Virginia HIV

Epidemiologic Profile

2020

Acknowledgements

ACKNOWLEDGMENTS

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Abbreviations

ACA-Affordable Care Act

ADAP- AIDS Drug Assistance Program

ART—Antiretroviral therapy

BRFSS—Behavioral Risk Factor Surveillance System

CBO—Community Based Organization

CDC—Centers for Disease Control and Prevention

CDR—Cluster Detection and Response

CHARLII—Comprehensive HIV/AIDS Resources and Linkages for Individual Experiencing Incarceration

CHC—Community Health Centers

CHR—Comprehensive Harm Reduction

DDP—Division of Disease Prevention

DMAS—Department of Medical Assistance Services

DtC—Data to Care

EMA—Eligible Metropolitan Areas

HCV— Hepatitis C virus

HUD—U.S. Department of Housing and Urban Development

IDU—Injection Drug Use

MMP—Medical Monitoring Program

MSM—Men who have sex with men

NH—Non-Hispanic

NHBS—National HIV Behavioral Surveillance

PID—Pelvic Inflammatory Disease

PWH—People with HIV

PrEP—Pre-exposure prophylaxis

RWHAP B—Ryan White HIV/AIDS Program Part B

SDH—Social Determinants of Health

SNAP—Supplemental Nutrition Assistance Program

STI—Sexually Transmitted Infections

TB—Tuberculosis

TGA—Transitional Grant Area

VA MAP—Virginia Medication Assistance Program

VDH—Virginia Department of Health

WIC—Women, Infant, Children

Virginia Socio-Demographic Characteristics

The Commonwealth of Virginia is a medium-size southeastern state, consisting of 95 counties and 38 independent cities. The Commonwealth is divided into five health regions: Central, Eastern, Northern, Northwest, and Southwest and 35 health districts (Figure 1).

Figure 1: Virginia Health Regions

Population Growth Trends

Population estimates and all other state- or national-level demographic data in this report are from The United States Census Bureau's 2010 and 2020 estimates[1] unless noted. Virginia's population grew by 7.4% from 2010 to 2020, from 8,001,024 to 8,590,563 people. The United States population also grew by 7.4%, from 308,745,538 to 331,449,281 people. Virginia comprised 2.6% of the national population in both 2010 and 2020.

Age and Gender

Virginia's population is aging. The percentage of Virginians aged 60 years or older grew from 2010 to 2020 as baby boomers, who were 45-65 years old in 2010, moved into the 55-75 year age group in 2020 (Figure 2). In contrast, the proportion of Virginians who are children or young adults decreased from 2010 to 2020.

Virginia's population was 50.8% female and 49.2% male in 2020. The gender divide becomes more pronounced in older age groups; of Virginians aged 75 years or older in 2020, 58.4% were female and 41.6% were male.

Figure 2: Age of Virginians, 2020 vs. 2010 (percentage of total population)
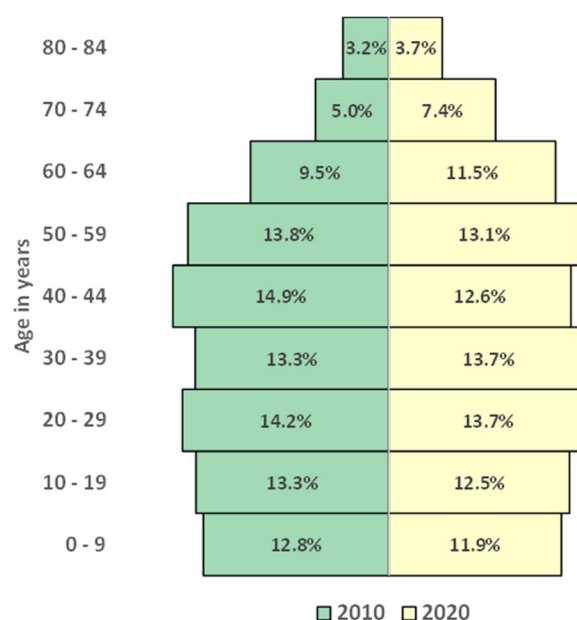
Race and Ethnicity

White, Black/African American, Asian, and Native American races are comprised of individuals who do not identify as Hispanic

The racial and ethnic makeup of Virginia's population shifted in recent years, particularly as greater proportions of Virginians identify as Hispanic or Asian. In 2020, 62.1% of Virginia's population identified as White, 20.0% as Black/African American, 10.0% as Hispanic or Latinx, 7.6% as Asian, and 0.3% as Native American (Figure 3).

The percentage of Virginians identifying as White decreased by 3.9% from 2010 to 2020, while the percentage of Virginians identifying as Asian or Hispanic grew by 1.6% and 2.1% respectively.

Figure 3: Self-identified race/ethnicity of Virginians, 2020
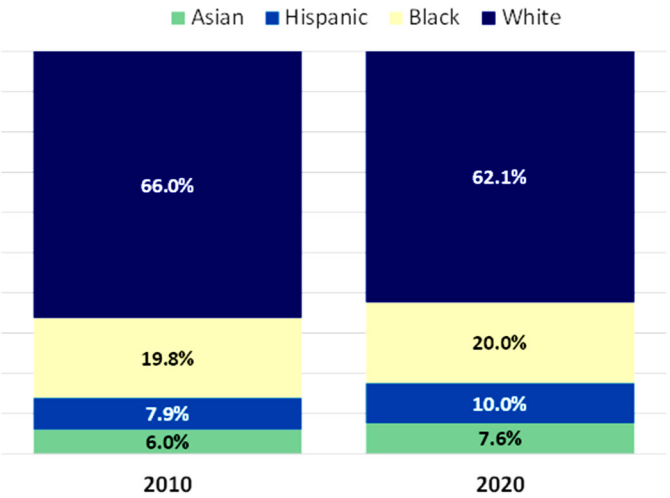
Native American race omitted from visualization due to low values (0.3% in 2010 and 0.3% in 2020).

While the majority of Virginia residents identified as White in 2020, the White population experienced the slowest growth rate with an increase of 1.1% when compared to 2010. In contrast, the Asian and Hispanic populations each grew by more than 35% from 2010 to 2020 (Figure 3).

The following page displays the health regions and health districts in Virginia.

Figure 4: Virginia population 2020 vs. 2010 by race/ethnicity

CENTRAL	EASTERN	SOUTHWEST	NORTHERN	NORTHWEST
Chesterfield Chesterfield Colonial Heights Powhatan **Crater** Dinwiddie Emporia Greensville Hopewell Petersburg Prince George Surry Sussex **Chickahominy** Charles City Goochland Hanover New Kent **Henrico** Henrico **Piedmont** Amelia Buckingham Charlotte Cumberland Lunenburg Nottoway Prince Edward **Richmond** Richmond (City) **Southside** Brunswick Halifax Mecklenburg	**Chesapeake** Chesapeake **Eastern Shore** Accomack Northampton **Hampton** Hampton **Norfolk** Norfolk **Peninsula** James City Newport News Poquoson Williamsburg York **Portsmouth** Portsmouth **Three Rivers** Essex Gloucester King & Queen King William Lancaster Mathews Middlesex Northumberland Richmond (County) Westmoreland **Virginia Beach** Virginia Beach **Western Tidewater** Franklin (City) Isle of Wight Southampton Suffolk	**Alleghany** Alleghany Botetourt Craig Covington Roanoke County Salem **Central Virginia** Amherst Appomattox Bedford Campbell Lynchburg **Cumberland Plateau** Buchanan Dickenson Russell Tazewell **Lenowisco** Lee Norton Scott Wise **Mount Rogers** Bland Bristol Carroll Galax Grayson Smyth Washington Wythe **New River** Floyd Giles Montgomery Pulaski Radford **Pittsylvania/ Danville** Danville Pittsylvania **Roanoke** Roanoke (City) **West Piedmont** Franklin (County) Henry Martinsville Patrick	**Alexandria** Alexandria **Arlington** Arlington **Fairfax** Fairfax (City) Fairfax (County) Falls Church **Loudoun** Loudoun **Prince William** Prince William Manassas Manassas Park	**Blue Ridge** Albemarle Charlottesville Fluvanna Greene Louisa Nelson **Central Shenandoah** Augusta Bath Buena Vista Harrisonburg Highland Lexington Rockbridge Rockingham Staunton Waynesboro **Lord Fairfax** Clarke Frederick Page Shenandoah Warren Winchester **Rappahannock** Caroline King George Spotsylvania Stafford Fredericksburg **Rappahannock/Rapidan** Culpeper Fauquier Madison Orange Rappahannock

Social Determinants of Health in Virginia

SOCIAL DETERMINANTS OF HEALTH AND HIV

Social Determinants of Health (SDH) are non-medical factors that impact a person's health. The World Health Organization describes SDH as the "conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life[2]."

Interventions targeting SDH have the power to address broad "down-stream" health disparities. Understanding and addressing the SDH associated with HIV transmission, including factors that allow people with HIV (PWH) to remain in affordable, accessible, and culturally competent medical care, is a crucial component to ending the HIV epidemic.

INSURANCE STATUS

The US Census estimates that 8.6% of Americans, or nearly 28 million people, were uninsured in 2020. Virginia was one of only five states that experienced a decrease in the number of people reporting they were uninsured, from 8.8% in 2018 to 5.5% in 2020.

The Medical Monitoring Project (MMP)[3], a survey conducted among randomly selected PWH, found that **95.7% of surveyed PWH reported having medical insurance in 2019**.

*During the COVID-19 pandemic insurance coverage varied due to loss of jobs and employer based insurance for many workers and increased Medicaid enrollments. This may have affected data utilized in this document.

Figure 1: Percent of population reporting they are uninsured
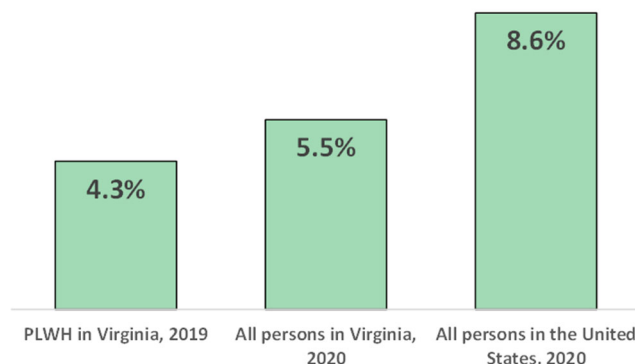
INCOME AND EDUCATION

In 2020, the median household income in the United States was $67,521, a 36.6% increase from 2010's median household income of $49,445. In Virginia, the median household income in 2020 was $80,615. While Virginia's median household income exceeds the national average, median household income varies significantly by county and city, ranging from a low of $30,058 in Emporia to a high of $147,111 in Loudoun County.

PWH surveyed by Virginia's MMP in 2019 had disproportionately high likelihood of experiencing poverty; 34.5% of survey participants reported living at or below the federal poverty level. In contrast, the poverty rate in Virginia in 2020 was 10.2%, which is slightly lower than the national poverty rate of 11.4%.

PWH also reported lower average levels of educational attainment compared to the general population. While 9.1% of persons 25 years and older did not have a high school diploma or GED nationwide in 2020, Virginia's 2019 MMP survey found that **14.7% of surveyed PWH had less than a high school diploma or GED**.

HOUSING

The US Department of Housing and Urban Development (HUD) estimates that 580,000 individuals nationwide were experiencing homelessness in 2020, and four out of ten homeless persons were unsheltered (e.g. living on the street or in a location unsuitable for human housing).

PWH in Virginia experience disproportionately high rates of housing instability compared to the general population. While HUD estimates that 0.07% of all Virginians experienced homelessness in 2020, Virginia's 2019 MMP survey found that that **8.2% of surveyed PWH had experienced homelessness and/or had lived in unstable housing** (e.g. living in a shelter, car, or single room occupancy hotel) within the past 12 months.

1 out of every 12 surveyed PWH in Virginia experienced **homelessness** or unstable housing in 2019.
(Virginia MMP)

REFERENCES

1. US Census Bureau. http://census.gov

2. World Health Organization, Social Determinants of Health https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

3. Virginia Medical Monitoring Project (MMP) https://www.vdh.virginia.gov/disease-prevention/disease-prevention/virginia_hiv_hepatitis_surveillance/medical-monitoring-project/

As of December 31, 2020, there were 25,635 persons, or about one in 333 Virginia residents, who have HIV. A greater number of people are now living longer with HIV due to advances in medical treatment and care. From 2016 to 2020, the number of people with HIV (PWH) in Virginia increased by about 9%. As of December 31, 2020, approximately 45% of the HIV-positive population had an AIDS-defining condition.

DIAGNOSED AND UNDIAGNOSED HIV

As of December 31, 2020, estimates show that approximately 87.4% of all Virginians aged 13 years and older with HIV have been diagnosed, with the remaining 12.6% living with undiagnosed HIV. Rates of diagnosed HIV vary by key demographics.

Knowledge of HIV Status: By Sex at Birth

More females than males with HIV know their status (90.5% and 86.5% respectively).

Figure 1: Estimated Diagnosed and Undiagnosed HIV as of 12/31/2020 by Sex at Birth

Knowledge of HIV Status: By Age

Diagnosed infection increases with each increasing age group. Only 59.6% of Virginians with HIV aged 13-24 are diagnosed, whereas 73.1% of PWH aged

25-34, 84.7% of PWH aged 35-44, 92.8% of PWH aged 45-54, and 95.8% of those aged 55 and older are diagnosed.
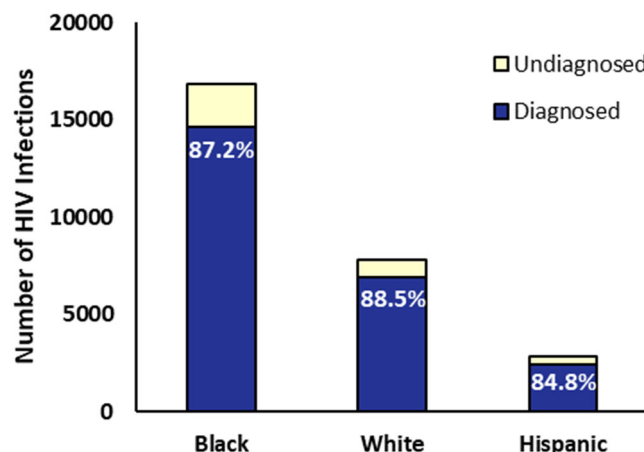
Knowledge of HIV Status: By Race/Ethnicity

By race/ethnicity, 84.8% of Hispanic/Latino PWH, 87.2% of Black/African American PWH, and 88.5% of White PWH know their status.

Figure 2: Estimated Diagnosed and Undiagnosed HIV as of 12/31/2020 by Age

Figure 3: Estimated Diagnosed and Undiagnosed HIV as of 12/31/2020 by Race/Ethnicity

Knowledge of HIV Status: By Risk

Among HIV risk factors, men who have sex with men (MSM) have the lowest proportion of diagnosed HIV (86.0%), followed by high-risk heterosexuals (88.3%), MSM and Injection drug use (IDU) (89.1%), and finally IDU only (93.9%).

The remainder of this section focuses on individuals with diagnosed HIV.

Figure 4: Estimated Diagnosed and Undiagnosed HIV as of 12/31/2020 by Risk
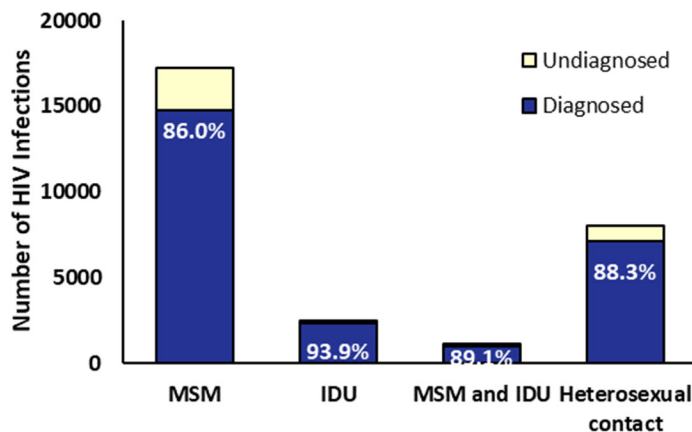
PEOPLE WITH DIAGNOSED HIV

People with Diagnosed HIV: Sex at Birth

By the end of 2020, there were 19,163 males and 6,472 females in Virginia with diagnosed HIV. Males represent 75% of the total HIV-positive population. Rates of HIV vary by sex at birth; males have HIV at a rate of 452 per 100,000 and females at a rate of 148 per 100,000 persons. Between the years of 2016 and 2020, males were approximately three times more likely to have HIV than females.

People with Diagnosed HIV: Gender Identity

As of December 31, 2020, 74% of PWH identified as male, 25% identified as female, and 1% identified as transgender (0.9% transgender women and 0.1% transgender men). The percentage of people who identified as

transgender increased from 0.8% in 2016 to 1.0% in 2020.

People with Diagnosed HIV: Current Age

As HIV medical treatment improves people are living longer with HIV. By December 31, 2020, nearly 40% of people with diagnosed HIV were ages 55 and older. Age distribution rates were highest among the 55-64 age group at 612 per 100,000, followed by the 45-54 age group at 551 per 100,000.

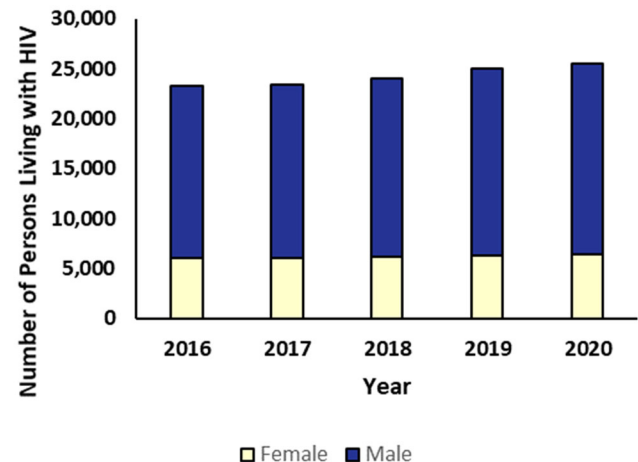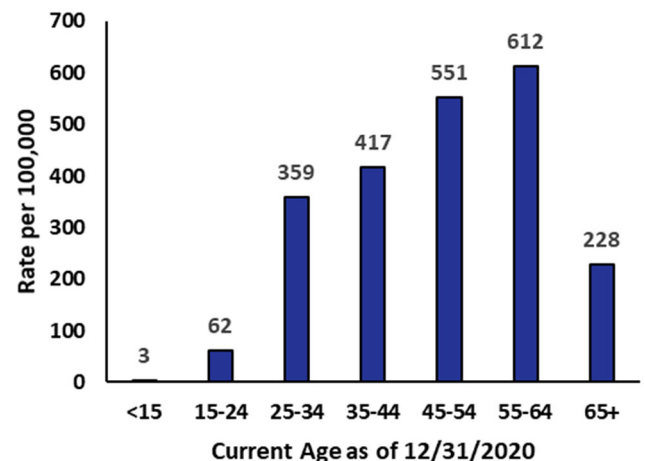### Figure 5: People with HIV by Sex at Birth, 2016-2020

Figure 6: Age Distribution for People with HIV in Virginia as of 12/31/2020

The age distribution varies by sex at birth. Among all age and sex groups, men aged 55-64 had the highest rate of HIV (949 per 100,000 persons). The highest rate among women was in the 45-54 age group (340 per 100,000 persons). Five-year trends show an aging pattern among PWH. In 2016, men aged 45-54 had the highest rate of HIV at 925 per 100,000 persons, whereas the rate of HIV in men ages 55-64 was lower at 782 per 100,000. By 2018, the rates were about the same among men aged 45-54 and men aged 55-64. In subsequent years, men aged 55-64 had the highest rate of HIV. Rates of HIV among women show a similar aging pattern, though the rate still remains highest among women aged 45-54 years.

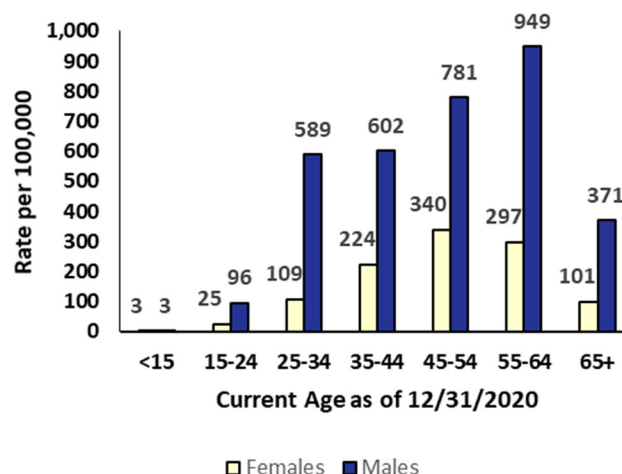**Figure 7: Age Distribution by Sex at Birth for People with HIV in Virginia as of 12/31/2020**

Table 1: Rates of People with HIV in Virginia by Year, Age at End of Year, and Sex at Birth, 2016-2020

	2016	2017	2018	2019	2020
Males					
<13	3.2	3.5	3.6	3.8	3.8
13-14	6.6	5.6	3.7	1.8	0.9
15-24	115.1	109.2	110.3	107.5	96.0
25-34	503.5	521.6	553.6	581.9	588.8
35-44	533.9	531.5	545.3	581.8	602.2
45-54	925.1	875.2	841.1	814.7	781.2
55-64	782.1	803.1	843.6	898.8	948.5
≥65	256.3	279.4	307.5	339.9	370.7
Total among Males	**417.7**	**417.5**	**427.7**	**443.7**	**451.9**
Females					
<13	2.7	2.4	2.3	1.8	2.0
13-14	8.8	12.6	7.8	8.7	5.8
15-24	30.7	28.7	27.0	23.7	24.5
25-34	116.4	112.5	110.2	113.3	108.8
35-44	259.0	245.3	240.9	231.0	224.4
45-54	337.4	330.5	335.0	338.3	340.1
55-64	235.7	249.6	257.9	279.6	297.2
≥65	64.5	72.5	83.2	91.8	100.5
Total among Females	**141.4**	**140.7**	**142.5**	**145.4**	**147.6**

People with Diagnosed HIV: Race/Ethnicity

Consistent with the epidemic nationwide, the majority of people with HIV in Virginia as of December 31, 2020 were Black/African American, non-Hispanic (58%), followed by White, non-Hispanic (27%). Approximately 10% of people with HIV were Hispanic/Latino. Black/African American, non-Hispanic persons were over six times more likely to have HIV at the end of 2020 than White, non-Hispanic persons. Hispanic/Latino persons were approximately two times more likely to have HIV than White, non-Hispanic persons.

As of 2020, 72% of all women and 53% of all men with HIV were Black/African American, non-Hispanic. Fifteen percent of all women and 32% of all men were White, non-Hispanic, and 8% of all women and 10% of all men were Hispanic/Latino of all races. Black/African American, non-Hispanic men had the highest rate of HIV with 1,239 cases per 100,000 persons. Black/African American and Hispanic males were approximately five and two times more likely to have HIV than White males, respectively. Black/African American females and Hispanic females were almost 15 times and approximately two times more likely to have HIV than White females, respectively.

Figure 8: People with HIV in Virginia by Race/Ethnicity as of 12/31/2020
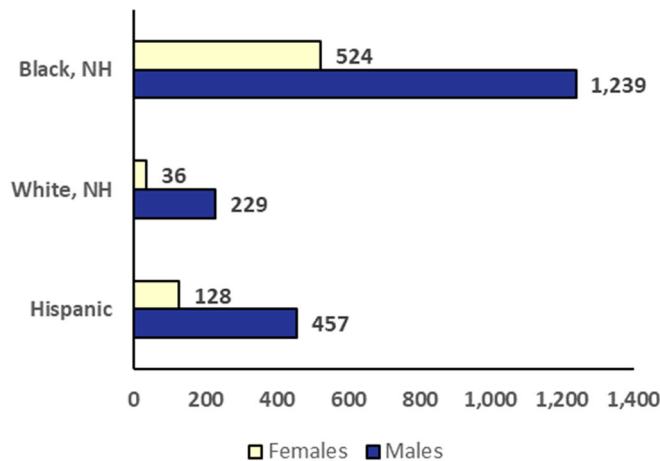
People with Diagnosed HIV: Transmission Risk

At the end of 2020, 50% of all diagnosed HIV cases were attributed to male-to-male sexual contact (MSM). Heterosexual contact represented 19% of the diagnoses, and 7% of cases were attributed to injection drug use (IDU), with an additional 3% attributed to both MSM and IDU. Approximately 20% of PWH had no reported risk (NRR) or no identified risk (NIR) for transmission. Other transmission risks (1%) included pediatric cases and blood recipients.

Figure 9: People with HIV in Virginia by Transmission Risk as of 12/31/2020
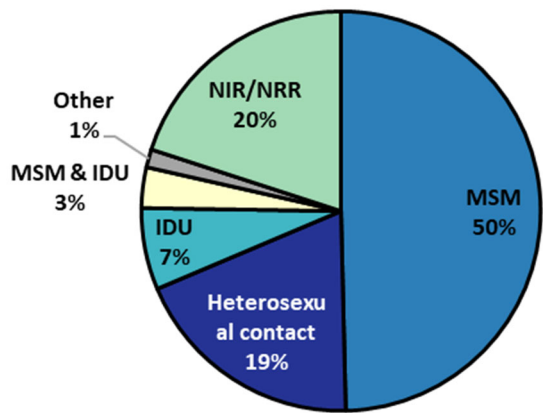
Among women, 52% of diagnosed cases were attributed to heterosexual contact, 35% had no risk factor reported or identified, 10% were attributed to injection drug use, and the remaining 3% were pediatric or blood recipient cases.

