

State of Alabama

HIV Surveillance

2016 Annual Report

Prepared by:

**Division of STD Prevention and Control
HIV Surveillance Branch**

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TABLE OF CONTENTS

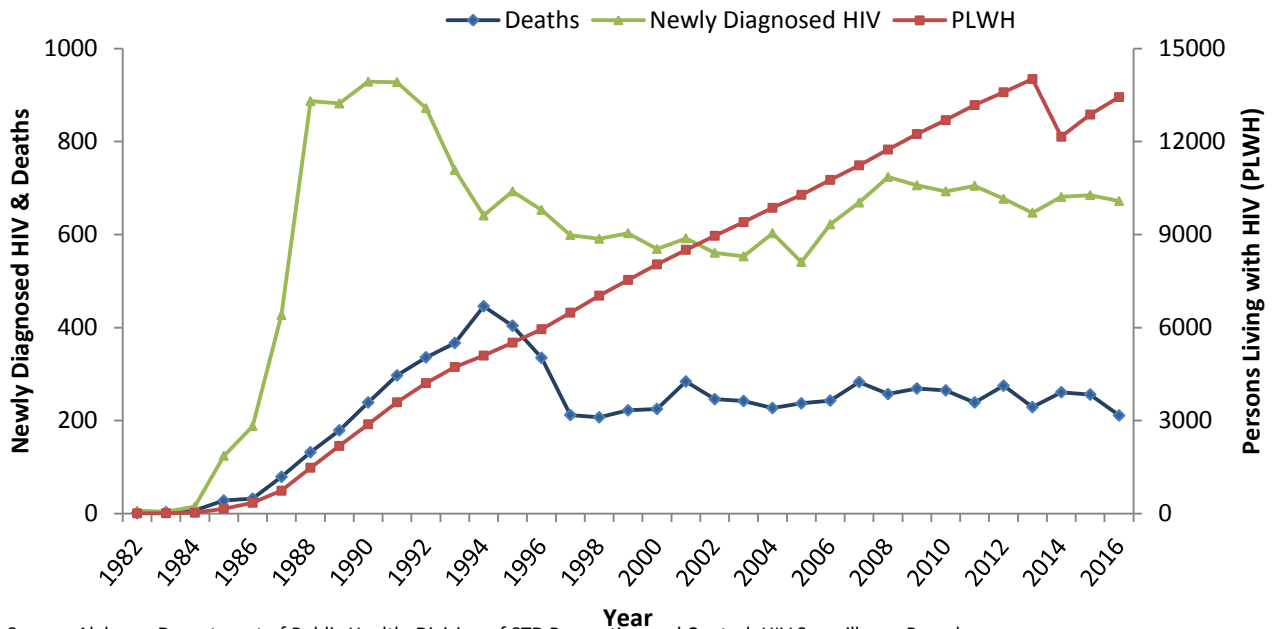
A. Background	3
B. Highlights	4
C. Overall HIV Trends	5
D. HIV by Race, Ethnicity, and Birth Sex	9
E. HIV by Age Group	10
F. HIV by Mode of Exposure	11
G. High Risk Target Groups	12
H. HIV Treatment Cascade	14
I. HIV Unmet Need	15
J. HIV Prevention: Know. Manage. Live	15

A. BACKGROUND

In 1982, the Alabama Department of Public Health (ADPH) initiated AIDS case surveillance. Confidential, name-based HIV reporting began in 1987 when Alabama’s Public Health Laws were amended requiring all facilities (private and public), including laboratories and hospitals, to report all cases of HIV infection. In 2011, all tests indicative of HIV infection, including CD4 results and viral loads (detectable and undetectable), became reportable under Alabama’s Notifiable Disease Rules. Alabama’s Notifiable Disease Rules were again amended to require mandatory reporting of all perinatal HIV exposures occurring among infants less than 18 months of age, effective December 31, 2014. Between 1982 and 2016, a total of 20,601 cases of HIV infection in Alabama residents have been reported to ADPH.

The number and longevity of persons living with HIV continues to increase. Following the introduction and widespread utilization of highly active antiretroviral therapy (HAART) in 1995, the number of deaths among people diagnosed with HIV significantly declined (Figure 1). At the end of 2016, 13,437 persons were known to be living with HIV infection in Alabama. An update in surveillance (eHARS database) data with current address information accounting for Persons Living with HIV or AIDS (PLWHA) patients, who have moved from Alabama, reflects a correction in the graphic representation of Figure 1.

Figure 1. Persons Living with HIV, Newly Diagnosed HIV, and Deaths, Alabama 1982-2016



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.
 Note: PLWH include persons living with HIV infection (non-AIDS) and Stage 3 (AIDS) as of December 31st for the year reported.

An estimated 1 in 6 people living with HIV in Alabama are unaware of their infection and, subsequently, are not receiving regular medical care to manage the disease. Taking the prevalence estimate into consideration, an additional 2,430 Alabama residents may be infected and unaware of their positive HIV status.

The HIV epidemic affects persons in all gender, age, racial, ethnic, and socioeconomic groups and in every county in Alabama. However, the effect has not been the same for all groups. At the beginning of the epidemic, the majority of HIV infections occurred in White homosexual men. Disparities remain with gay, bisexual, and other men who have sex with men (MSM), young adults, and racial and ethnic minorities bearing a disproportionate burden of HIV. As the number of persons living with HIV increases and the number of deaths continuing to decline, the importance of identifying populations most affected and at risk for HIV infection is paramount. Alabama must be diligent in planning effective HIV treatment and prevention efforts with the allocation of limited resources. This report provides demographics, risk characteristics, and trends of HIV infections diagnosed among Alabama residents through 2016.

