (%)</b>								
<10	5,267	4,302	81.7	3,189	60.5	3,747	71.1	
10.00–12.99	6,733	5,567	82.7	4,365	64.8	4,902	72.8	
13.00–16.99	12,867	10,389	80.7	8,131	63.2	8,698	67.6	
≥17	4,090	3,368	82.3	2,727	66.7	2,835	69.3	
<b>Less than high school diploma (%)</b>								
<9	4,538	3,722	82.0	2,795	61.6	3,221	71.0	
9.00–12.99	11,449	9,311	81.3	7,157	62.5	7,958	69.5	
13.00–17.99	4,957	3,979	80.3	3,089	62.3	3,356	67.7	
≥18	8,013	6,613	82.5	5,370	67.0	5,648	70.5	
<b>Median household income (U.S. \$)</b>								
<41,000	1,451	1,211	83.4	972	67.0	984	67.8	
41,000–47,999	2,599	2,015	77.5	1,559	60.0	1,652	63.6	
48,000–55,999	5,760	4,807	83.5	3,849	66.8	3,982	69.1	
≥56,000	19,147	15,593	81.4	12,032	62.8	13,565	70.8	
<b>Without health insurance (%)</b>								
<8	7,466	6,115	81.9	4,748	63.6	5,440	72.9	
8.00–11.99	5,959	4,847	81.3	3,664	61.5	4,086	68.6	
12.00–15.99	10,434	8,483	81.3	6,639	63.6	7,190	68.9	
≥16	5,098	4,180	82.0	3,361	65.9	3,466	68.0	
<b>Total<sup>c</sup></b>	<b>30,089</b>	<b>24,452</b>	<b>81.3</b>	<b>19,043</b>	<b>63.3</b>	<b>20,904</b>	<b>69.5</b>	
<b>Total</b>								
<b>Below federal poverty level (%)</b>								
<10	64,473	49,370	76.6	36,328	56.3	42,910	66.6	
10.00–12.99	97,407	76,438	78.5	59,620	61.2	66,729	68.5	
13.00–16.99	205,358	153,946	75.0	118,483	57.7	128,783	62.7	
≥17	78,655	59,161	75.2	47,080	59.9	49,696	63.2	
<b>Less than high school diploma (%)</b>								
<9	60,219	46,419	77.1	34,485	57.3	40,091	66.6	
9.00–12.99	173,612	133,109	76.7	101,637	58.5	113,116	65.2	
13.00–17.99	85,680	63,741	74.4	48,234	56.3	53,236	62.1	
≥18	126,382	95,647	75.7	77,156	61.1	81,676	64.6	
<b>Median household income (U.S. \$)</b>								
<41,000	28,158	21,593	76.7	17,544	62.3	17,615	62.6	
41,000–47,999	58,705	43,420	74.0	33,459	57.0	36,513	62.2	
48,000–55,999	103,034	79,994	77.6	62,942	61.1	66,237	64.3	
≥56,000	255,996	193,907	75.7	147,567	57.6	167,753	65.5	
<b>Without health insurance (%)</b>								
<8	86,094	66,218	76.9	50,507	58.7	58,896	68.4	
8.00–11.99	86,540	66,542	76.9	49,123	56.8	55,971	64.7	
12.00–15.99	164,728	124,131	75.4	96,268	58.4	104,473	63.4	
≥16	108,531	82,024	75.6	65,615	60.5	68,779	63.4	
<b>Total<sup>c</sup></b>	<b>461,685</b>	<b>350,013</b>	<b>75.8</b>	<b>269,553</b>	<b>58.4</b>	<b>297,360</b>	<b>64.4</b>	

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on address of residence as of December 31, 2016 (i.e., most recent known address). Data have been statistically adjusted to account for missing transmission category.

See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Performed ≥3 months apart during 2016.

<sup>b</sup> VL test result of <200 copies/mL indicates HIV viral suppression. VL test results are from the most recent test during 2016.

<sup>c</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column totals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>d</sup> Hispanics/Latinos can be of any race.

<sup>e</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, multiple races, and unknown races.

**Table 7. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016 Total No.	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
		No.	%	No.	%
<b>18–24</b>					
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	2,992	2,318	77.5	1,650	55.1
10.00–12.99	4,139	3,236	78.2	2,386	57.6
13.00–16.99	10,587	8,041	76.0	5,741	54.2
≥17	5,419	4,115	75.9	3,069	56.6
<b>Less than high school diploma (%)</b>					
<9	2,800	2,152	76.9	1,513	54.0
9.00–12.99	8,478	6,544	77.2	4,736	55.9
13.00–17.99	5,487	4,181	76.2	2,952	53.8
≥18	6,372	4,833	75.8	3,645	57.2
<b>Median household income (U.S. \$)</b>					
<41,000	2,075	1,532	73.8	1,172	56.5
41,000–47,999	3,805	2,837	74.6	2,031	53.4
48,000–55,999	6,203	4,771	76.9	3,493	56.3
≥56,000	11,054	8,570	77.5	6,150	55.6
<b>Without health insurance (%)</b>					
<8	3,183	2,537	79.7	1,846	58.0
8.00–11.99	4,472	3,450	77.1	2,441	54.6
12.00–15.99	8,967	6,835	76.2	4,940	55.1
≥16	6,515	4,888	75.0	3,619	55.5
<b>Subtotal<sup>b</sup></b>	<b>24,010</b>	<b>18,357</b>	<b>76.5</b>	<b>13,288</b>	<b>55.3</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	842	636	75.5	462	54.9
10.00–12.99	1,138	880	77.3	661	58.1
13.00–16.99	2,437	1,760	72.2	1,287	52.8
≥17	1,679	1,274	75.9	977	58.2
<b>Less than high school diploma (%)</b>					
<9	699	549	78.5	392	56.1
9.00–12.99	2,212	1,652	74.7	1,222	55.2
13.00–17.99	1,343	1,009	75.1	731	54.4
≥18	1,842	1,340	72.7	1,042	56.6
<b>Median household income (U.S. \$)</b>					
<41,000	727	548	75.4	434	59.7
41,000–47,999	991	733	74.0	529	53.4
48,000–55,999	1,652	1,239	75.0	933	56.5
≥56,000	2,726	2,030	74.5	1,491	54.7
<b>Without health insurance (%)</b>					
<8	1,033	813	78.7	612	59.2
8.00–11.99	1,139	824	72.3	613	53.8
12.00–15.99	2,192	1,646	75.1	1,230	56.1
≥16	1,732	1,267	73.2	932	53.8
<b>Subtotal<sup>b</sup></b>	<b>6,295</b>	<b>4,697</b>	<b>74.6</b>	<b>3,492</b>	<b>55.5</b>
<b>Total</b>	<b>30,305</b>	<b>23,054</b>	<b>76.1</b>	<b>16,780</b>	<b>55.4</b>