Among men, 66% of diagnosed cases were attributed to MSM only and an additional 4% were MSM and IDU. Fifteen percent of cases had no risk factor reported or identified, 8% were attributed to heterosexual contact, 5% were IDU only, and 1% were pediatric or blood recipient cases.

People with Diagnosed HIV: Region

The Commonwealth of Virginia is divided into five health regions: Central, Eastern, Northern, Northwest, and Southwest. The average rate of PWH per region is 300 cases per 100,000 persons. As of December 31, 2020, the rate of people with HIV was highest in the Eastern region with 413 cases per 100,000, followed by the Central region at 405 cases per 100,000 and the Northern region at 274 cases per 100,000 persons. The Northwest and Southwest regions had lower prevalence rates of 168 and 165 cases per 100,000 persons, respectively.

As evidenced by the map below (Figure 10), the Central, Eastern, and Northern regions have higher rates of people with HIV by locality with rates as high as 1,300 cases per 100,000 population in those regions. Lower rates occurred primarily in the Northwest and Southwest regions of the state, where the lowest rate by locality was only 42 cases per 100,000 persons.

**Figure 10: People with HIV by Locality in Virginia as of 12/31/2020**
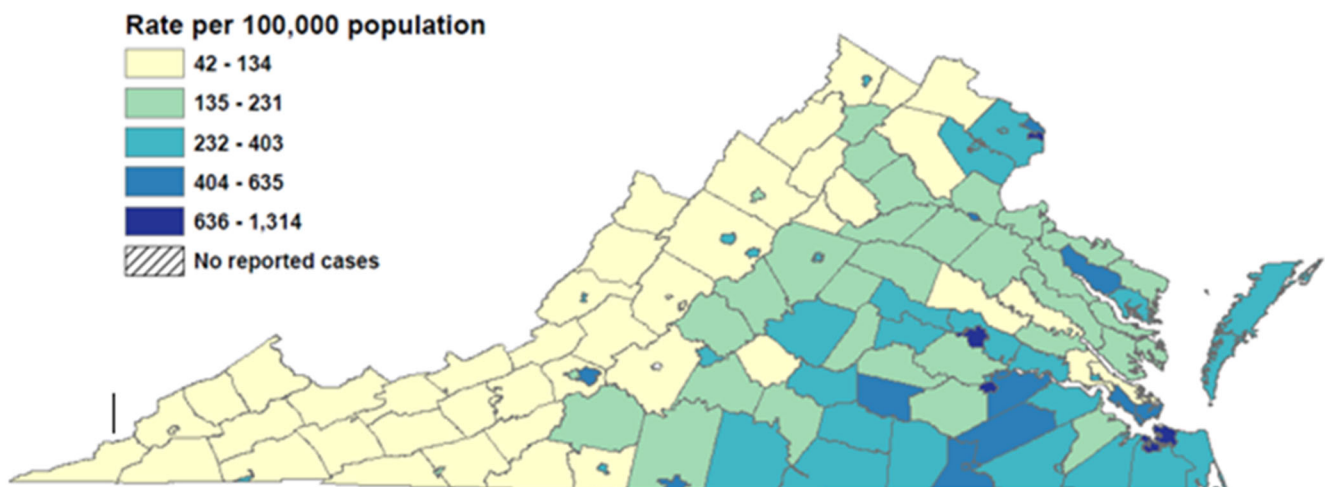
New HIV Diagnoses

In 2020, there were over 30,000 new HIV diagnoses in the United States (US). The number of new diagnoses in 2020 nationwide, and in Virginia, were underreported due to the COVID-19 pandemic. Since March 2020, the United States experienced a decline in all chronic disease medical treatment and testing in response to the pandemic, resulting in fewer new HIV diagnoses. All 2020 new diagnosis data should be interpreted within the context of the COVID-19 pandemic.

New HIV Diagnoses in Virginia

Virginia represented about 2.6% of the total population in the US and 2.3% of the total HIV-positive population in 2020. In 2020, Virginia ranked 16th in the number of annual reported new HIV diagnoses in the US and 23rd in the rate of new diagnoses. In 2020, 26% of new HIV diagnoses were AIDS diagnoses.

Figure 1: Newly Diagnosed HIV Cases and AIDS Cases in Virginia, 2016-2020
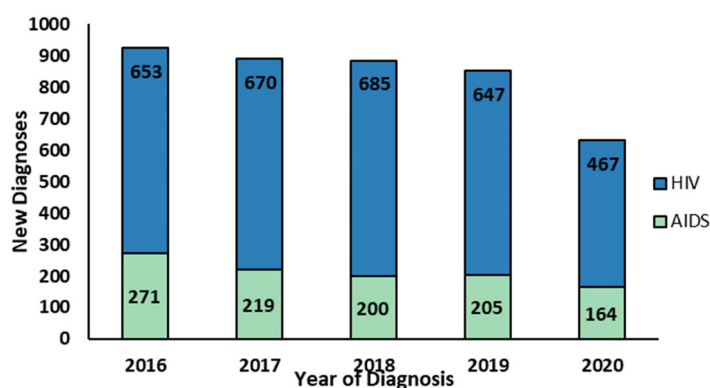
By Sex at Birth

In 2020, approximately 82% of the newly diagnosed HIV cases were among males. Rates of new diagnoses among males declined over the past five years from 18.1 per 100,000 in 2016 to 16-17 per 100,000 from 2017-2019 and 12.2 per 100,000 in 2020. Rates of new diagnoses declined among females from slightly over 4.0 per 100,000 from 2016-2018 and to 3.7 in 2019 and 2.7 in and 2020. Males were over four times more likely to be diagnosed with HIV than females in 2020.

Figure 2: Newly Diagnosed HIV Cases in Virginia by Sex at Birth, 2016-2020
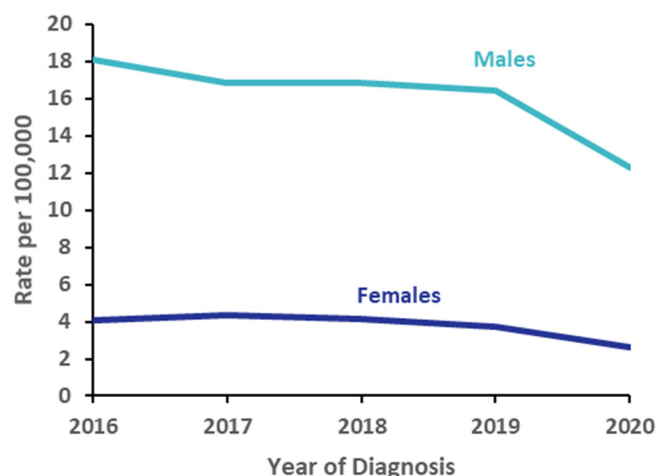
By Age at Diagnosis

The highest rate of diagnosis in 2020 among males was among the 25-34 age group (34 per 100,000), followed by the 15-24 age group (21 per 100,000) (Figure 3). Age at diagnosis for females was slightly older. The highest rates for females diagnosed with HIV occurred in the age groups 25-34, 35-44, and 44-54 (about 5.0 diagnoses per 100,000 females across all three groups). Males aged 25-34 were almost seven times more likely to be diagnosed with HIV than females of the same age.

Figure 3: Newly Diagnosed HIV Cases in Virginia by Age at Diagnosis and Sex at Birth, 2020

Table 1: Rates of HIV Diagnoses in Virginia by Year, Age at Diagnosis, and Sex at Birth, 2016-2020
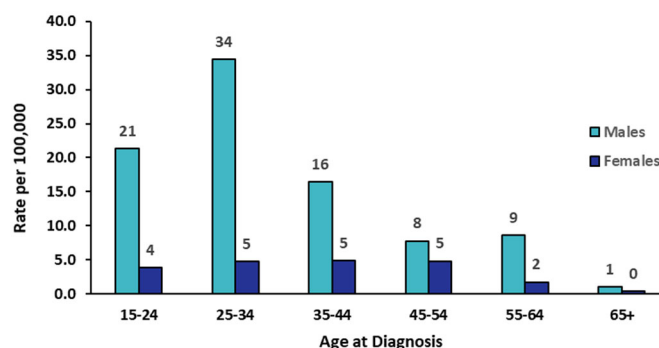
	2016	2017	2018	2019	2020
Males					
<13	0.3	0.7	0.4	0.1	0.0
13-14	0.0	0.0	0.9	0.0	0.0
15-24	33.2	32.1	30.1	27.0	21.3
25-34	49.0	41.3	45.1	44.2	34.3
35-44	20.0	22.8	21.1	22.2	16.2
45-54	17.2	14.2	13.6	14.6	7.9
55-64	8.1	8.4	9.4	8.6	8.6
≥65	2.9	2.5	2.6	3.0	1.0
Total among Males	**18.1**	**16.8**	**16.8**	**16.4**	**12.2**
Females					
<13	0.2	0.3	0.2	0.2	0.0
13-14	1.0	1.0	0.0	1.0	0.0
15-24	4.7	5.7	4.8	2.9	3.9
25-34	7.0	8.0	7.3	8.8	4.8
35-44	8.4	8.2	9.0	7.3	4.8
45-54	5.2	5.5	5.8	4.5	4.9
55-64	3.9	4.2	3.5	3.8	1.7
≥65	0.9	0.8	1.0	0.5	0.4
Total among Females	**4.1**	**4.4**	**4.2**	**3.7**	**2.7**

By Race/Ethnicity

In 2020, 66% of newly diagnosed cases were among Black/African American, non-Hispanic (NH) persons, followed by White, NH (20%) and Hispanic/Latino (11%) persons. In 2020, Black/African American persons were over 10 times more likely to be diagnosed with HIV than their White counterparts, and three times more likely than Hispanics/Latinos. The lowest rate of HIV diagnosis in 2020 was among the White population at 2.0 per 100,000 and the highest rate was among the Black/African American, NH population at 24.0 per 100,000. In 2020, Black/African American females were over nine times more likely to be diagnosed with HIV than their White counterparts, and Hispanic/Latino females were three times more likely to be diagnosed than White females (Figure 4). Among the male population, Black/African American males were about 10 times more likely to be diagnosed than White males and three times more likely than Hispanic/Latino males.

Figure 4: Newly Diagnosed HIV Cases in Virginia by Race and Sex at Birth, 2020
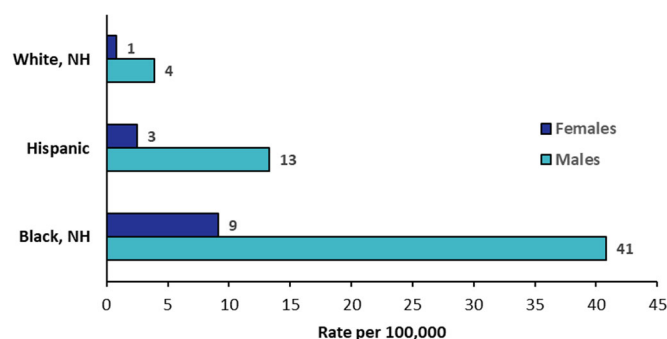
By Transmission Risk

HIV risk transmission was estimated using a multiple imputation (MI) procedure provided by CDC which probabilistically assigned those who did not report or identify a specific risk and estimated a potential risk factor for transmission. Between 2016-2020, an average of 25.5% of reported HIV cases had no reported transmission risk. These cases were estimated using the MI procedure.

From 2016 to 2020, the percent of newly diagnosed cases attributed men who have sex with men (MSM) remained relatively constant at around 69% (Figure 5). Heterosexual contact was the second most common transmission risk at about 24% followed by injection drug use (IDU) at about 4%. Approximately 3% of individuals reported both MSM and IDU as risk factors.

By Health Region

Virginia is divided into five health regions: Central, Eastern, Northern, Northwest, and Southwest. In 2020, the rate of diagnosis was the highest in the Eastern and Central regions at 12.0 and 10.0 per 100,000 persons, respectively. The lowest diagnosis rates occurred in the Southwest and Northwest regions at 4.0 per 100,000 persons in each region.

As seen in Figure 6, counties with the highest rates of persons newly diagnosed with HIV in 2020 are located primarily in the Eastern, Northern, and Central regions, with rates as high as 26.0 per 100,000 persons. Lower rates occurred primarily in the Northwest and Southwest regions, where rates were as low as 1.0 per 100,000 persons.

Late Diagnoses

Timely diagnoses are an important component of managing the HIV epidemic. Late diagnoses refer to persons who are diagnosed with AIDS at their initial diagnosis or within one year of their HIV diagnosis. Late diagnosis data lag by one year because late diagnoses require a full year of follow-up to confirm. Therefore, 2020 late diagnoses can be identified beginning in 2022.

Table 2 below shows the percentage of late diagnoses from 2016-2020 by region. Statewide, the percentage of late diagnoses improved from 2016 to 2018, from 24.7% in 2016 to 20.9% in 2018, then increased to 23.2% in 2019 and increased even further in 2020 to 27.6%. Over the last five years, the Eastern and Northern regions have had the lowest percentage of late diagnoses. The highest percentages were in the Southwest, Central and Northwest regions. In 2020, however,

the Northwest had the lowest percentage of late diagnoses.

Table 2: Percentage of New Diagnoses that are Late Diagnoses by Health Region, 2016-2020

	2016	2017	2018	2019	2020
Virginia	**24.7%**	**22.6%**	**20.9%**	**23.2%**	**27.6%**
Central	26.0%	23.8%	24.0%	21.6%	35.1%
Eastern	24.3%	21.4%	21.2%	20.7%	26.3%
Northern	22.5%	22.3%	17.1%	22.7%	22.1%
Northwest	25.8%	13.6%	26.5%	34.7%	20.8%
Southwest	30.2%	33.3%	16.7%	30.8%	32.2%

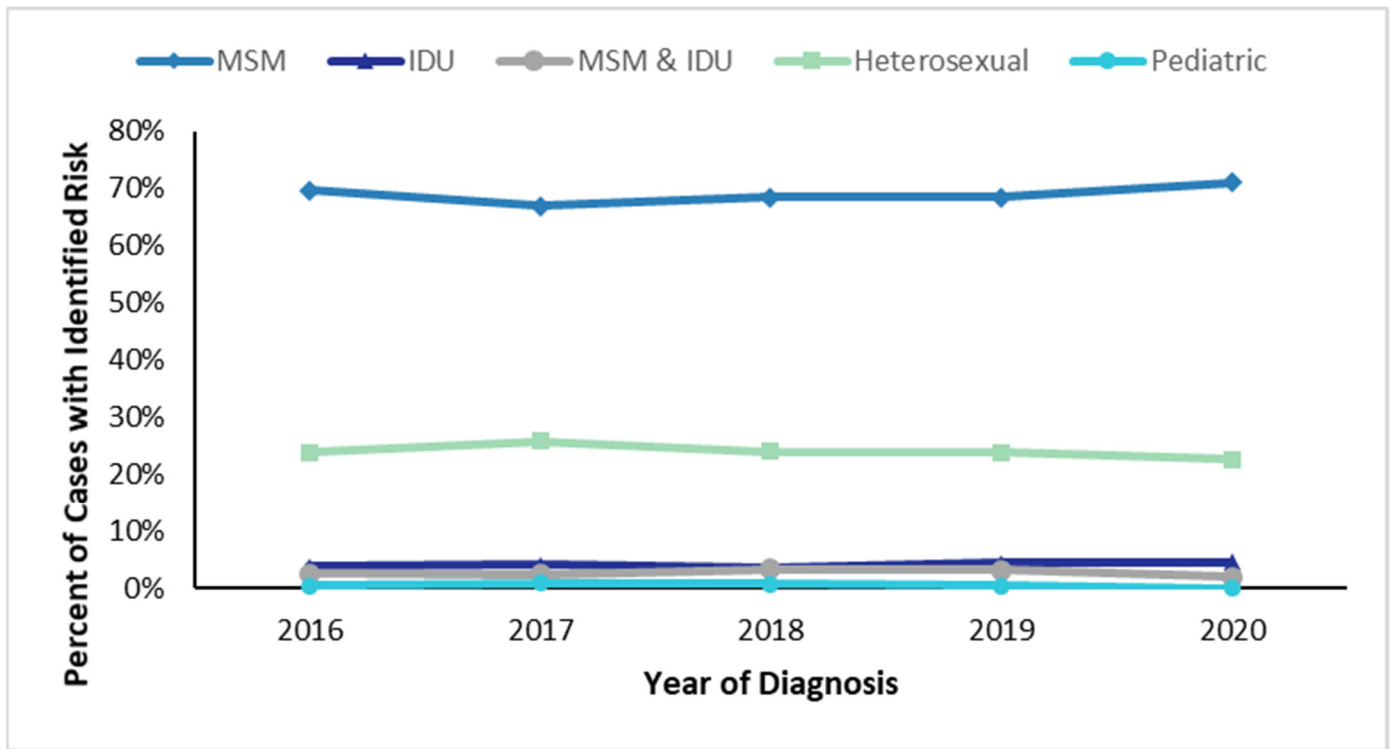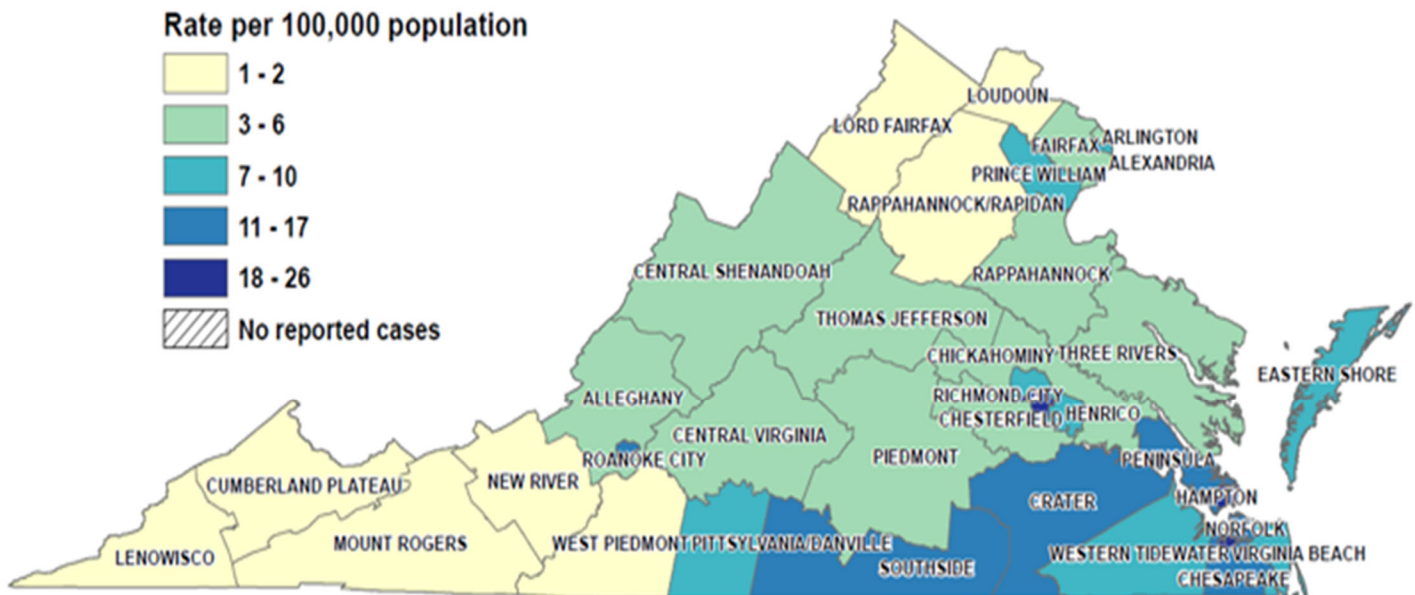## Figure 5: Newly Diagnosed HIV Cases in Virginia by Transmission Risk, 2016-2020

Figure 6: Newly Diagnosed HIV Cases in Virginia by District, 2020

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1. Centers for Disease Control and Prevention. *HIV Surveillance Report, 2020*; vol. 33. https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Published May 2022. Accessed September 2022.

HIV-Related Disparities

HIV outcomes vary among certain subgroups, as seen in the figures and tables shown in the People with HIV and New HIV Diagnoses sections. In addition to identifying disparities using HIV surveillance data, Virginia participates in the Medical Monitoring Project (MMP), a representative survey of people with HIV in Virginia. The MMP survey results are used to estimate key HIV-related outcomes among different subpopulations, which further highlights important disparities in HIV care and treatment in Virginia.

Table 1 presents HIV clinical outcomes among adults with HIV in Virginia from 2017-2020, stratified by demographic characteristics and social determinants of health (SDH).

AGE
Among age categories, persons aged 55 years and older reported the highest percentages of retention in HIV care in the previous 12 months (80%), antiretroviral treatment (ART) adherence in the previous 30 days (73%), and sustained viral suppression in the previous 12 months (92%) compared to other age categories.

RACE/ETHNICITY
Hispanic persons reported the highest percentage of retention in HIV care in the previous 12 months (84%) and ART adherence in the previous 30 days (87%) compared to other races; however, White persons reported the highest percentage of sustained viral suppression in the previous 12 months (91%).

GENDER
Males and females reported similar percentages of retention in HIV care and sustained viral suppression in the previous 12 months, however, females were more adherent to ART doses compared to men in the previous 30 days.

SEXUAL ORIENTATION
Compared to other sexual orientations, persons who identified as 'other' were retained in HIV care in the previous 12 months at the highest percentage (81%), persons who identified as heterosexual were the most ART adherent in the previous 30 days (69%), and persons who identified as homosexual had the highest percentage of sustained viral suppression in the previous 12 months (87%).

EDUCATION
Persons who completed education beyond high school had the highest percentage of sustained viral suppression in the previous 12 months (86%) compared to persons with lower levels of education.

INCOME
Persons living above the federal poverty level in the previous 12 months reported higher percentages ART adherence in the previous 30 days (66%) and sustained viral suppression in the previous 12 months (86%) compared to those living at or below it.

HOUSING STATUS
Persons who reported not being homeless in the previous 12 months reported higher percentages of retention in HIV care in the previous 12 months (76%), ART adherence in the previous 30 days (67%) and sustained viral suppression in the previous 12 months (85%) compared to those who experienced homelessness.

Detailed results are shown in Table 1 on the following pages.

	Retained in HIV care, past 12 months				ART dose adherent, past 30 days				Sustained viral suppression, past 12 months			
	Yes		No		Yes		No		Yes		No	
	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)
Overall	474	76.0 (71.9-80.1)	116	24.0 (19.9-28.1)	379	65.8 (61.6)	211	34.2 (30.0-38.4)	422	83.6 (80.1-87.0)	90	16.4 (13.0-19.9)
Age at time of interview, in years												
18-24	12	73.6 (46.1-100.0)	—[a]	—[a]	—[a]	—[a]	10	70.3 (47.9-92.6)	8	61.4 (34.0-88.8)	—[a]	—[a]
25-34	71	72.5 (61.5-83.6)	19	27.5 (16.4-38.5)	47	52.5 (41.4-63.5)	47	47.5 (36.5-58.6)	56	78.2 (68.8-87.5)	18	21.8 (12.5-31.2)
35-44	83	74.3 (65.0-83.7)	25	25.7 (16.3-35.0)	62	64.8 (54.7-74.9)	38	35.2 (25.1-45.3)	74	74.6 (63.5-85.8)	21	25.4 (14.2-36.5)
45-54	131	74.3 (66.5-82.1)	35	25.7 (17.9-33.5)	110	68.2 (60.6-75.8)	57	31.8 (24.2-39.4)	116	82.4 (76.0-88.7)	28	17.6 (11.3-24.0)
55+	177	79.7 (73.0-86.4)	34	20.3 (13.6-27.0)	154	72.5 (65.7-79.3)	59	27.5 (20.7-34.3)	168	92.1 (88.4-95.8)	18	7.9 (4.2-11.6)
Race/ethnicity[b]												
Black, non-Hispanic	276	74.6 (68.9-80.2)	67	25.4 (19.8-31.1)	204	61.6 (55.8-67.4)	132	38.4 (32.6-44.2)	242	81.2 (76.1-86.2)	57	18.8 (13.8-23.9)
White, non-Hispanic	113	77.6 (69.6-85.6)	29	22.4 (14.4-30.4)	106	74.1 (66.3-81.8)	38	25.9 (18.2-33.7)	111	91.2 (86.2-96.2)	12	8.8 (3.8-13.8)
Hispanic/Latino	31	83.5 (69.1-97.8)	—[a]	—[a]	31	86.5 (76.6-96.4)	—[a]	—[a]	26	78.7 (65.7-91.8)	—[a]	—[a]
Other/multi-racial	50	76.5 (65.3-87.7)	14	23.5 (12.3-34.7)	34	52.7 (39.7-65.8)	33	47.3 (34.2-60.3)	39	79.9 (69.1-90.6)	12	20.1 (9.4-30.9)
Gender												
Male	314	75.7 (70.8-80.6)	82	24.3 (19.4-29.2)	258	64.7 (59.6-69.8)	148	35.3 (30.2-40.4)	287	84.7 (81.0-88.5)	60	15.3 (11.5-19.0)
Female	149	76.3 (68.4-84.2)	32	23.7 (15.8-31.6)	119	72.5 (65.3-79.7)	54	27.5 (20.3-34.7)	128	83.0 (75.3-90.7)	26	17.0 (9.3-24.7)
Transgender[c]	11	81.0 (56.9-100.0)	—[a]	—[a]	—[a]	—[a]	9	77.4 (48.7-100.0)	—[a]	—[a]	—[a]	—[a]

(continued on next page)

Table 1 (continued): HIV clinical outcomes among adults diagnosed with HIV, overall and by demographic characteristics and social determinants of health - Medical Monitoring Project, Virginia, 2017-2020

| | Retained in HIV care, past 12 months | | | | ART dose adherent, past 30 days | | | | Sustained viral suppression, past 12 months | | | |
| | Yes | | No | | Yes | | No | | Yes | | No | |
	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)	n	row % (95% CI)
Overall	474	76.0 (71.9-80.1)	116	24.0 (19.9-28.1)	379	65.8 (61.6)	211	34.2 (30.0-38.4)	422	83.6 (80.1-87.0)	90	16.4 (13.0-19.9)
Education attainment												
< High school	77	73.7 (63.3-84.1)	21	26.3 (15.9-36.7)	66	69.3 (59.5-79.2)	31	30.7 (20.8-40.5)	70	81.7 (73.5-90.0)	17	18.3 (10.0-26.5)
High school diploma/equivalent	120	78.4 (70.7-86.1)	27	21.6 (13.9-29.3)	91	63.4 (54.3-72.4)	52	36.6 (27.6-45.7)	106	80.1 (71.4-88.8)	23	19.9 (11.2-28.6)
> High school	277	75.6 (70.1-81.1)	68	24.4 (18.9-29.9)	222	65.9 (60.6-71.3)	128	34.1 (28.7-39.4)	246	85.6 (81.7-89.5)	50	14.4 (10.5-18.3)
Household at or below federal poverty level, past 12 months[d]												
Yes	153	74.8 (67.5-82.2)	40	25.2 (17.8-32.5)	116	62.9 (55.6-70.2)	76	37.1 (29.8-44.4)	127	78.7 (72.3-85.1)	38	21.3 (14.9-27.7)
No	288	75.1 (69.8-80.5)	72	24.9 (19.5-30.2)	238	65.5 (60.1-71.0)	127	34.5 (29.0-39.9)	269	86.2 (81.8-90.6)	43	13.8 (9.4 (18.2)
Homeless, past 12 months[e]												
Yes	26	69.3 (52.7-85.9)	10	30.7 (14.1-47.3)	15	43.0 (24.9-61.0)	20	57.0 (39.0-75.1)	21	62.9 (45.4-80.3)	13	37.1 (19.7-54.6)
No	447	76.4 (72.1-80.6)	106	23.6 (19.4-27.9)	364	67.2 (62.9-71.5)	191	32.8 (28.5-37.1)	400	85.1 (81.6-88.5)	77	14.9 (11.5-18.4)

Note. All numbers are weighted and all percentages are weighted percentages; CIs incorporate weighted percentages

[a] Estimates with a coefficient of variation >0.30 are excluded

[b] Hispanic or Latino persons might be of any race. Persons are classified in only 1 race/ethnicity category

[c] Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender

[d] Poverty guidelines are defined by HHS; the 2016 guidelines were used for persons interviewed in 2017, the 2017 guidelines were used for persons interviewed in 2018, the 2018 guidelines were used for persons interviewed in 2019, and 2019 guidelines were used for people interviewed in 2020. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty

[e] Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car

Men Who Have Sex With Men

HIV affects many different populations of all ages, races, ethnicities, and identities; however, men who have sex with men (MSM) continue to be heavily impacted by the HIV epidemic. MSM are defined as males with a lifetime history of any male-to-male sexual contact. According to the Centers for Disease Control and Prevention (CDC), more than half of all new infections are among MSM[1]. In the United States, the estimated lifetime risk for HIV among MSM is one in six, compared with heterosexual men at one in 524 and heterosexual women at one in 253[2].

