

State of Alabama
HIV Surveillance
2018 Annual Report

Prepared by:

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HIV Surveillance Branch

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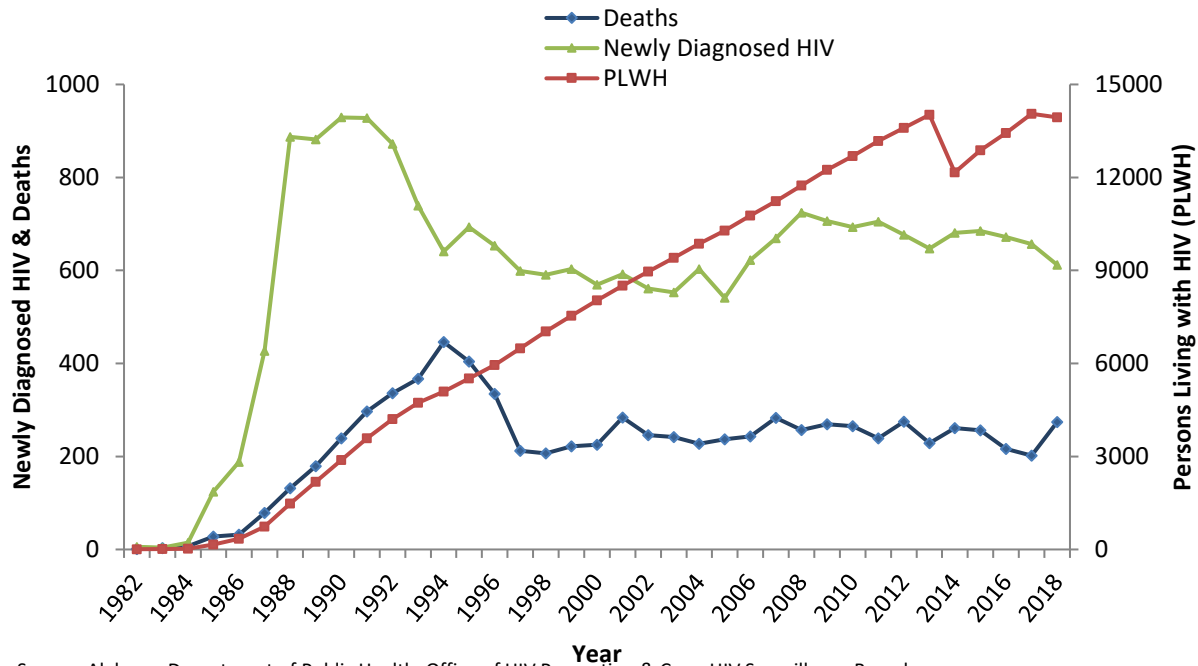
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A. BACKGROUND

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 2018, a total of 21,655 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 2018, 13,902 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 1982-2018



Source: Alabama Department of Public Health, Office of HIV Prevention & Care, 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 2,323 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), and young adults. Racial and ethnic minorities also bear a disproportionate burden of HIV. As the number of persons living with HIV increases and the number of deaths continues 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 2018.

B. HIGHLIGHTS

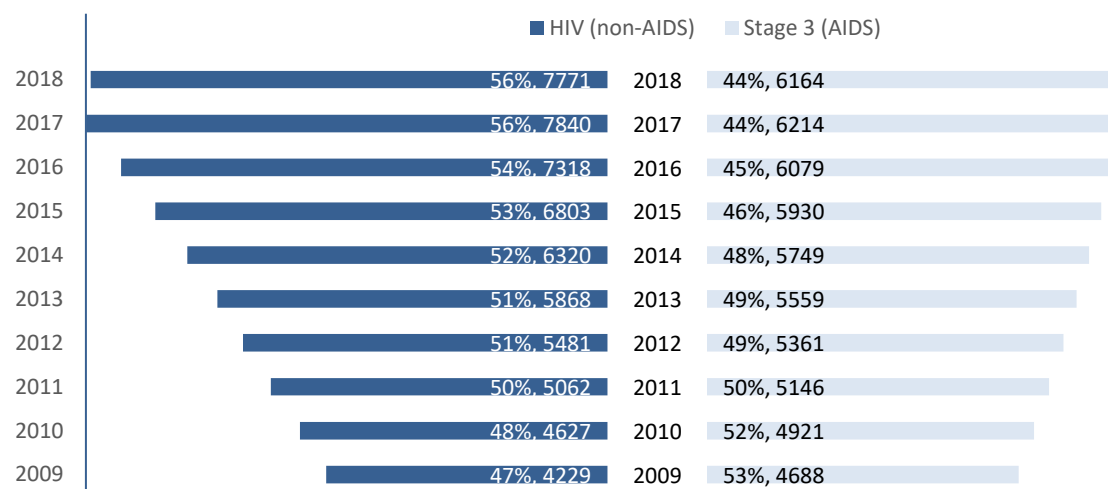
- At the end of 2018, 13,902 Alabama residents were known to be living with HIV and 6,164 (44%) of these had progressed to Stage 3 (AIDS) infection. An estimated 1 in 6 people living with HIV in Alabama are unaware of their infection, suggesting another 2,323 Alabama residents may be infected with HIV.
- 612 newly diagnosed HIV infections were reported among Alabama residents in 2018. 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 2018, more HIV cases were diagnosed in Jefferson County (n=138) than any other county, while the highest rate of HIV per 100,000 residents was greatest in Macon County (32.0).
- Alabama is experiencing a shift in the age distribution of newly diagnosed HIV infections, as adolescents and young adults (13-29 years) have emerged as the most affected age group as opposed to the 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 13 to 29 years.
- Seventy-nine percent of newly diagnosed HIV infections during 2018 were linked to care.

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 21,655 HIV infections have been diagnosed among Alabama residents since reporting began in 1982, with 13,902 HIV positive individuals currently living in Alabama as of December 31, 2018. During 2018, 612 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 2018, 6,164 (44%) known HIV positive individuals were reported be living with Stage 3 (AIDS) diagnoses.