B. HIGHLIGHTS

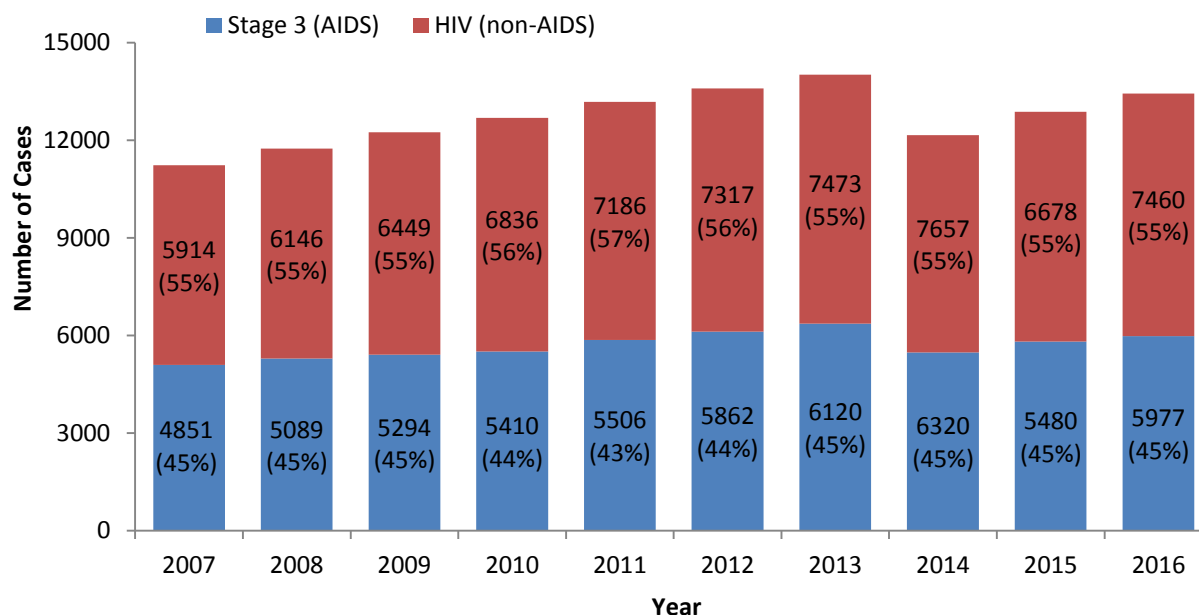
- At the end of 2016, 13,437 Alabama residents were known to be living with HIV and 5,977 (45%) of these had progressed to Stage 3 (AIDS) infection. An estimated 1 in 6 people living with HIV in Alabama are unaware of their infection, suggesting another 2,239 Alabama residents may be infected with HIV.
- 672 newly diagnosed HIV infections were reported among Alabama residents in 2016. This number is an underestimate as it does not account for individuals unaware of their status.
- There are persons living with HIV in every county in Alabama and the number continues to increase. In 2016, more HIV cases were diagnosed in Jefferson County (n=140) than any other county while the highest rate of HIV per 100,000 residents was greatest in Montgomery County (41.1).
- Alabama is experiencing a shift in the age distribution of newly diagnosed HIV infections, as adolescents and young adults (15-29 years) have emerged as the most affected age group as opposed older age groups that dominated earlier in the epidemic.
- While male-to-male sexual activity continues to be the predominant mode of exposure for HIV infection, heterosexual contact is the second most common mode of exposure.
- Black males reporting sex with another male represent the majority of newly diagnosed HIV infections occurring among adolescents and young adults aged 15 to 29 years.
- Eighty-five percent of newly diagnosed HIV infections during 2016 were linked to care within 90 days of diagnosis.

C. OVERALL TRENDS

The state of Alabama continues to experience an HIV epidemic of moderate magnitude when compared to other states. A cumulative total of 20,601 HIV infections have been diagnosed among Alabama residents since reporting began in 1982, with 13,437 HIV positive individuals currently living in Alabama, as of December 31, 2016. During 2016, 672 newly diagnosed HIV infections were reported among Alabama residents.

The proportion of persons living with HIV (non-AIDS) compared to Stage 3 (AIDS) infection has remained relatively stable over the past ten years (Figure 2) noting that 2014 was adjusted for current address. This trend is largely due to the introduction of effective drug treatments and therapies, which are able to delay the progression to Stage 3 (AIDS) diagnoses and death. At the end of 2016, 5,977 (45%) of known HIV positive individuals were reported be living with Stage 3 (AIDS) diagnoses.

Figure 2. Persons Living with HIV (non-AIDS) and AIDS, Alabama 2007-2016



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch. Persons living with HIV (non-AIDS) and AIDS include persons living as of December 31st for the year reported.

Blacks continue to be disproportionately affected by the HIV epidemic compared to other racial and ethnic groups (Table 1). Although 26% of Alabama’s population estimated Black according to the 2015 United States Census Bureau population estimates, 66.7% of newly diagnosed HIV cases and 64.2% of all persons living with HIV were Black during 2016.

Table 1. Characteristics of Newly Diagnosed and Prevalent HIV Cases, Alabama 2016