In Virginia, an estimated 6.2% of adult males aged 18 years or older are MSM. Approximately 6.7% of White, non-Hispanic (NH), 5.2% Black/African American, NH, and 6.4% Hispanic/Latino males in Virginia are estimated to be MSM[3]. As of December 31, 2020, 50% of people with HIV (PWH) in Virginia identified male-to-male sexual contact as the primary mode of HIV transmission.

Due to the disparity of HIV diagnoses among MSM as compared to other populations, national, state, and local organizations work together to support HIV prevention services for MSM. In addition to providing HIV testing, support services, and a focus on culturally appropriate HIV medical care for MSM, the recent introduction of biomedical approaches to HIV prevention are compelling. Preexposure Prophylaxis, or PrEP, is a medication for persons at risk for HIV to take once a day to reduce the chance of acquiring HIV. By taking this once daily pill regimen as directed, PrEP can reduce the risk of HIV by over 90%, and a person's risk is even lower with condom use and other HIV prevention methods[4].

Effective and comprehensive HIV prevention and care strategies for MSM can greatly improve health outcomes for MSM with HIV in Virginia and nationwide.

HIV DIAGNOSES

On average from 2016 to 2020, 57% of the total number of newly diagnosed HIV cases in Virginia were among MSM (Figure 1). From 2018 to 2020, the number of newly diagnosed HIV cases among MSM increased. In 2020, the percent of new HIV diagnoses among MSM was the highest (60%) in a 10-year period.

Figure 1: HIV Diagnoses among MSM, 2016-2020
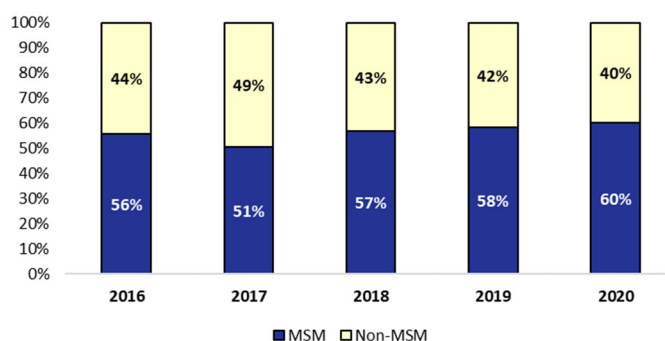
By Age at Diagnosis

Among the 38 new HIV diagnoses among MSM in 2020, 71% were diagnosed between the ages of 15 and 34 years (Figure 2). Since 2017, the percentage of cases among the 25-34 age group increased each year representing almost half (45%) of new HIV diagnoses among MSM in 2020.

Figure 2: Age of Diagnosis Distribution of New HIV Diagnoses among MSM, 2020
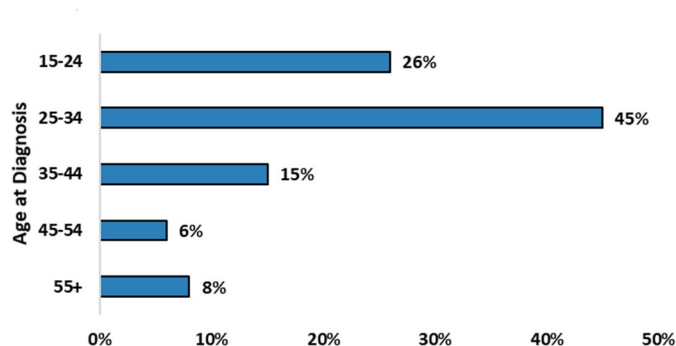
By Race/Ethnicity

In 2020, 62% of the new HIV diagnoses among MSM were Black/African American, NH, followed by 21% White, NH, and 11% Hispanic/Latino, mirroring the race/ethnicity distribution for all new HIV cases diagnosed in Virginia in 2020. Less than 2% of new MSM diagnoses in 2020 were Asian. In 2019 and 2020, the distribution of newly diagnosed HIV cases among Black/African American, NH MSM surpassed 60%.

Similar to all new HIV diagnoses, regardless of race/ethnicity and risk, the distribution of MSM risk among Black/African American, NH increased; inclusive of an increase among young MSM aged 25 to 34 years. In 2020, MSM aged 25 to 34 years represented 46% of all new HIV diagnoses among Black/African American, NH, MSM and 49% of all new HIV diagnoses among White, NH, MSM. The distribution of cases attributed to MSM in 2020 represent the highest level over a 10-year period.

Young Hispanic/Latino MSM, 15-34 years of age, comprised 67% of all Hispanic/Latino MSM diagnosed in 2020; the majority of new diagnoses were among 25 to 34 years of age. White, NH MSM were more likely to be older at age of diagnosis; 23% of White MSM were newly diagnosed in 2020 at 45 years or older, compared to 15% of Hispanic/Latino MSM and 9% of Black/African American MSM (Figure 3).

By Health Region

Virginia consists of five health regions: Eastern, Central, Northern, Northwest, and Southwest. In 2020, 35% of the new HIV diagnoses among MSM were diagnosed in the Eastern region, followed by Northern (23%), Central (22%), Southwest (12%), and Northwest (9%).

In the Eastern region, the majority of newly diagnosed MSM in 2020 were Black/African American, NH (72%) and diagnosed between the ages of 15 and 34 (79%). All regions, except Northern, reported similar race and age group distribution among new diagnoses. In the Central region, 71% of new diagnoses among MSM in 2020

were Black/African American, NH and 73% were diagnosed between 15 to 34 years of age. In the Northwest, 55% of new MSM diagnoses were Black/African American, NH and 57% were diagnosed between 25 to 44 years of age. The Southwest region reported the smallest discrepancy in the distribution of new diagnoses among Black/African American and White MSM (50% and 45%, respectively).

Figure 3: Age at Diagnosis by Race/Ethnicity among Newly Diagnosed MSM, 2020
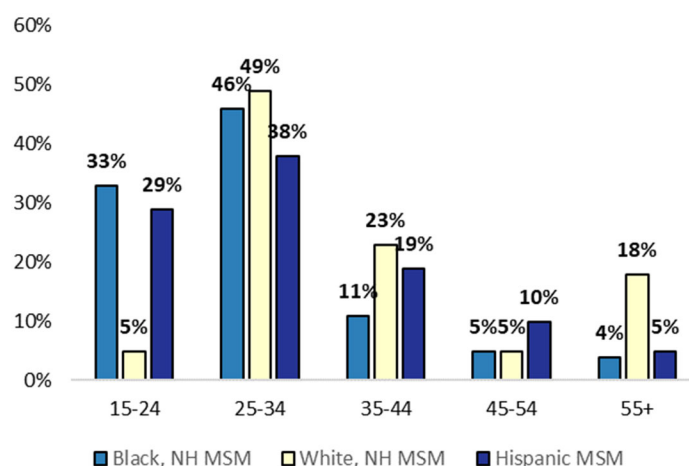

Figure 4: Percentage of New HIV Diagnoses among MSM by Health Region in Virginia, 2020
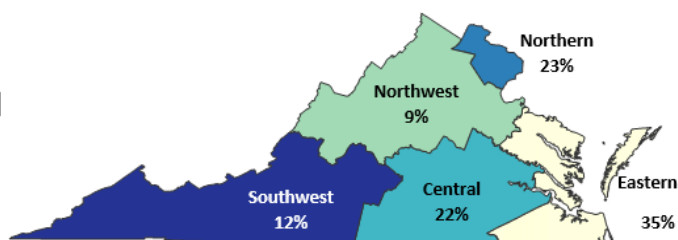
In the Southwest, 45% of new diagnoses were reported among ages 25 to 34. New diagnoses among MSM in the Northern region showed a slightly different trend, as Hispanic/Latino MSM represented the second highest percentage of new diagnoses (27%). MSM diagnosed in the Northern region were also more likely to be older at age of diagnosis than in the Eastern and Central regions; approximately 38% were diagnosed at the age of 35 or older.

Late Diagnosis

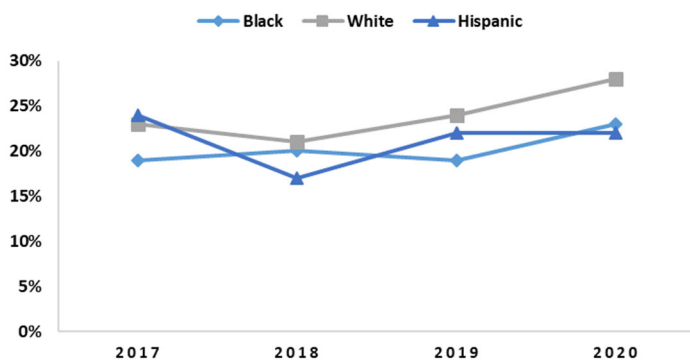Early knowledge of HIV can improve a person's health outcomes and help prevent further HIV transmission. Late diagnosis is defined as having an initial AIDS diagnosis or having an AIDS diagnosis within 12 months of an HIV diagnosis. To determine late diagnosis, one year of follow-up from the first HIV diagnosis is needed to see if a person is also diagnosed with AIDS in that year. In 2020, 23% of MSM were diagnosed late. White MSM (28%) had higher rates of late diagnosis than Hispanic/Latino MSM (22%) or Black/African American MSM (23%) in 2020. Consistent with 2020 data, the trend for the past four years also shows that White MSM had a higher late diagnosis rate compared to Hispanic MSM or Black/African American MSM (Figure 5).

of the HIV-positive MSM population, and 1% were Asian.

By current age and race/ethnicity, White, NH MSM (14%) were less likely to have HIV at a younger age at the end of 2020 than the other races. Forty precent of Black/African American MSM, 30% of Hispanic/Latino MSM, and 30% of Asian MSM were 34 years of age or younger at the end of 2020.

By Health Region

Over half of MSM with HIV were residing in the Northern (28%) or Eastern (29%) health regions of Virginia at the end of 2020. Approximately 23% of MSM with HIV were in the Central region, followed by the Northwest region at 9%, and the Southwest region at 8%. The three top localities of Fairfax County (Northern), Richmond City (Central), and Norfolk City (Eastern) represented 28% of all MSM with HIV in Virginia as of December 31, 2020.

Figure 5: Late Diagnosis among MSM by Race/Ethnicity, 2017-2020

HIV/AIDS PREVALENCE

As of December 31, 2020, there were 12,779 MSM with HIV in Virginia, 44% of whom had progressed to an AIDS-defining condition.

By Current Age and Race/Ethnicity

As of December 31, 2020, over half (54%) of MSM with HIV were 45 years of age or older. Forty-nine percent of MSM with HIV as of December 31, 2020 were Black/African American, NH, followed by 36% White, NH. Hispanic/Latino MSM represented 10%

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3. HIV PrEP Guidelines Press Release. Centers for Disease Control and Prevention. Retrieved from HIV PrEP Guidelines: cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf
4. HIV Among African American Gay and Bisexual Men. Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/hiv/group/msm/bmsm.html

Black/African American Communities in Virginia face a higher burden of HIV than other racial groups. This population is disproportionately affected by the HIV epidemic globally and in the Commonwealth of Virginia. Figure 1 represents the racial/ethnic breakdown of all people with HIV (PWH) in Virginia in 2020. Black/African American non-Hispanic persons represent 58% of PWH, followed by White non-Hispanic PWH (27%). Hispanic populations represent 10% while Multi-race (4%), Asian/Pacific Islander, American Indian and Alaska Native (<1%), and Asian (1%) represent much smaller percentages of PWH in Virginia in 2020.

Figure 2: Rate of PWH by Race/Ethnicity and Gender in Virginia, 2020

Figure 1: Race/Ethnicity Among PWH in Virginia, 2020
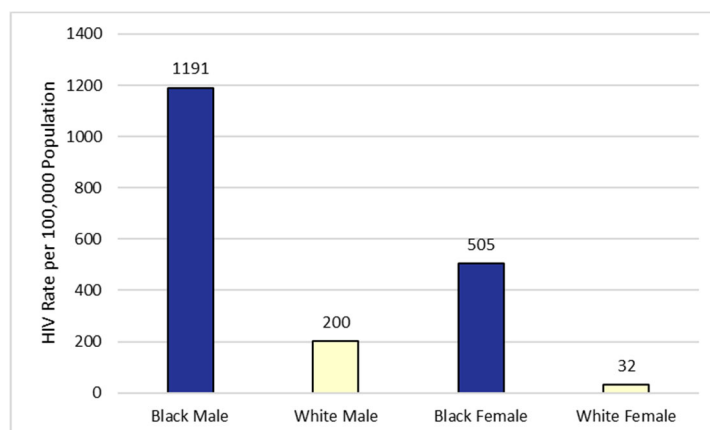
Figure 3: Diagnosis Age Among Black/African American Communities and the Overall Virginia Population

Black/African American men and women have higher rates of HIV than their White counterparts. Black/African American men with HIV represent 1,191 persons and White men represented 200 cases in 2020. In both, Black/African American PWH populations and the overall PWH population most persons are diagnosed between the ages of 25-34 followed by ages 15-24. Figure 3 displays this age breakdown.

Figure 4 depicts the 5-year trends of HIV diagnoses for Black/African American communities, the overall population of PWH in Virginia, and other races. All three groups experienced a decline in new diagnoses from 2019 to 2020.

Data from 2019 through 2020 should be interpreted in the context of the COVID-19 pandemic, which contributed to decreased testing, and increased barriers for medical care access.

Figure 4: 5-Year Trend on New Diagnoses by Race

The most common risk factor for HIV is men who have sex with men (MSM), followed by injection drug use (IDU), both MSM and IDU, heterosexual contact, and for some persons the risk factor will remain unknown. For those who are newly diagnosed with HIV these transmission risks are important to assessing how to create prevention and treatment methods. Figure 6 breaks down the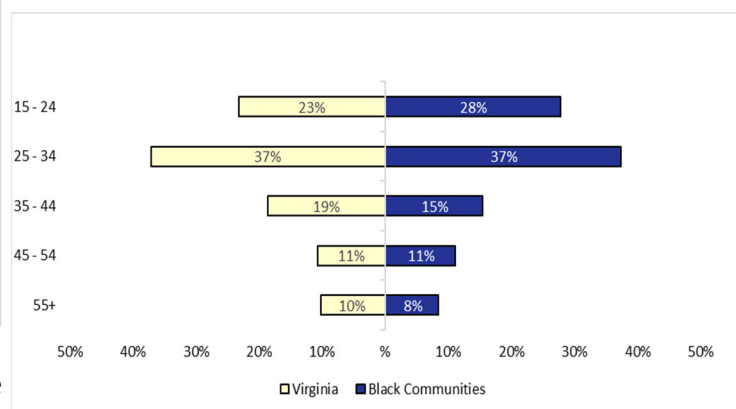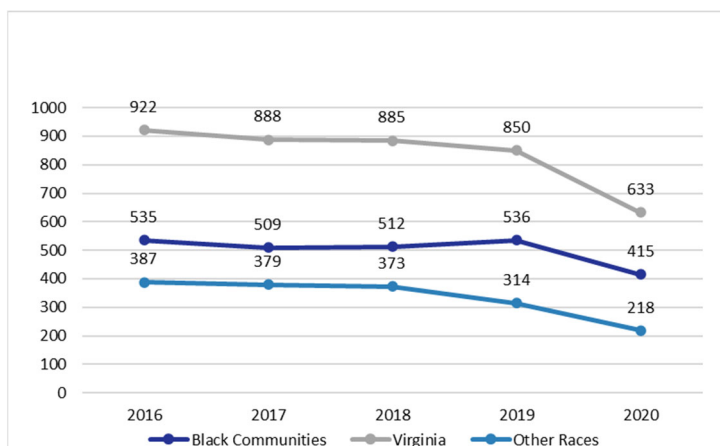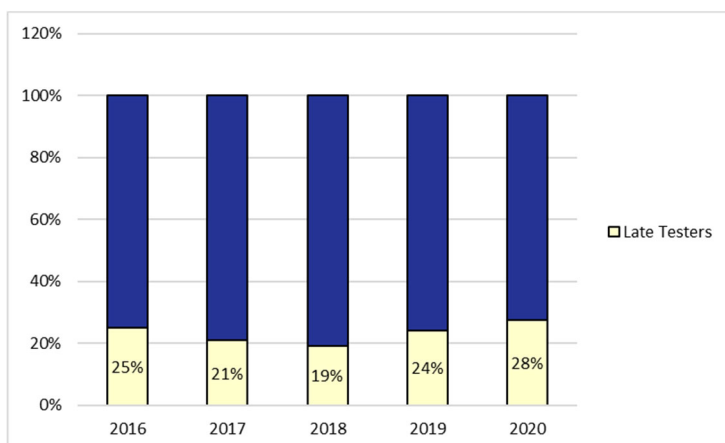 transmission risks in Black/African American communities in 2020 for persons who are newly diagnosed. MSM represents the largest transmission risk factor for this population (58%), followed by unknown or unidentified risk factors (27%), heterosexual contact (13%), MSM and IDU (1%), and injection drug use (2%).

HIV care and treatment are dependent on when a person is diagnosed. Figure 5 depicts the percentage of late diagnoses for Black/African American communities in Virginia for the last five years. In 2020, the COVID-19 pandemic contributed to an increase in late diagnoses in this population, as well as other racial/ethnic groups. Figure 5 depicts the increase in late diagnoses but due to the potential lower levels of testing and difficulty accessing healthcare during the COVID-19 pandemic these data may not represent the true number of late diagnoses in 2020.

Figure 6: New Diagnoses in 2020 by Transmission Risk Among Black/African American Communities

Figure 5: Late Testers Among Black/African American Communities in Virginia, 2016-2020
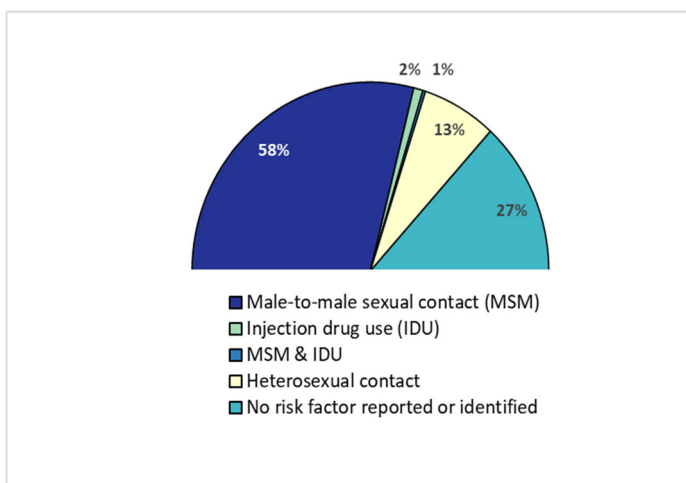
Figure 6 depicts the breakdown of transmission risk factors among newly diagnosed Black/African Americans with HIV. Figure 7 depicts transmission risks for all Black/African American with HIV in 2020. In Figure 6 and Figure 7, MSM is the most common transmission risk. These trends are similar across both newly diagnosed cases and for all Black/African American PWH in Virginia.

While the Black/African American community is disproportionately affected by the HIV epidemic, in Virginia, this population has equal or near equal rates of linkage to care within 90 days, evidence of an HIV care marker, and being retained in care in 2020.