Figure 2. Persons Living with HIV (non-AIDS) and AIDS, Alabama 2009-2018



Source: Alabama Department of Public Health, Office of HIV Prevention and Care, 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 is estimated to be Black according to the 2018 United States Census Bureau population estimates, 72% of newly diagnosed HIV cases and 64% of all persons living with HIV were Black during 2018.

Table 1. Characteristics of Newly Diagnosed and Prevalent HIV Cases, Alabama 2018

Characteristic	Newly Diagnosed Cases		Prevalent Cases	
	Number (%)	Rate	Number (%)	Rate
Gender				
Male	490 (80.1)	20.7	10,131 (73)	428.5
Female	122 (19.9)	4.8	3,771 (27.2)	149.9
Race/Ethnicity				
Black, Not Hispanic	438 (71.6)	33.8	8,833(63.6)	682
White, Not Hispanic	138 (22.5)	4.3	3,839 (27.7)	120.1
Multiple Races	20 (3.3)	23.7	697 (5)	826.2
Hispanic	14 (2.3)	6.4	455 (3.3)	209.5
Other/Unknown	2 (0.3)	1.1	78 (0.7)	43.8
Age Group (years)				
<13	4 (0.7)	-	36 (0.3)	4.6
13-19	42 (6.9)	8.2	74 (0.5)	16.8
20-29	274 (44.8)	43.7	1,880 (13.5)	282.6
30-39	130 (21.2)	25.3	2,849 (20.5)	469
40-49	80 (13.1)	13.6	3,074 (22.1)	511.2
≥50	82 (13.4)	5.2	5,989 (43.1)	333.4
Reported Risk Factor				
Men who have Sex with Men (MSM)	308 (50.3)	N/A	6,476 (46.6)	N/A
Heterosexual Contact	142 (23.2)	N/A	4,195 (30.2)	N/A
Injection Drug Use (IDU)	11 (1.8)	N/A	742 (5.3)	N/A
MSM/IDU	6(1)	N/A	460 (3.3)	N/A
Perinatal Exposure	3 (0.5)	-	4 (-)	N/A
Transfusion/Hemophilia	-	-	4 (-)	N/A
Undetermined	142 (23.2)	N/A	1,886 (13.6)	N/A
Imputed Risk among Cases ≥13 years				
MSM	404(66.1)	N/A	7,786 (55.9)	N/A
Heterosexual Contact	145 (23.7)	N/A	4,106 (29.5)	N/A
IDU	37(6.1)	N/A	1,253 (9)	N/A
MSM/IDU	21 (3.5)	N/A	645 (4.6)	N/A
Other Confirmed Risk	4 (0.7)		146 (1)	N/A
Public Health District (PHD)				
Northern	69 (11.3)	6.5	1,565 (11.3)	146.3
Northeastern	47 (7.7)	5.8	1,283 (9.2)	159.2
Jefferson	138 (22.5)	20.9	3,783 (27.2)	573.9
East Central	146 (23.9)	20.7	2,676 (19.2)	378.6
West Central	54 (8.8)	12.4	941 (6.8)	216.6
Southwestern	32 (5.2)	7.9	751 (5.4)	184.6
Southeastern	47 (7.7)	12.4	1,008 (7.3)	266.4
Mobile	79 (12.9)	19.1	1,895 (13.6)	457.8
Unknown	-	-	-	-
Total	612 (100)	13.5	13,902(100)	285.2

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, 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 2018 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.

Two-thirds of newly diagnosed HIV infections in 2018 occurred among adults in their twenties and thirties – 45% and 21%, respectively (Table 1). However, the majority of persons living with HIV infection (i.e., prevalent cases) were 50 years or older (43%).

In 2018, over one-half of the newly diagnosed cases (50%) and 47% of the prevalent cases reported male-to-male sexual activity as the primary risk factor for infection. Imputed risk estimates 66% 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 23% of newly diagnosed cases and 30% of prevalent cases. Imputed risk calculations reflect 24% of newly diagnosed cases and 30% of prevalent cases occurring in adults and adolescents (≥ 13 years) may have been due to heterosexual contact.

Seventy-one percent of all 2018 newly diagnosed and prevalent HIV cases resided in Jefferson, East Central, Northern and Mobile Public Health Districts (PHDs), where the larger cities of Birmingham, Montgomery, Huntsville, and Mobile are located (Table 1 and Figure 3).

Figure 3. Alabama Public Health District Map



Source: Alabama Department of Public Health.

Five of Alabama’s five 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 is considered a major urban county with > 200,000 residents and combined, they account for sixty-one percent of newly diagnosed infections annually. Jefferson County, with a population > 650,000, averaged 22% of newly diagnosed HIV infections from 2014-2018.

Table 2. Top Five Counties with the Highest Frequency of Newly Diagnosed HIV Cases, Alabama 2014-2018

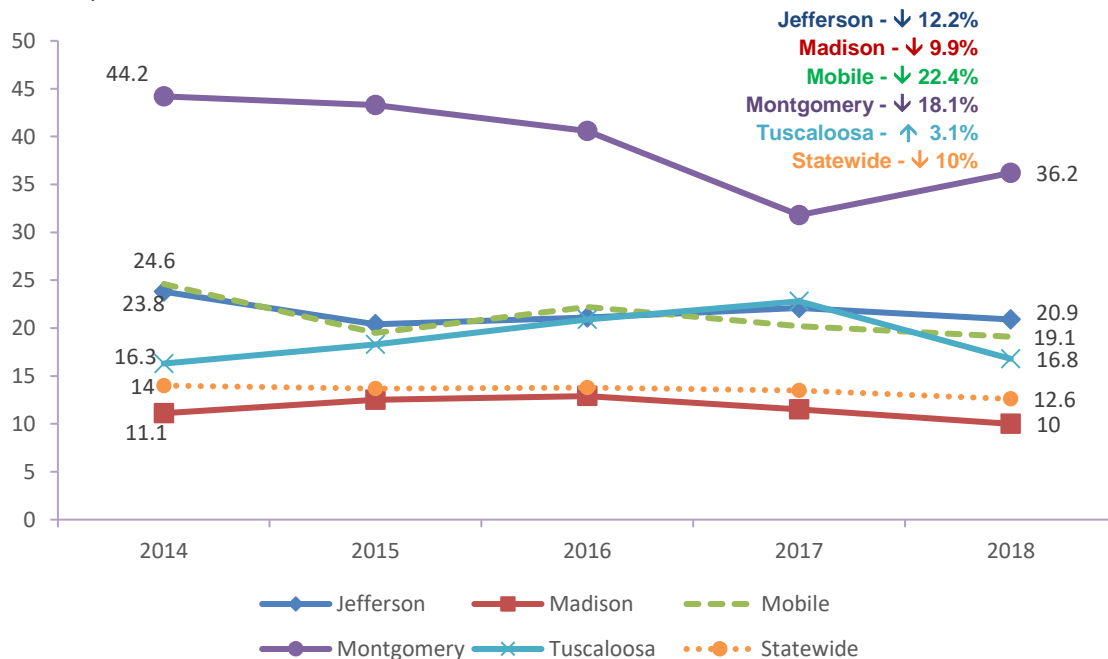
County	2014		2015		2016		2017		2018	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Jefferson	157	23.8	135	20.4	139	21.1	146	22.1	138	20.9
Madison	39	11.1	44	12.5	46	12.9	41	11.5	36	10
Mobile	102	24.6	81	19.5	92	22.2	84	20.2	79	19.1
Montgomery	100	44.2	98	43.3	92	40.6	72	31.8	82	36.2
Tuscaloosa	33	16.3	38	18.6	43	20.9	47	22.8	35	16.8
Statewide	678	14.0	667	13.7	670	13.8	657	13.5	612	12.6