**Table 7. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016 Total No.	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
		No.	%	No.	%
		<b>25–34</b>			
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	13,232	9,874	74.6	6,908	52.2
10.00–12.99	18,708	14,254	76.2	10,452	55.9
13.00–16.99	44,928	33,506	74.6	24,165	53.8
≥17	20,059	15,137	75.5	11,445	57.1
<b>Less than high school diploma (%)</b>					
<9	12,648	9,490	75.0	6,627	52.4
9.00–12.99	35,766	26,919	75.3	19,308	54.0
13.00–17.99	20,397	15,147	74.3	10,886	53.4
≥18	28,116	21,215	75.5	16,149	57.4
<b>Median household income (U.S. \$)</b>					
<41,000	7,778	5,938	76.3	4,646	59.7
41,000–47,999	13,503	9,883	73.2	7,171	53.1
48,000–55,999	23,992	18,080	75.4	13,270	55.3
≥56,000	51,654	38,870	75.3	27,883	54.0
<b>Without health insurance (%)</b>					
<8	15,640	12,071	77.2	8,761	56.0
8.00–11.99	18,788	14,198	75.6	9,855	52.5
12.00–15.99	37,025	27,699	74.8	20,205	54.6
≥16	25,474	18,803	73.8	14,149	55.5
<b>Subtotal<sup>b</sup></b>	<b>100,391</b>	<b>75,267</b>	<b>75.0</b>	<b>54,783</b>	<b>54.6</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	3,491	2,544	72.9	1,884	54.0
10.00–12.99	4,929	3,619	73.4	2,672	54.2
13.00–16.99	10,094	6,885	68.2	4,944	49.0
≥17	6,562	4,710	71.8	3,561	54.3
<b>Less than high school diploma (%)</b>					
<9	3,013	2,191	72.7	1,613	53.5
9.00–12.99	9,395	6,648	70.8	4,779	50.9
13.00–17.99	5,727	4,124	72.0	2,985	52.1
≥18	6,941	4,795	69.1	3,684	53.1
<b>Median household income (U.S. \$)</b>					
<41,000	2,740	1,964	71.7	1,534	56.0
41,000–47,999	4,353	3,034	69.7	2,219	51.0
48,000–55,999	7,057	5,027	71.2	3,659	51.8
≥56,000	10,926	7,733	70.8	5,649	51.7
<b>Without health insurance (%)</b>					
<8	3,855	2,859	74.2	2,106	54.6
8.00–11.99	4,680	3,369	72.0	2,441	52.2
12.00–15.99	8,806	6,236	70.8	4,601	52.2
≥16	7,735	5,294	68.4	3,913	50.6
<b>Subtotal<sup>b</sup></b>	<b>25,873</b>	<b>18,280</b>	<b>70.7</b>	<b>13,418</b>	<b>51.9</b>
<b>Total</b>	<b>126,264</b>	<b>93,547</b>	<b>74.1</b>	<b>68,201</b>	<b>54.0</b>

**Table 7. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016 Total No.	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
		No.	%	No.	%
<b>35–44</b>					
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	16,741	12,449	74.4	9,047	54.0
10.00–12.99	24,723	18,731	75.8	14,250	57.6
13.00–16.99	52,214	38,192	73.1	28,925	55.4
≥17	22,191	16,225	73.1	12,715	57.3
<b>Less than high school diploma (%)</b>					
<9	14,926	11,318	75.8	8,339	55.9
9.00–12.99	43,382	32,223	74.3	24,001	55.3
13.00–17.99	23,066	17,008	73.7	12,679	55.0
≥18	34,495	25,048	72.6	19,918	57.7
<b>Median household income (U.S. \$)</b>					
<41,000	8,658	6,454	74.5	5,212	60.2
41,000–47,999	15,683	11,330	72.2	8,584	54.7
48,000–55,999	27,147	20,419	75.2	15,684	57.8
≥56,000	64,381	47,394	73.6	35,457	55.1
<b>Without health insurance (%)</b>					
<8	20,714	15,530	75.0	11,486	55.5
8.00–11.99	22,095	16,632	75.3	12,113	54.8
12.00–15.99	42,991	31,604	73.5	24,254	56.4
≥16	30,069	21,831	72.6	17,084	56.8
<b>Subtotal<sup>b</sup></b>	<b>120,018</b>	<b>88,434</b>	<b>73.7</b>	<b>66,964</b>	<b>55.8</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	7,427	5,255	70.8	3,802	51.2
10.00–12.99	9,489	7,097	74.8	5,459	57.5
13.00–16.99	17,904	12,821	71.6	9,427	52.7
≥17	11,489	8,252	71.8	6,368	55.4
<b>Less than high school diploma (%)</b>					
<9	5,807	4,180	72.0	3,014	51.9
9.00–12.99	17,851	12,903	72.3	9,538	53.4
13.00–17.99	10,192	7,440	73.0	5,535	54.3
≥18	12,459	8,902	71.5	6,969	55.9
<b>Median household income (U.S. \$)</b>					
<41,000	4,868	3,572	73.4	2,858	58.7
41,000–47,999	7,532	5,290	70.2	3,891	51.7
48,000–55,999	12,811	9,457	73.8	7,125	55.6
≥56,000	21,098	15,106	71.6	11,182	53.0
<b>Without health insurance (%)</b>					
<8	7,713	5,684	73.7	4,211	54.6
8.00–11.99	8,866	6,296	71.0	4,583	51.7
12.00–15.99	16,130	11,802	73.2	8,906	55.2
≥16	13,600	9,643	70.9	7,356	54.1
<b>Subtotal<sup>b</sup></b>	<b>48,006</b>	<b>34,563</b>	<b>72.0</b>	<b>25,870</b>	<b>53.9</b>
<b>Total</b>	<b>168,024</b>	<b>122,997</b>	<b>73.2</b>	<b>92,834</b>	<b>55.3</b>

**Table 7. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016 Total No.	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
		No.	%	No.	%
<b>45–54</b>					
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	30,295	23,153	76.4	17,205	56.8
10.00–12.99	46,086	36,046	78.2	28,391	61.6
13.00–16.99	86,429	64,499	74.6	50,384	58.3
≥17	38,387	28,428	74.1	23,242	60.5
<b>Less than high school diploma (%)</b>					
<9	26,925	20,711	76.9	15,489	57.5
9.00–12.99	79,231	60,552	76.4	46,831	59.1
13.00–17.99	38,815	28,823	74.3	22,263	57.4
≥18	56,226	42,040	74.8	34,639	61.6
<b>Median household income (U.S. \$)</b>					
<41,000	14,520	11,185	77.0	9,398	64.7
41,000–47,999	28,027	20,383	72.7	16,025	57.2
48,000–55,999	46,805	36,114	77.2	28,953	61.9
≥56,000	111,845	84,444	75.5	64,846	58.0
<b>Without health insurance (%)</b>					
<8	41,486	31,648	76.3	24,387	58.8
8.00–11.99	40,036	30,382	75.9	22,717	56.7
12.00–15.99	71,548	53,821	75.2	42,505	59.4
≥16	48,127	36,275	75.4	29,613	61.5
<b>Subtotal<sup>b</sup></b>	<b>208,442</b>	<b>157,073</b>	<b>75.4</b>	<b>122,838</b>	<b>58.9</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	9,711	7,212	74.3	5,370	55.3
10.00–12.99	13,071	10,171	77.8	8,079	61.8
13.00–16.99	21,713	16,193	74.6	12,471	57.4
≥17	16,808	12,663	75.3	10,380	61.8
<b>Less than high school diploma (%)</b>					
<9	7,461	5,607	75.2	4,177	56.0
9.00–12.99	23,596	17,945	76.1	13,931	59.0
13.00–17.99	12,872	9,583	74.4	7,339	57.0
≥18	17,374	13,104	75.4	10,853	62.5
<b>Median household income (U.S. \$)</b>					
<41,000	6,889	5,380	78.1	4,515	65.5
41,000–47,999	10,084	7,299	72.4	5,664	56.2
48,000–55,999	15,966	12,388	77.6	9,808	61.4
≥56,000	28,364	21,172	74.6	16,313	57.5
<b>Without health insurance (%)</b>					
<8	11,961	9,243	77.3	7,153	59.8
8.00–11.99	12,558	9,241	73.6	7,067	56.3
12.00–15.99	21,247	16,123	75.9	12,696	59.8
≥16	15,537	11,632	74.9	9,384	60.4
<b>Subtotal<sup>b</sup></b>	<b>63,388</b>	<b>47,689</b>	<b>75.2</b>	<b>37,391</b>	<b>59.0</b>
<b>Total</b>	<b>271,830</b>	<b>204,762</b>	<b>75.3</b>	<b>160,229</b>	<b>58.9</b>