Figure 7: HIV Transmission Risk Factors Among Black/African American people with HIV in Virginia 2020

Legend:
- ■ Male-to-male sexual contact (MSM)
- □ Injection drug use (IDU)
- ■ MSM & IDU
- ■ Heterosexual contact
- □ Other
- ■ No risk factor reported or identified
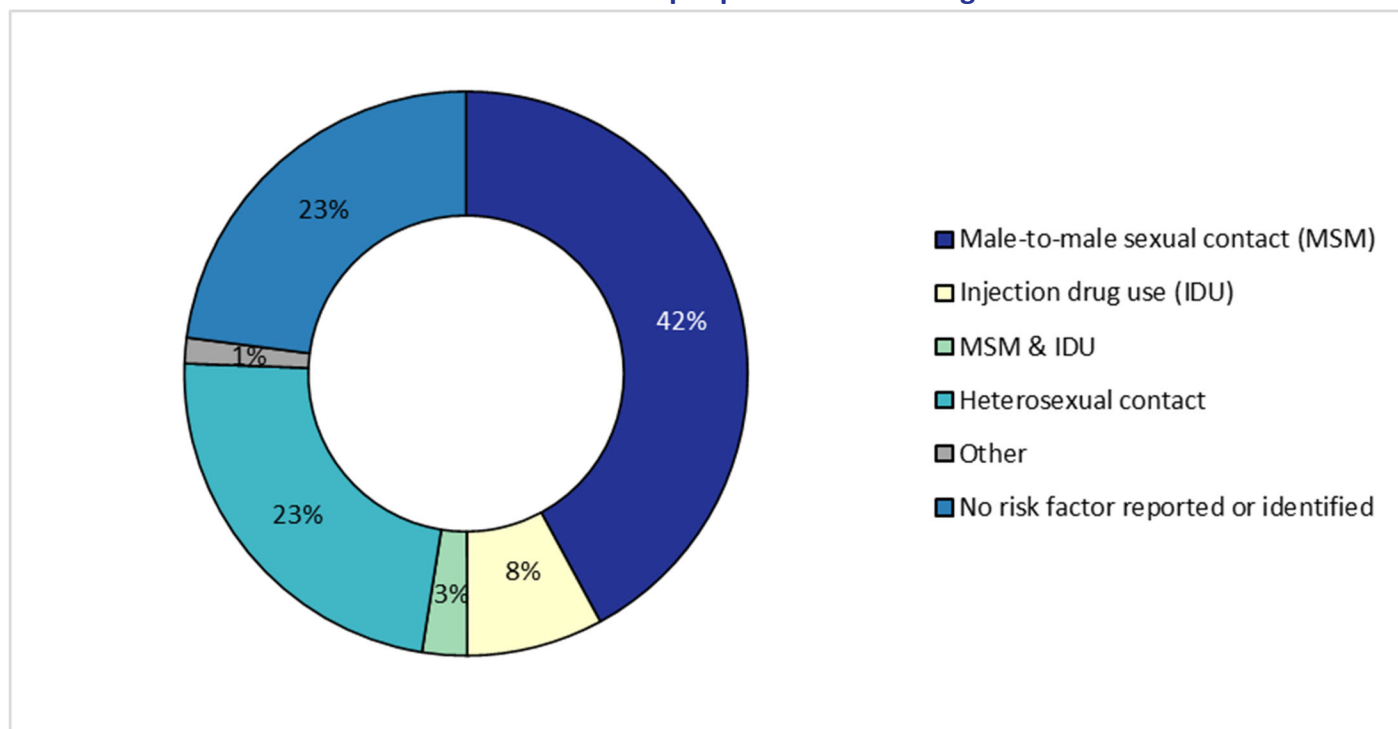
Figure 8: HIV Care Continuum for Virginia and Black/African American NH PWH, 2020

Legend:
- □ Persons Living with HIV in Virginia as of 12/31/2020 (n=25788)
- ■ Persons Living with HIV Among Black Communities as of 12/31/2020 (n=14,873)
- ■ Persons Newly diagnosed with HIV in Virginia in 2020 (n=633)
- ■ Persons Newly diagnosed with HIV Among Black Communities in 2020 (n=415)
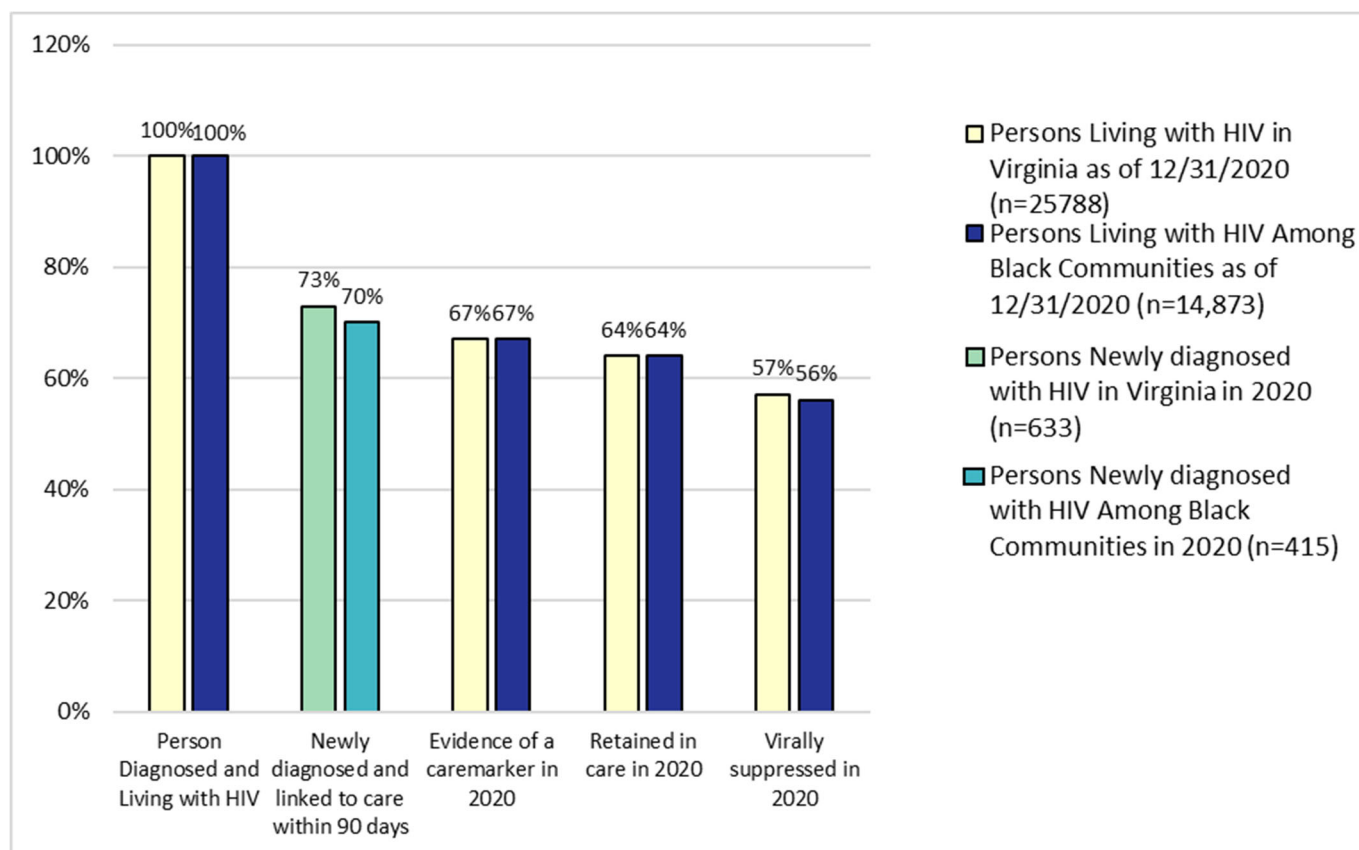
National Statistics/Trends in PWID

The national increase in drug use amidst the opioid crisis presents an evolving challenge in HIV prevention. Sharing syringes is the second-riskiest behavior for transmitting HIV (second only to receptive anal sex),[1] and between 2014 and 2018, the annual number of national HIV infections attributed to injection drug use (IDU) increased, particularly among females and adolescents.[2]

Person who inject drugs (PWID) are also more likely to engage in and/or experience sexual risks such as unprotected vaginal or anal sex, multiple sexual partners, transactional sex, and sexual assault. As a result, PWID experience increased rates of other sexually-transmitted infections like chlamydia, gonorrhea, herpes, and syphilis.[1]

Virginia HIV Incidence among PWID

HIV diagnoses attributed to IDU in Virginia remained relatively stable at 15 to 19 statewide diagnoses per year since 2016, while diagnoses attributed to both MSM and IDU ranged from 24 in 2018 to 8 in 2020. Between 2016 and 2020, there were a total of 172 HIV diagnoses with IDU risk, 89 of which were also attributed to MSM. Among solely IDU-related HIV diagnoses, 61.4% were male and 38.6% were female.

In 2020, IDU accounted for 3.8% (n=24) of HIV diagnoses. White persons made up the highest proportion of IDU-related HIV diagnoses at 41.7%, while 32.5% of persons newly diagnosed were Black/African American, 12.5% were Hispanic/Latino, and 8.3% were multiracial.

Virginia HIV Prevalence among PWID

In 2020, IDU risk was associated with 2,520 PWH in Virginia, 26.4% (666) of whom were female and 73.6% (1,854) male. Of males, 44.9% reported dual MSM and IDU risks. In total, of PWH with IDU risk

factor, 62.0% were Black/African American, 27.2% were White, 6.3% were Hispanic/Latino, 3.6% were multiracial, 0.7% were Asian, and 0.2% were American Indian/Alaska Native.

Between 2016 and 2020, HIV prevalence among Black/African American persons reporting IDU risk factors declined, while prevalence among White and Hispanic/Latino persons reporting IDU and MSM risk factors increased.

Figure 1: HIV diagnoses attributed to injection drug use by sex at birth and risk category, Virginia 2016-2020
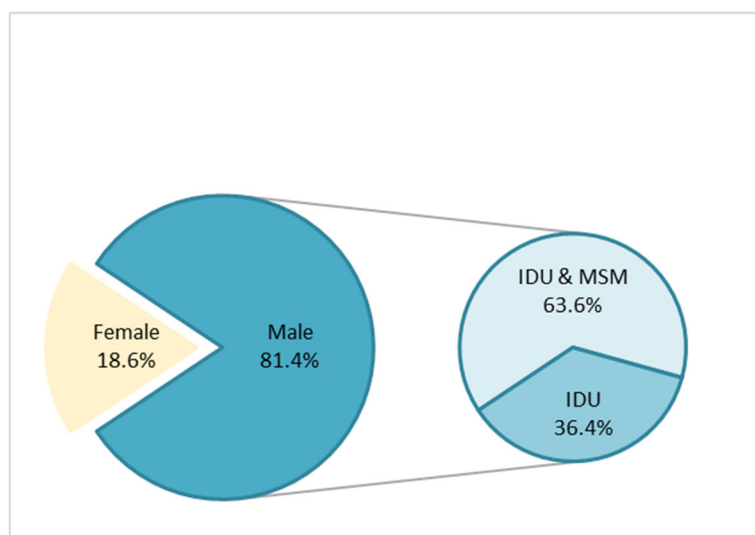
Figure 2: PWH with any IDU risk factor by race/ethnicity, Virginia, 2020
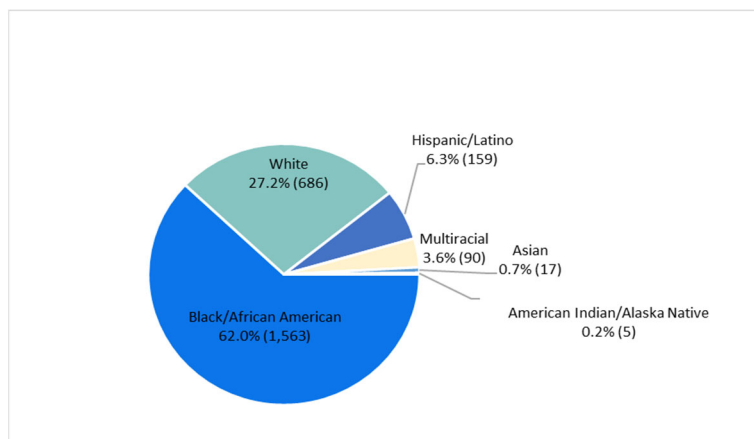
Figure 3: Number of HIV cases attributed to injection drug use by race/ethnicity, Virginia 2016-2020
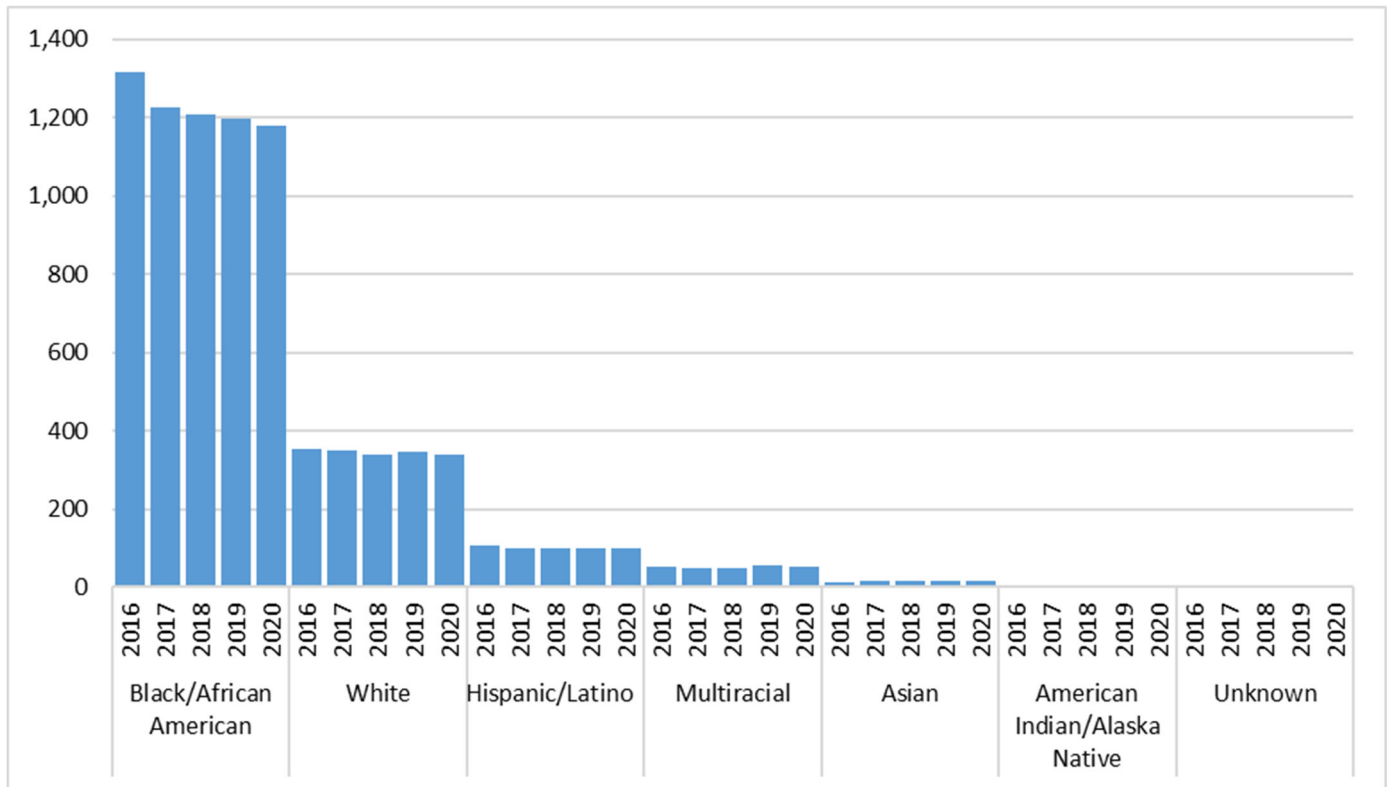
Figure 4: Number of HIV cases attributed to injection drug use and MSM by race/ethnicity, Virginia 2016-2020
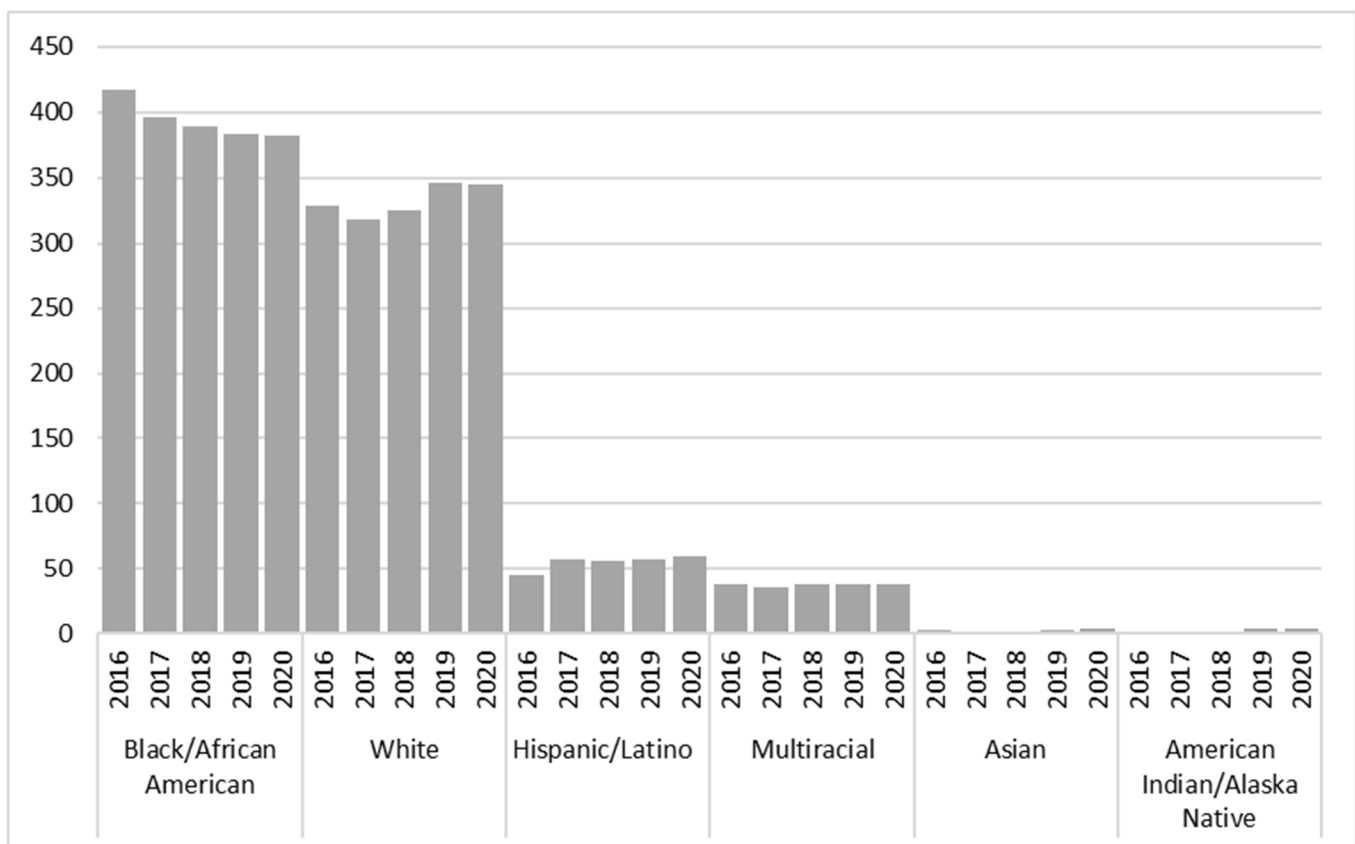
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Hepatitis C and HIV Co-Infection

Hepatitis C is an infection of the liver caused by the hepatitis C virus (HCV). [1] HCV is spread through contact with infected blood, most often by sharing needles or other equipment used to prepare and inject drugs.[1] Although it is possible for people to spontaneously clear the virus from their bodies without treatment, it is estimated that more than 50% of persons infected with HCV develop a long-term, chronic infection.[2] Most persons with acute HCV infection do not display symptoms; however if symptoms are present, they may range from mild (fever, nausea, loss of appetite) to severe (abdominal pain, clay-colored stool, jaundice). Those infected with chronic HCV typically do not display symptoms, or have non-specific symptoms such as chronic fatigue, unless more severe liver problems develop. [3] Hepatitis C treatment, in the form of pills taken by mouth for 8 to 12 weeks, is recommended for all non-pregnant persons and children ≥3 diagnosed with hepatitis C. [4] Despite having a cure, there is no vaccine for hepatitis C and taking preventive measures to avoid opportunities for exposure are important to stop the spread of disease. [1]

HEPATITIS C IN THE UNITED STATES

There are approximately 2.4 million people with chronic HCV in the United States, with an estimated 66,700 acute cases in 2020.[5,6] Chronic HCV infections were highest among persons 20 to 39 and 55 to 70 years in 2020.[6] The number of people who began treatment for HCV declined between 2016 and 2020.[5]

HEPATITIS C IN VIRGINIA

There were 51,232 cases of HCV (probable and confirmed) reported in Virginia from 2016 to 2020, with an average of 10,246 cases per year. Less than 1% of the reported cases were acute. While the number of reported chronic cases of HCV remained relatively stable from 2016 to 2019, the number of acute cases reported in 2019 increased by 27%. There was an observed decrease in the number of

both acute and chronic hepatitis cases reported in 2020, likely due to the disruptions in access to testing, routine medical care, and public health activities during the COVID-19 pandemic.

Fifty-five percent of the acute cases were male, while 58% of the chronic HCV cases were male. Forty percent of the chronic HCV cases were age 55 or older, while 40% of the acute HCV cases were between the ages of 25-34 (Figure 1). Virginia's Southwest health region has the highest incidence of HCV in the Commonwealth.[7]

HEPATITIS C AND HIV CO-INFECTION

HIV and HCV share common methods of transmission, such as the sharing needles or other equipment used to prepare and inject drugs. Approximately 62% to 80% of persons infected with HIV through injection drug use (IDU) are co-infected with HCV.[8] HIV and HCV is more common among heterosexuals engaging in high-risk sexual activity and in men who have sex with men than in other individuals. [8] According to the Centers for Disease Control and Prevention (CDC), having an HIV co-infection can speed up the onset of liver disease, failure, and liver-related death caused by HCV infection.[8] In addition, HCV infection can alter the treatment and management of HIV.[8]

Figure 1: Comparison of Acute and Chronic HCV Cases by Age at Diagnosis in Virginia, 2016-2020
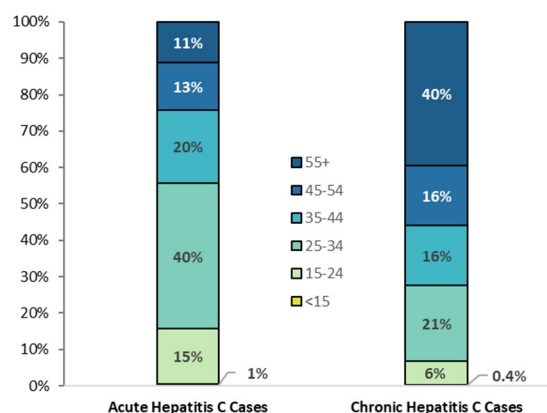
HEPATITIS C-HIV CO-INFECTION IN VIRGINIA

From 2016 to 2020, 644 cases of HCV were co-infected with HIV. Figure 2 shows the trend of HCV only and HIV co-infection cases from 2016 to 2020. Forty-one percent were over the age of 55, and 40% were between the ages of 35 and 54. Unlike the demographic profile of those infected with only HCV, 76% of the HIV co-infection cases were male. The majority of co-infections reported male-to-male sexual contact as their transmission category for HIV infection, followed closely by IDU. Among PWH, the Southwest region had the highest rate of HCV and HIV co-infections in 2020.

Figure 2: Comparison of HCV Only and HIV Co-Infection Cases by Year in Virginia, 2016-2020
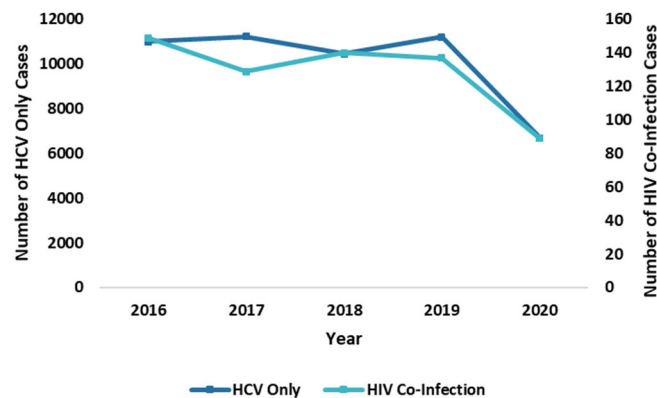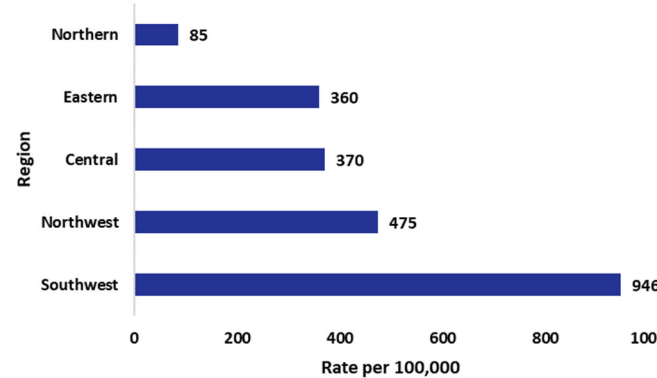

Figure 3: Rate of HIV-HCV Co-Infection Cases among PWH by Health Region, 2020

In 2020, 1 in every 17 PWH in Virginia experienced co-infection with HCV

PREVENTION OF HEPATITIS C AND HIV CO-INFECTION

HCV transmission can be prevented by using sterile needles and not sharing any equipment used to prepare or inject drugs.[1] People with HCV should avoid alcohol and fatty food consumption to reduce the risk of increased liver damage.[4] Prescription pills and over-the-counter medications should be used with the guidance of their health provider, as these substances could also damage the liver.[4] The CDC recommends that ALL persons get tested for HCV infection at least once in their lifetime.[10] Those with HIV-HCV co-infection should seek care from a health provider who is well-versed in management and treatment of both HIV and HCV.[6]

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STI and HIV Co-Infection

Sexually transmitted infections (STIs)

Persons with chlamydia, gonorrhea, and syphilis are more likely to acquire HIV during an exposure event compared to those without. Sores or inflammation resulting from the STI may facilitate the transmission of HIV by introducing the virus through breaks in the skin.[1]

CHLAMYDIA

Chlamydia, caused by *Chlamydia trachomatis,* is the most frequently reported bacterial STI in the United States. Chlamydia can be transmitted through sexual contact or from mother to child during childbirth.[2] Untreated chlamydia in women may lead to pelvic inflammatory disease (PID), pelvic pain, ectopic pregnancies, infertility, premature labor, and low birth weight.[2,3] Because chlamydia is frequently asymptomatic, many infections are only found through screening.

In 2020, 1.6 million cases of chlamydia were reported to the Centers for Disease Control and Prevention (CDC).[4] Of these, 40,116 cases were diagnosed in Virginia, where 65.3% of cases were diagnosed among women.[5]

Chlamydia is treated using antibiotics based on CDC's current treatment guidelines[6]. Persons with chlamydia should avoid sexual activity throughout the treatment regimen. It is possible to become infected with chlamydia again if a person's sex partner has not been treated.

GONORRHEA

Gonorrhea is caused by the bacterium *Neisseria gonorrhoeae* and is transmitted through sexual contact or from mother to child during childbirth[7]. Many people infected with gonorrhea are asymptomatic, putting them at risk for developing sequelae like PID or disseminated gonococcal infection (DGI) if they are not diagnosed and treated. DGI occurs when the gonorrhea bacteria spread through the body to a sterile site, such as synovial

(joint) fluid, blood (i.e. sepsis), or to the heart. DGI can be life threatening and requires immediate treatment.

Gonorrhea should always be treated in accordance with the most current treatment guidelines[6] due to growing threat of antimicrobial resistance. It is possible to become re-infected with gonorrhea if a person's sex partner has not been treated.

In 2020, 677,769 cases of gonorrhea were reported nationally[4] and 14,946 cases were diagnosed in Virginia[5]. The rate of gonorrhea diagnosis among non-Hispanic Black/African American individuals (521.0 cases per 100,000) was more than ten times the rate of among non-Hispanic White individuals (48.5 cases per 100,000) and more than eight times the rate among Hispanic individuals (61.8 cases per 100,000).