Characteristic	Newly Diagnosed Cases		Prevalent Cases	
	Number (%)	Rate	Number (%)	Rate
Gender				
Male	523 (77.8)	22.2	9,774 (72.7)	414.9
Female	149 (22.2)	5.9	3,663 (27.3)	146.1
Race/Ethnicity				
Black, Not Hispanic	448 (66.7)	34.8	8,626 (64.2)	669.6
White, Not Hispanic	182 (27.1)	5.7	3,809 (28.4)	119.0
Multiple Races	20 (3.0)	27.6	525 (3.9)	724.8
Hispanic	19 (2.8)	9.3	384 (2.9)	188.4
Other/Unknown	3 (0.5)	-	93 (0.7)	96.1
Age Group (years)				
<13	0(0.0)	-	40 (0.3)	5.1
13-19	43(6.4)	9.7	76 (0.6)	17.2
20-29	273 (40.6)	41.0	1,924 (14.3)	289.1
30-39	151 (22.5)	24.9	2,697 (20.1)	444.7
40-49	101 (15.0)	16.6	3,273 (24.4)	539.5
≥50	104 (15.5)	5.9	5,427 (40.4)	308.1
Reported Risk Factor				
Men who have Sex with Men (MSM)	358 (53.3)	N/A	6,087 (45.3)	N/A
Heterosexual Contact	177 (26.3)	N/A	2,680 (19.9)	N/A
Injection Drug Use (IDU)	16 (2.4)	N/A	757 (5.6)	N/A
MSM/IDU	8 (1.2)	N/A	444 (3.3)	N/A
Perinatal Exposure	-	-	104 (0.8)	N/A
Transfusion/Hemophilia	-	-	23 (0.2)	N/A
Undetermined	113 (16.8)	N/A	3,342(24.9)	N/A
Imputed Risk among Cases ≥13 years				
MSM	447 (66.5)	N/A	7,520 (56.0)	N/A
Heterosexual Contact	182 (27.0)	N/A	4,112 (30.6)	N/A
IDU	31 (4.6)	N/A	1,096 (8.2)	N/A
MSM/IDU	12 (1.8)	N/A	551 (4.1)	N/A
Other Confirmed Risk	-	-	158 (1.2)	N/A
Public Health Area (PHA)				
PHA 1	17 (2.5)	5.7	266 (2.0)	89.6
PHA 2	75 (11.2)	9.0	1,273 (9.5)	153.1
PHA 3	51 (7.6)	17.7	589 (4.4)	204.5
PHA 4	140 (20.1)	21.2	3,606 (26.9)	546.8
PHA 5	28 (4.2)	10.4	719 (5.4)	129.4
PHA 6	30 (4.5)	9.1	740 (5.5)	223.6
PHA 7	13 (1.9)	9.9	394 (2.9)	299.4
PHA 8	152 (22.6)	23.2	2,438 (18.2)	372.8
PHA 9	24 (3.6)	6.3	647 (4.8)	170.8
PHA 10	50 (7.4)	15.6	882 (6.6)	274.4
PHA 11	92 (13.7)	22.2	1,850 (13.8)	446.0
Unknown	-	-	26 (0.2)	-
Total	672(100)	13.8	13,437 (100)	276.3

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

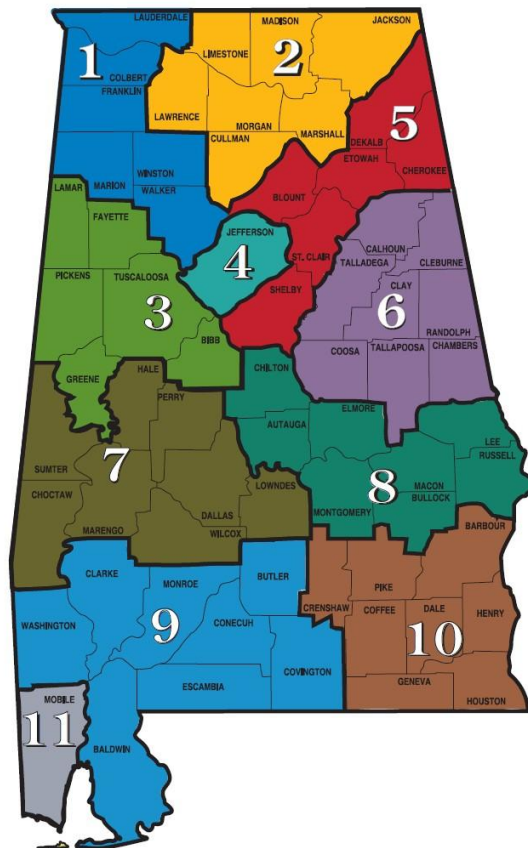
Note: Imputed risk estimated utilizing multiple imputation methodology among cases ≥13 years. Newly diagnosed age group represents age at diagnosis. Prevalent age group represents current age. Percentages may not sum 100% due to rounding. Rates per 100,000 persons calculated using US Census Bureau 2016 population estimates. Rates only calculated for variables with ≥ 5 cases. Case counts less than 12 (and accompanying rates and trends) are considered statistically unreliable and should be interpreted with extreme caution.

Nearly two-thirds (63%) of newly diagnosed HIV infections in 2016 occurred among adults in their twenties and thirties – 40.6% and 22.5%, respectively (Table 1). However, the majority of persons living with HIV infection (i.e., prevalent cases) were 40 years or older (65%).

In 2016, over one-half of the newly diagnosed cases (53.3%) and forty-five percent of the prevalent cases reported male-to-male sexual activity as the primary risk factor for infection. Imputed risk estimates 66.5% of newly diagnosed cases and 56% of prevalent cases occurring in adults and adolescents (≥ 13 years) may have been due to male-to-male sexual activity. Heterosexual contact was the second leading risk factor for HIV infection, representing 26% of newly diagnosed cases and 20% of prevalent cases. Imputed risk calculations reflect 27% of newly diagnosed cases and 31% of prevalent cases occurring in adults and adolescents (≥ 13 years) may have been due to heterosexual contact.

Sixty-eight percent of all 2016 newly diagnosed and prevalent HIV cases resided in Public Health Areas (PHAs) 2, 4, 8, and 11, where the larger cities of Huntsville, Birmingham, Montgomery, and Mobile are located (Table 1 and Figure 3).

Figure 3. Alabama Public Health Area Map



Source: Alabama Department of Public Health.

Five of Alabama’s 6 most populous counties (Jefferson, Mobile, Montgomery, Madison, and Tuscaloosa) consistently report the highest number of new HIV cases each year (Table 2). Each of these counties are considered major urban counties with > 200,000 residents and combined, they account for sixty-two percent of newly diagnosed infections annually. Jefferson County, with a population > 650,000, averages 24% of newly diagnosed HIV infections from 2012-2016.

Table 2. Top Five Counties with the Highest Frequency of Newly Diagnosed HIV Cases, Alabama 2012-2016

County	2012		2013		2014		2015		2016	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Jefferson	194	29.5	169	25.6	157	23.8	133	20.1	140	21.2
Madison	43	12.5	41	11.8	41	11.8	44	12.5	47	13.2
Mobile	90	21.8	91	22.0	103	24.8	79	19.0	92	22.2
Montgomery	71	31.0	70	30.9	99	43.8	98	43.3	93	41.1
Tuscaloosa	32	16.1	46	22.9	33	16.3	38	18.6	42	20.4
Statewide	680	14.1	637	13.2	681	14.0	661	13.6	672	13.8

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: All rates are per 100,000 county populations, calculated from the 2016 United States Census Population Estimates.