**Table 7. Receipt of HIV medical care among persons aged  $\geq 18$  years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016 Total No.	$\geq 1$ CD4 or VL tests		$\geq 2$ CD4 or VL tests <sup>a</sup>	
		No.	%	No.	%
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	26,702	19,735	73.9	15,331	57.4
10.00–12.99	41,749	31,884	76.4	26,305	63.0
13.00–16.99	73,326	52,592	71.7	42,725	58.3
$\geq 17$	36,440	25,477	69.9	21,455	58.9
<b>Less than high school diploma (%)</b>					
<9	22,724	17,118	75.3	13,355	58.8
9.00–12.99	72,618	53,533	73.7	43,416	59.8
13.00–17.99	33,639	23,458	69.7	18,613	55.3
$\geq 18$	49,236	35,579	72.3	30,432	61.8
<b>Median household income (U.S. \$)</b>					
<41,000	13,242	9,729	73.5	8,354	63.1
41,000–47,999	24,743	17,161	69.4	13,851	56.0
48,000–55,999	40,209	29,941	74.5	24,959	62.1
$\geq 56,000$	100,023	72,857	72.8	58,652	58.6
<b>Without health insurance (%)</b>					
<8	41,559	30,223	72.7	24,449	58.8
8.00–11.99	36,148	26,557	73.5	20,994	58.1
12.00–15.99	61,389	44,613	72.7	36,668	59.7
$\geq 16$	39,121	28,295	72.3	23,705	60.6
<b>Subtotal<sup>b</sup></b>	<b>184,397</b>	<b>133,742</b>	<b>72.5</b>	<b>108,841</b>	<b>59.0</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	8,023	5,929	73.9	4,626	57.7
10.00–12.99	10,956	8,640	78.9	7,171	65.5
13.00–16.99	17,790	13,289	74.7	10,775	60.6
$\geq 17$	15,169	11,526	76.0	9,836	64.8
<b>Less than high school diploma (%)</b>					
<9	5,867	4,421	75.4	3,478	59.3
9.00–12.99	20,083	15,353	76.4	12,449	62.0
13.00–17.99	10,023	7,563	75.5	6,033	60.2
$\geq 18$	15,965	12,047	75.5	10,448	65.4
<b>Median household income (U.S. \$)</b>					
<41,000	5,894	4,664	79.1	4,047	68.7
41,000–47,999	8,335	6,200	74.4	4,966	59.6
48,000–55,999	13,431	10,455	77.8	8,772	65.3
$\geq 56,000$	24,278	18,065	74.4	14,623	60.2
<b>Without health insurance (%)</b>					
<8	10,758	8,201	76.2	6,648	61.8
8.00–11.99	11,046	8,159	73.9	6,579	59.6
12.00–15.99	17,284	13,220	76.5	10,934	63.3
$\geq 16$	12,850	9,804	76.3	8,247	64.2
<b>Subtotal<sup>b</sup></b>	<b>53,678</b>	<b>40,618</b>	<b>75.7</b>	<b>33,388</b>	<b>62.2</b>
<b>Total</b>	<b>238,075</b>	<b>174,360</b>	<b>73.2</b>	<b>142,229</b>	<b>59.7</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/ $\mu$ L) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Performed  $\geq 3$  months apart during 2016.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

**Table 8. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016	≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.	No.	%	No.	%
<b>Male-to-male sexual contact</b>					
<b>Male</b>					
<b>Below federal poverty level (%)</b>					
<10	64,473	49,370	76.6	36,328	56.3
10.00–12.99	97,407	76,438	78.5	59,620	61.2
13.00–16.99	205,358	153,946	75.0	118,483	57.7
≥17	78,655	59,161	75.2	47,080	59.9
<b>Less than high school diploma (%)</b>					
<9	60,219	46,419	77.1	34,485	57.3
9.00–12.99	173,612	133,109	76.7	101,637	58.5
13.00–17.99	85,680	63,741	74.4	48,234	56.3
≥18	126,382	95,647	75.7	77,156	61.1
<b>Median household income (U.S. \$)</b>					
<41,000	28,158	21,593	76.7	17,544	62.3
41,000–47,999	58,705	43,420	74.0	33,459	57.0
48,000–55,999	103,034	79,994	77.6	62,942	61.1
≥56,000	255,996	193,907	75.7	147,567	57.6
<b>Without health insurance (%)</b>					
<8	86,094	66,218	76.9	50,507	58.7
8.00–11.99	86,540	66,542	76.9	49,123	56.8
12.00–15.99	164,728	124,131	75.4	96,268	58.4
≥16	108,531	82,024	75.6	65,615	60.5
<b>Subtotal<sup>b</sup></b>	<b>461,685</b>	<b>350,013</b>	<b>75.8</b>	<b>269,553</b>	<b>58.4</b>
<b>Female</b>					
<b>Below federal poverty level (%)</b>					
<10	—	—	—	—	—
10.00–12.99	—	—	—	—	—
13.00–16.99	—	—	—	—	—
≥17	—	—	—	—	—
<b>Less than high school diploma (%)</b>					
<9	—	—	—	—	—
9.00–12.99	—	—	—	—	—
13.00–17.99	—	—	—	—	—
≥18	—	—	—	—	—
<b>Median household income (U.S. \$)</b>					
<41,000	—	—	—	—	—
41,000–47,999	—	—	—	—	—
48,000–55,999	—	—	—	—	—
≥56,000	—	—	—	—	—
<b>Without health insurance (%)</b>					
<8	—	—	—	—	—
8.00–11.99	—	—	—	—	—
12.00–15.99	—	—	—	—	—
≥16	—	—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>461,685</b>	<b>350,013</b>	<b>75.8</b>	<b>269,553</b>	<b>58.4</b>

**Table 8. Receipt of HIV medical care among persons aged  $\geq 18$  years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		$\geq 1$ CD4 or VL tests		$\geq 2$ CD4 or VL tests <sup>a</sup>	
	Total No.		No.	%	No.	%
<b>Injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	8,632		5,673	65.7	4,402	51.0
10.00–12.99	11,584		7,783	67.2	6,296	54.4
13.00–16.99	19,801		12,219	61.7	9,591	48.4
$\geq 17$	16,718		10,599	63.4	8,862	53.0
<b>Less than high school diploma (%)</b>						
<9	6,048		4,060	67.1	3,117	51.5
9.00–12.99	21,150		13,601	64.3	10,842	51.3
13.00–17.99	12,364		7,862	63.6	6,023	48.7
$\geq 18$	17,173		10,750	62.6	9,170	53.4
<b>Median household income (U.S. \$)</b>						
<41,000	6,850		4,656	68.0	4,055	59.2
41,000–47,999	8,617		5,379	62.4	4,186	48.6
48,000–55,999	13,599		8,710	64.0	7,026	51.7
$\geq 56,000$	27,669		17,529	63.4	13,885	50.2
<b>Without health insurance (%)</b>						
<8	15,301		9,727	63.6	7,879	51.5
8.00–11.99	12,666		8,122	64.1	6,386	50.4
12.00–15.99	18,832		11,927	63.3	9,675	51.4
$\geq 16$	9,936		6,497	65.4	5,212	52.5
<b>Subtotal<sup>b</sup></b>	<b>58,810</b>		<b>37,390</b>	<b>63.6</b>	<b>30,002</b>	<b>51.0</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	5,933		4,328	73.0	3,311	55.8
10.00–12.99	8,208		6,283	76.6	5,009	61.0
13.00–16.99	14,001		9,968	71.2	7,658	54.7
$\geq 17$	11,749		8,497	72.3	6,960	59.2
<b>Less than high school diploma (%)</b>						
<9	4,450		3,294	74.0	2,513	56.5
9.00–12.99	14,708		10,852	73.8	8,465	57.6
13.00–17.99	8,853		6,326	71.4	4,796	54.2
$\geq 18$	11,878		8,605	72.4	7,165	60.3
<b>Median household income (U.S. \$)</b>						
<41,000	4,805		3,616	75.3	3,068	63.8
41,000–47,999	6,063		4,272	70.5	3,220	53.1
48,000–55,999	9,840		7,325	74.4	5,816	59.1
$\geq 56,000$	19,183		13,864	72.3	10,835	56.5
<b>Without health insurance (%)</b>						
<8	9,607		7,209	75.0	5,771	60.1
8.00–11.99	9,136		6,497	71.1	5,025	55.0
12.00–15.99	13,455		9,762	72.5	7,712	57.3
$\geq 16$	7,692		5,609	72.9	4,430	57.6
<b>Subtotal<sup>b</sup></b>	<b>41,284</b>		<b>29,919</b>	<b>72.5</b>	<b>23,580</b>	<b>57.1</b>
<b>Total</b>	<b>100,095</b>		<b>67,309</b>	<b>67.2</b>	<b>53,581</b>	<b>53.5</b>