SYPHILIS

Syphilis, caused by the bacterium *Treponema pallidium,* is transmitted via vaginal, oral, or anal sex or from mother to child during pregnancy[8]. Syphilis infection has multiple stages, most frequently beginning with a chancre (i.e. painless lesion), which heals on its own regardless of treatment, then progresses to a painless, non-itchy rash; however, symptoms vary, and some people with syphilis do not notice any symptoms. If left untreated, syphilis can cause blindness, neurological damage, damage to internal organs, or death.

Figure 1: STI by region and HIV co-infection status in Virginia, 2020
Co-infected/Total (Percent Co-infected)

	Chlamydia	Gonorrhea	Early Syphilis
Central	114/8,857 **(1.3%)**	164/3,824 **(4.3%)**	146/367 **(40.1%)**
Eastern	243/14,429 **(1.7%)**	292/6,324 **(4.6%)**	150/426 **(35.2%)**
Northern	153/7,529 **(2.0%)**	172/1,690 **(10.2%)**	106/335 **(31.6%)**
Northwest	57/4,451 **(1.3%)**	60/1,152 **(5.2%)**	34/102 **(33.3%)**
Southwest	35/4,855 **(0.7%)**	54/1,965 **(2.7%)**	18/65 **(27.7%)**
VIRGINIA	602/40,121 **(1.5%)**	742/14,955 **(5.0%)**	455/1,295 **(35.1%)**

STI AND HIV CO-INFECTION IN VIRGINIA

Chlamydia and Gonorrhea

In 2020, 1.5% of chlamydia diagnoses and 5.0% of gonorrhea diagnoses were among persons co-infected with HIV (Figure 1).

There were 65 cases of reported DGI in Virginia from 2020-2021. Of these, 16% were co-infected with HIV.

Syphilis

HIV coinfection rates among persons diagnosed with syphilis have historically been, and remain, high. In Virginia in 2020, 35.1% of people diagnosed with early syphilis were co-infected with HIV (Figure 1). The highest HIV co-infection rates were reported among persons engaging in transactional sex (57.1%), men who have sex with men and women (50.9%), persons who use methamphetamines (46.7%), men who have sex with men only (46.6%), persons who use heroin or other opioids (45.8%), and persons who use injection drugs (44.2%).

Regional Co-Infection

In 2020, the Northern region experienced the highest HIV coinfection rates among persons diagnosed with chlamydia (2.0%) and gonorrhea (10.2%). The Central region experienced the highest HIV coinfection rate among persons diagnosed with early syphilis (40.1%) (Figure 1).

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TB and HIV Co-Infection

Tuberculosis (TB) is a disease caused by the bacterium *Mycobacterium tuberculosis.* The bacteria usually infect the lungs, but it can infect any part of the body, such as the brain, kidney, or spine. TB is an airborne, communicable disease that is spread when people infected with TB in the lungs or throat sneeze, cough, or speak, placing TB bacteria in the air that people nearby may breathe in and become infected [1]. If not treated, TB disease can be fatal.

Worldwide, TB is one of the leading causes of death in people with HIV (PWH). PWH are 15 to 21 times more likely to develop active TB disease than people without HIV. Among those who have latent TB infection, HIV infection is the biggest risk factor for progressing to active TB disease [2,3,4].

TB, HIV, and COVID-19

The global impact of COVID-19 on the TB and TB/HIV response is significant. It reversed progress in providing essential TB services and reducing TB disease burden globally. Reduced access to TB diagnosis and treatment also resulted in an increase in TB-related deaths.

A primary factor behind TB mortality among PWH is late diagnosis. The COVID-19 pandemic resulted in reduced access to care in both outpatient and inpatient facilities, impacting the entire care cascade, including prevention of TB and HIV [5].

TREATMENT OF TB

There are several treatment regimens recommended for LTBI in the United States (U.S.) that use isoniazid, rifapentine, and rifampin on their own or in combination. Regimens take three to nine months to complete and shorter, rifamycin-based options have a lower risk of hepatotoxicity [6].

Latent TB infection and TB disease

- **Latent TB infection (LTBI)— most persons infected with TB are able to fight the bacteria and stop them from multiplying. People with LTBI are not infectious and do not feel sick or have symptoms [1].**

- **TB disease — if the immune system cannot stop the bacteria from growing, LTBI becomes active TB disease. Persons with TB disease can spread the bacteria to others, depending on the site of disease [1].**

Those with compromised immune systems, such as PWH, have a higher risk of developing TB disease than others [1].

The treatment regimen for drug-susceptible TB disease typically includes the first-line anti-TB agents isoniazid, rifampin, ethambutol, and pyrazinamide. The initial phase of the treatment last two months, and the continuation phase lasts anywhere from four to seven months [7].

TB IN THE UNITED STATES

In 2020, 7,174 cases of TB were reported in the U.S., at a rate of 2.2 cases per 100,000, which represents a 19.4% and a 19.7% decrease, respectively, compared with 2019. Although U.S. TB cases and incidences have gradually declined since 1993, the decline in 2020 is larger than observed in recent years and likely affected by the COVID-19 pandemic. Seventy-one percent of TB cases occurred among non-U.S.-born persons, the same proportion as in 2019. However, approximately one-third of these persons lived in the U.S. for at least 20 years before receiving a TB diagnosis. In 2020, 4.8% of TB clients were co-infected with HIV. Timely evaluation and treatment of TB and LTBI remain critical to achieving the goal of U.S. TB elimination [8].

TB IN VIRGINIA

From 2016 to 2020, Virginia reported 971 cases of TB. Figure 1 displays the trend of TB cases (including those with HIV co-infection) reported from 2016 to 2020. Figure 2 shows the regional distribution. During this period, people identified with TB in Virginia were most commonly male (56%), non-U.S.-born (82%), and from the Northern Region (61%). Among those who were non-U.S.-born, the most prominent countries of birth were India, Ethiopia, the Philippines, and Vietnam. Among those who were U.S.-born, 45% identified as Black/African American or African American, 33% identified as White, non-Hispanic, and 12% identified as Hispanic. Data from 2019-2020 were complicated by the COVID-19 pandemic and any trends should be interpreted with caution.

Figure 1: Number of TB Cases Reported in Virginia by Region, 2016-2020
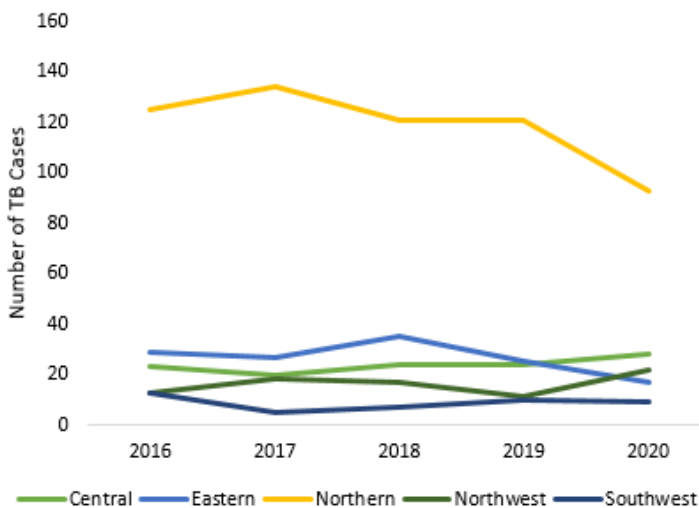
TB-HIV CO-INFECTION

Of the 971 TB cases reported in Virginia from 2016 to 2020, 23 (2.4%) are co-infected with HIV. Similar to the demographic profile of the TB cases in Virginia, the majority of TB clients with HIV co-infection were male (74%), located in the Northern Region (7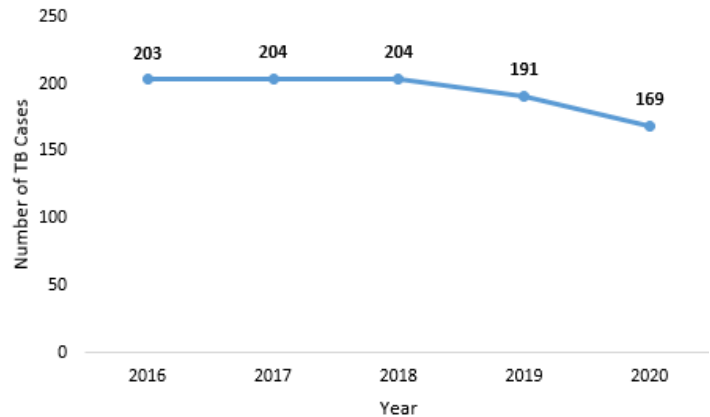0%), and were non-U.S.-born (83%). Ethiopia was the most common country of birth among TB clients with HIV-coinfection and 56% identified as Black/African American, non-Hispanic. Average age was 48 years, ranging from 25-86.

Figure 2: Number of TB Cases Reported in Virginia, 2016-2020

HIV testing was not offered, refused, or results were unknown for 35 clients (3.6%) from 2016-2020. While offering HIV testing is a standard of care for TB clients, testing is sometimes not offered or refused, especially for pediatric patients. An association exists between HIV, slow response to TB treatment, and increased risk for poorer outcomes from inadequate treatment. Recommendations for case management of co-infected patients in Virginia include early therapeutic drug monitoring of TB medications.

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MORTALITY

In 2020, Virginia's all cause death rate per 100,000 persons with HIV was 2.0 for females and 5.9 for males (3.9 overall).   Between 2016 and 2017, this rate decreased 10.8% , then increased 15.4% from 2017 to 2020.

Figure 1: All cause deaths among persons with HIV diagnosis, Virginia 2016-2020

Number of deaths
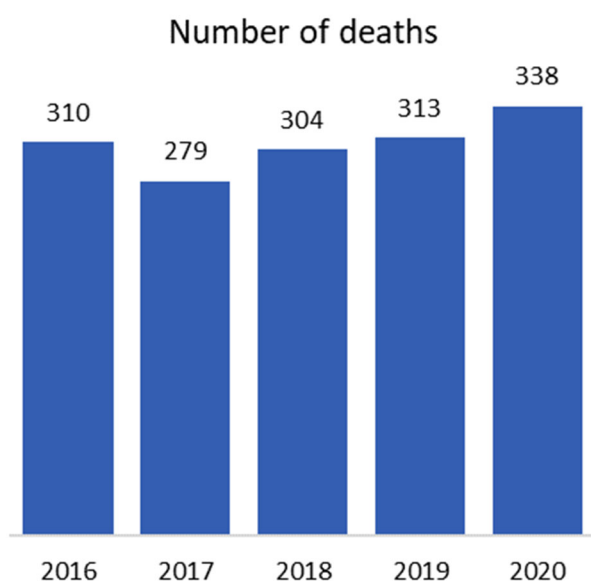
Figure 2: Death Rate per 100,000 persons, Virginia 2016-2020

Death rate per 100,000 persons
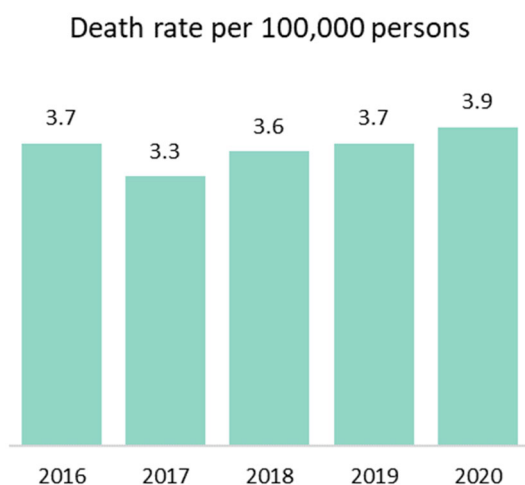
Racial and Ethnic HIV Deaths

Multiracial and Hispanic/Latino persons carried a disproportionate burden of all cause death rates across years.

Figure 3: All cause deaths among persons with HIV diagnosis by race/ethnicity, Virginia 2016-2020
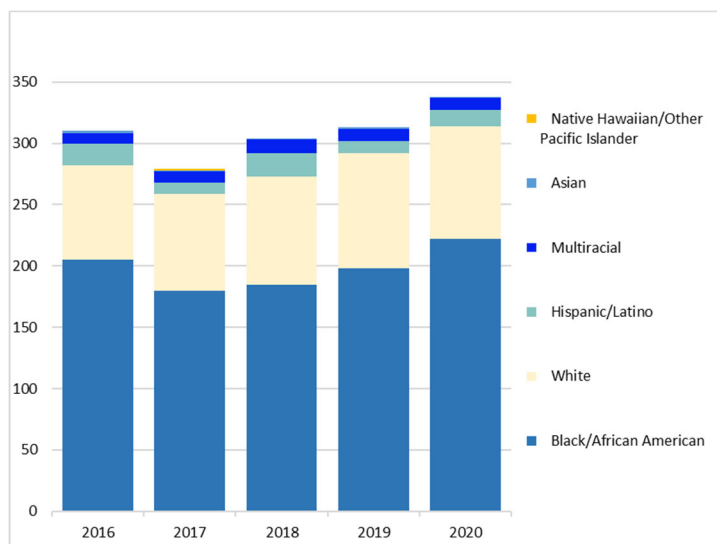
Figure 4: All cause deaths among males with HIV diagnosis, Virginia 2016-2020
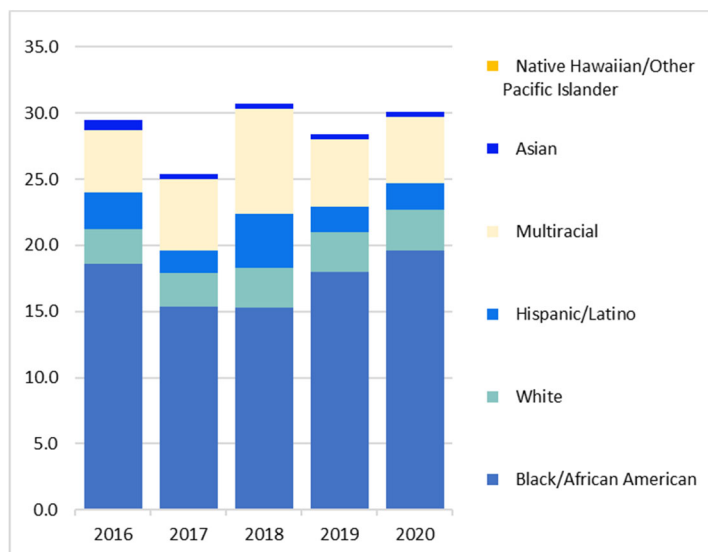
Figure 5: All cause deaths among females with HIV diagnosis, Virginia 2016-2020
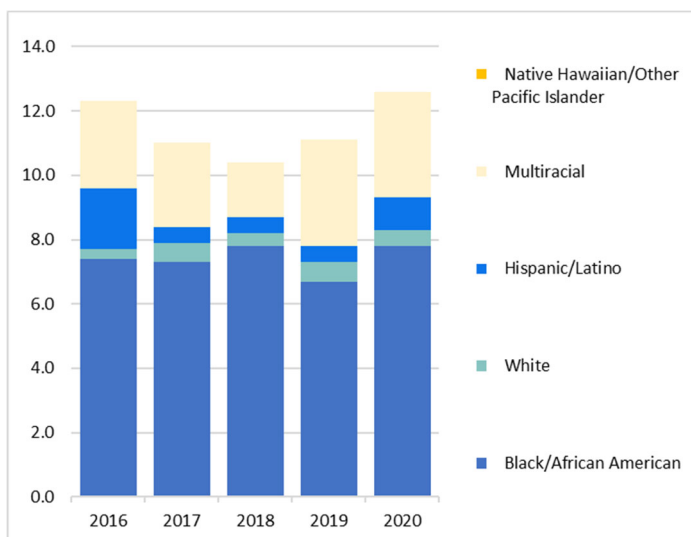
Among all cause deaths for persons diagnosed with HIV, the most common HIV transmission risk factor was men who have sex with men (MSM), followed by heterosexual risk, and injection drug use (IDU), respectively. All cause deaths increased for MSM risk, from 112 in 2017 to 171 in 2020. Deaths slightly increased for heterosexual risk between 2016 and 2020, while deaths decreased among IDU and MSM, and IDU risk categories. All cause deaths among people with perinatal HIV transmission risk remained minimal across years, with three or fewer deaths per year.

Figure 6: All cause deaths of persons with HIV diagnosis by HIV transmission category, Virginia 2016-2020
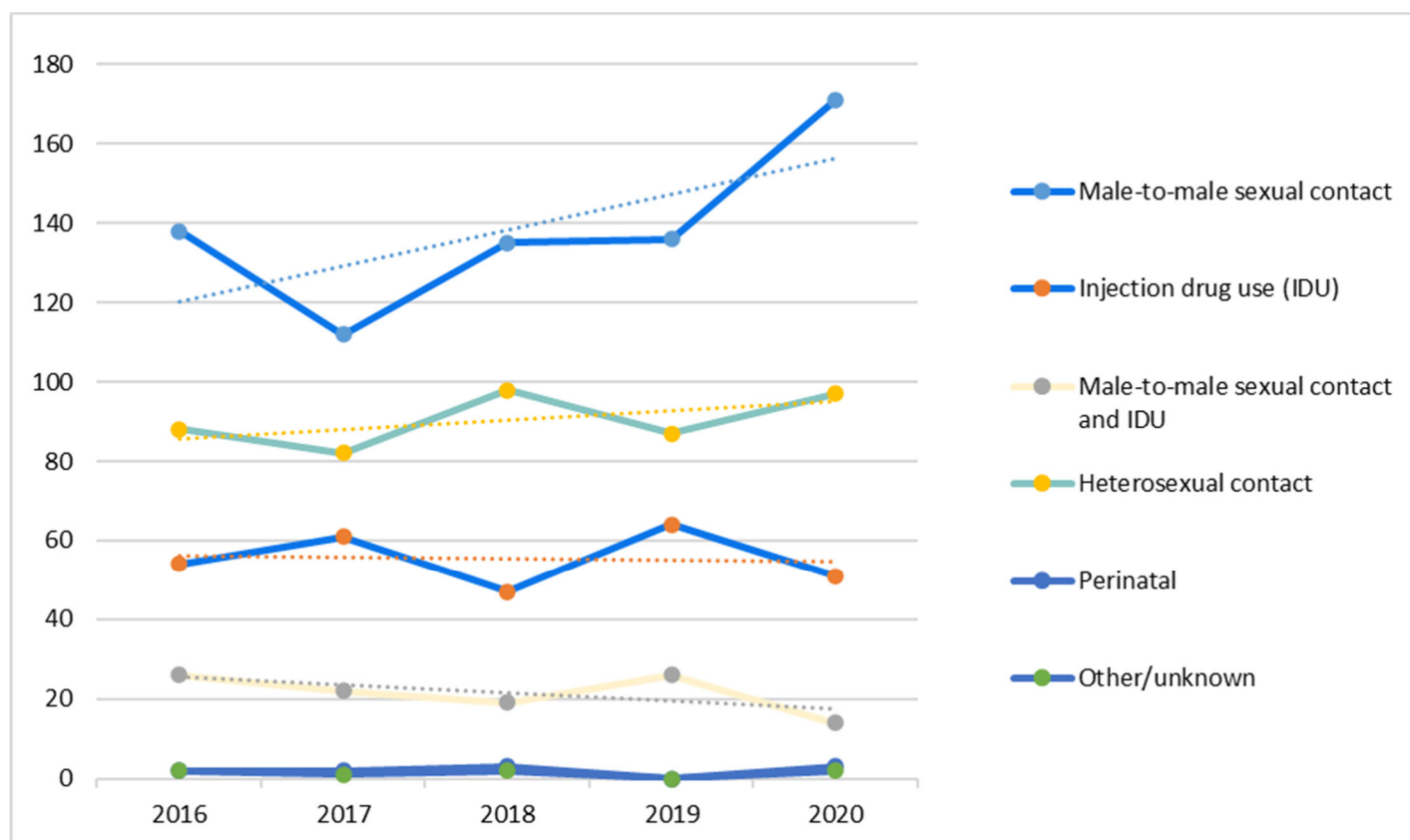
HIV Care and Treatment in Virginia

The Virginia Department of Health (VDH) uses Ryan White HIV/AIDS Program Part B (RWHAP B) grant funds according to the legislative requirements to provide high-quality care and treatment for people with HIV. VDH funds 32 subrecipients throughout the Commonwealth to provide 20 Ryan White (RW) core medical and support services supported by Part B, state, and pharmaceutical rebate funds.

To meet the eligibility criteria for all RWHAP B services in Virginia, individuals must have an HIV diagnosis; be a Virginia resident; have a household income at or below 500% of the FPL; and not have Medicaid for medication assistance services or other third-party coverage that reimburses for requested services.

Some of the programs VDH currently supports are; Health Insurance Premium and Cost Sharing Assistance for Low-Income Individuals (HIPCSA); Medical Case Management, including Treatment Adherence Services (MCM); Medical Nutrition Therapy (MNT); Mental Health Services (MH); Oral Health Care; Outpatient/Ambulatory Health Services (OAHS); and Substance Abuse Outpatient Care (including Medication Assisted Therapy for opioid disorders).

There are approximately 21,200 people with HIV (PWH) with an HIV-related lab during the most recent five years. Over 2,000 PWH are in care statewide and not virally suppressed; they are mostly men who have sex with men (MSM) plus MSM and Injection Drug Use (IDU) risk. Of the 631 new diagnoses in 2020, 66% were among Black/African American non-Hispanic. Late diagnoses comprised 26% of new diagnoses. Males comprised 79% of late diagnoses. Across all three categories in the unmet need framework, Black/African American non-Hispanic makes up the largest percentages: 66% with a late diagnosis, 59% with an unmet need, and 69% in care and not virally suppressed. Sixty-one percent of the population diagnosed late is 35 years old or older, with a third of all late diagnoses being over 45

years old. For RWHAP B clients, the percentage of unmet need is significantly lower at approximately 3% (n=267 clients) of the nearly 8,000 clients who received any funded service in 2020. There are approximately 1,400 RWHAP B clients not viral suppressed with the majority reporting MSM or MSM and IDU risk.

Table 1: RWHAP Clients and Insurance Coverage

Health Coverage Enrolled	# of Virginia RWHAP Clients	% of Virginia RWHAP Clients
Private- Employer	782	10%
Private- Individual *(includes VDH-paid Marketplace plans)*	1,196	15%
Medicare	480	6%
Medicaid, CHIP, or other public plan	1,343	17%
VA, Tricare and other military health care	4	0%
Other plan, unspecified	199	3%
No insurance/Uninsured	1,566	20%
More than 1 Insurance Type	452	6%
Missing/Unknown	1,921	24%
Total	**7,943**	**100%**

In 2020, according to Department of Medical Assistance Services (DMAS), an estimated 7,293 PWH accessed antiretroviral treatment (ART) through Medicaid and did not receive any services through RWHAP B or Virginia Medication Assistance Program (VAMAP). In addition to Medicaid and RWHAP B, coverage options for health insurance or health services delivery include Medicare; the Veteran's Administration; Tricare and other military health care; private employer insurance; and Affordable Care Act (ACA) coverage through the Marketplace including through VA MAP and other RWHAP cross-parts services.

Virginia expanded Medicaid in 2019. Along with RWHAP services, this reduced barriers for people with HIV accessing health care related to insurance coverage, highly restrictive income criteria, or affordability of care.

Table 2: RWHAP Clients Federal Poverty Levels

Federal Poverty Level	# of Virginia RWHAP Clients	% of Virginia RWHAP Clients
At or below 100% FPL	2,938	37%
101 to 138% FPL	842	11%
139 to 200% FPL	921	12%
201 to 300% FPL	807	10%
301 to 400% FPL	407	5%
401 to 500% FPL	121	2%
Over 500% FPL*	73	1%
Unknown/missing*	1,834	23%
Total	**7,943**	**100%**
Clients with no income/income over 500% FPL are not eligible for RWHAP B services.		

Table 1 presents the met and unmet needs of ancillary services among adults living with HIV in Virginia from 2017-2020. An estimated 74% of persons reported receiving at least one HIV support service, the most common of which was receiving medicine through Virginia Medication Assistance Program (VA MAP) (58%). An estimated 70% of persons received non-HIV medical services. The most common non-HIV medical service was dental care, received by 57% of persons. Nearly half (42%) of persons received at least one subsistence service, the most common of which was Supplemental Nutrition Assistance Program (SNAP) or the special SNAP for women, infants, and children (WIC) (29%). An estimated 17% of persons reported at least one unmet HIV support service need. The most frequent unmet non-HIV medical service need was dental care (23%) and an estimated 28% of persons reported at least one unmet non-HIV medical service need. Among the subsistence services, the most commonly reported unmet need was for SNAP or WIC (12%).