However, the rate of new HIV infections per 100,000 residents is often relatively high in Alabama’s rural counties compared to more urban counties (Table 3). Rates are only calculated for counties with > 12 cases. In the last five years, Chambers, Dallas, Dale, and Russell Counties are extremely rural counties (populations below 50,000) that show a higher rate at least once. Mobile and Montgomery Counties are the only non-rural counties consistently ranked among the top five and are highlighted in Table 3. The high rates seen in Alabama’s rural counties indicate a need for increased HIV prevention efforts in these areas.

Table 3. Annual Top Five County Highest Rates of Newly Diagnosed HIV Cases, Alabama 2012-2016

County	2012		2013		2014		2015		2016	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Baldwin	-	-	-	-	16	28.9	-	-	-	-
Chambers	-	-	-	-	12	35.2	-	-	-	-
Dallas	13	30.5	14	33.3	-	-	-	-	-	-
Dale	-	-	-	-	22	44.5	-	-	-	-
Houston	18	17.4	-	-	-	-	16	15.4	-	-
Jefferson	194	29.5	169	25.6	-	-	133	20.1	140	21.2
Mobile	90	21.8	91	22.0	103	24.8	79	19.0	92	22.2
Montgomery	71	31.0	70	30.9	99	43.8	98	43.3	93	41.1
Russell	-	-	-	-	-	-	-	-	15	25.8
Tuscaloosa	-	-	46	22.9	-	-	38	18.6	42	20.4
Statewide	680	14.1	637	13.2	681	14.0	661	13.6	672	13.8

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: Rates per 100,000 persons calculated using US Census Bureau 2016 population estimates. Counties highlighted in gray have been ranked consistently for all five years. **Case counts less than 12 (and accompanying rates and trends) are not included in this table because they are considered statistically unreliable and should be interpreted with extreme caution.**

D. HIV BY RACE, ETHNICITY, AND BIRTH SEX

The HIV epidemic continues to disproportionately affect Blacks in Alabama. In 2016, the rate of HIV diagnosis among both Black males and Black females is six times that of White males and White females (5.9 and 8.3, respectively) (Table 4). The newly diagnosed Black HIV rate for 2016 is two and one-half times that of the total state rate.

Table 4. Newly Diagnosed HIV Cases by Race, Ethnicity, and Birth Sex, Alabama 2016

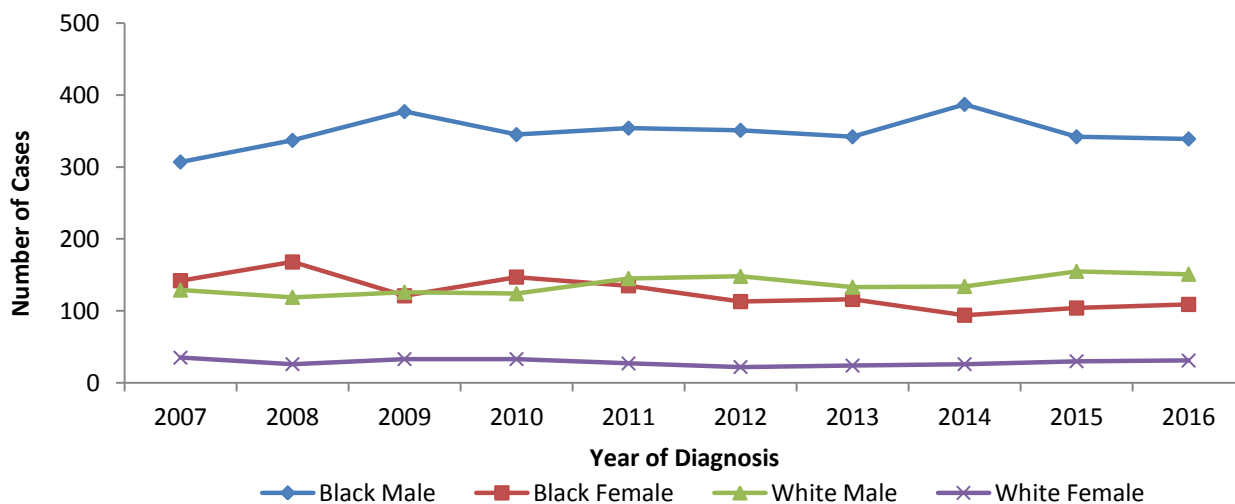
Race/Ethnicity	Males		Females		Total	
	Number (%)	Rate	Number (%)	Rate	Number (%)	Rate
Black, Not Hispanic	339 (64.8)	56.5	109 (73.2)	15.8	448 (66.7)	34.8
White, Not Hispanic	151 (28.9)	9.6	31 (20.8)	1.9	182 (27.1)	5.7
Multiple Races	15 (2.9)	42.5	5 (2.0)	-	20 (3.0)	27.6
Hispanic	16 (3.1)	14.7	3 (2.0)	-	19 (2.8)	9.3
Other/Unknown	2 (0.4)	-	1 (0.7)	-	3 (0.5)	-
Total	523 (100)	22.2	149 (100)	5.9	672 (100)	13.8

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: All rates are per 100,000 populations, calculated using race/ethnicity reported in the 2015 United States Census Estimates. Rates only calculated for race/ethnicity with ≥ 5 cases. Case counts less than 12 (and accompanying rates and trends) are considered statistically unreliable and should be interpreted with extreme caution. Percentages may not sum 100% due to rounding.

Black males continue to have the highest number of newly diagnosed HIV infections each year, averaging over one-half (52%) of all cases over the past 5 years (Figure 4). The number of newly diagnosed HIV infections among White males and Black females remained closely the same for the past five years with White males slightly greater, averaging 144 new cases per year.

Figure 4. Trends in Newly Diagnosed HIV Cases by Race and Sex, 2007-2016



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

E. HIV BY AGE GROUP

In 2016, young adults in their twenties reflected the highest age group (45.7%) among new HIV infections. (Table 5). Adults forty and over accounted for thirty-one percent of all new cases. Forty-six percent of males were diagnosed during their twenties, compared to twenty-three percent of females. Forty-six percent of women were 40 or older at diagnosis, comparable to twenty-six percent of men of that age group.