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch.

Note: All rates are per 100,000 county populations, calculated from the 2018 United States Census Population Estimates.

Figure 4 shows that of the top five counties with the highest rates of new diagnoses, Montgomery County is the most heavily burdened. However, the rate of new diagnoses has decreased for all of these counties over the last five years with the exception of Tuscaloosa county (which shows a 3.1% increase). The steady decline in HIV in some counties indicates that there are lessons to be learned on what strategies can be replicated in other areas.

Figure 4. Rate of New HIV Infections in Top Five Counties with Highest Frequency of Newly Diagnosed HIV Cases, Alabama, 2014-2018



Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch.

Note: All rates are per 100,000 county populations, calculated from the 2018 United States Census Population Estimates.

D. HIV BY RACE, ETHNICITY, AND BIRTH SEX

The HIV epidemic continues to disproportionately affect Blacks in Alabama. In 2018, the rate of HIV diagnoses among Black males was eight times that of White males, while that of Black females was nine times that of White Females. (Table 3). The newly diagnosed HIV rate among Blacks 2018 is nearly three times that of the total state rate.

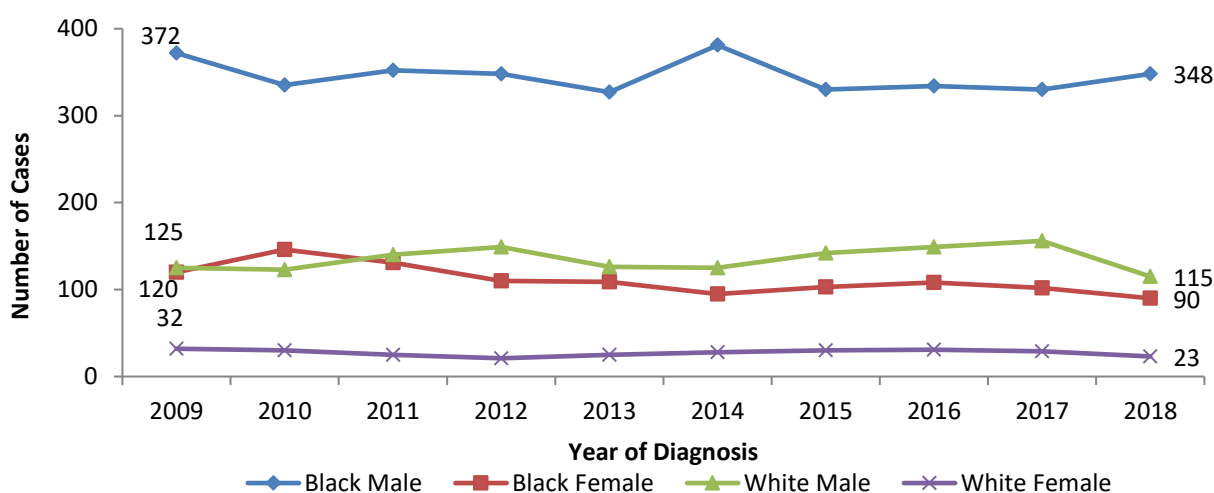
Table 3. Rate of Newly Diagnosed HIV Cases by Race, Ethnicity, and Birth Sex, Alabama 2018

Race/Ethnicity	Males	Females	Total
Black, Not Hispanic	57.8	13	33.8
White, Not Hispanic	7.4	1.4	4.3
Multiple Races	28.9	18.7	23.7
Hispanic	11.3	1	6.4
Other/Unknown	2.3	-	1.1
Total	20.7	4.8	12.5

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch. Note: All rates are per 100,000 population, calculated using race/ethnicity reported in the 2018 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 (55%) of all cases over the past 5 years (Figure 5). 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 136 new cases per year.

Figure 5. Trends in Newly Diagnosed HIV Cases by Race and Sex, 2009-2018



Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch. Note: All rates are per 100,000 county populations, calculated from the 2018 United States Census Population Estimates.

E. HIV BY AGE GROUP

In 2018, young adults in their twenties reflected the age group with the highest rate (44.8%) of new HIV infections (Table 4). Adults forty and over accounted for twenty-seven percent of all new cases. Forty-nine percent of males were diagnosed during their twenties, compared to twenty-eight percent of females. Forty-four percent of women were 40 or older at diagnosis, comparable to twenty-three percent of men of that age group.