Table 1: Receipt of, and unmet needs for, HIV ancillary services during the 12 months before interview among persons with diagnosed HIV - Medical Monitoring Project, Virginia, 2017-2020

	Persons who received services		Persons who needed but did not receive services by time of interview	
	n	% (95% CI)	n	% (95% CI)
Overall	614	100	614	100
HIV support services				
HIV case management services				
Yes	334	51.0 (46.5-55.4)	43	7.4 (5.0-9.8)
No	270	49.0 (44.6-53.5)	560	92.6 (90.2-95.0)
Medicine through ADAP				
Yes	371	58.0 (53.4-62.5)	—[a]	—[a]
No	223	42.0 (37.5-46.6)	582	97.5 (95.8-99.2)
Professional help remembering to take HIV medicines on time or correctly (adherence support services)				
Yes	229	34.5 (30.4-61.4)	—[a]	—[a]
No	374	65.5 (61.4-69.6)	601	99.6 (98.9-100.0)
Patient navigation services				
Yes	107	16.3 (13.2-19.5)	25	3.8 (2.2-5.4)
No	498	83.7 (80.5-86.8)	580	96.2 (94.6-97.8)
HIV peer group support				
Yes	78	12.0 (9.3-14.7)	58	9.2 (6.7-11.7)
No	527	88.0 (85.3-90.7)	546	90.8 (88.3-93.3)
≥ 1 HIV support service				
Yes	479	73.7 (69.5-77.9)	105	16.9 (13.6-20.2)
No	135	26.3 (22.1-30.5)	509	83.1 (79.8-86.4)
Non-HIV medical services				
Dental care				
Yes	348	57.2 (52.8-61.7)	141	23.2 (19.5-27.0)
No	257	42.8 (38.3-47.2)	464	76.8 (73.0-80.5)
Mental health services				
Yes	187	29.1 (25.2-33.0)	53	9.0 (6.3-11.6)
No	418	70.9 (67.0-74.8)	550	91.0 (88.4-93.7)
Drug or alcohol counseling or treatment				
Yes	44	6.4 (4.4-8.5)	17	2.7 (1.3-4.1)
No	561	93.6 (91.5-95.6)	588	97.3 (95.9-98.7)
Domestic violence services				
Yes	—[a]	—[a]	—[a]	—[a]
No	595	98.5 (97.5-99.5)	598	99.2 (98.6-99.9)
≥ 1 non-HIV medical service				
Yes	437	69.5 (65.4-73.7)	177	27.7 (23.8-31.6)
No	177	30.5 (26.3-34.6)	437	72.3 (68.4-76.2)

(continued on next page)

Table 1 (continued): Receipt of, and unmet needs for, HIV ancillary services during the 12 months before interview among persons with diagnosed HIV - Medical Monitoring Project, Virginia, 2017-2020

	Persons who received services		Persons who needed but did not receive services by time of interview	
	n	% (95% CI)	n	% (95% CI)
Overall	614	100	614	100
Subsistence services				
SNAP or WIC				
Yes	182	28.7 (24.7-32.8)	75	11.9 (9.1-14.6)
No	423	71.3 (67.2-75.3)	530	88.1 (85.4-90.9)
Transportation assistance				
Yes	150	22.8 (19.1-26.4)	37	5.8 (3.7-7.8)
No	455	77.2 (73.6-80.9)	568	94.2 (92.2-96.2)
Meal or food services[b]				
Yes	111	17.3 (14.0-20.6)	57	8.5 (6.2-10.8)
No	494	82.7 (79.4-86.0)	548	91.5 (89.2-93.8)
Shelter or housing services				
Yes	79	12.8 (9.8-15.7)	59	9.1 (6.6-11.5)
No	526	87.2 (84.3-90.2)	545	90.9 (88.5-93.4)
≥ 1 subsistence service				
Yes	272	41.5 (37.1-45.8)	145	22.5 (18.9-26.0)
No	342	58.5 (54.2-62.9)	469	77.5 (74.0-81.1)

Note. All numbers are weighted and all percentages are weighted percentages; CIs incorporate weighted percentages

[a] Estimates with a coefficient of variation >0.30 are excluded

[b] Includes services such as soup kitchens, food pantries, food banks, church dinners, or food delivery services

Current Interventions and Strategies

RYAN White Part B (RWHAP B) uses regional data to identify improvements for each geographical area to assure funding allocations and priority services are in place to link and retain clients in care. COVID-19 had an overall impact in Virginia, increasing needs across the state. Throughout the Commonwealth, RWHAP B saw significantly increased utilization of medical case management (MCM), emergency financial assistance (EFA), and Food Bank/Home Delivered Meals, an increased need for medical transportation in the Southwest region, and linguistic services in Northern Virginia. Lack of in-person appointments and activities made it difficult to retain clients in care, negatively affecting viral suppression rates.

Strategies using the HIV Care Continuum

Virginia RWHAP B reviews statewide and regional HIV care continuum (HCC) data, as well as other programmatic data, on a routine basis to ensure RWHAP B clients can access care with few to no barriers and to determine whether the program's service delivery and system are meeting client and provider needs. Virginia Department of Health (VDH) monitors its HCC with a customized Care Markers Database that contains all markers of HIV care available to VDH, including CD4 counts, viral load, medical care visits, and evidence of antiretroviral treatment (ART) medications. HCC data also helps RWHAP B plan and prioritize resources to improve linkage to care, ART, retention in care, and VLS.

Eastern and Central health regions have the lowest rates of viral load suppression for fiscal year 2020 at 79% and 78%, respectively. In 2020, RWHAP B collaborated with new community based organizations (CBOs); many of them primarily funded by VDH for HIV prevention, to braid funding into existing contracts to include RWHAP services and activities.

PositiveLinks

Virginia partnered with the University of Virginia

(UVA), who created PositiveLinks. This long-term collaboration focused on creating new features and language translations, changing policies to create timely notifications about staff turnover and test the use of different mobile devices compared to sole use on mobile phones.

Rapid Start

In July 2020, VDH assessed the readiness of Prevention and Care funded agencies' for rapid initiation of antiretroviral therapy (Rapid Start). Rapid initiation of ART is classified as beginning antiretroviral treatment within two weeks of diagnosis. The surveys examined current knowledge, identified agencies' interest and ability to adopt a Rapid Start program, and if applicable, identified current implementation stage. VDH embarked on a Rapid Start of ART Initiative with the purpose to achieve the goal of treating the infection rapidly and effectively to achieve sustained viral suppression (SLV). By the end of 2020, each Rapid Start pilot site developed rapid ART interventions, protocols and procedures, assessed the adaptability of successful models and interventions at the provider level, and promoted the replication of effective models and interventions among other providers serving people with HIV (PWH).

Ninety-one clients enrolled in Rapid Start during the first year including 74% of newly diagnosed clients among the sites. Of those, 85% received ART prescriptions within seven days with the average number of days from diagnosis to initiation of ART being only three days. Of these clients, 20% reached viral suppression within 30 days and 35% within 60 days.

HIV Care Continuum

The HIV Care Continuum (HCC) is a framework for assessing health outcomes among persons living in Virginia diagnosed with HIV. Virginia uses a diagnosis-based continuum (versus a prevalence-base continuum). The diagnosis-based continuum includes all people with HIV (PWH) who are diagnosed and reported in Virginia's HIV surveillance system and excludes undiagnosed persons. Figure 1 shows the definitions for the HCC.

Table 1 summarizes Virginia's HCC for several subpopulations of PWH including by sex at birth, current gender status, race/ethnicity, transmission risk, health region, and age group. As noted in Table 1 and the figures that follow, there are some significant disparities across subpopulations. The most notable disparities, defined as three or more percentage points less than Virginia's overall percentage, are highlighted in **bold italic** and grey shading.

Figure 1: HIV Care Continuum Definitions

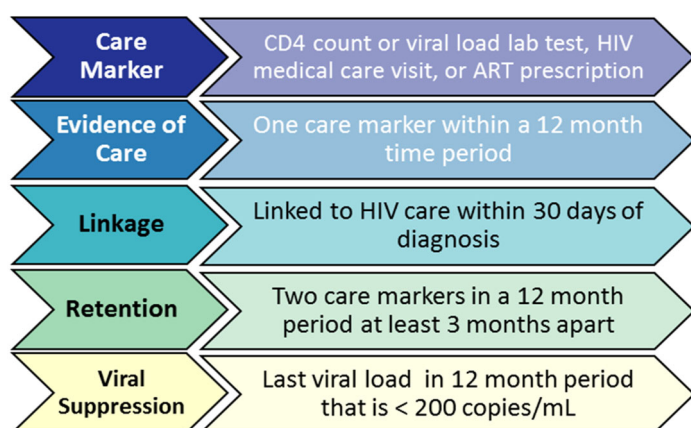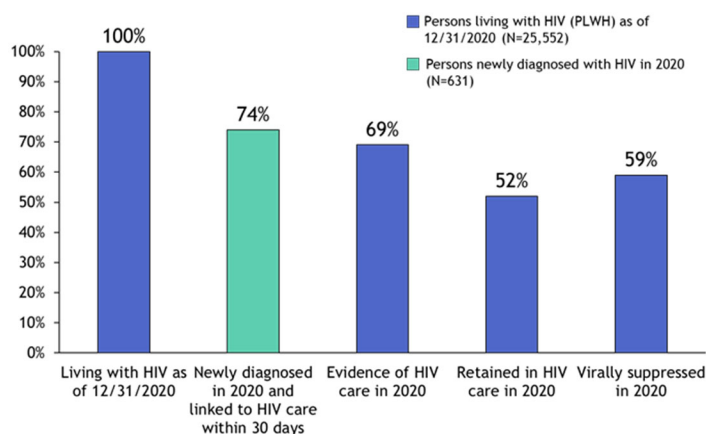| Care Marker | CD4 count or viral load lab test, HIV medical care visit, or ART prescription |
Evidence of Care	One care marker within a 12 month time period
Linkage	Linked to HIV care within 30 days of diagnosis
Retention	Two care markers in a 12 month period at least 3 months apart
Viral Suppression	Last viral load in 12 month period that is < 200 copies/mL

Figure 2 shows the statewide measures for each of the four care continuum metrics: linkage to care, evidence of care, retention in care, and viral suppression.

Figure 2: HIV Continuum of Care in Virginia, 2020

Table 1: Virginia 2020 HIV Continuum of Care by Specific Population Groups

Population	Linked to Care	Evidence of Care	Retained in Care	Virally Suppressed
Virginia	74%	69%	52%	59%
Sex at birth				
Males	75%	68%	51%	59%
Females	77%	71%	54%	61%
Current gender				
Transgender MtF	100%	67%	*48%*	57%
Transgender FtM	82%	76%	53%	60%
Cisgender	74%	69%	52%	59%
Race/ethnicity				
Black, NH	*71%*	70%	52%	58%
White, NH	79%	70%	51%	63%
Hispanic/Latino	88%	*62%*	50%	*55%*
Transmission Risk				
MSM	78%	73%	54%	63%
IDU	*67%*	*59%*	*46%*	*52%*
MSM & IDU	100%	69%	55%	59%
Heterosexual contact	73%	73%	56%	63%
Health Region				
Central	*69%*	72%	53%	61%
Eastern	73%	69%	51%	58%
Northern	78%	*62%*	*44%*	*55%*
Northwest	85%	76%	63%	67%
Southwest	76%	78%	64%	66%
Age group (years)				
15-24	77%	78%	53%	60%
25-34	74%	72%	51%	57%
35-44	76%	71%	52%	59%
45-54	73%	69%	51%	60%
55+	*69%*	*66%*	52%	60%

*MtF– Male to female FtM- Female to male

Table 2 reorganizes the information from Table 1 and ranks from best to worst HIV-related outcome. The red highlighted text in Table 2 indicates that the greatest disparities are to populations that are at least five percentage points below Virginia's average. Persons who inject drugs, those in the Northern region, and the Hispanic/Latino population show the largest disparities across the four measures.

Table 2: Virginia's 2020 HIV Continuum of Care for Specific Population Groups in Order from Best to Worst HIV-Related Outcome

	Linked to Care (30 days)		Evidence of Care		Retained in Care		Virally Suppressed	
Best	Transgender FtM	100%	Southwest	78%	Southwest	64%	Northwest	67%
	MSM & IDU	100%	15-24 years	78%	Northwest	63%	Southwest	66%
	Hispanic/Latino	88%	Transgender MtF	76%	Heterosexual contact	56%	White, NH	63%
	Northwest	85%	Northwest	76%	MSM & IDU	55%	Heterosexual contact	63%
	Transgender MtF	82%	MSM	73%	Females	54%	MSM	63%
	White, NH	79%	Heterosexual contact	73%	MSM	54%	Females	61%
	MSM	78%	Central	72%	Transgender MtF	53%	Central	61%
	Northern	78%	25-34 years	72%	Central	53%	Transgender MtF	60%
	15-24 years	77%	Females	71%	15-24 years	53%	15-24 years	60%
	35-44 years	76%	35-44 years	71%	Cisgender	52%	45-54 years	60%
	Southwest	76%	Black, NH	70%	Black, NH	52%	55+ years	60%
	Females	75%	White, NH	70%	35-44 years	52%	**Virginia**	**59%**
	Virginia	**74%**	**Virginia**	**69%**	55+ years	52%	Males	59%
	Males	74%	Cisgender	69%	**Virginia**	**52%**	Cisgender	59%
	Cisgender	74%	MSM & IDU	69%	Males	51%	MSM & IDU	59%
	25-34 years	74%	Eastern	69%	White, NH	51%	35-44 years	59%
	Heterosexual contact	73%	45-54 years	69%	Eastern	51%	Black, NH	58%
	Eastern	73%	Males	68%	45-54 years	51%	Eastern	58%
	45-54 years	73%	Transgender FtM	67%	25-34 years	51%	Transgender FtM	57%
	Black, NH	**71%**	**55+ years**	**66%**	Hispanic/Latino	50%	25-34 years	57%
	55+ years	**69%**	**Hispanic/Latino**	**62%**	**Transgender FtM**	**48%**	**Hispanic/Latino**	**55%**
	Central	**69%**	**Northern**	**62%**	**IDU**	**45%**	**Northern**	**55%**
Worst	**IDU**	**67%**	**IDU**	**59%**	**Northern**	**44%**	**IDU**	**52%**

(Left margin label: HIV-related Outcomes)

HIV Prevention and Testing Services

The Virginia Department of Health (VDH) supports free HIV testing in clinical, non-clinical, pharmacy settings, and HIV self-testing. Clinical sites include local health department (LHD) clinics, community health centers (CHC), federally-qualified health centers (FQHC), community services boards, community-based organizations (CBO), and other healthcare settings. Non-clinical HIV testing is the primary form of HIV testing provided by CBOs across the state. CBO testing venues include CBO offices and drop-in centers, community centers, correctional facilities, libraries, bars and clubs, educational institutions, harm reduction sites, and other community settings. Pharmacy-based testing is provided through a partnership between VDH and certain retail pharmacies. Throughout 2020, VDH-supported HIV testing programs were significantly impacted by COVID-19 pandemic. Most organizations that provided HIV testing closed to the public for some or all of early phase of the pandemic. In 2020, VDH-supported programs provided 26,297 HIV tests, a 60% reduction from the 64,581 tests provided in 2019. The following data covers HIV testing events from January 1, 2020 to December 31, 2020.

HIV TESTING STRATEGIES

Rapid-Rapid HIV Testing
A diagnostic algorithm using two sequential, orthogonal rapid HIV tests is the strategy that is recommended. This strategy is used to quickly and efficiently diagnose clients and offer same-day linkage to care. During the period covered by this report, the first rapid test in this algorithm was the bioLytical INSTI test, which delivers a result in about 60 seconds. The second, confirmatory test in the algorithm was the Abbott Determine test, which delivers a result in 15 minutes.

Conventional HIV Testing
This strategy is used by all LHDs, CHCs, and FQHCs supported by VDH, as well as select CBOs, and involves drawing a venous whole blood sample upon which multiple tests can be run in a laboratory setting. The initial test run on this blood sample detects antibodies for HIV-1 and HIV-2, as well as p24 antigen for HIV-1. In the event of an initial positive or anomalous result, successive tests can be run on the sample to confirm the HIV diagnosis. During the period covered by this report, conventional blood samples were processed by LabCorp.

Mobile Unit Testing
Mobile unit testing is a strategy that involves providing either rapid or conventional HIV testing in a vehicle which has been specially configured or retrofitted to create space for confidential counseling and testing. Testing on mobile units creates opportunities for CBOs to expand access to testing in places that are frequented by members of priority populations but lack appropriate physical spaces for confidential testing.

Retail Pharmacy-Based Testing
In Virginia, pharmacy-based testing is a strategy that increases access to HIV and hepatitis C virus testing by offering testing through retail pharmacy locations. In Virginia, Walgreens pharmacies provided this service through spring of 2020. The Virginia Pharmacy Association and select local pharmacies, which are located in each health region, (through contract with VDH) began testing services in late 2022. Retail pharmacies conduct a single rapid HIV testing using the bioLytical INSTI test at no cost to the client. Clients who receive a positive test at a pharmacy are linked to confirmatory testing by a member of VDH staff using a dedicated cell phone that is active 24 hours a day, 7 days a week.

HIV Self-Testing

One rapid HIV test, the OraQuick In-Home HIV Test, has been approved by the US Food and Drug Administration for over-the-counter sale. This test kit detects antibodies for HIV-1 and HIV-2 in an oral fluid sample, and delivers a result in 20 minutes. This strategy involves distributing self-tests to clients as a screening tool, and clients who have a positive result will need subsequent rapid or conventional testing provided by a CBO, LHD, or other test site to obtain a diagnosis and linkage to medical care.

TYPES OF HIV TESTING SITES

Clinical

These are LHD clinics, CHCs and FQHCs, community services boards, select CBO site types, and other healthcare settings:

- 20,281 total tests administered in 2020, down from 52,547 in 2019
- 72 new HIV cases identified in 2020, down from 141 in 2019
- 79% of all newly-diagnosed people with HIV (PWH) were linked to medical care within 30 days of diagnosis

Non-Clinical

These are CBO offices and drop-in centers, community centers, correctional facilities, libraries , bars and clubs, educational institutions, harm reduction sites, and other community settings:

- 5,666 total tests administered in 2020, down from 10,623 in 2019
- 47 new HIV cases identified in 2020, down from 78 in 2019
- 85% of all newly-diagnosed PWH were linked to care within 30 days of diagnosis

Mobile Units

These are vehicles owned or leased by CBOs which travel to a variety of locations in order to expand access to testing:

- 350 total tests administered in 2020, down from 1,411 in 2019

- One new HIV case identified
- 100% of all newly-diagnosed PWH were linked to care within 30 days of diagnosis

Retail Pharmacies

These are select independent, retail pharmacy locations across the state that offer rapid HIV testing. Due to the COVID-19 pandemic testing the below statistics only represent the first three months of 2020.

- 449 total tests administered in 2020, down from 1,765 in 2019
- Four preliminary-positive HIV test results confirmed through subsequent testing by other providers
- 100% of all newly-diagnosed PWH were linked to care within 30 days of diagnosis
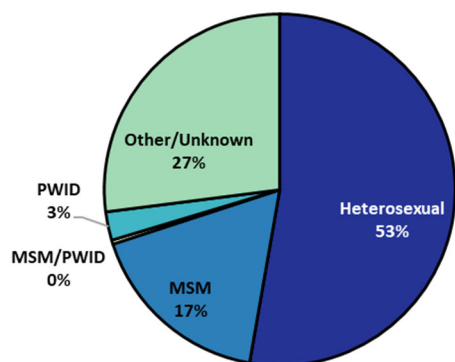
HIV Self-Testing

The Virginia and Maryland Home HIV Testing Program distributes free HIV self-test kits to eligible clients. Due to COVID-19, eligibility criteria were expanded to allow any person aged 17 and up to request a test once every 90 days.

- 1,299 HIV self-tests distributed to Virginians by mail in 2020, up from 640 in 2019
- Ten positive tests identified by self-report or surveillance matching
- Seven new HIV cases identified through subsequent testing by other providers
- 86% of newly-diagnosed PWH were linked to care within 30 days of being diagnosed through subsequent testing by other providers
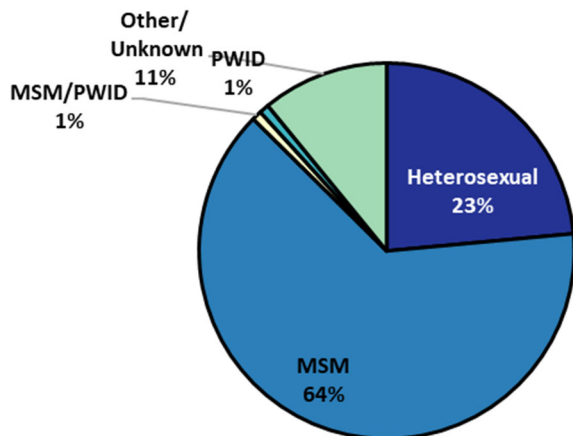
Figure 2 shows that for all persons newly-diagnosed with HIV through VDH-supported programs in 2020, male-to-male sexual contact (MSM) was the most reported priority population (64%), followed by heterosexual male (18%), no reported sexual contact or injection drug use in the past five years (8%), heterosexual female (5%), transgender (3%), people who inject drugs (PWID) (1%), and MSM/PWID (1%).

Figure 1: HIV Testing by Priority Population, 2020 (n=27,596)

Figure 3: HIV Testing by Current Gender, 2020 (n=27,596)

Heterosexual women had the largest representation among priority populations, at 7,574 tests, followed by heterosexual men, at 6,984 tests, and MSM at 4,758 tests. VDH-supported testing programs also conducted 725 tests among PWID, 279 tests among transgender people, 256 tests among women who have sex with women, and 109 tests among MSM or transgender PWID. About 25% of all tests performed (6,813) were provided to clients who reported no sexual contact or injection drug use in the prior five years (Figure 1). Figures 1 and 2 show the disparity between tests performed and new diagnoses by priority population. Figures 3 and 4 show the disparity between tests performed and new diagnoses by current gender.

Figure 4: New HIV Diagnoses by Current Gender, 2020 (n=119)
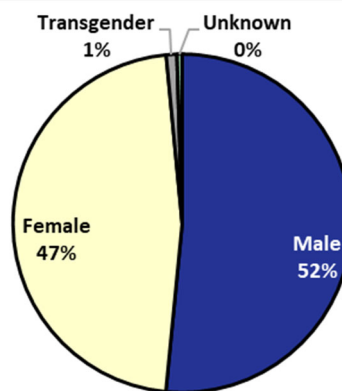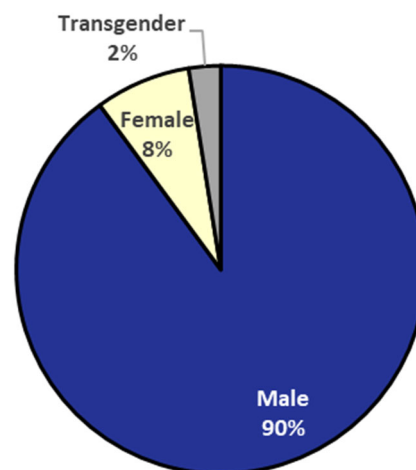

## Figure 2: New HIV Diagnoses by Priority Population, 2020 (n=119)

By Gender

Cisgender male was the most reported gender, at 14,195 tests, followed by cisgender female, at 12,928 tests. Transgender, at 470 tests, encompasses clients who reported that they were transgender male-to-female, transgender female-to-male, unspecified transgender, gender non-binary, or another gender. One hundred and thirty-five clients did not have a gender reported.

Of all persons newly-diagnosed with HIV through VDH-supported programs in 2020, 90% were cisgender male, 8% were cisgender female, and 3% were transgender female-to-male (Figure 4). Of all cisgender men newly-diagnosed with HIV, 71% were MSM. Because HIV testing data shows that men were more than 11 times more likely to test positive for HIV, Virginia's HIV testing strategies focus on increasing HIV testing among men across the state.

By Age Group

The 20-29 age group comprised 44% of all HIV tests, followed by persons aged 30-39 (28%), 40-49 (12%), 13-19 (7%), 50-59% (6%), and persons 60 and older (3%). Persons under 13 years of age and those for whom no age was reported comprised less than 1% of all tests (Figure 5).
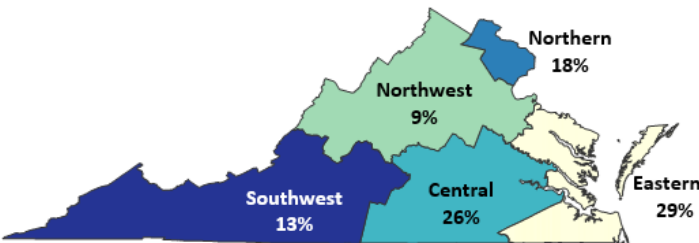
Figure 5: HIV Testing by Age Group, 2020 (n=27,596)
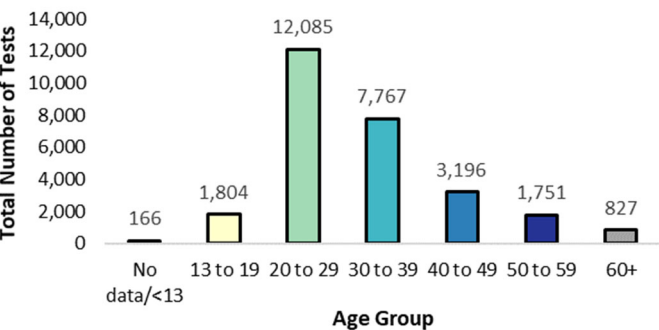
By Health Region

The map below (Figure 6) shows HIV testing by health region. Of the 27,596 tests administered during 2020, 34% were administered in Eastern, followed by Central (26%), Northern (18%), Southwest (13%), and Northwest (9%).

Figure 6: HIV Testing by Health Region in Virginia, 2020 (n=27,596)

By Race/Ethnicity

The breakdown of race and ethnicity reported by people who received an HIV test from a VDH supported agencies is described below (Figure 7): Black/African-American (45%), White (26%), Hispanic/Latino of any race (22%), and Asian (3%). Indigenous people from the continental United States and Alaska, Native Hawaiians and Pacific Islanders, and people reporting Multi-race comprised a total of 1% of tests. A race/ethnicity could not be identified for 3% of tests (Figure 7).