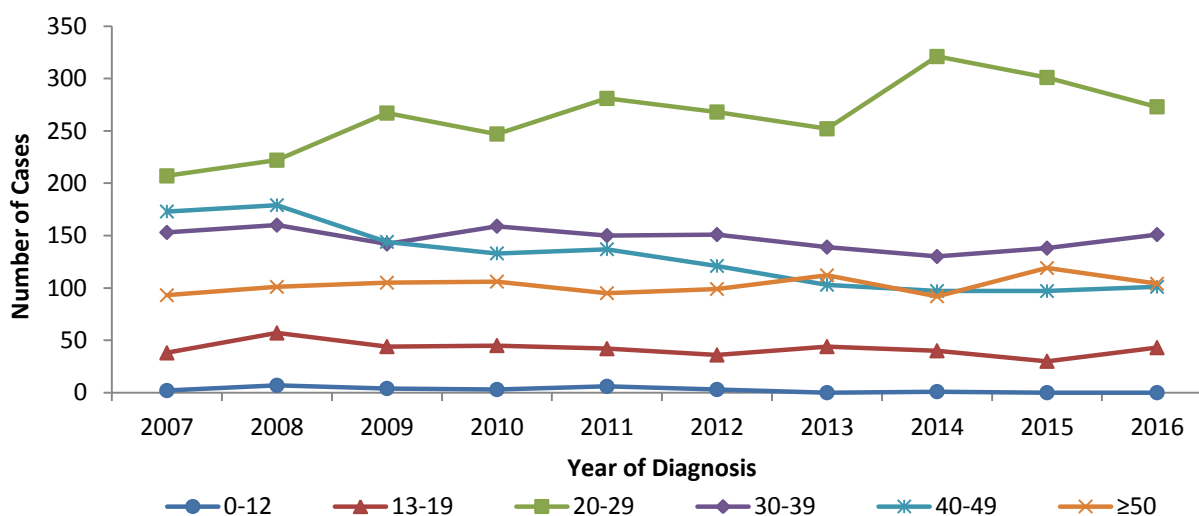
Table 5. Newly Diagnosed HIV Cases by Age Group and Sex, Alabama 2016

Age Group (years)	Males (N=523), Number (%)	Females (N=149), Number (%)	Total (N=672), Number (%)
0-12	-	-	-
13-19	34 (6.5)	9 (6.0)	43 (6.4)
20-29	239 (45.7)	34 (22.8)	273 (40.6)
30-39	113 (21.6)	38 (25.5)	151 (22.5)
40-49	62 (11.9)	39 (26.2)	101 (15.0)
≥50	75 (14.3)	29 (19.5)	104 (15.5)

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch. Percentages may not sum 100% due to rounding

By stratifying the 2016 data by age, young adults in their twenties emerged as the most affected age group (Figure 5). Prior to 2005, the majority of new HIV cases were reported among adults in their thirties. This shift in Alabama's newly diagnosed HIV population calls for increased prevention efforts targeting a younger population. A closer look at these findings is discussed in Section G of this document.

Figure 5. Trends in Newly Diagnosed HIV Cases by Age Group, Alabama 2007-2016



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

F. HIV BY MODE OF EXPOSURE

During 2016, the majority (54.5%) of newly diagnosed cases reported MSM (alone or in combination with intravenous drug use [IDU]) as the primary mode of exposure (Table 6). Data were statistically adjusted to account for missing transmission category by multiple imputation methods. An estimated 1 in 5 MSM living with HIV in Alabama are unaware of their infection and, thus, are not receiving regular medical care to manage the disease. Multiple imputation estimation suggests that as many as 459 HIV infections occurred among MSM and combined MSM/IDU in 2016.

Table 6. Newly Diagnosed HIV Cases by Mode of Exposure and Race/Ethnicity, Alabama 2016

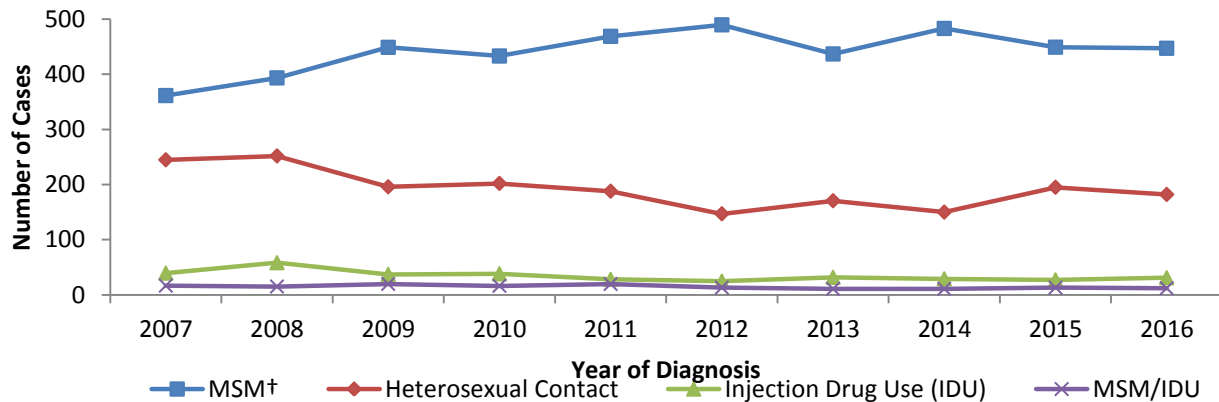
Mode of Exposure	Black Number (%)	White Number (%)	Multiple Races Number (%)	Hispanic Number (%)	Unknown Number (%)	Total Number (%)
MSM	225 (50.2)	113 (62.1)	12 (60.0)	6 (31.6)	2 (66.7)	358 (53.3)
Heterosexual Sex	134 (29.9)	30 (16.5)	7 (35.0)	5 (26.3)	1 (33.3)	177 (26.3)
IDU	5 (1.2)	11 (6.0)	0	0	0	16 (2.4)
MSM/IDU	3 (0.7)	4 (2.2)	0	1 (5.3)	0	8 (1.2)
Unknown	81(18.1)	24 (13.2)	1 (5.0)	7 (36.8)	0	113 (16.8)
Total	448 (66.7)	182 (27.1)	20 (3.0)	19 (2.8)	3 (0.5)	672 (100)

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: Imputed risk was estimated utilizing multiple imputation methodology among cases ≥13 years. Percentages may not sum 100% due to rounding.