**Table 8. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.		No.	%	No.	%
<b>Male-to-male sexual contact and injection drug use</b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	6,640		5,300	79.8	4,058	61.1
10.00–12.99	11,118		9,086	81.7	7,145	64.3
13.00–16.99	18,885		14,532	76.9	11,456	60.7
≥17	8,423		6,568	78.0	5,358	63.6
<b>Less than high school diploma (%)</b>						
<9	6,359		5,068	79.7	3,831	60.2
9.00–12.99	17,739		14,233	80.2	11,171	63.0
13.00–17.99	9,246		7,014	75.9	5,416	58.6
≥18	11,722		9,171	78.2	7,600	64.8
<b>Median household income (U.S. \$)</b>						
<41,000	3,632		2,953	81.3	2,491	68.6
41,000–47,999	6,012		4,557	75.8	3,556	59.1
48,000–55,999	9,739		7,707	79.1	6,125	62.9
≥56,000	25,682		20,269	78.9	15,846	61.7
<b>Without health insurance (%)</b>						
<8	9,972		8,099	81.2	6,427	64.4
8.00–11.99	9,524		7,595	79.7	5,790	60.8
12.00–15.99	16,333		12,668	77.6	10,087	61.8
≥16	9,237		7,124	77.1	5,714	61.9
<b>Subtotal<sup>b</sup></b>	<b>46,704</b>		<b>36,637</b>	<b>78.4</b>	<b>28,857</b>	<b>61.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	—		—	—	—	—
10.00–12.99	—		—	—	—	—
13.00–16.99	—		—	—	—	—
≥17	—		—	—	—	—
<b>Less than high school diploma (%)</b>						
<9	—		—	—	—	—
9.00–12.99	—		—	—	—	—
13.00–17.99	—		—	—	—	—
≥18	—		—	—	—	—
<b>Median household income (U.S. \$)</b>						
<41,000	—		—	—	—	—
41,000–47,999	—		—	—	—	—
48,000–55,999	—		—	—	—	—
≥56,000	—		—	—	—	—
<b>Without health insurance (%)</b>						
<8	—		—	—	—	—
8.00–11.99	—		—	—	—	—
12.00–15.99	—		—	—	—	—
≥16	—		—	—	—	—
<b>Subtotal<sup>b</sup></b>	<b>—</b>		<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>46,704</b>		<b>36,637</b>	<b>78.4</b>	<b>28,857</b>	<b>61.8</b>

**Table 8. Receipt of HIV medical care among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		≥1 CD4 or VL tests		≥2 CD4 or VL tests <sup>a</sup>	
	Total No.		No.	%	No.	%
<b>Heterosexual contact<sup>c</sup></b>						
<b>Male</b>						
<b>Below federal poverty level (%)</b>						
<10	9,162		6,387	69.7	4,775	52.1
10.00–12.99	14,146		9,991	70.6	8,071	57.1
13.00–16.99	21,618		14,867	68.8	11,462	53.0
≥17	17,315		12,132	70.1	9,923	57.3
<b>Less than high school diploma (%)</b>						
<9	6,556		4,610	70.3	3,450	52.6
9.00–12.99	24,964		17,355	69.5	13,529	54.2
13.00–17.99	13,092		9,269	70.8	7,183	54.9
≥18	17,629		12,142	68.9	10,069	57.1
<b>Median household income (U.S. \$)</b>						
<41,000	7,010		5,230	74.6	4,380	62.5
41,000–47,999	11,666		7,724	66.2	6,080	52.1
48,000–55,999	16,688		11,957	71.7	9,532	57.1
≥56,000	26,877		18,465	68.7	14,239	53.0
<b>Without health insurance (%)</b>						
<8	9,915		6,980	70.4	5,387	54.3
8.00–11.99	11,570		8,070	69.7	6,171	53.3
12.00–15.99	20,213		14,588	72.2	11,583	57.3
≥16	20,544		13,738	66.9	11,090	54.0
<b>Subtotal<sup>b</sup></b>	<b>64,417</b>		<b>44,850</b>	<b>69.6</b>	<b>35,317</b>	<b>54.8</b>
<b>Female</b>						
<b>Below federal poverty level (%)</b>						
<10	22,742		16,636	73.2	12,374	54.4
10.00–12.99	30,314		23,315	76.9	18,412	60.7
13.00–16.99	54,327		39,790	73.2	30,344	55.9
≥17	38,570		28,900	74.9	23,318	60.5
<b>Less than high school diploma (%)</b>						
<9	17,742		13,153	74.1	9,793	55.2
9.00–12.99	56,664		42,330	74.7	32,446	57.3
13.00–17.99	30,437		22,755	74.8	17,340	57.0
≥18	41,110		30,404	74.0	24,869	60.5
<b>Median household income (U.S. \$)</b>						
<41,000	15,711		12,070	76.8	9,945	63.3
41,000–47,999	24,537		17,766	72.4	13,660	55.7
48,000–55,999	39,874		30,322	76.0	23,758	59.6
≥56,000	65,831		48,485	73.7	37,086	56.3
<b>Without health insurance (%)</b>						
<8	24,647		18,778	76.2	14,324	58.1
8.00–11.99	28,132		20,660	73.4	15,685	55.8
12.00–15.99	50,491		38,004	75.3	29,661	58.7
≥16	42,682		31,200	73.1	24,779	58.1
<b>Subtotal<sup>b</sup></b>	<b>150,912</b>		<b>112,181</b>	<b>74.3</b>	<b>87,074</b>	<b>57.7</b>
<b>Total</b>	<b>215,329</b>		<b>157,032</b>	<b>72.9</b>	<b>122,392</b>	<b>56.8</b>

Abbreviations: CD4, CD4+ T-lymphocyte count (cells/μL) or percentage; VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

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

Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

Data have been statistically adjusted to account for missing transmission category.

Receipt of any HIV medical care was measured by documentation of ≥1 CD4 or VL test performed during 2016.

See Technical Notes for the list of areas that met the criteria for complete laboratory reporting.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Performed ≥3 months apart during 2016.

<sup>b</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>c</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.



**Table 9. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Black/African American</b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	26,622	12.1	15,079	56.6
10.00–12.99	36,992	16.8	21,293	57.6
13.00–16.99	97,430	44.2	52,502	53.9
≥17	59,507	27.0	33,120	55.7
<b>Less than high school diploma (%)</b>				
<9	25,629	11.6	14,342	56.0
9.00–12.99	85,820	38.9	47,675	55.6
13.00–17.99	52,754	23.9	28,764	54.5
≥18	56,348	25.5	31,213	55.4
<b>Median household income (U.S. \$)</b>				
<41,000	22,490	10.2	12,923	57.5
41,000–47,999	40,070	18.2	21,152	52.8
48,000–55,999	58,328	26.4	32,445	55.6
≥56,000	99,663	45.2	55,474	55.7
<b>Without health insurance (%)</b>				
<8	33,649	15.3	19,202	57.1
8.00–11.99	44,142	20.0	24,551	55.6
12.00–15.99	83,886	38.0	46,899	55.9
≥16	58,874	26.7	31,342	53.2
<b>Subtotal<sup>a</sup></b>	<b>230,342</b>	<b>100</b>	<b>127,475</b>	<b>55.3</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	15,649	13.6	9,212	58.9
10.00–12.99	21,503	18.7	13,015	60.5
13.00–16.99	43,621	37.9	24,163	55.4
≥17	34,329	29.8	19,814	57.7
<b>Less than high school diploma (%)</b>				
<9	12,756	11.1	7,464	58.5
9.00–12.99	45,378	39.4	26,175	57.7
13.00–17.99	26,353	22.9	14,908	56.6
≥18	30,615	26.6	17,657	57.7
<b>Median household income (U.S. \$)</b>				
<41,000	12,538	10.9	7,250	57.8
41,000–47,999	21,112	18.3	11,770	55.8
48,000–55,999	32,478	28.2	18,874	58.1
≥56,000	48,974	42.5	28,310	57.8
<b>Without health insurance (%)</b>				
<8	17,834	15.5	10,726	60.1
8.00–11.99	22,890	19.9	13,172	57.5
12.00–15.99	40,042	34.8	23,081	57.6
≥16	34,336	29.8	19,225	56.0
<b>Subtotal<sup>a</sup></b>	<b>119,146</b>	<b>100</b>	<b>68,570</b>	<b>57.6</b>
<b>Total</b>	<b>349,488</b>	<b>100</b>	<b>196,045</b>	<b>56.1</b>