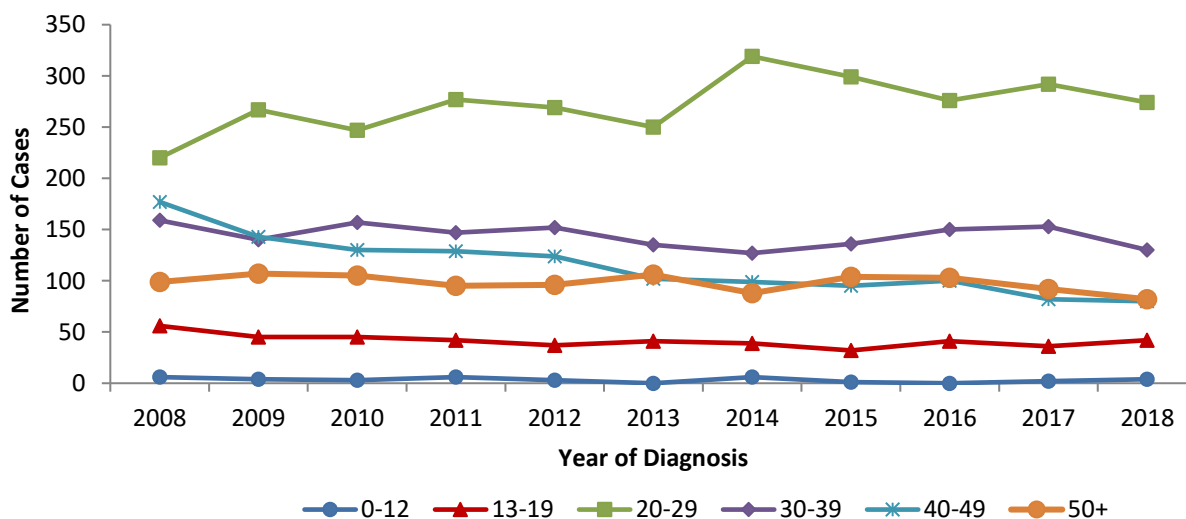
Table 4. Newly Diagnosed HIV Cases by Age Group and Sex, Alabama 2018

Age Group (years)	Males (N=490), Number (%)	Females (N=122), Number (%)	Total (N=612), Number (%)
0-12	1 (0.2)	3 (2.5)	4 (0.7)
13-19	37 (7.6)	5 (4.1)	42 (6.7)
20-29	240 (49)	34 (27.9)	274 (44.8)
30-39	104 (21.2)	26 (21.3)	130 (21.2)
40-49	50 (10.2)	30 (24.6)	80 (13.1)
≥50	58 (11.8)	24 (19.7)	82 (13.4)

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch. Percentages may not sum 100% due to rounding.

By stratifying the 2018 data by age, young adults in their twenties emerged as the most affected age group (Figure 6). 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 6. Trends in Newly Diagnosed HIV Cases by Age Group, Alabama 2009-2018



Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch.

F. HIV BY MODE OF EXPOSURE

During 2018, 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 5). 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 426 HIV infections occurred among MSM and combined MSM/IDU in 2018.

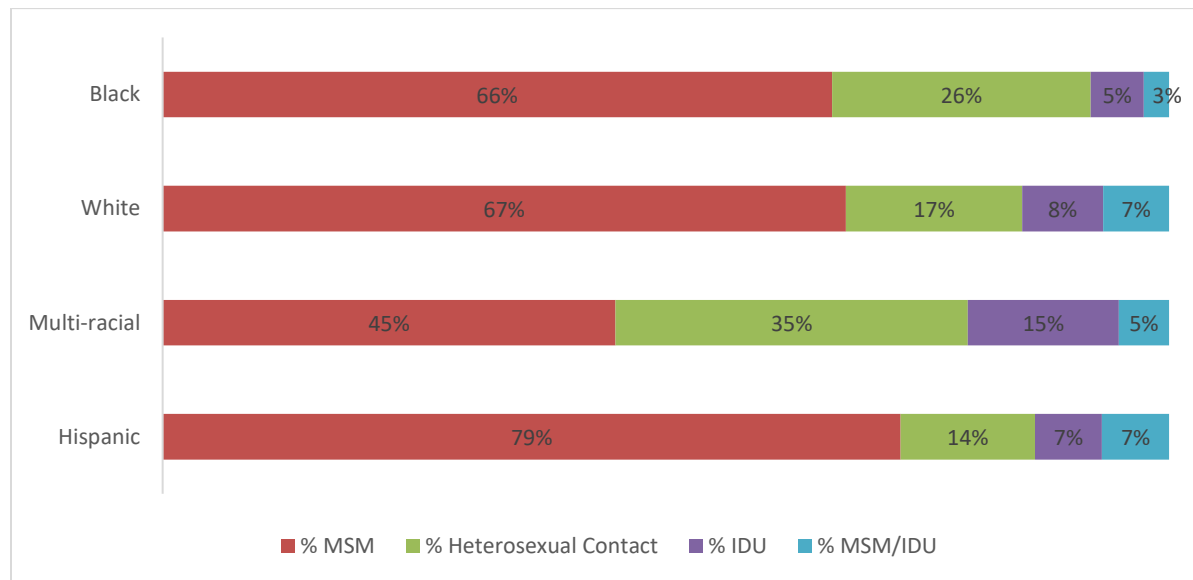
Table 5. Newly Diagnosed HIV Cases by Imputed Risk of Exposure and Race/Ethnicity, Alabama 2018

Mode of Exposure	Black	White	Multiple Races	Hispanic
MSM	290	93	9	11
Heterosexual Sex	112	24	2	2
IDU	23)	11	3	0
MSM/IDU	11	9	1	1

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch.