Over the past 10 years, newly diagnosed HIV infections among MSM have slightly increased while the number of new cases reported among heterosexuals has remained stable (Figure 6). However, it is important to note that the gradual rise of HIV among MSM is not isolated. Many HIV positive MSM do not identify as being gay or bisexual, and identify as heterosexual. While recent trends indicate an increased need for HIV treatment and prevention efforts among MSM, statewide efforts should continue to target all individuals, regardless of sexual orientation.

Figure 6. Imputed Trends in Newly Diagnosed HIV Cases by Mode of Exposure, Alabama 2007-2016



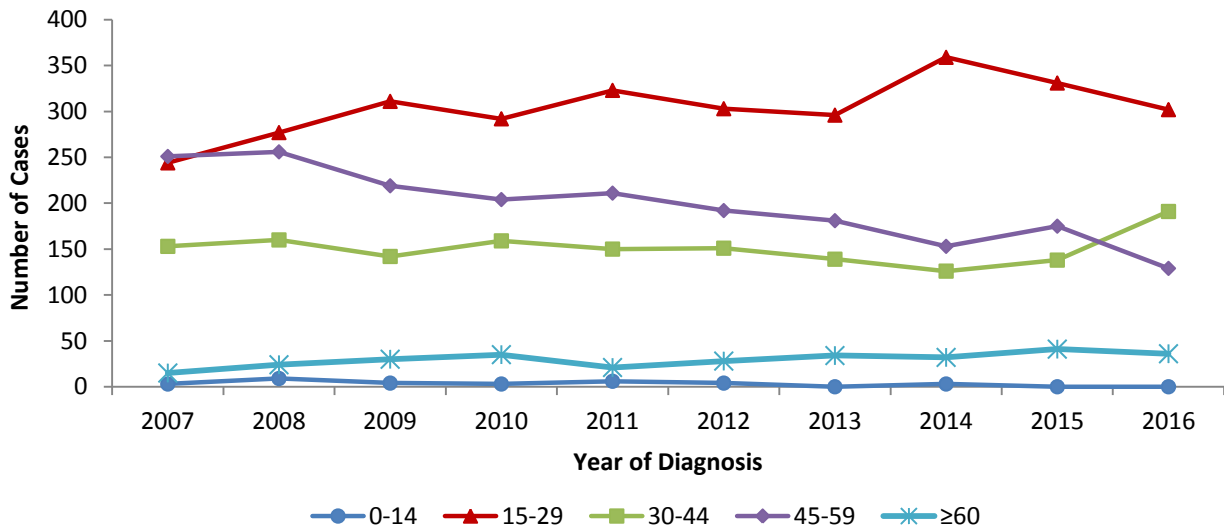
Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: Multiple imputation methodology was used to estimate unknown risk among cases ≥13 years. †MSM - Men who have Sex with Men.

G. HIGH RISK TARGET GROUPS

The Alabama population is experiencing a shift in the age distribution of newly diagnosed HIV infections as adolescents and young adults age 15-29 years are now the most affected age group (Figure 7) where earlier in the epidemic, older age groups were more affected.

Figure 7. Trends in Newly Diagnosed HIV Cases by Age Group, Alabama 2007-2016



Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Adolescents and young adults (15-29 years) represent nearly one-half (44.9%) of all newly diagnosed cases in 2016 (Table 7), although this age group accounts for only 20% of Alabama's population. Without early primary prevention education, the alarming rate of new infections among adolescents and young adults can be expected to significantly increase the total number of persons living with HIV infection in Alabama, as HIV positive individuals are becoming infected at a younger age and living longer.

Table 7. HIV Infection Rates by Age Group, Alabama 2016

Age Group (Years)	Newly Diagnosed, 2016		Persons Living with HIV, 2016	
	Number (%)	Rate	Number (%)	Rate
0-14	0(-)	-	43 (0.3)	4.8
15-29	302(44.9)	30.6	1,990 (14.8)	201.8
30-44	191 (28.4)	21.2	4,156 (31.0)	461.2
45-59	129 (19.2)	13.1	5,459 (40.7)	555.5
≥60	36 (5.4)	3.3	1,776 (13.2)	162.8
Statewide Total (includes age not reported)	672 (100)	13.8	13,437 (100)	276.3

Source: Alabama Department of Public Health, Division of STD Prevention and Control.

Note: Newly diagnosed age groups are age at diagnosis. Prevalent age groups are current age. Rates per 100,000 Alabama residents in each age group reported in United States Census Bureau, 2016 Population Estimates. Percentages may not sum 100% due to rounding.

Black males represent the majority (63%) of newly diagnosed HIV infections in the 15-29 year old age group. The 2016 Newly Diagnosed HIV rate among Black males 15-29 years old is six times that of their White counterparts. Among Persons Living with HIV in 2016, the rate among prevalent Black males aged 15-29 years is ten times that of their White counterparts.