**Table 9. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>Hispanic/Latino<sup>b</sup></b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	16,477	11.5	9,910	60.1
10.00–12.99	30,898	21.6	19,467	63.0
13.00–16.99	62,020	43.4	37,416	60.3
≥17	33,553	23.5	20,775	61.9
<b>Less than high school diploma (%)</b>				
<9	9,822	6.9	6,023	61.3
9.00–12.99	43,861	30.7	27,075	61.7
13.00–17.99	22,328	15.6	13,274	59.5
≥18	66,937	46.8	41,196	61.5
<b>Median household income (U.S. \$)</b>				
<41,000	12,490	8.7	7,517	60.2
41,000–47,999	17,451	12.2	10,715	61.4
48,000–55,999	27,815	19.5	16,915	60.8
≥56,000	85,192	59.6	52,421	61.5
<b>Without health insurance (%)</b>				
<8	26,016	18.2	16,187	62.2
8.00–11.99	20,377	14.3	12,441	61.1
12.00–15.99	55,437	38.8	33,495	60.4
≥16	41,118	28.8	25,445	61.9
<b>Subtotal<sup>a</sup></b>	<b>145,757</b>	<b>100</b>	<b>88,865</b>	<b>61.0</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	4,825	14.1	3,070	63.6
10.00–12.99	6,903	20.2	4,507	65.3
13.00–16.99	11,816	34.5	7,233	61.2
≥17	10,699	31.2	6,826	63.8
<b>Less than high school diploma (%)</b>				
<9	2,412	7.0	1,582	65.6
9.00–12.99	10,707	31.3	6,788	63.4
13.00–17.99	5,201	15.2	3,276	63.0
≥18	15,923	46.5	9,990	62.7
<b>Median household income (U.S. \$)</b>				
<41,000	5,475	16.0	3,572	65.2
41,000–47,999	3,656	10.7	2,181	59.7
48,000–55,999	7,713	22.5	4,935	64.0
≥56,000	17,399	50.8	10,948	62.9
<b>Without health insurance (%)</b>				
<8	7,278	21.3	4,752	65.3
8.00–11.99	5,714	16.7	3,620	63.4
12.00–15.99	12,805	37.4	8,037	62.8
≥16	8,446	24.7	5,227	61.9
<b>Subtotal<sup>a</sup></b>	<b>34,977</b>	<b>100</b>	<b>21,982</b>	<b>62.8</b>
<b>Total</b>	<b>180,734</b>	<b>100</b>	<b>110,847</b>	<b>61.3</b>

**Table 9. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>White</b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	39,630	18.6	27,893	70.4
10.00–12.99	58,370	27.4	42,108	72.1
13.00–16.99	91,760	43.0	61,711	67.3
≥17	23,421	11.0	15,805	67.5
<b>Less than high school diploma (%)</b>				
<9	38,389	18.0	27,187	70.8
9.00–12.99	94,621	44.4	65,458	69.2
13.00–17.99	39,614	18.6	26,394	66.6
≥18	40,557	19.0	28,478	70.2
<b>Median household income (U.S. \$)</b>				
<41,000	9,041	4.2	6,114	67.6
41,000–47,999	24,507	11.5	16,451	67.1
48,000–55,999	50,301	23.6	34,852	69.3
≥56,000	129,332	60.7	90,100	69.7
<b>Without health insurance (%)</b>				
<8	52,711	24.7	37,588	71.3
8.00–11.99	48,827	22.9	33,500	68.6
12.00–15.99	68,988	32.4	46,845	67.9
≥16	42,655	20.0	29,584	69.4
<b>Subtotal<sup>a</sup></b>	<b>220,943</b>	<b>100</b>	<b>152,158</b>	<b>68.9</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	6,617	21.8	4,230	63.9
10.00–12.99	8,550	28.1	5,491	64.2
13.00–16.99	10,847	35.7	6,300	58.1
≥17	4,392	14.4	2,490	56.7
<b>Less than high school diploma (%)</b>				
<9	5,804	19.1	3,774	65.0
9.00–12.99	12,984	42.7	7,936	61.1
13.00–17.99	6,610	21.7	3,930	59.5
≥18	5,008	16.5	2,871	57.3
<b>Median household income (U.S. \$)</b>				
<41,000	2,143	7.0	1,272	59.4
41,000–47,999	5,164	17.0	3,041	58.9
48,000–55,999	8,132	26.7	4,986	61.3
≥56,000	14,967	49.2	9,212	61.5
<b>Without health insurance (%)</b>				
<8	7,371	24.2	4,808	65.2
8.00–11.99	7,259	23.9	4,334	59.7
12.00–15.99	9,330	30.7	5,606	60.1
≥16	6,446	21.2	3,763	58.4
<b>Subtotal<sup>a</sup></b>	<b>31,682</b>	<b>100</b>	<b>19,171</b>	<b>60.5</b>
<b>Total</b>	<b>252,625</b>	<b>100</b>	<b>171,329</b>	<b>67.8</b>

**Table 9. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
			<b>Other<sup>c</sup></b>	
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	7,233	18.7	5,116	70.7
10.00–12.99	9,145	23.7	6,560	71.7
13.00–16.99	16,274	42.1	10,842	66.6
≥17	6,015	15.6	4,134	68.7
<b>Less than high school diploma (%)</b>				
<9	6,183	16.0	4,373	70.7
9.00–12.99	15,173	39.2	10,457	68.9
13.00–17.99	6,708	17.3	4,454	66.4
≥18	10,603	27.4	7,368	69.5
<b>Median household income (U.S. \$)</b>				
<41,000	2,252	5.8	1,528	67.9
41,000–47,999	3,733	9.7	2,350	63.0
48,000–55,999	7,912	20.5	5,431	68.6
≥56,000	24,770	64.1	17,343	70.0
<b>Without health insurance (%)</b>				
<8	10,206	26.4	7,376	72.3
8.00–11.99	8,193	21.2	5,572	68.0
12.00–15.99	13,609	35.2	9,251	68.0
≥16	6,659	17.2	4,453	66.9
<b>Subtotal<sup>a</sup></b>	<b>40,216</b>	<b>100</b>	<b>27,601</b>	<b>68.6</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	2,403	21.9	1,617	67.3
10.00–12.99	2,627	23.9	1,760	67.0
13.00–16.99	3,654	33.3	2,281	62.4
≥17	2,287	20.8	1,509	66.0
<b>Less than high school diploma (%)</b>				
<9	1,875	17.1	1,235	65.9
9.00–12.99	4,068	37.1	2,672	65.7
13.00–17.99	1,993	18.2	1,255	63.0
≥18	3,035	27.7	2,005	66.1
<b>Median household income (U.S. \$)</b>				
<41,000	962	8.8	639	66.4
41,000–47,999	1,363	12.4	837	61.4
48,000–55,999	2,594	23.6	1,705	65.7
≥56,000	6,052	55.2	3,986	65.9
<b>Without health insurance (%)</b>				
<8	2,837	25.9	1,938	68.3
8.00–11.99	2,426	22.1	1,572	64.8
12.00–15.99	3,482	31.7	2,262	65.0
≥16	2,226	20.3	1,395	62.7
<b>Subtotal<sup>a</sup></b>	<b>11,435</b>	<b>100</b>	<b>7,438</b>	<b>65.0</b>
<b>Total</b>	<b>51,651</b>	<b>100</b>	<b>35,039</b>	<b>67.8</b>