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

Figure 7. Mode of Exposure for New HIV Diagnoses by Race, 2018

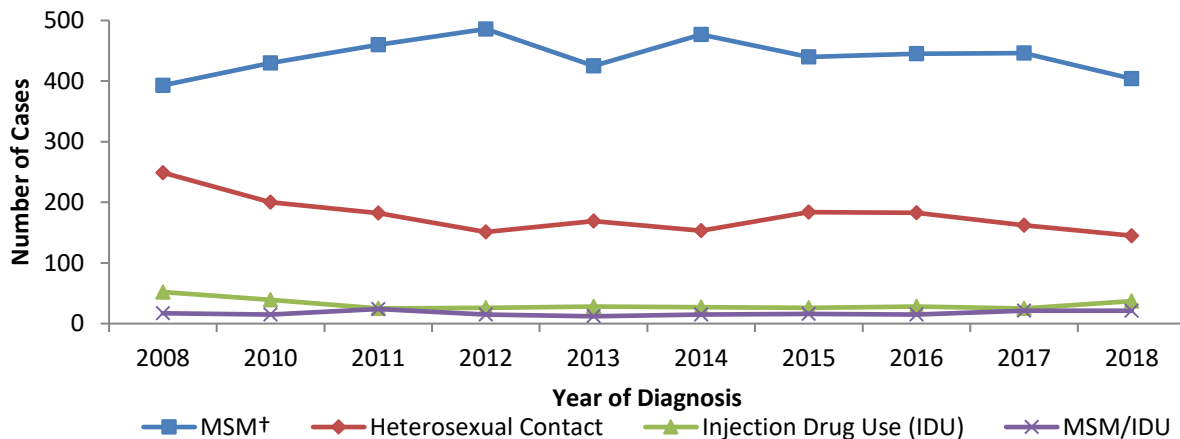


Source: Alabama Department of Public Health, Office of HIV Prevention & Care, HIV Surveillance Branch.

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 increased while the number of new cases reported among heterosexuals has decreased (Figure 8). However, it is important to note that the steady rise of HIV among MSM is not isolated. Many HIV positive MSM do not identify as being gay or bisexual but 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 8. Imputed Trends in Newly Diagnosed HIV Cases by Mode of Exposure, Alabama 2009-2018



Source: Alabama Department of Public Health, Office of HIV Prevention & Care, 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 young adults age 20-29 years are now the most affected age group (Table 6) where earlier in the epidemic, older age groups were more affected.

Young adults (20-29 years) are twice as likely to be infected with HIV as the average Alabama resident and represent 45% of all newly diagnosed cases (Table 7), although this age group accounts for only 13.6% of Alabama’s population. In contrast, the majority (65%) of persons living with HIV infection in Alabama as of December 31, 2018 were age 40 or older due to the availability of and adherence to effective antiretroviral therapies. 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 6. HIV Infection Rates by Age Group, Alabama 2018

Age Group (Years)	Newly Diagnosed, 2018		Persons Living with HIV, 2018	
	Number (%)	Rate	Number (%)	Rate
0-12	4 (0.7)	-	36 (0.3)	4.4
13-19	42 (6.9)	8.2	74 (0.5)	10.2
20-29	274 (44.8)	43.7	1880 (13.5)	258.8
30-39	130 (21.2)	25.3	2849 (20.5)	477.3
40-49	80 (13.1)	13.6	3074 (22.1)	521.7
≥50	82 (13.4)	5.2	5989 (34.2)	349.3
Statewide Total	612 (100)	13.5	13902 (100)	288.1

Source: Alabama Department of Public Health, Office of HIV Prevention & Care.

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, 2018 Population Estimates. Percentages may not sum 100% due to rounding.

Black males represent the majority (58%) of newly diagnosed HIV infections in the 20-29 year old age group. The 2018 newly diagnosed and prevalent HIV rates among Black males 20-29 years old are eight times that of their White counterparts.

Table 7. HIV Infection Rates Among Adolescents and Young Adults (20-29 Years) by Race, Alabama 2018

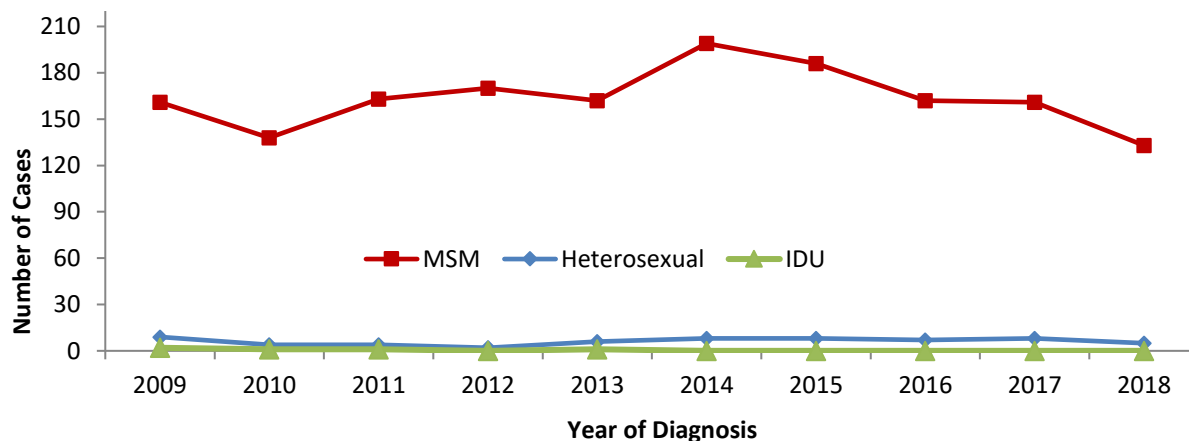
Race and Birth Sex	Newly Diagnosed, 2018		Persons Living with HIV, 2018	
	Number (%)	Rate	Number (%)	Rate
Black, Not Hispanic	438		8,833	682
Males	348 (79.5)	57.8	6,041 (68.4)	1004.1
Females	90 (20.5)	13	2,792 (31.6)	402.6
White, Not Hispanic	138		3,839	
Males	115 (83.3)	7.4	3,177 (82.8)	203.4
Females	23 (16.7)	1.4	662 (17.2)	40.5
Total	612		13902	
Males	490 (80.1)	75.7	10,131 (72.9)	428.5
Females	122 (19.9)	11.7	3,782 (27.2)	149.9

Source: Alabama Department of Public Health, Office of HIV Prevention & Care.