Table 8. HIV Infection Rates Among Adolescents and Young Adults (15-29 Years) by Race, Alabama 2016

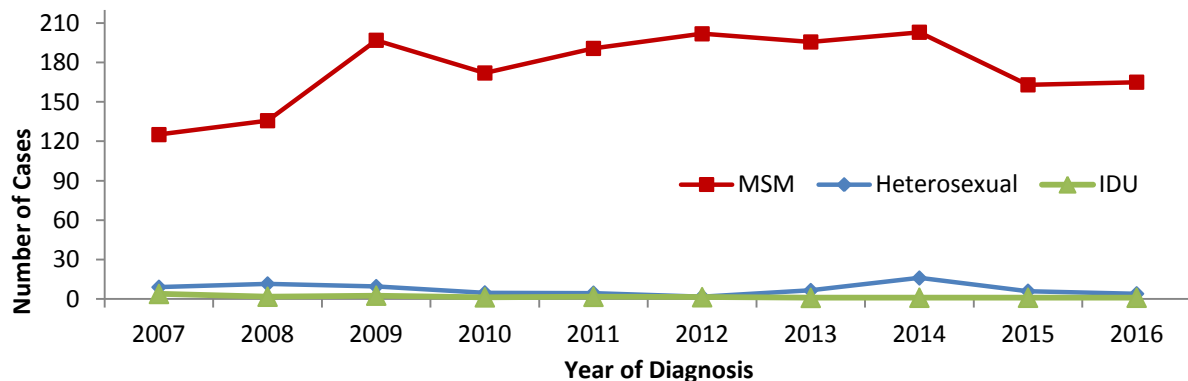
Race and Birth Sex	Newly Diagnosed, 2016		Persons Living with HIV, 2016	
	Number (%)	Rate	Number (%)	Rate
Black, Not Hispanic				
Males	200 (63.3)	133.8	1171 (76.8)	783.6
Females	32 (10.1)	20.5	260 (78.5)	166.8
White, Not Hispanic				
Males	61 (19.3)	20.3	231(15.1)	76.7
Females	11 (3.5)	3.4	43 (13.0)	14.6
Other Race or Not Identified	12 (3.8)	-	151 (8.1)	-
Total				
Males	273 (86.4)	55.2	1525 (82.2)	308.1
Females	43 (13.6)	8.8	331 (17.8)	67.7

Source: Alabama Department of Public Health, Division of STD Prevention and Control.

Note: Newly diagnosed age groups are age at diagnosis. Prevalent age groups are current age. Rates per 100,000 Alabama residents in each race and sex group reported in United States Census Bureau, 20165 Population Estimates. Percentages may not sum 100% due to rounding.

Sex with another male is the predominant risk factor reported among newly diagnosed HIV cases in adolescent and young adult Black males (Figure 8). Black MSM tend to not identify as being gay or bisexual and only report as exclusively engaging in heterosexual sex with women. Effective HIV prevention efforts must target adolescent and young adult Black men, regardless of sexual orientation.

Figure 8. Trends in Newly Diagnosed HIV Cases Among Black Males (Age 15-29 Years) by Mode of Exposure, Alabama 2007-2016



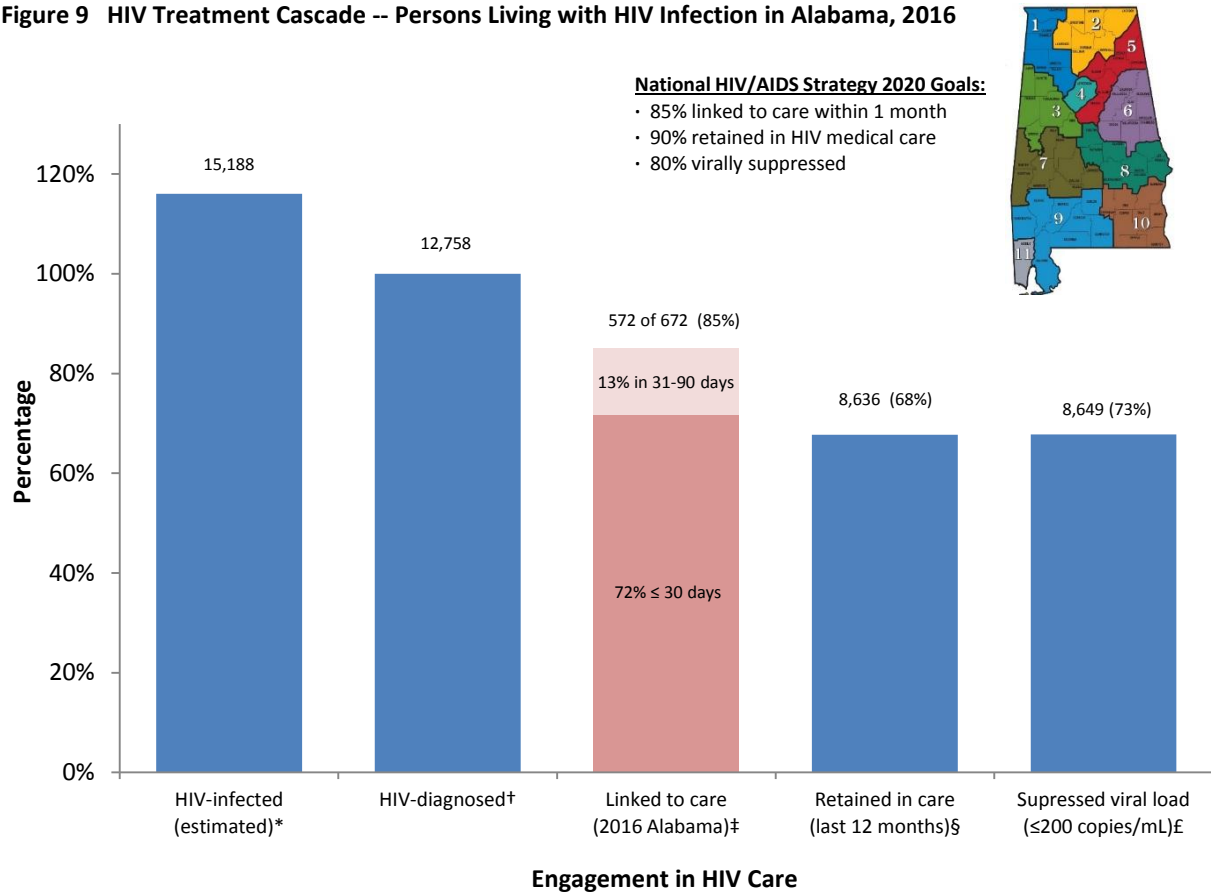
Source: Alabama Department of Public Health, Division of STD Prevention and Control.

Note: Multiple imputation methodology was used to estimate unknown risk among cases ≥ 13 years. MSM - Men who have Sex with Men, IDU - Intravenous Drug Use. MSM includes any MSM (i.e., MSM alone and in combination with IDU).