**Table 9. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by race/ethnicity, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Total</b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	89,962	14.6	57,998	64.5
10.00–12.99	135,405	22.0	89,428	66.0
13.00–16.99	267,484	43.5	162,471	60.7
≥17	122,496	19.9	73,834	60.3
<b>Less than high school diploma (%)</b>				
<9	80,023	13.0	51,925	64.9
9.00–12.99	239,475	38.9	150,665	62.9
13.00–17.99	121,404	19.7	72,886	60.0
≥18	174,445	28.3	108,255	62.1
<b>Median household income (U.S. \$)</b>				
<41,000	46,273	7.5	28,082	60.7
41,000–47,999	85,761	13.9	50,668	59.1
48,000–55,999	144,356	23.5	89,643	62.1
≥56,000	338,957	55.1	215,338	63.5
<b>Without health insurance (%)</b>				
<8	122,582	19.9	80,353	65.6
8.00–11.99	121,539	19.8	76,064	62.6
12.00–15.99	221,920	36.1	136,490	61.5
≥16	149,306	24.3	90,824	60.8
<b>Subtotal<sup>a</sup></b>	<b>637,258</b>	<b>100</b>	<b>396,099</b>	<b>62.2</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	29,494	15.5	18,129	61.5
10.00–12.99	39,583	20.8	24,773	62.6
13.00–16.99	69,938	36.7	39,977	57.2
≥17	51,707	27.1	30,639	59.3
<b>Less than high school diploma (%)</b>				
<9	22,847	12.0	14,055	61.5
9.00–12.99	73,137	38.3	43,571	59.6
13.00–17.99	40,157	21.1	23,369	58.2
≥18	54,581	28.6	32,523	59.6
<b>Median household income (U.S. \$)</b>				
<41,000	21,118	11.1	12,733	60.3
41,000–47,999	31,295	16.4	17,829	57.0
48,000–55,999	50,917	26.7	30,500	59.9
≥56,000	87,392	45.8	52,456	60.0
<b>Without health insurance (%)</b>				
<8	35,320	18.5	22,224	62.9
8.00–11.99	38,289	20.1	22,698	59.3
12.00–15.99	65,659	34.4	38,986	59.4
≥16	51,454	27.0	29,610	57.5
<b>Subtotal<sup>a</sup></b>	<b>197,240</b>	<b>100</b>	<b>117,161</b>	<b>59.4</b>
<b>Total</b>	<b>834,498</b>	<b>100</b>	<b>513,260</b>	<b>61.5</b>

Abbreviations: VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

A VL test result of <200 copies/mL indicates HIV viral suppression. VL test results are from the most recent test during 2016.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Hispanics/Latinos can be of any race.

<sup>c</sup> Includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, multiple races, and unknown races.

**Table 10. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>18–24</b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	2,992	12.9	1,773	59.3
10.00–12.99	4,139	17.9	2,449	59.2
13.00–16.99	10,587	45.8	5,576	52.7
≥17	5,419	23.4	2,952	54.5
<b>Less than high school diploma (%)</b>				
<9	2,800	12.1	1,643	58.7
9.00–12.99	8,478	36.6	4,692	55.3
13.00–17.99	5,487	23.7	2,984	54.4
≥18	6,372	27.5	3,431	53.8
<b>Median household income (U.S. \$)</b>				
<41,000	2,075	9.0	1,063	51.2
41,000–47,999	3,805	16.4	2,064	54.2
48,000–55,999	6,203	26.8	3,294	53.1
≥56,000	11,054	47.8	6,329	57.3
<b>Without health insurance (%)</b>				
<8	3,183	13.8	1,945	61.1
8.00–11.99	4,472	19.3	2,563	57.3
12.00–15.99	8,967	38.8	4,825	53.8
≥16	6,515	28.2	3,417	52.4
<b>Subtotal<sup>a</sup></b>	<b>24,010</b>	<b>100</b>	<b>13,226</b>	<b>55.1</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	842	13.8	446	53.0
10.00–12.99	1,138	18.7	560	49.2
13.00–16.99	2,437	40.0	1,070	43.9
≥17	1,679	27.5	812	48.4
<b>Less than high school diploma (%)</b>				
<9	699	11.5	380	54.4
9.00–12.99	2,212	36.3	1,036	46.8
13.00–17.99	1,343	22.0	631	47.0
≥18	1,842	30.2	841	45.7
<b>Median household income (U.S. \$)</b>				
<41,000	727	11.9	356	49.0
41,000–47,999	991	16.3	443	44.7
48,000–55,999	1,652	27.1	757	45.8
≥56,000	2,726	44.7	1,332	48.9
<b>Without health insurance (%)</b>				
<8	1,033	16.9	557	53.9
8.00–11.99	1,139	18.7	554	48.6
12.00–15.99	2,192	36.0	1,011	46.1
≥16	1,732	28.4	766	44.2
<b>Subtotal<sup>a</sup></b>	<b>6,295</b>	<b>100</b>	<b>2,977</b>	<b>47.3</b>
<b>Total</b>	<b>30,305</b>	<b>100</b>	<b>16,203</b>	<b>53.5</b>

**Table 10. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>25–34</b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	13,232	13.7	8,026	60.7
10.00–12.99	18,708	19.3	11,404	61.0
13.00–16.99	44,928	46.4	25,434	56.6
≥17	20,059	20.7	11,650	58.1
<b>Less than high school diploma (%)</b>				
<9	12,648	13.0	7,566	59.8
9.00–12.99	35,766	36.9	20,868	58.3
13.00–17.99	20,397	21.0	11,566	56.7
≥18	28,116	29.0	16,514	58.7
<b>Median household income (U.S. \$)</b>				
<41,000	7,778	8.0	4,450	57.2
41,000–47,999	13,503	13.9	7,567	56.0
48,000–55,999	23,992	24.8	13,514	56.3
≥56,000	51,654	53.3	30,983	60.0
<b>Without health insurance (%)</b>				
<8	15,640	16.1	9,911	63.4
8.00–11.99	18,788	19.4	11,145	59.3
12.00–15.99	37,025	38.2	21,340	57.6
≥16	25,474	26.3	14,118	55.4
<b>Subtotal<sup>a</sup></b>	<b>100,391</b>	<b>100</b>	<b>58,452</b>	<b>58.2</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	3,491	13.9	1,950	55.9
10.00–12.99	4,929	19.7	2,665	54.1
13.00–16.99	10,094	40.3	4,741	47.0
≥17	6,562	26.2	3,295	50.2
<b>Less than high school diploma (%)</b>				
<9	3,013	12.0	1,640	54.4
9.00–12.99	9,395	37.5	4,682	49.8
13.00–17.99	5,727	22.8	2,892	50.5
≥18	6,941	27.7	3,437	49.5
<b>Median household income (U.S. \$)</b>				
<41,000	2,740	10.9	1,371	50.0
41,000–47,999	4,353	17.4	2,091	48.0
48,000–55,999	7,057	28.1	3,459	49.0
≥56,000	10,926	43.6	5,730	52.4
<b>Without health insurance (%)</b>				
<8	3,855	15.4	2,157	56.0
8.00–11.99	4,680	18.7	2,467	52.7
12.00–15.99	8,806	35.1	4,383	49.8
≥16	7,735	30.8	3,644	47.1
<b>Subtotal<sup>a</sup></b>	<b>25,873</b>	<b>100</b>	<b>13,007</b>	<b>50.3</b>
<b>Total</b>	<b>126,264</b>	<b>100</b>	<b>71,459</b>	<b>56.6</b>

**Table 10. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>35–44</b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	16,741	14.4	10,486	62.6
10.00–12.99	24,723	21.3	15,752	63.7
13.00–16.99	52,214	45.1	30,838	59.1
≥17	22,191	19.2	13,212	59.5
<b>Less than high school diploma (%)</b>				
<9	14,926	12.9	9,504	63.7
9.00–12.99	43,382	37.4	26,454	61.0
13.00–17.99	23,066	19.9	13,739	59.6
≥18	34,495	29.8	20,591	59.7
<b>Median household income (U.S. \$)</b>				
<41,000	8,658	7.5	5,110	59.0
41,000–47,999	15,683	13.5	9,110	58.1
48,000–55,999	27,147	23.4	16,390	60.4
≥56,000	64,381	55.6	39,678	61.6
<b>Without health insurance (%)</b>				
<8	20,714	17.9	13,256	64.0
8.00–11.99	22,095	19.1	13,720	62.1
12.00–15.99	42,991	37.1	25,728	59.8
≥16	30,069	26.0	17,584	58.5
<b>Subtotal<sup>a</sup></b>	<b>120,018</b>	<b>100</b>	<b>72,561</b>	<b>60.5</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	7,427	16.0	4,288	57.7
10.00–12.99	9,489	20.5	5,556	58.6
13.00–16.99	17,904	38.7	9,615	53.7
≥17	11,489	24.8	6,311	54.9
<b>Less than high school diploma (%)</b>				
<9	5,807	12.5	3,350	57.7
9.00–12.99	17,851	38.5	9,882	55.4
13.00–17.99	10,192	22.0	5,610	55.0
≥18	12,459	26.9	6,928	55.6
<b>Median household income (U.S. \$)</b>				
<41,000	4,868	10.5	2,714	55.8
41,000–47,999	7,532	16.3	4,006	53.2
48,000–55,999	12,811	27.7	7,116	55.5
≥56,000	21,098	45.6	11,934	56.6
<b>Without health insurance (%)</b>				
<8	7,713	16.7	4,545	58.9
8.00–11.99	8,866	19.1	4,907	55.3
12.00–15.99	16,130	34.8	8,962	55.6
≥16	13,600	29.4	7,356	54.1
<b>Subtotal<sup>a</sup></b>	<b>48,006</b>	<b>100</b>	<b>26,677</b>	<b>55.6</b>
<b>Total</b>	<b>168,024</b>	<b>100</b>	<b>99,238</b>	<b>59.1</b>