Figure 7: HIV Testing by Race/Ethnicity, 2020 (n=27,596)
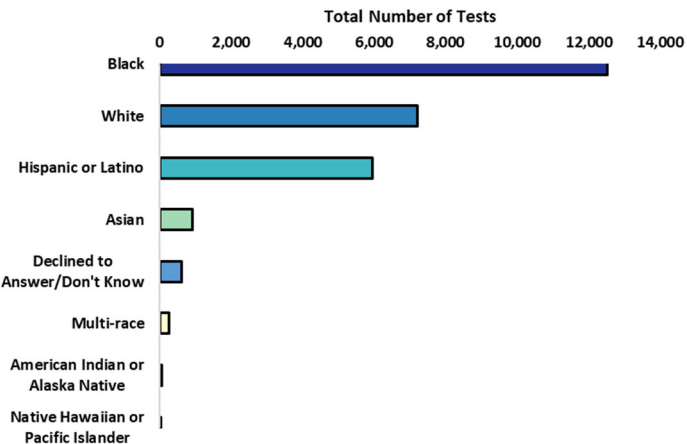
The Behavioral Risk Factor Surveillance System (BRFSS) is a system of national telephone surveys of U.S. residents regarding their health behaviors, conditions, and use of healthcare. In a complex sample of BRFSS participants in 2020, 30.4% Virginia residents reported an HIV in their lifetimes, and of those, 41.9% had an HIV test within 12 months of the survey.

During 2020, an estimated 5,134 Virginians ages 16 or older received a prescription for HIV pre-exposure prophylaxis (PrEP).

COMPREHENSIVE HARM REDUCTION

From January to June 2020, Comprehensive Harm Reduction (CHR) programs were authorized in Virginia during a declared public health emergency in communities designated as high risk for HIV, viral hepatitis, or other blood-borne disease as a result of injection drug use. CHR is a set of public health services designed to reduce the negative impacts of drug use. CHR may also be called syringe services or needle exchanges, yet CHR programs provide much more than needles and syringes.

On July 1, 2020, an amendment went into effect that allowed for CHR program operation regardless of public health emergency declarations or community designation as high risk. It also provided that CHR sites need not obtain letters of support from local stakeholders and allowed for sites funded by entities other than the Virginia Department of Health (VDH) to operate with fewer mandatory services. Finally, this amendment added program participants protection from prosecution for possession of paraphernalia acquired from CHR sites.

During 2020, VDH supported four authorized comprehensive harm reduction sites. One of four was needs-based, with no 1:1 exchange requirement. Of the remaining three sites, one used a 1:1 model while the others distributed new syringes based on syringe returns rounded up to the nearest ten.

> **The Virginia Department of Health (VDH) distributed 1,874,000 condoms in 2020.**

*Va. Code Ann. § 32.1-45.4 (2020)

> **REFERENCES**

1. Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020.

CHARLII, Comprehensive HIV/AIDS Resources and Linkages for Individuals Experiencing Incarceration, is a program within the Division of Disease Prevention (DDP). The CHARLII program is available to any Virginia correctional facility, including local and regional sites, and Department of Corrections (DOC) facilities. Four main components make up the CHARLII program: HIV testing, HIV and STI education, assistance to both people with HIV and the medical correctional staff during the discharge or reentry planning process, and 18 months of case management provided after release from corrections. While services are available during incarceration, most services are provided post release.

HIV testing and HIV/STI education are offered to all persons nearing release from corrections. Due to the COVID-19 pandemic and the restrictions implemented in correctional facilities the CHARLII program had a lower rate of enrollment than prior years. Although the program had a smaller number of 2020 clients Figure 1 demonstrates that the program successfully linked clients with services, care, retention of care, and viral suppression while enrolled.

Figure 1: HIV Healthcare Continuum, Virginia, 2020, CHARLII and all PWH
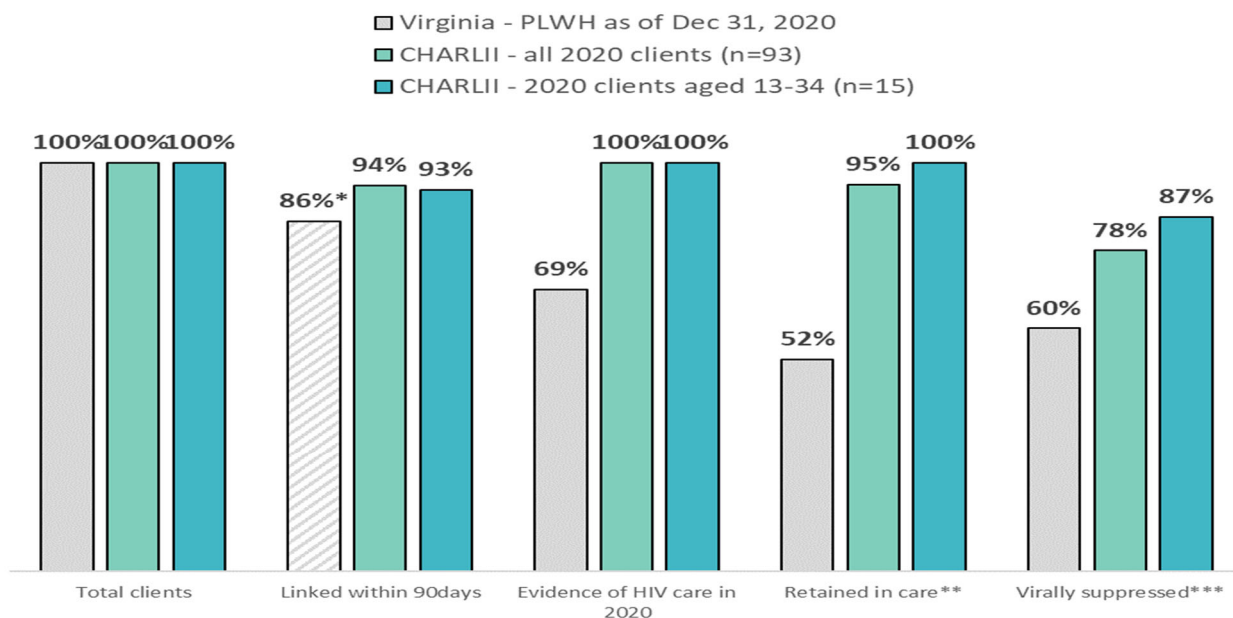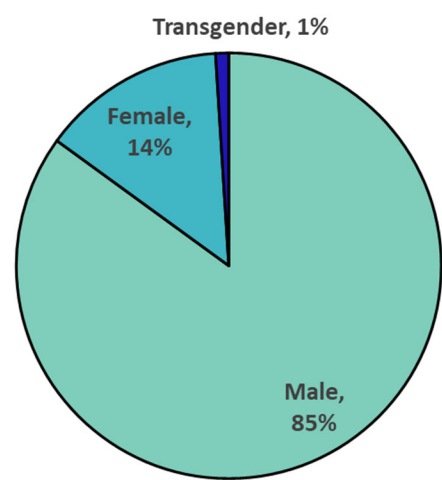

*Gray diagonal shading indicates PWH who were diagnosed with HIV in Virginia **in 2020 only**

** For CHARLII clients, retained in care 12 months from enrollment; for Virginia PWH, retained in care in 2020

*** For CHARLII clients, suppressed 12 months from enrollment

Of those enrolled in the CHARLII program in 2020 85% were male, 14% female, and 1% transgender. The largest proportion of those enrolled in the program self-identified as Black/African American, (74%), followed by White (23%), and 1% each for Asian, American Indian/Alaska Native, and multi-racial.

The most common transmission risk for 2020 enrolled CHARLII clients was heterosexual contact (56%), men who have sex with men (MSM) (18%), injection drug use (IDU) (14%), MSM and IDU (4%), Unknown (3%), and blood products and perinatal exposure each represented 2% of those enrolled.

Figure 2: CHARLII clients by gender Virginia, 2020

Figure 3: CHARLII clients enrolled in 2020 by transmission risk
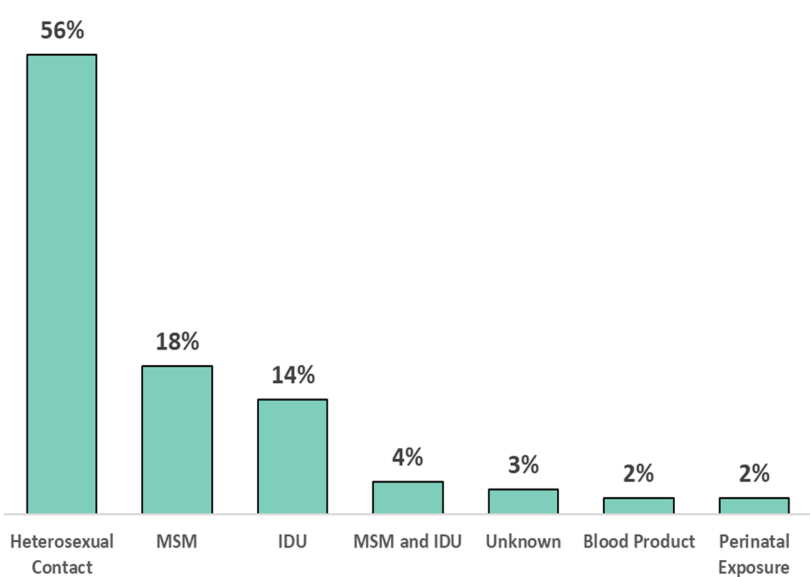
Figure 3: CHARLII clients by race Virginia, 2020
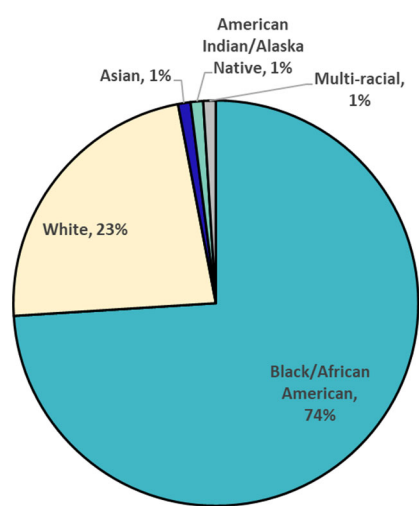
List of CHARLII Services
- Discharge planning
- Access to medications
- Linkage to medical care
- Case management
- Assistance with housing
- Access to food resources
- Assistance with social service applications
- Employment resources
- Mental health services
- Substance abuse support and services
- Transportation services
- Support groups
- Interventions and strategies for people with HIV

Note: this list is not exhaustive and identifies some of the CHARLII services, but not all.

DC Eligible Metropolitan Area

Eligible Metropolitan Areas (EMAs) are areas in which Ryan White Part A provides additional funding if the area has at least 2,000 HIV/AIDS cases in the last five years with a population of at least 50,000. The District of Columbia (DC) EMA consists of localities from four jurisdictions, Virginia, DC, Maryland, and West Virginia. While this area spans four jurisdictions the data in this document focuses on the Virginia portion of the DC EMA. The Commonwealth of Virginia DC EMA consists of city, and county localities in the northern region of Virginia. In 2020, there were 162 newly diagnosed HIV cases in the DC EMA.

and the entire Commonwealth of Virginia. Figure 2 displays the percentages of new diagnoses in the DC EMA compared to the entire state of Virginia.

Figure 2: Percentage of New Diagnoses in DC EMA and Virginia by Age, 2020

Figure 1: Virginia DC EMA Localities
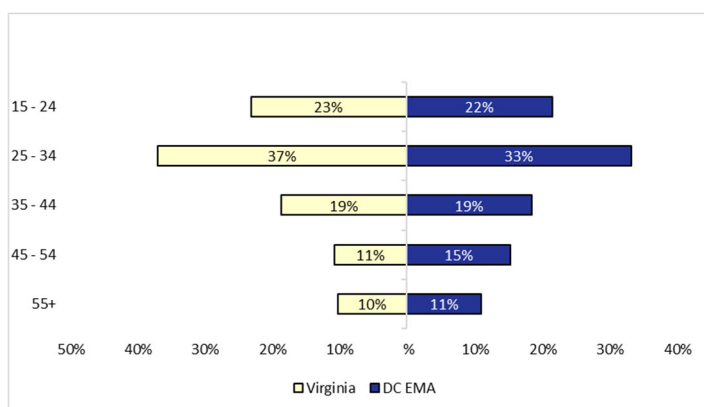
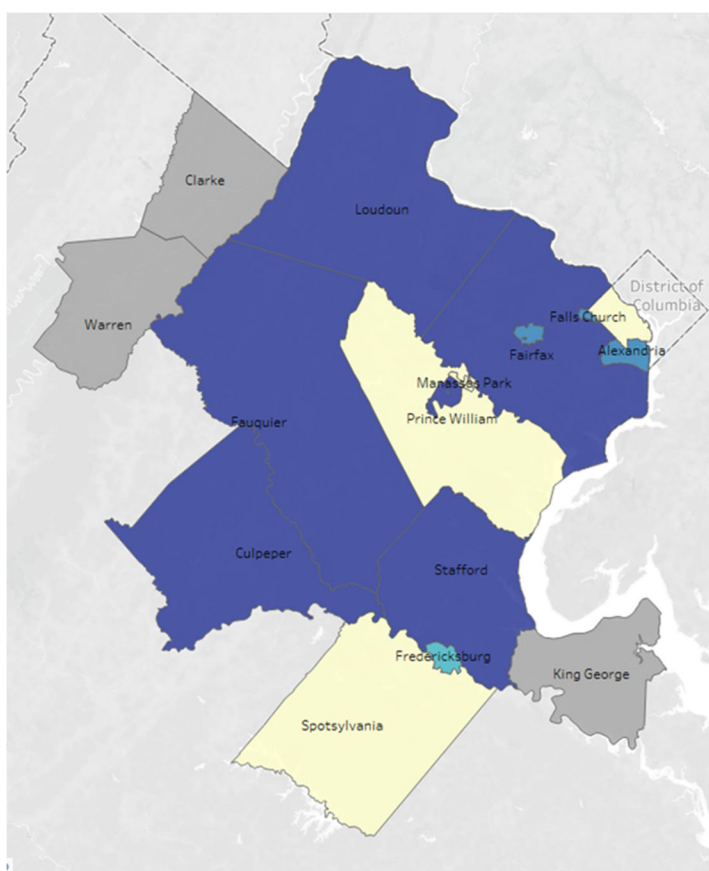
Transmission risk factors differ in the DC EMA compared to statewide trends. The DC EMA reports lower rates heterosexual sexual transmission risk, higher rates of injection drug use and a much higher percentage of newly diagnosed cases having no reported or identified risk factor. Male to male sexual contact is the highest transmission risk factor in both the DC EMA area and the Commonwealth of Virginia.

Figure 3: New Diagnoses by Transmission Category in the DC EMA and Virginia, 2020


Similar in comparison to statewide morbidity trends Black/African American non-Hispanic populations have the highest rates of new diagnoses of HIV in 2020. This region also follows a similar pattern regarding the age of new diagnoses in the DC EMA
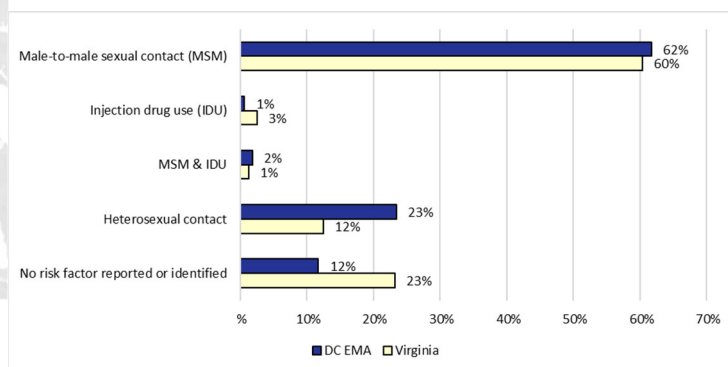
The Norfolk Transitional Grant Area (TGA) is an area funded by the Ryan White (RW) HIV/AIDS Part A program. To be classified as a transitional area the locality must have reported between 1,000 to 1,999 HIV/AIDS cases in the last five years and have a population of at least 50,000 persons. The Norfolk TGA consists of multiple localities in the eastern region of Virginia.

Figure 1: Norfolk TGA HIV Rates of Diagnoses by Locality, 2020
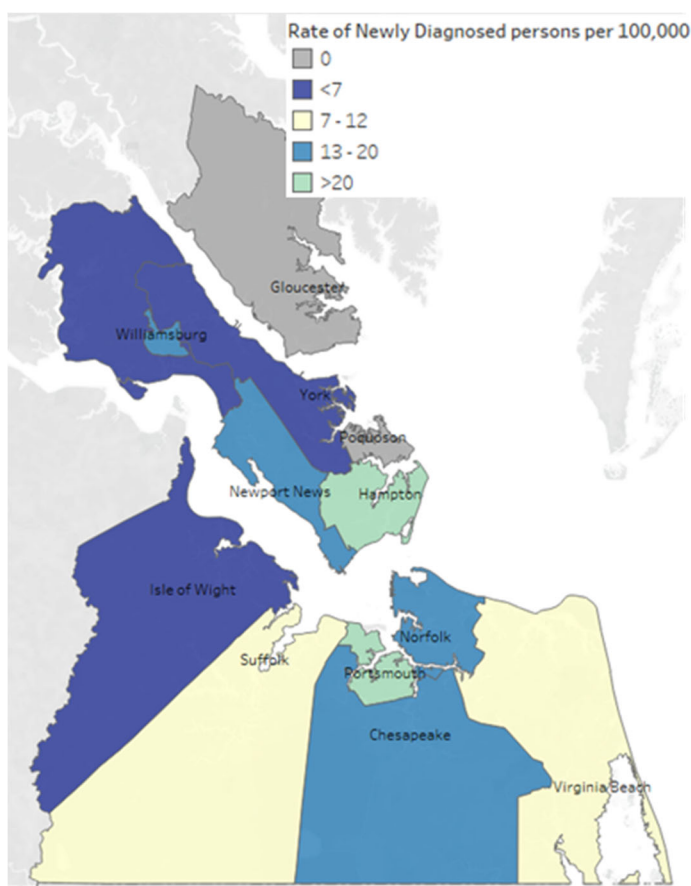
In 2020, a total of 218 new cases of HIV/AIDS were identified in the Norfolk TGA.

The Norfolk TGA follows similar trends to the state of Virginia in regard to the age of newly diagnosed HIV cases, with ages 25-34 having the highest rates followed by 15-24. Compared to statewide trends, the Norfolk TGA reported lower rates in newly diagnosed cases in ages 45-54 and 55+.

Figure 2: Percentage of New HIV Diagnoses in Norfolk TGA and Virginia by Age, 2020
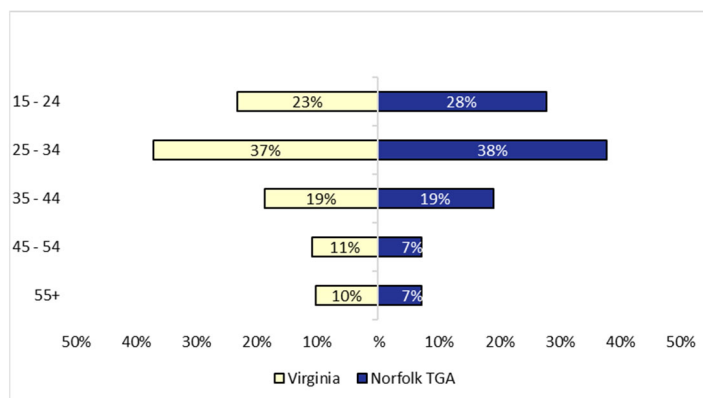
As in all areas of Virginia the Norfolk TGA Black/African American community has the highest rates of new diagnoses in 2020.

Figure 3: Percentage of New Diagnoses by Transmission Risk Category in the Norfolk TGA, 2020
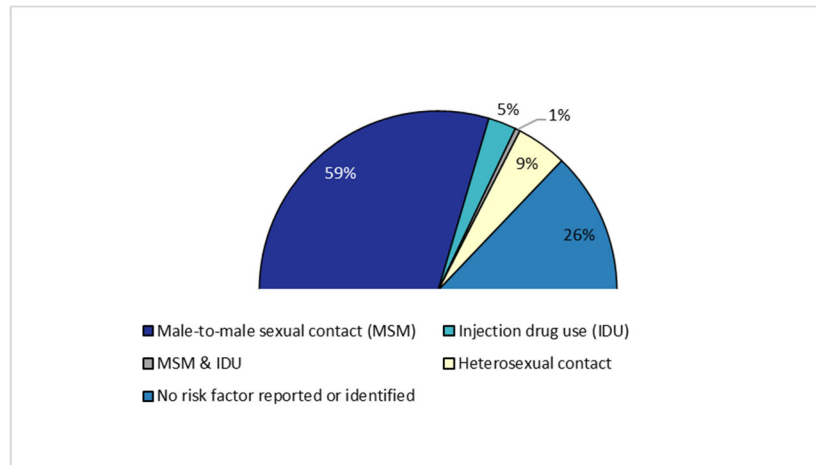
Male to male sexual contact comprises the highest percentage of transmission risk factors in the Norfolk TGA (29%), followed by no risk factor known or identified (26%), heterosexual contact (9%), and injection drug use (9%). The Norfolk TGA follows similar trends to the Commonwealth of Virginia regarding transmission risk factors.

Data to Care (DtC) is a Centers for Disease Control and Prevention (CDC) national strategy to use HIV surveillance data to identify people with HIV (PWH) who are out-of-care (OOC) and help to re-engage them into care. A person is considered OOC if they have not had any evidence of care in the past year, but did receive care in the year prior. After a person is identified as OOC, they are then contacted to be linked to or reengaged back into care. The overall goal of DtC program is to improve outcomes for PWH in Virginia by helping clients engage in care and ultimately achieve HIV viral suppression.

DATA TO CARE IN VIRGINIA

The Virginia Department of Health (VDH) DtC program ran from 2015 to 2019 and after a brief break, to be restarted again in 2021. DtC is a joint effort with VDH's HIV Surveillance, Care Services, Prevention, and STI Prevention and Surveillance units. The program is currently led by the Data to Care Linkage Coordinator. The DtC initiative in Virginia is statewide.

Figure 1: The Data to Care Process
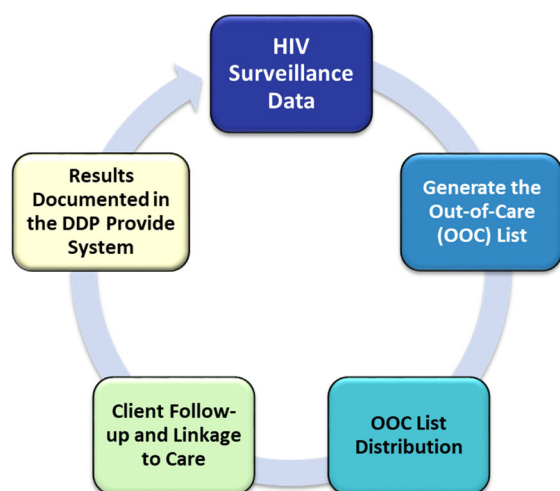
PROCESS

Virginia's DtC program uses HIV surveillance data supplemented with other data sources to create lists of people who are OOC (Figure 1). The OOC lists are uploaded to an online portal and disseminated to

linkage staff at VDH's contracted Ryan White agencies. Staff at these agencies follow up and try to locate clients or find updated information. Clients are only on a contractor's OOC list if the client has been seen at that agency before.

The DtC Linkage Coordinator also conducts follow up investigations to look for clients who have never been in care or who were in care at agencies that VDH does not contract with. Client information and care status are submitted to VDH. DtC results are used to update HIV surveillance data, identify reporting issues, and help improve future OOC lists.

To be on an OOC list, the client must:
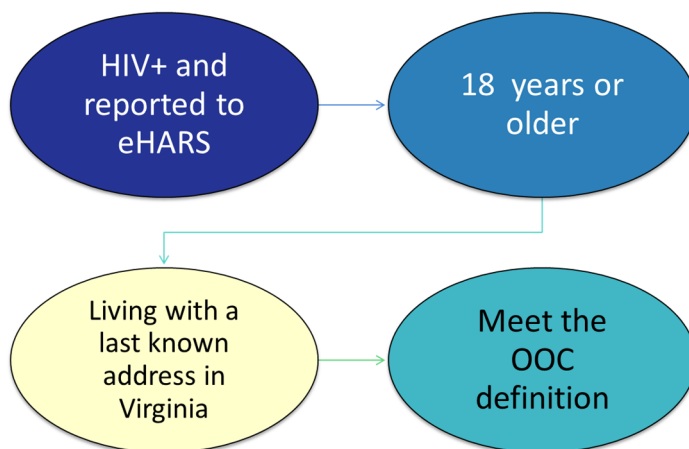
OUT OF CARE DEFINITION

Clients must have a care marker (CD4 or Viral Load lab test, HIV medical care visit, or antiretroviral prescription) reported in the reference year, but no care marker in the following calendar year. For example: the 2020 OOC definition includes persons who had a care marker in 2019, but have no evidence of care since.

RESULTS

As of December 2020, 13 contracted agencies were trained and conducted follow ups for the DtC program. VDH staff and partner agencies completed 368 investigations with results submitted to VDH. Sixty-three percent of the clients' care status were unable to determine, 20% were found to be in care, 14% relocated out of state (OOS), 2% were deceased and only 1% of clients were found to be not in care (Figure 2).

OOC clients get the resources and services that they need to get into HIV care, and stay in care over time to improve overall health and well-being.

Figure 2: Data to Care Outcomes
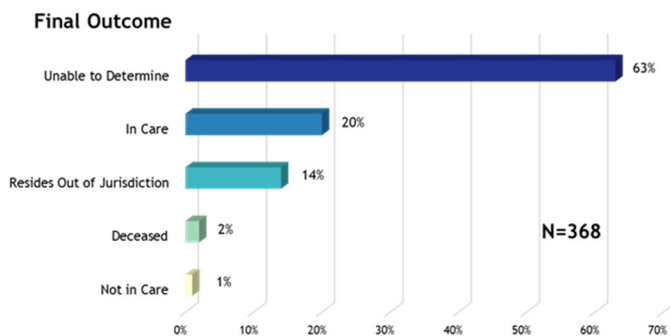
Of the five clients found to be "Not in Care," three (60%) reengaged in care from DtC efforts. A client is considered reengaged when a care marker is reported to HIV surveillance after follow-up. Of the remaining two, one declined reengagement to care and one returned to care before any DtC intervention took place.