H. HIV Treatment Cascade

Guidance from the National HIV Surveillance System (NHSS) was used to create Alabama’s HIV Treatment Cascade Graph (Figure 9). During 2016, 85% of the 672 newly diagnosed HIV infections were linked to care within 3 months of diagnosis (Figure 10). Of the 15,188 persons diagnosed with HIV infection through December 31, 2015 and living as of December 31, 2016, 68% were retained in care and 73% achieved viral suppression (≤ 200 copies/mL) during 2016. Being virally suppressed—which means that HIV is under control at a level that keeps people healthy and reduces the risk of transmitting the virus to others—not only improves a person with HIV’s health and enhances their lifespan; it also significantly reduces their risk of transmitting HIV to partners. People living with HIV who adhere to antiretroviral therapy (ART) and have suppressed viral loads can reduce the risk of sexual transmission of HIV by 96%.

Figure 9 HIV Treatment Cascade -- Persons Living with HIV Infection in Alabama, 2016



*Estimated by applying Alabama’s HIV-prevalence estimate (84.0%) to the number of persons diagnosed with HIV infection through December 31, 2015 and alive as of December 31, 2016 (i.e., 84% of persons aged ≥ 13 years living with HIV infection in Alabama are aware of their infection and 16%, or 1 in 6 HIV-positive individuals, are unaware of their infection).

†Defined as persons diagnosed with HIV infection through December 31, 2015 and alive as of December 31, 2016.

‡Calculated as the percentage of persons linked to care, evidenced by ≥ 1 CD4 and/or viral load test(s) within 90 days of diagnosis, among those newly diagnosed with HIV infection during 2016.

§Calculated as the percentage of persons accessing care during 2016, evidenced by ≥ 2 CD4 and/or viral load tests collected at least 90 days apart, among those diagnosed with HIV through December 31, 2015 and alive as of December 31, 2016.

£Calculated as the percentage of persons who had suppressed viral load (≤ 200 copies/mL) during 2016, among those diagnosed with HIV through December 31, 2015 and alive as of December 31, 2016.

I. HIV UNMET NEED

Alabama’s Notifiable Disease Rules were updated in June 2011 to require reporting of all HIV infections, including asymptomatic infections, AIDS, CD4 counts, and viral loads. The update requires all private and public laboratories to report CD4 counts and viral loads (detectable and undetectable). Before the update, measuring Alabama’s unmet need had limitations as HIV viral loads, CD4 cell counts ≥ 200 copies per μl or $\geq 20\%$, and other tests indicative of HIV infection and HIV management were not reportable. Alabama’s unmet need is now considered an accurate reflection of persons living with HIV who are not receiving adequate care.

According to the Health Resources and Services Administration (HRSA), HIV/AIDS Bureau (HAB), Unmet Need for HIV primary medical care is defined as no evidence of any of the following three components of HIV primary medical care during a specified 12-month time frame: viral load testing, CD4 count, or provision of anti-retroviral therapy (ART).

Using the HRSA/HAB Unmet Need Framework and HIV surveillance data collected in the Enhanced HIV/AIDS Reporting System (eHARS), Alabama’s estimated Unmet Need during 2016 was 3,912 (Table 13). Of the 13,437 persons diagnosed with HIV in Alabama and living as of December 31, 2016, 29.1% did not access HIV primary medical care during 2016.

Table 13. Framework Utilized to Calculate Unmet Need as Determined by HRSA/HAB

HIV Population Size	Data Source	Number
A. PLWA as of December 31, 2016	eHARS	5,977
B. PLWH as of December 31, 2016	eHARS	7,460
HIV Care Patterns	Data Source	Number (%)
C. Percent PLWA receiving specified services during 2016	CD4/VL reported in eHARS	4,760 (79.6)
D. Percent PLWH receiving specified services during 2016	CD4/VL reported in eHARS	4,769 (63.9)
Unmet Need Calculations		Unmet Need
$\text{Unmet Need} = [A*(1-C)] + [B*(1-D)]$ $= [5,977*(1-0.796)] + [7,460*(1-0.639)]$		3,912 (29.1)

Source: Alabama Department of Public Health, Division of STD Prevention and Control, HIV Surveillance Branch.

Note: Specified services include any of the following three components of HIV primary medical care during the 12-month time frame from January 1, 2016 through December 31, 2016: VL testing, CD4 count, or provision of anti-retroviral therapy (ART).

Abbreviations: eHARS - Enhanced HIV/AIDS Reporting System; HAB - HIV/AIDS Bureau; HRSA - Health Resources and Services Administration; PLWA - persons living with AIDS; PLWH - persons living with HIV, non-AIDS; VL - viral load.

J. HIV PREVENTION: KNOW. MANAGE. LIVE.

While no single strategy exists to effectively control the HIV epidemic, new antiretroviral therapies (ART) are available to increase the longevity of HIV positive persons while simultaneously decreasing the likelihood of infecting others. “Treatment as Prevention”, which refers to using ART to decrease the risk of HIV transmission, has emerged as a highly effective HIV prevention and care strategy. Alabama’s “Know. Manage. Live.” campaign is an HIV awareness, prevention, and care strategy focused on HIV testing, treatment, and prevention

that identifies individuals infected with HIV, links these individuals into care, and ensures retention in care by increasing access to HIV care providers and antiretroviral medications to effectively suppress viral load. Being virally suppressed—which means that HIV is under control at a level that keeps people healthy and reduces the risk of transmitting the virus to others—not only improves a person with HIV’s health and enhances their lifespan; it also significantly reduces their risk of transmitting HIV to partners. People living with HIV who adhere to ART and have suppressed viral loads can reduce the risk of sexual transmission of HIV by 96%.

Ongoing and expanded involvement from community leaders representing Blacks, young adults and adolescents, gay and bisexual men, and other at-risk groups is needed to stop the spread of HIV and encourage all individuals to learn the facts about HIV, get tested, and take action to protect themselves and their partners. Additional information about Alabama’s “Know. Manage. Live.” Campaign and locations offering free and confidential HIV testing services are available at <https://adph.org/aids>.