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, 2018 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 young adult Black males (Figure 9). 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 9. Trends in Newly Diagnosed HIV Cases Among Black Males (Age 20-29 Years) by Mode of Exposure, Alabama 2009-2018



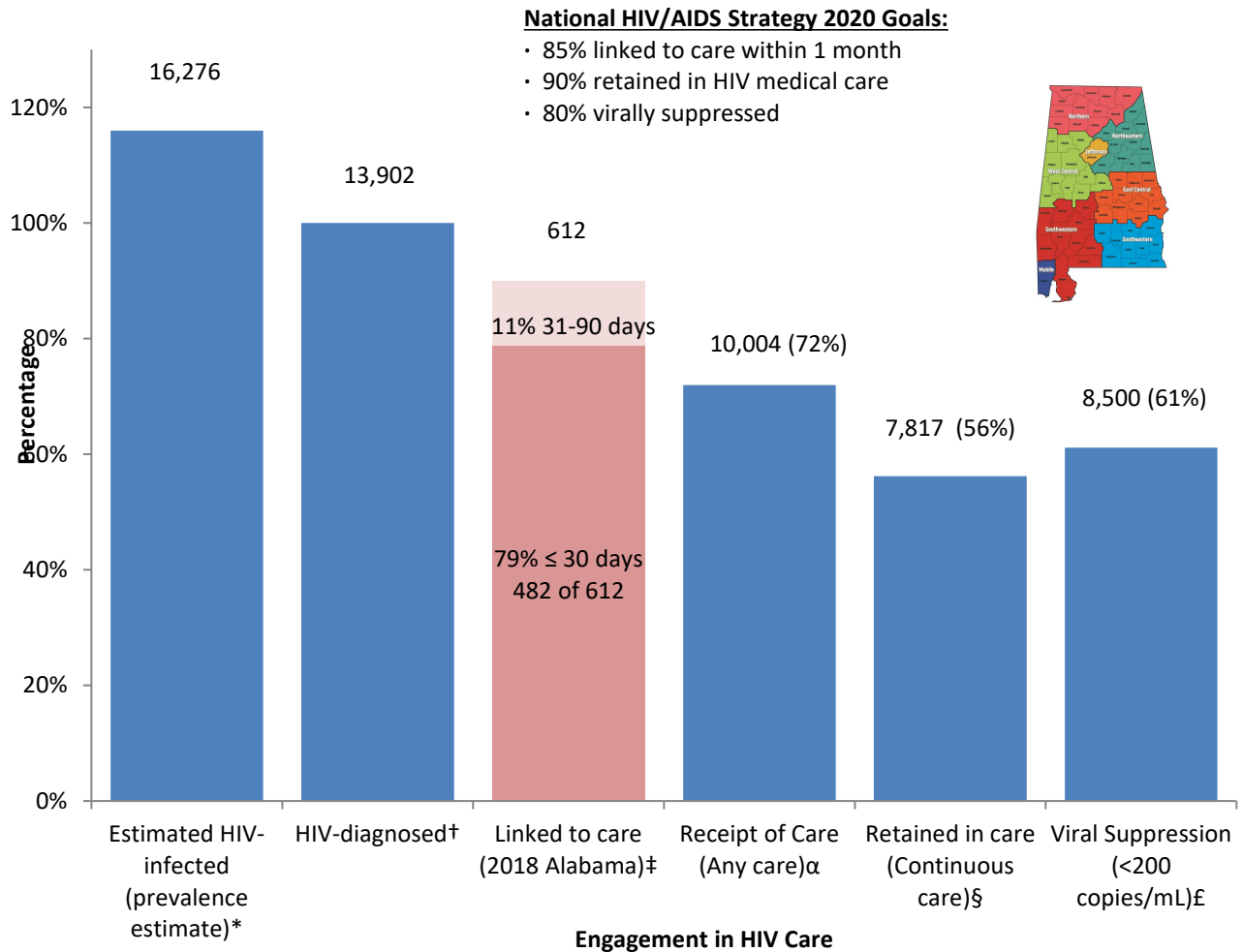
Source: Alabama Department of Public Health, Office of HIV Prevention & Care.

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 10). During 2018, 85% of the 612 newly diagnosed HIV infections were linked to care within 3 months of diagnosis (Figure 10). Of the 13,902 persons diagnosed with HIV infection through December 31, 2017 and living as of December 31, 2018, 50% were retained in care and 73% achieved viral suppression (≤ 200 copies/mL) during 2018. 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 10. HIV Treatment Cascade -- Persons Living with HIV Infection in Alabama, 2018



Alabama utilizes the National HIV Surveillance System diagnosis-based HIV care continuum methodology (i.e., the number of people living with diagnosed HIV is the denominator utilized for receipt of care, retained in care, and viral suppression). The prevalence estimate is shown in the first step as a percentage above 100 and is not utilized as the denominator for other steps in the care continuum.

* Prevalence includes both people whose infection has been diagnosed and those who are unaware of their infection (i.e., not yet diagnosed). Prevalence is estimated by applying Alabama’s HIV-prevalence estimate (83.2%) to the number of persons diagnosed with HIV infection by the end of 2017 and living as of December 31, 2018 (i.e., 83.2% of persons aged ≥13 years living with HIV infection in Alabama are aware of their infection and 16.8%, or approximately 1 in 6 HIV-positive individuals, are unaware of their infection). Source of Alabama’s prevalence estimate: [HIV Surveillance Report, Estimated HIV Incidence and Prevalence in the United States 2014-2018](#), Table 13. 2018 (most recent year available).

† HIV-Diagnosed measures the percentage of the total number of people living with HIV whose infection has been diagnosed. HIV-diagnosed is defined as the number of persons diagnosed with HIV infection by the end of 2017 and living as of December 31, 2018 (i.e., a person must be living with HIV for at least 12 months to measure progress along the HIV care continuum).

‡ Linked to care is calculated differently from other steps in the continuum and cannot be directly compared to other steps. Linked to care is calculated as the percentage of people receiving a diagnosis of HIV in a given calendar year (during 2018) who had ≥1 CD4 and/or viral load test within 30 days (1 month) of diagnosis. Although linked to care within 90 days (3 months) is no longer considered successful linkage to care, it is depicted for a historical comparison.

α Receipt of medical care is defined as ≥1 test (CD4 or viral load). Receipt of care is calculated as the percentage of persons living with HIV who accessed **any** care during 2018, evidenced by ≥1 CD4, viral load, and/or HIV genotype test collected during 2018.

§ Retained in care is defined as ≥2 tests (CD4 or viral load) performed at least 3 months apart. Retention in care is calculated as the percentage of persons living with HIV who accessed **continuous** care during 2018, evidenced by ≥2 CD4, viral load, and/or HIV genotype tests collected at least 90 days apart during 2018.