**Table 10. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	<b>45–54</b>			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	30,295	15.1	20,154	66.5
10.00–12.99	46,086	22.9	31,272	67.9
13.00–16.99	86,429	43.0	54,658	63.2
≥17	38,387	19.1	23,872	62.2
<b>Less than high school diploma (%)</b>				
<9	26,925	13.4	17,968	66.7
9.00–12.99	79,231	39.4	51,657	65.2
13.00–17.99	38,815	19.3	24,308	62.6
≥18	56,226	27.9	36,023	64.1
<b>Median household income (U.S. \$)</b>				
<41,000	14,520	7.2	9,150	63.0
41,000–47,999	28,027	13.9	17,076	60.9
48,000–55,999	46,805	23.3	30,458	65.1
≥56,000	111,845	55.6	73,272	65.5
<b>Without health insurance (%)</b>				
<8	41,486	20.6	27,842	67.1
8.00–11.99	40,036	19.9	25,669	64.1
12.00–15.99	71,548	35.6	45,640	63.8
≥16	48,127	23.9	30,805	64.0
<b>Subtotal<sup>a</sup></b>	<b>208,442</b>	<b>100</b>	<b>134,153</b>	<b>64.4</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	9,711	15.8	6,169	63.5
10.00–12.99	13,071	21.3	8,401	64.3
13.00–16.99	21,713	35.4	13,153	60.6
≥17	16,808	27.4	10,302	61.3
<b>Less than high school diploma (%)</b>				
<9	7,461	12.2	4,756	63.7
9.00–12.99	23,596	38.5	14,647	62.1
13.00–17.99	12,872	21.0	7,768	60.3
≥18	17,374	28.3	10,854	62.5
<b>Median household income (U.S. \$)</b>				
<41,000	6,889	11.2	4,337	63.0
41,000–47,999	10,084	16.4	5,963	59.1
48,000–55,999	15,966	26.0	10,108	63.3
≥56,000	28,364	46.3	17,617	62.1
<b>Without health insurance (%)</b>				
<8	11,961	19.5	7,748	64.8
8.00–11.99	12,558	20.5	7,618	60.7
12.00–15.99	21,247	34.7	13,203	62.1
≥16	15,537	25.3	9,456	60.9
<b>Subtotal<sup>a</sup></b>	<b>63,388</b>	<b>100</b>	<b>39,260</b>	<b>61.9</b>
<b>Total</b>	<b>271,830</b>	<b>100</b>	<b>173,413</b>	<b>63.8</b>

**Table 10. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by age, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
	≥55			
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	26,702	15.0	17,559	65.8
10.00–12.99	41,749	23.4	28,551	68.4
13.00–16.99	73,326	41.1	45,965	62.7
≥17	36,440	20.4	22,148	60.8
<b>Less than high school diploma (%)</b>				
<9	22,724	12.8	15,244	67.1
9.00–12.99	72,618	40.7	46,994	64.7
13.00–17.99	33,639	18.9	20,289	60.3
≥18	49,236	27.6	31,696	64.4
<b>Median household income (U.S. \$)</b>				
<41,000	13,242	7.4	8,309	62.7
41,000–47,999	24,743	13.9	14,851	60.0
48,000–55,999	40,209	22.6	25,987	64.6
≥56,000	100,023	56.1	65,076	65.1
<b>Without health insurance (%)</b>				
<8	41,559	23.3	27,399	65.9
8.00–11.99	36,148	20.3	22,967	63.5
12.00–15.99	61,389	34.4	38,957	63.5
≥16	39,121	22.0	24,900	63.6
<b>Subtotal<sup>a</sup></b>	<b>184,397</b>	<b>100</b>	<b>117,707</b>	<b>63.8</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	8,023	15.4	5,276	65.8
10.00–12.99	10,956	21.1	7,591	69.3
13.00–16.99	17,790	34.3	11,398	64.1
≥17	15,169	29.2	9,919	65.4
<b>Less than high school diploma (%)</b>				
<9	5,867	11.3	3,929	67.0
9.00–12.99	20,083	38.7	13,324	66.3
13.00–17.99	10,023	19.3	6,468	64.5
≥18	15,965	30.7	10,463	65.5
<b>Median household income (U.S. \$)</b>				
<41,000	5,894	11.3	3,955	67.1
41,000–47,999	8,335	16.0	5,326	63.9
48,000–55,999	13,431	25.9	9,060	67.5
≥56,000	24,278	46.7	15,843	65.3
<b>Without health insurance (%)</b>				
<8	10,758	20.7	7,217	67.1
8.00–11.99	11,046	21.3	7,152	64.7
12.00–15.99	17,284	33.3	11,427	66.1
≥16	12,850	24.7	8,388	65.3
<b>Subtotal<sup>a</sup></b>	<b>53,678</b>	<b>100</b>	<b>35,240</b>	<b>65.7</b>
<b>Total</b>	<b>238,075</b>	<b>100</b>	<b>152,947</b>	<b>64.2</b>

Abbreviations: VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

Note. Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

A VL test result of <200 copies/mL indicates HIV viral suppression. VL test results are from the most recent test during 2016.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

**Table 11. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Male-to-male sexual contact</b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	64,473	14.5	42,910	66.6
10.00–12.99	97,407	21.8	66,729	68.5
13.00–16.99	205,358	46.1	128,783	62.7
≥17	78,655	17.6	49,696	63.2
<b>Less than high school diploma (%)</b>				
<9	60,219	13.5	40,091	66.6
9.00–12.99	173,612	38.9	113,116	65.2
13.00–17.99	85,680	19.2	53,236	62.1
≥18	126,382	28.3	81,676	64.6
<b>Median household income (U.S. \$)</b>				
<41,000	28,158	6.3	17,615	62.6
41,000–47,999	58,705	13.2	36,513	62.2
48,000–55,999	103,034	23.1	66,237	64.3
≥56,000	255,996	57.4	167,753	65.5
<b>Without health insurance (%)</b>				
<8	86,094	19.3	58,896	68.4
8.00–11.99	86,540	19.4	55,971	64.7
12.00–15.99	164,728	36.9	104,473	63.4
≥16	108,531	24.3	68,779	63.4
<b>Subtotal<sup>a</sup></b>	<b>461,685</b>	<b>100</b>	<b>297,360</b>	<b>64.4</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	—	—	—	—
10.00–12.99	—	—	—	—
13.00–16.99	—	—	—	—
≥17	—	—	—	—
<b>Less than high school diploma (%)</b>				
<9	—	—	—	—
9.00–12.99	—	—	—	—
13.00–17.99	—	—	—	—
≥18	—	—	—	—
<b>Median household income (U.S. \$)</b>				
<41,000	—	—	—	—
41,000–47,999	—	—	—	—
48,000–55,999	—	—	—	—
≥56,000	—	—	—	—
<b>Without health insurance (%)</b>				
<8	—	—	—	—
8.00–11.99	—	—	—	—
12.00–15.99	—	—	—	—
≥16	—	—	—	—
<b>Subtotal<sup>a</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>461,685</b>	<b>100</b>	<b>297,360</b>	<b>64.4</b>