£ Viral suppression is defined as <200 copies/mL on the most recent viral load test in 2018. Viral suppression is calculated as the percentage of persons living with HIV who had a suppressed viral load (<200 copies/mL) at the **last** viral load collected during 2018.

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) and 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 2018 was 3,919 (Table 9). Of the 13,902 persons diagnosed with HIV in Alabama and living as of December 31, 2018, 28.2% did not access HIV primary medical care during 2018.

Table 9. Framework Utilized to Calculate Unmet Need as Determined by HRSA/HAB

HIV Population Size	Data Source	Number
A. PLWA as of December 31, 2018	eHARS	6,162
B. PLWH as of December 31, 2018	eHARS	7,740
HIV Care Patterns	Data Source	Number (%)
C. Percent PLWA receiving specified services during 2018	CD4/VL reported in eHARS	5,659 (91.8)
D. Percent PLWH receiving specified services during 2018	CD4/VL reported in eHARS	4,345(55.9)
Unmet Need Calculations		Unmet Need
$\text{Unmet Need} = [A*(1-C)] + [B*(1-D)]$ $= [6,162*(1-0.918)] + [7,740*(1-0.559)]$		3,919 (28.2)

Source: Alabama Department of Public Health, Office of HIV Prevention & Care, 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, 2018 through December 31, 2018: 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 <http://www.alabamapublichealth.gov/hiv/>.

Appendix

HIV CASES AMONG PERSONS RESIDING IN ALABAMA AT DIAGNOSIS BY PUBLIC HEALTH DISTRICT AND COUNTY

CHARACTERISTIC	<i>Finalized 2018 - (January 1 - December 31)</i>					
	Newly Diagnosed		Prevalent Cases		Cumulative Cases	
	Cases	% of Total	Cases	% of Total	Cases	% of Total
Race/Ethnicity						
Black	438	71.6	8833	63.5	13784	63.7
White	138	22.5	3839	27.6	6399	29.5
Hispanic	14	2.3	455	3.3	487	2.2
Multi-race	20	3.3	697	5.0	859	4.0
Other/Unknown	2	0.3	78	0.6	126	0.6
Total	612	100.0	13902	100.0	21655	100.0
Gender						
Male	490	80.1	10131	72.9	16318	75.4
Female	122	19.9	3771	27.1	5337	24.6
Total (unknowns excluded)	612	100.0	13902	100.0	21655	100.0
Age (Years)						
<13	4	0.7	36	0.3	159	0.7
13-19	42	6.9	74	0.5	1085	5.0
20-24	145	23.7	561	4.0	3693	17.1
25-29	129	21.1	1319	9.5	4054	18.7
30-39	130	21.2	2849	20.5	6629	30.6
40-49	80	13.1	3074	22.1	3801	17.6
≥50	82	13.4	5989	43.1	2234	10.3
Total	612	100.0	13902	100.0	21655	100.0
Adult/Adolescent Exposure (≥13 years)						
Men who have Sex with Men (MSM)	308	50.7	6476	47.0	9699	45.1
Heterosexuals	142	23.4	4195	30.4	5930	27.6
Injection Drug Users (IDU)	11	1.8	742	5.4	1890	8.8
MSM/IDU	6	1.0	460	3.3	1153	5.4
Hemophilia/Coagulation Disorder	0	0.0	11	0.1	77	0.4
Mother with HIV Infection	0	0.0	4	0.0	4	0.0
Transfusion/Transplant Recipient	0	0.0	4	0.0	32	0.1
Risk Not Reported/Unknown	141	23.2	1886	13.7	2711	12.6
Total (add pediatric cases to total)	608	100	13778	100	21496	100.0
Pediatric Exposure (<13 years)						
Mother with HIV Infection	3	0	103	83.1	138	86.8
Hemophilia/Coagulation Disorder	0	0	3	2.4	7	4.4
Transfusion/Transplant Recipient	0	0	0	0.0	1	0.6
Risk Not Reported/Unknown	1	0	18	14.5	13	8.2
Total	4	0	124	100.0	159	100

HIV CASES AMONG PERSONS RESIDING IN ALABAMA AT DIAGNOSIS BY PUBLIC HEALTH DISTRICT AND COUNTY

Public Health District	Finalized 2018 - (January 1 - December 31)					
	Newly Diagnosed		Prevalent Cases		Cumulative Cases	
	Cases	% of Total	Cases	% of Total	Cases	% of Total
Northern	69	11.3	1565	11.3	2115	9.9
East Central	146	23.9	2676	19.2	4499	21.0
West Central	54	8.8	941	6.8	1350	6.3
Jefferson	138	22.5	3783	27.2	5908	27.6
Northeastern	47	7.7	1283	9.2	1423	6.6
Southeastern	47	7.7	1008	7.3	1491	7.0
Southwestern	32	5.2	751	5.4	1211	5.7
Mobile	79	12.9	1895	13.6	3420	16.0
Total (does not include unknown)	612	100.0	13902	100.0	21417	100

*****Note: Statistics should be interpreted WITH CAUTION as not all reported cases have been entered into the HIV Surveillance database.**

Effective October 1, 2017, Public Health Areas have been redistributed as eight Public Health Districts. Unknown cases are only accounted for in state total.

Newly diagnosed HIV includes newly diagnosed HIV infections during the year of interest.

Prevalent HIV includes all persons living with HIV as of December 31, 2018. Cumulative HIV includes all diagnosed HIV (living and deceased) as of December 31, 2018 based on residence at diagnosis.

Totals include unknown case counts. Females with no risk factor reported are reclassified as heterosexual exposure.

Age among newly diagnosed and cumulative cases is age at diagnosis. Prevalent age is current age among cases living as of December 31, 2018.

Public Health District represents residence at diagnosis among newly diagnosed and cumulative cases and current residence among prevalent cases.