**Table 11. HIV viral suppression at most recent viral load test in 2016, among persons aged  $\geq 18$  years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Injection drug use</b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	8,632	15.2	4,705	54.5
10.00–12.99	11,584	20.4	6,360	54.9
13.00–16.99	19,801	34.9	9,591	48.4
$\geq 17$	16,718	29.5	8,569	51.3
<b>Less than high school diploma (%)</b>				
<9	6,048	10.7	3,346	55.3
9.00–12.99	21,150	37.3	10,984	51.9
13.00–17.99	12,364	21.8	6,177	50.0
$\geq 18$	17,173	30.3	8,718	50.8
<b>Median household income (U.S. \$)</b>				
<41,000	6,850	12.1	3,720	54.3
41,000–47,999	8,617	15.2	4,126	47.9
48,000–55,999	13,599	24.0	7,012	51.6
$\geq 56,000$	27,669	48.8	14,367	51.9
<b>Without health insurance (%)</b>				
<8	15,301	27.0	8,136	53.2
8.00–11.99	12,666	22.3	6,626	52.3
12.00–15.99	18,832	33.2	9,489	50.4
$\geq 16$	9,936	17.5	4,973	50.1
<b>Subtotal<sup>a</sup></b>	<b>58,810</b>	<b>100</b>	<b>30,122</b>	<b>51.2</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	5,933	14.9	3,553	59.9
10.00–12.99	8,208	20.6	5,007	61.0
13.00–16.99	14,001	35.1	7,721	55.1
$\geq 17$	11,749	29.5	6,593	56.1
<b>Less than high school diploma (%)</b>				
<9	4,450	11.2	2,688	60.4
9.00–12.99	14,708	36.9	8,564	58.2
13.00–17.99	8,853	22.2	4,830	54.6
$\geq 18$	11,878	29.8	6,792	57.2
<b>Median household income (U.S. \$)</b>				
<41,000	4,805	12.0	2,807	58.4
41,000–47,999	6,063	15.2	3,269	53.9
48,000–55,999	9,840	24.7	5,744	58.4
$\geq 56,000$	19,183	48.1	11,055	57.6
<b>Without health insurance (%)</b>				
<8	9,607	24.1	5,875	61.2
8.00–11.99	9,136	22.9	5,141	56.3
12.00–15.99	13,455	33.7	7,620	56.6
$\geq 16$	7,692	19.3	4,238	55.1
<b>Subtotal<sup>a</sup></b>	<b>41,284</b>	<b>100</b>	<b>23,550</b>	<b>57.0</b>
<b>Total</b>	<b>100,095</b>	<b>100</b>	<b>53,672</b>	<b>53.6</b>

**Table 11. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Male-to-male sexual contact and injection drug use</b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	6,640	14.7	4,397	66.2
10.00–12.99	11,118	24.7	7,390	66.5
13.00–16.99	18,885	41.9	11,254	59.6
≥17	8,423	18.7	5,156	61.2
<b>Less than high school diploma (%)</b>				
<9	6,359	14.1	4,159	65.4
9.00–12.99	17,739	39.4	11,412	64.3
13.00–17.99	9,246	20.5	5,483	59.3
≥18	11,722	26.0	7,143	60.9
<b>Median household income (U.S. \$)</b>				
<41,000	3,632	8.1	2,302	63.4
41,000–47,999	6,012	13.3	3,498	58.2
48,000–55,999	9,739	21.6	6,021	61.8
≥56,000	25,682	57.0	16,376	63.8
<b>Without health insurance (%)</b>				
<8	9,972	22.1	6,715	67.3
8.00–11.99	9,524	21.1	6,115	64.2
12.00–15.99	16,333	36.2	9,868	60.4
≥16	9,237	20.5	5,499	59.5
<b>Subtotal<sup>a</sup></b>	<b>46,704</b>	<b>100</b>	<b>29,098</b>	<b>62.3</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	—	—	—	—
10.00–12.99	—	—	—	—
13.00–16.99	—	—	—	—
≥17	—	—	—	—
<b>Less than high school diploma (%)</b>				
<9	—	—	—	—
9.00–12.99	—	—	—	—
13.00–17.99	—	—	—	—
≥18	—	—	—	—
<b>Median household income (U.S. \$)</b>				
<41,000	—	—	—	—
41,000–47,999	—	—	—	—
48,000–55,999	—	—	—	—
≥56,000	—	—	—	—
<b>Without health insurance (%)</b>				
<8	—	—	—	—
8.00–11.99	—	—	—	—
12.00–15.99	—	—	—	—
≥16	—	—	—	—
<b>Subtotal<sup>a</sup></b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>46,704</b>	<b>100</b>	<b>29,098</b>	<b>62.3</b>

**Table 11. HIV viral suppression at most recent viral load test in 2016, among persons aged ≥18 years with HIV infection diagnosed by year-end 2015 and alive at year-end 2016, by transmission category, sex, and selected social determinants of health—county level, 41 states and the District of Columbia (cont)**

	Persons alive at year-end 2016		VL <200 copies/mL	
	No.	%	No.	%
<b>Heterosexual contact<sup>b</sup></b>				
<b>Male</b>				
<b>Below federal poverty level (%)</b>				
<10	9,162	14.7	5,363	58.5
10.00–12.99	14,146	22.7	8,326	58.9
13.00–16.99	21,618	34.7	11,938	55.2
≥17	17,315	27.8	9,799	56.6
<b>Less than high school diploma (%)</b>				
<9	6,556	10.5	3,831	58.4
9.00–12.99	24,964	40.1	14,104	56.5
13.00–17.99	13,092	21.0	7,482	57.2
≥18	17,629	28.3	10,009	56.8
<b>Median household income (U.S. \$)</b>				
<41,000	7,010	11.3	4,178	59.6
41,000–47,999	11,666	18.7	6,177	52.9
48,000–55,999	16,688	26.8	9,714	58.2
≥56,000	26,877	43.2	15,357	57.1
<b>Without health insurance (%)</b>				
<8	9,915	15.9	5,870	59.2
8.00–11.99	11,570	18.6	6,676	57.7
12.00–15.99	20,213	32.5	11,771	58.2
≥16	20,544	33.0	11,109	54.1
<b>Subtotal<sup>a</sup></b>	<b>64,417</b>	<b>100</b>	<b>36,652</b>	<b>56.9</b>
<b>Female</b>				
<b>Below federal poverty level (%)</b>				
<10	22,742	15.6	14,131	62.1
10.00–12.99	30,314	20.8	19,199	63.3
13.00–16.99	54,327	37.2	31,476	57.9
≥17	38,570	26.4	23,370	60.6
<b>Less than high school diploma (%)</b>				
<9	17,742	12.2	10,999	62.0
9.00–12.99	56,664	38.8	34,131	60.2
13.00–17.99	30,437	20.9	18,116	59.5
≥18	41,110	28.2	24,930	60.6
<b>Median household income (U.S. \$)</b>				
<41,000	15,711	10.8	9,624	61.3
41,000–47,999	24,537	16.8	14,247	58.1
48,000–55,999	39,874	27.3	24,155	60.6
≥56,000	65,831	45.1	40,149	61.0
<b>Without health insurance (%)</b>				
<8	24,647	16.9	15,753	63.9
8.00–11.99	28,132	19.3	17,055	60.6
12.00–15.99	50,491	34.6	30,509	60.4
≥16	42,682	29.2	24,859	58.2
<b>Subtotal<sup>a</sup></b>	<b>150,912</b>	<b>100</b>	<b>91,076</b>	<b>60.4</b>
<b>Total</b>	<b>215,329</b>	<b>100</b>	<b>127,728</b>	<b>59.3</b>

Abbreviations: VL, viral load (copies/mL); SDH, social determinants of health [footnotes only].

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

Data are based on address of residence as of December 31, 2016 (i.e., most recent known address).

Data have been statistically adjusted to account for missing transmission category.

A VL test result of <200 copies/mL indicates HIV viral suppression. VL test results are from the most recent test during 2016.

For the definitions of SDH indicator variables used in this report, see [http://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2017\\_ACSSubjectDefinitions.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2017_ACSSubjectDefinitions.pdf).

<sup>a</sup> Because column subtotals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column subtotals. See Technical Notes for criteria used to define SDH subpopulations.

<sup>b</sup> Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.