HIV CASES AMONG PERSONS RESIDING IN ALABAMA AT DIAGNOSIS BY PUBLIC HEALTH DISTRICT AND COUNTY

PUBLIC HEALTH DISTRICT	<i>Finalized 2018 - (January 1 - December 31)</i>						
	Newly Diagnosed			Prevalent		Cumulative	
NORTHERN	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
Colbert				54	3.5	92	4.3
Cullman	8	11.6	9.7	68	4.3	109	5.2
Franklin				20	1.3	23	1.1
Jackson				34	2.2	47	2.2
Lauderdale	5	7.2	5.4	89	5.7	128	6.1
Lawrence				28	1.8	44	2.1
Limestone				121	7.7	170	8.0
Madison	36	52.2	10.0	821	52.5	1099	52.0
Marion				34	2.2	35	1.7
Marshall				130	8.3	138	6.5
Morgan				154	9.8	216	10.2
Winston				12	0.8	14	0.7
Total (unknowns excluded)	69	99	6.5	1565	100	2115	100
EAST CENTRAL	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
Autauga				105	3.9	176	3.9
Bullock				53	2.0	81	1.8
Chambers	10	6.8	29.7	116	4.3	197	4.4
Coosa				17	0.6	26	0.6
Elmore	11	7.5	13.5	185	6.9	239	5.3
Lee	21	14.4	13.0	303	11.3	424	9.4
Lowndes				52	1.9	91	2.0
Macon	5	3.4	26.7	96	3.6	171	3.8
Montgomery	82	56.2	36.2	1477	55.2	2715	60.3
Russell	7	4.8		200	7.5	286	6.4
Tallapoosa				72	2.7	93	2.1
Total	146	100	20.7	2676	100	4499	100
WEST CENTRAL	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
Bibb				43	4.6	46	3.4
Chilton				55	5.8	65	4.8
Fayette				15	1.6	26	1.9
Greene				34	3.6	53	3.9
Hale				58	6.2	73	5.4
Lamar				16	1.7	19	1.4
Perry				31	3.3	39	2.9
Pickens				56	6.0	59	4.4
Sumter				38	4.0	62	4.6
Tuscaloosa	34	63.0	16.4	514	54.6	779	57.7
Walker				81	8.6	129	9.6
Total	54	100	12.4	941	100	1350	100

HIV CASES AMONG PERSONS RESIDING IN ALABAMA AT DIAGNOSIS BY PUBLIC HEALTH DISTRICT AND COUNTY

PUBLIC HEALTH DISTRICT	Finalized 2018 - (January 1 - December 31)						
	Newly Diagnosed			Prevalent		Cumulative	
	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
JEFFERSON							
Jefferson	138	100	20.9	3783	100	5908	100
Total	138	100	20.9	3783	100	5908	100
NORTHEASTERN							
Blount	6	12.8	10.3	36	3.1	90	6.3
Calhoun	9	19.1	7.8	266	23.0	350	24.6
Cherokee				27	2.3	54	3.8
Clay				21	1.8	38	2.7
DeKalb				59	5.1	35	2.5
Cleburne				15	1.3	20	1.4
Etowah	5	10.6	4.9	75	6.5	249	17.5
Randolph				16	1.4	37	2.6
Shelby	6	12.8	2.8	327	28.2	242	17.0
St. Clair	5	10.6	5.7	121	10.4	56	3.9
Talladega	8	17.0		196	16.9	252	17.7
Total	47	100	5.8	1159	100.0	1423	100.0
SOUTHEASTERN							
Barbour	6	13.3	23.7	110	11.5	154	10.9
Butler				62	6.5	84	6.0
Coffee	7	15.6	13.5	75	7.8	129	9.2
Crenshaw				21	2.2	39	2.8
Dale	13	28.9	26.4	136	14.2	243	17.2
Geneva				35	3.7	52	3.7
Henry				40	4.2	59	4.2
Houston	12	26.7	11.5	360	37.7	490	34.8
Pike				117	12.2	159	11.3
Total	45	100	11.9	956	100	1409	100
SOUTHWESTERN							
Baldwin	14	43.8	6.6	328	43.7	509	42.0
Choctaw				25	3.3	40	3.3
Clarke				39	5.2	52	4.3
Conecuh				28	3.7	75	6.2
Dallas	8	25.0	20.4	155	20.6	266	22.0
Escambia				76	10.1	95	7.8
Marengo				25	3.3	47	3.9
Monroe				34	4.5	61	5.0
Washington				14	1.9	29	2.4
Wilcox				27	3.6	37	3.1
Total (unknowns excluded)	32	100	7.9	751	100	1211	100

HIV CASES AMONG PERSONS RESIDING IN ALABAMA AT DIAGNOSIS BY PUBLIC HEALTH DISTRICT AND COUNTY

PUBLIC HEALTH DISTRICT	Finalized 2018 - (January 1 - December 31)						
	Newly Diagnosed			Prevalent		Cumulative	
MOBILE	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
Mobile	79	100	19.1	1895	100	3420	100
Total	79	100	19.1	1895	100	3420	100
STATE TOTAL	Cases	% of Total	Rate	Cases	% of Total	Cases	% of Total
Alabama	612	100	12.6	13902	100	21655	100
Total (unknowns included here)	612	100	12.6	13902	100	21655	100

*****Note: Statistics should be interpreted WITH CAUTION as not all reported cases have been entered into the HIV Surveillance database.**

Effective October 1, 2017, Public Health Areas have been redistributed as eight Public Health Districts. Unknown cases only accounted for in state total.

To ensure statistically significant data, reported numbers less than 12, as well as estimated numbers (and accompanying rates and trends) based on these numbers, should be interpreted with caution because these numbers have underlying relative standard errors greater than 30% and are considered unreliable.

Newly diagnosed HIV includes newly diagnosed HIV infections during the year of interest.

Prevalent HIV includes all persons living with HIV as of December 31, 2018. Cumulative HIV includes all diagnosed HIV (living and deceased) as of December 31, 2018 based on residence at diagnosis.

Females with no risk factor reported are reclassified as heterosexual exposure.

Age among newly diagnosed and cumulative cases is age at diagnosis. Prevalent age is current age among cases living as of December 31, 2018.

Public Health District represents residence at diagnosis among newly diagnosed and cumulative cases and current residence among prevalent cases.

Current residence was updated April 2015 and reflects cases that migrated to other states/jurisdictions. This accounts for recent decreases in prevalent cases.