DATA TO CARE IMPLICATIONS

For clients who were not in care, DtC has been successful in helping them reengage back into HIV medical care. HIV surveillance data is enhanced through DtC outcomes by identifying clients who are no longer living in Virginia or who are deceased. This helps provide more accurate estimations of Virginia's HIV Care Continuum measures. DtC results can also help identify agencies throughout Virginia that are not reporting their labs correctly. Persons on OOC lists who were found to be in care, but with no care markers reported to VDH indicates a reporting issue. Moving forward, DtC will continue to expand throughout Virginia to help

The Medical Monitoring Project (MMP) is a CDC-funded survey of adults with diagnosed HIV that assesses behavioral and clinical characteristics at a specific point in time. Table 1 presents demographic characteristics and social determinants of health (SDH) among people with HIV in Virginia from 2017-2020.

The majority of persons were over 45 years old (29.3% aged 45-54 and 36.4% aged 55+). An estimated 56% of persons were Black, non-Hispanic and 25% were White, non-Hispanic. Males made up the majority of persons (72%) and 26% of persons were female. Forty-eight percent of persons self-identified as heterosexual; 39% as homosexual, gay or lesbian; 9% as bisexual; and 4% as other. An estimated 91% of persons were born in the United States and 98% reported English proficiency. More than half of persons (60%) completed education beyond high school. An estimated 43% of persons reported a yearly household income below $20,000 and 31% were living at or below the federal poverty level. Six percent of persons reported homelessness in the previous 12 months. The most commonly reported type of health insurance for care or medications was Ryan White HIV/AIDS Program (RWHAP) or Virginia Medication Assistance Program (VA MAP) (58%), followed by private insurance (53%), Medicaid (36%), and Medicare (28%). Health insurance categories are not mutually exclusive; therefore, persons can report more than one.

Table 1: Demographic characteristics and social determinants of health among adults with diagnosed HIV- Medical Monitoring Project, Virginia, 2017-2020

	n	% (95% CI)
Overall	**614**	**100**
Age at time of interview, in years		
18-24	16	2.3 (1.2-4.0)
25-34	97	14.8 (11.8-17.8)
35-44	109	16.9 (13.6-20.2)
45-54	173	29.3 (25.2-33.3)
55+	219	36.4 (32.1-40.8)
Race/ethnicity[a]		
Black, non-Hispanic	353	56.3 (51.9-60.8)
White, non-Hispanic	147	25.0 (21.1-28.9)
Hispanic/Latino	41	7.6 (5.1-10.1)
Other, including multi-racial	68	11.1 (8.3-13.8)
Gender		
Male	417	72.0 (68.0-75.9)
Female	184	25.8 (22.0-29.6)
Transgender[b]	—[c]	—[c]
Sexual orientation		
Heterosexual	310	48.4 (44.0-52.9)
Homosexual/gay/lesbian	221	38.6 (34.3-43.0)
Bisexual	56	9.0 (6.6-11.5)
Other	25	3.9 (2.3-5.5)
Country of birth		
United States	405	91.0 (88.2-93.9)
Country outside United States	42	9.0 (6.1-11.8)

English proficiency		
Speaks English well	599	98.1 (97.0-99.1)
Does not speak English well	14	1.9 (0.9-3.0)
Education attainment		
< High school	102	15.7 (12.5-18.8)
High school diploma or equivalent	150	24.6 (20.8-28.5)
> High school	362	59.7 (55.4-64.1)
Combined yearly household income (US$)		
$0 - $19,999	262	42.5 (38.0-47.0)
$20,000 - $39,999	132	21.6 (18.0-25.2)
$40,000 - $74,999	90	17.0 (13.5-20.6)
$75,000 +	93	18.8 (15.0-22.6)
Household at or below federal poverty level, past 12 months[d]		
Yes	196	31.0 (26.9-35.1)
No	379	69.0 (64.9-73.1)
Homeless, past 12 months[e]		
Yes	40	6.1 (4.1-8.1)
No	573	93.9 (91.9-95.9)
Type of health insurance or coverage for care or medications, past 12 months[f]		
RWHAP or ADAP		
Yes	371	57.5 (53.0-62.1)
No	226	42.5 (37.9-47.0)
Medicaid		
Yes	221	35.8 (31.5-40.0)
No	381	64.2 (60.0-68.5)
Medicare		
Yes	168	27.6 (23.6-31.6)
No	432	72.4 (68.4-76.4)
Private health insurance		
Yes	315	53.3 (48.8-57.8)
No	285	46.7 (42.2-51.2)
Other publicly funded insurance		
Yes	60	8.3 (6.1-10.4)
No	539	91.7 (89.6-93.9)

Note. All numbers are weighted and all percentages are weighted percentages; CIs incorporate weighted percentages

[a] Hispanic or Latino persons might be of any race. Persons are classified in only 1 race/ethnicity category

[b] Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender

[c] Estimates with a coefficient of variation ≥0.30 are excluded

[d] Poverty guidelines are defined by HHS; the 2016 guidelines were used for persons interviewed in 2017, the 2017 guidelines were used for persons interviewed in 2018, the 2018 guidelines were used for persons interviewed in 2019, and 2019 guidelines were used for people interviewed in 2020. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty

[e] Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car

[f] Persons could select more than 1 response for health insurance or coverage for antiretroviral medications or care

Table 2 presents experiences with HIV-related stigma among adults living with HIV in Virginia from 2018-2020. The most commonly reported experience of personalized stigma was 'I have been hurt by how people reacted to learning I have HIV' (16% somewhat agreed, 24% strongly agreed). An estimated 90% of persons are very careful with who they tell about their HIV diagnosis and 58% worry that people who know will tell others.

Twenty-three percent of persons reported that having HIV makes them feel unclean. Over half of persons felt that most people with HIV are rejected when others find out (26% somewhat agreed, 29% strongly agreed).

Additional MMP data are presented in the HIV-Related Disparities section of the Epidemiology Profile.

Table 2: Experiences with HIV-related stigma among adults with HIV, by domain - Medical Monitoring Project, Virginia, 2018-2020

	Strongly disagree		Somewhat disagree		Neutral		Somewhat agree		Strongly agree	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Personalized stigma										
I have been hurt by how people reacted to learning I have HIV	164	39.7 (34.5-44.9)	34	7.1 (4.6-9.6)	59	13.9 (10.3-17.5)	59	15.6 (11.4-19.8)	115	23.7 (19.4-27.9)
I have stopped socializing with some people because of their reactions to my HIV status	218	50.8 (45.5-56.0)	42	11.0 (7.4-14.6)	53	11.8 (8.5-15.0)	31	7.7 (4.7-10.7)	89	18.7 (14.8-22.6)
I have lost friends by telling them I have HIV	263	63.1 (58.1-68.1)	28	6.6 (3.9-9.2)	45	9.4 (6.6-12.3)	28	6.8 (3.9-9.6)	70	14.1 (10.7-17.5)
Disclosure stigma										
I am very careful who I tell that I have HIV	23	5.5 (3.2-7.8)	9	1.7 (0.5-2.9)	11	2.4 (0.9-3.9)	41	11.3 (7.5-15.1)	355	79.1 (74.6-83.6)
I worry that people who know I have HIV will tell others	120	28.4 (23.7-33.1)	27	6.3 (3.5-9.1)	33	7.3 (4.7-9.8)	62	14.5 (10.6-18.3)	195	43.5 (38.4-48.7)
Negative self-image										
I feel that I am not as good a person as others because I have HIV	298	67.4 (62.4-72.4)	25	5.4 (3.1-7.7)	28	8.2 (4.8-11.6)	40	8.7 (5.8-11.5)	48	10.3 (7.2-13.4)
Having HIV makes me feel unclean	282	63.2 (58.1-68.4)	30	7.0 (4.3-9.8)	22	6.6 (3.5-9.8)	57	12.6 (9.2-16.1)	48	10.4 (7.2-13.6)
Having HIV makes me feel that I am a bad person	340	77.2 (72.7-81.8)	37	9.4 (6.1-12.7)	11	3.3 (0.9-5.7)	22	4.4 (2.4-6.5)	28	5.6 (3.4-7.8)
Public attitudes										
Most people think that a person with HIV is disgusting	150	34.5 (29.6-39.4)	34	7.8 (4.9-10.6)	49	12.8 (9.0-16.6)	99	22.4 (18.1-26.7)	102	22.6 (18.2-26.9)
Most people with HIV are rejected when others find out	90	20.4 (16.3-24.6)	48	12.3 (8.6-16.0)	51	12.8 (9.1-16.6)	113	25.8 (21.2-30.3)	130	28.8 (24.1-33.4)

Note: All numbers are weighted and all percentages are weighted percentages; CIs incorporate weighted percentages
HIV stigma during the past 12 months was based on a ten-item scale that measures four dimensions of HIV stigma: personalized stigma during the past 12 months, current disclosure concerns, current negative self-image, and current perceived public attitudes about people with HIV

National HIV Behavioral Surveillance (NHBS)

National HIV Behavioral Surveillance (NHBS) is a national surveillance project that collects behavioral data and conducts anonymous HIV testing among three rotating populations of persons at increased risk for acquiring HIV: men who have sex with men (MSM), persons who inject drugs (PWID), and heterosexuals at increased risk (HET). Values reported from NHBS data should be interpreted with caution. Given the small sample size and unweighted percentages, these estimates cannot be extrapolated beyond the survey participants.

Table 1 presents HIV testing and sexual behaviors among MSM in the Hamptons Roads metropolitan statistical area (MSA) in 2017. Participants age 18-29 years old reported ever receiving an HIV test at a slightly lower percentage (94%) than older participants. Conversely, this age group reported the highest percentage of HIV testing in the previous 12 months (61%) compared to older participants. Black/African American participants reported the highest percentage of ever receiving an HIV test (98%), but also the lowest percentage of testing in the previous 12 months (45%) compared to other races. The percentage of HIV testing in the previous 12 months increased as education level increased. More participants who visited a health care provider in the previous 12 months reported ever receiving an HIV test (97%) compared to those who did not. Participants who did not experience homelessness in the previous 12 months, and those who reported never being incarcerated, reported a slightly higher percentage of HIV testing compared to those who were homeless or had a history of incarceration, respectively.

Reports of exchanging sex for money or drugs in the past 12 months was highest among participants aged 50 years and older compared to younger participants. The highest percentage of exchanging sex occurred among Black/African American participants (14%). A higher percentage of participants who experienced homelessness in the past 12 months and have ever been incarcerated reported exchanging sex compared to those who did not experience homelessness and have never been incarcerated. Participants aged 50 years and older reported the lowest percentage of condomless sex with an HIV-discordant partner compared to younger participants. The lowest percentage of condomless sex with an HIV-discordant partner occurred among White participants (26%) compared to other races. A higher percentage of condomless sex with an HIV-discordant partner was reported among participants who experienced homelessness in the past 12 months and have ever been incarcerated.

Table 2 presents HIV testing and sexual behaviors among PWID in the Hampton Roads MSA in 2018. The lowest percentage of ever being tested for HIV was among participants age 18-29 years (77%). Hispanic participants reported the lowest percentage of ever testing (81%) and testing in the previous 12 months (19%) compared to other races. A higher percentage of participants with health insurance reported testing for HIV in the previous 12 months (37%) compared to those without insurance. A higher percentage of participants who visited a health care provider reported testing for HIV in the previous 12 months (38%) compared to those without a health care visit.

A higher percentage of females reported exchanging sex for money or drugs than males; however, a higher percentage of males reported condomless sex with an HIV-discordant partner than females. The lowest percentage of exchanging sex occurred among participants aged 18-29 years (23%). The highest percentages of exchanging sex (40%) and condomless sex with an HIV-discordant partner (50%) were among Hispanic participants. The lowest percentages of exchanging sex (24%) and condomless sex with an HIV-discordant partner (34%) occurred among participants who attained education beyond high school. Higher percentages

of participants who experienced homelessness in the past 12 months reported exchanging sex (40%) and condomless sex with an HIV-discordant partner (43%) than those who did not experience homelessness. A higher percentage of participants with a history of incarceration reported condomless sex with an HIV-discordant partner (38%) compared to those who have never been incarcerated.

Table 3 presents HIV testing and sexual behaviors among HET in the Hampton Roads MSA in 2019. A higher percentage of females reported HIV testing compared to males. Participants age 18-29 years reported the lowest percentage of ever testing for HIV, but the highest percentage of HIV testing within the previous 12 months compared to older participants. Hispanic participants reported the highest percentage of ever testing for HIV, but the lowest percentage of HIV testing in the previous 12 months compared to other races. The highest percentages of ever testing for HIV and HIV testing in the past 12 months occurred among participants who attained education beyond high school (85% and 39%, respectively) compared to those with lower levels of education. Higher percentages of HIV testing occurred among participants with health insurance and who visited a health care provider in the previous 12 months compared to those without insurance and those who did not visit a health care provider.

A higher percentage of females reported exchanging sex for money or drugs (11%) than males; however, a higher percentage of males reported condomless sex with an HIV-discordant partner (48%) than females. The lowest percentage of exchanging sex was among participants age 18-29 years. The highest percentages of exchanging sex and condomless sex with an HIV-discordant partner occurred among Hispanic participants (19% and 57%, respectively) compared to other races. Higher percentages of exchanging sex and condomless sex with an HIV-discordant partner occurred among participants with no health insurance and who did not report a visit with a health care provider in the previous 12

months. Higher percentages of exchanging sex and condomless sex with an HIV-discordant partner occurred among participants who experienced homeless in the past 12 months and have ever been incarcerated compared to those without a history of homelessness or incarceration.

Table 1: HIV testing and sexual behaviors among HIV-negative men who have sex with men - National HIV Behavioral Surveillance, Hampton Roads, 2017

	Ever tested		Tested in past 12 months[a]		Exchange sex[b]		Condomless sex with an HIV-discordant partner at last sex[c]	
	n	row %	n	row %	n	row %	n	row %
Age at interview (years)								
18-29	183	94.3	118	60.8	19	9.8	73	37.6
30-49	130	98.5	65	49.2	14	10.6	51	38.6
≥ 50	52	98.1	16	30.2	7	13.2	16	30.2
Race/ethnicity								
Black/African American	225	98.3	103	45.0	33	14.4	89	38.9
White	80	93.0	52	60.5	2	2.3	22	25.6
Hispanic/Latino[d]	30	93.8	22	68.8	1	3.1	14	43.8
Other/multiple races	30	93.8	22	68.8	4	12.5	15	46.9
Education								
Less than high school (HS)	10	100.0	4	40.0	1	10.0	2	20.0
HS diploma or equivalent	93	93.0	50	50.0	17	17.0	43	43.0
More than high school	262	97.4	145	53.9	22	8.2	95	35.3
Health insurance								
Yes	273	96.1	146	51.4	29	10.2	102	35.9
No	91	96.8	52	55.3	11	11.7	38	40.4
Visited health care provider, past 12 months								
Yes	325	96.7	178	53.0	37	11.0	125	37.2
No	40	93.0	21	48.8	3	7.0	15	34.9
Homeless, past 12 months[e]								
Yes	17	94.4	9	50.0	5	27.8	9	50.0
No	348	96.4	190	52.6	35	9.7	131	36.3
Incarcerated, ever[f]								
Yes	92	96.8	38	40.0	23	24.2	40	42.1
No	273	96.1	161	56.7	17	6.0	100	35.2

Note. For testing measures: Data include all participants who did not report a previous HIV-positive test result and participants who received their first HIV-positive test result less than 12 months before interview

[a] "Past 12 months" refers to the 12 months before interview

[b] "Exchange sex" refers to receiving money or drugs from a sex partner in exchange for sex

[c] "Condomless sex" refers to whether the participant reported engaging in vaginal or anal sex without a condom during most recent sexual encounter. "HIV-discordant partner" refers to a sex partner with of a different or unknown HIV status and participant PrEP use at most recent sexual encounter is unknown

[d] Hispanic/Latino persons can be of any race

[e] Living on the street, in a shelter, in a single room occupancy hotel, or in a car

[f] Having been held in a detention center, jail, or prison for more than 24 hours

Table 2: HIV testing and sexual behaviors among HIV-negative persons who inject drugs - National HIV Behavioral Surveillance, Hampton Roads, 2018

	Ever tested		Tested in past 12 months[a]		Exchange sex[b]		Condomless sex with an HIV-discordant partner at last sex[c]	
	n	row %	n	row %	n	row %	n	row %
Gender								
Male	317	87.6	123	34.0	86	23.8	147	40.6
Female	158	89.8	61	34.3	72	40.5	54	30.3
Transgender	1	100.0	0	0.0	N/A	N/A	N/A	N/A
Age at interview (years)								
18-29	26	76.5	13	37.1	8	22.9	12	34.3
30-49	179	91.8	72	36.9	59	30.4	82	42.1
≥ 50	271	87.1	99	31.7	91	29.3	107	34.3
Race/ethnicity								
Black/African American	324	87.8	130	35.1	124	33.6	144	38.9
White	113	88.3	43	33.3	21	16.3	41	31.8
Hispanic/Latino[d]	13	81.3	3	18.8	6	40.0	8	50.0
Other/multiple races	26	96.3	8	29.6	7	25.9	8	29.6
Education								
Less than high school (HS)	144	85.7	58	34.5	55	32.7	67	39.9
HS diploma or equivalent	218	87.9	85	34.0	74	29.7	92	36.8
More than high school	114	91.9	41	33.1	29	23.6	42	33.9
Health insurance								
Yes	248	87.9	105	37.1	125	29.3	89	31.5
No	227	88.3	79	30.6	33	29.2	112	43.4
Visited health care provider, past 12 months								
Yes	380	88.8	162	37.8	125	29.3	154	35.9
No	96	85.7	22	19.5	33	29.2	47	41.6
Homeless, past 12 months[e]								
Yes	221	85.7	96	36.9	103	39.9	112	43.1
No	255	90.4	88	31.2	55	19.5	89	31.6
Incarcerated, ever[f]								
Yes	430	90.3	163	34.2	134	28.2	179	37.5
No	46	71.9	21	32.3	24	36.9	22	33.9

Note. For testing measures: Data include all participants who did not report a previous HIV-positive test result and participants who received their first HIV-positive test result less than 12 months before interview

[a] "Past 12 months" refers to the 12 months before interview

[b] "Exchange sex" refers to receiving money or drugs from a sex partner in exchange for sex

[c] "Condomless sex" refers to whether the participant reported engaging in vaginal or anal sex without a condom during most recent sexual encounter. "HIV-discordant partner" refers to a sex partner with of a different or unknown HIV status and participant PrEP use at most recent sexual encounter is unknown

[d] Hispanic/Latino persons can be of any race

[e] Living on the street, in a shelter, in a single room occupancy hotel, or in a car

[f] Having been held in a detention center, jail, or prison for more than 24 hours

Table 3: HIV testing and sexual behaviors among HIV-negative heterosexually active men and women - National HIV Behavioral Surveillance, Hampton Roads, 2019

	Ever tested		Tested in past 12 months[a]		Exchange sex[b]		Condomless sex with an HIV-discordant partner at last sex[c]	
	n	row %	n	row %	n	row %	n	row %
Gender								
Male	179	69.9	69	27.0	23	9.0	123	48.1
Female	231	75.7	111	36.3	34	11.1	134	43.8
Age at interview (years)								
18-29	178	63.8	96	34.3	16	5.7	124	44.3
30-49	184	82.1	74	33.0	27	12.1	107	47.8
≥ 50	48	82.8	10	17.2	14	24.1	26	44.8
Race/ethnicity								
Black/African American	353	72.0	158	32.2	49	10.0	224	45.6
White	5	71.4	3	42.9	1	14.3	1	14.3
Hispanic/Latino[d]	18	85.7	6	28.6	4	19.1	12	57.1
Other/multiple races	34	79.1	13	30.2	3	7.0	20	46.5
Education								
Less than high school (HS)	109	77.9	44	31.4	17	12.1	63	45.0
HS diploma or equivalent	193	65.7	86	29.3	25	8.5	130	44.2
More than high school	108	85.0	50	39.1	15	11.7	64	50.0
Health insurance								
Yes	291	75.4	132	34.2	19	10.8	166	43.0
No	119	68.0	48	27.3	38	9.8	91	51.7
Visited health care provider, past 12 months								
Yes	353	75.3	164	35.0	44	9.4	210	44.8
No	57	62.0	16	17.2	13	14.0	47	50.5
Homeless, past 12 months[e]								
Yes	85	74.6	30	26.3	25	21.9	74	64.9
No	325	72.7	150	33.5	32	7.1	183	40.9
Incarcerated, ever[f]								
Yes	218	78.1	80	28.6	40	14.3	146	52.1
No	192	68.1	100	35.5	17	6.0	111	39.4

Note. For testing measures: Data include all participants who did not report a previous HIV-positive test result and participants who received their first HIV-positive test result less than 12 months before interview

[a] "Past 12 months" refers to the 12 months before interview

[b] "Exchange sex" refers to receiving money or drugs from a sex partner in exchange for sex

[c] "Condomless sex" refers to whether the participant reported engaging in vaginal or anal sex without a condom during most recent sexual encounter. "HIV-discordant partner" refers to a sex partner with of a different or unknown HIV status and participant PrEP use at most recent sexual encounter is unknown

[d] Hispanic/Latino persons can be of any race

[e] Living on the street, in a shelter, in a single room occupancy hotel, or in a car

[f] Having been held in a detention center, jail, or prison for more than 24 hours

Cluster Detection and Response (CDR) is a core HIV surveillance program that identifies clusters of HIV infections to stop the spread of HIV. Clusters are identified monthly through Virginia's CDR program using molecular cluster analysis and time-space analysis. CDC also identifies molecular and time space clusters are also identified on a national level quarterly. CDC compiles data from all jurisdictions to conduct analyses, and are able to identify clusters that cross jurisdictions.

MOLECULAR CLUSTER ANALYSIS

Pursuant to Virginia law, HIV is a reportable disease and it must be reported to VDH within three days. Each month, the program receives HIV genotypes, which are DNA or RNA from an HIV virus, of individuals with HIV who have had a genotypic resistance test. Laboratories are required to report genotype tests monthly to VDH, and each year the CDR program receives genotypes from about 67% of newly diagnosed patients in Virginia. One limitation of this reporting is that by the time a genotype test is performed, sent to VDH, processed and analyzed by the CDR program, a person has already been diagnosed for at least a month, resulting in a lag from diagnosis to cluster identification.

HIV genotypes are imported in an HIV surveillance database at VDH, and analyzed to identify similarities. Genotypes that are at least 99.5% similar are considered to be genetically linked, and indicate that transmission somehow occurred between those individuals, either directly or through a common source. The program uses HIV genotypes to identify priority clusters, defined as a cluster of at least five individuals diagnosed in the previous 12 months who have genetically linked HIV genotypes. Identifying priority clusters is an important part of stopping the spread of HIV, as the rate of HIV transmission in priority clusters is over 10 times higher compared to the rate of HIV transmission in the entire population of people with HIV. Once priority clusters are identified, treatment and

prevention efforts can be focused on these areas of high HIV transmission to interrupt and stop HIV transmission.

> **Identifying priority clusters is an important part of stopping the spread of HIV.**
>
> **HIV transmission in priority clusters is over 10 times higher compared to the entire population of people with HIV.**

TIME-SPACE CLUSTER ANALYSIS

Each month, a Rapid Response Report is generated to detect time-space clusters by using HIV case surveillance data and flagging notable increases in average HIV case count by locality and sociodemographic characteristics. The function of this report is to: analyze HIV surveillance data for the past 24 months from eHARS by health district and demographic subgroups (e.g., sex at birth); indicate localities and subgroups that may be experiencing an increase in HIV incidence as determined by at least a two standard deviation increase in case counts above the monthly average; and enable staff to identify possible trends in increases in case counts. This report contains the following statistics for the 24-month period: monthly count of new HIV diagnoses; average number of HIV diagnoses per month; standard deviation; threshold: average plus two standard deviations; indicator for whether any given month's count surpasses the threshold.

CLUSTERS DETECTED IN 2020

Three clusters were identified in Virginia in 2020. Please take note of several limitations for these data summaries.

1. **Cluster detection work cannot infer directionality of transmission.** It is not possible to conclude that one individual transmitted HIV to another based on the methodology used in Virginia.

2. **The clusters identified do not comprehensively include every person that could be linked to the cluster.** There could be individuals with HIV and genetically linked to the molecular cluster that we have not been able to identify because they have not been diagnosed yet, or they have been diagnosed but have not had an HIV genotype test.

3. **There are difference between a molecular cluster, a transmission cluster, and the risk network.** A molecular cluster refers to individuals who are genetically linked. The transmission cluster includes individuals in the molecular cluster and all named partners of individuals in the molecular cluster who have HIV. The risk network includes all individuals in the transmission cluster and all named partners of those in the transmission cluster regardless of HIV status. Those partners are included so a larger picture of the cluster can be described, and treatment and prevention efforts can be focused on those named partners as well.

CDC conducts national cluster analysis quarterly on genotypes from all jurisdictions, allowing identification of cross-jurisdictional molecular clusters. Note that cluster names that begin with "CDC" have been identified through national analysis. Cluster names beginning with "VA", have been identified through Virginia's local molecular analyses.

VA_202004_617:

This cluster was discovered in 2020 with four individuals in the molecular cluster. Since time of detection, the transmission cluster has grown to 36 individuals, with 17 of these individuals added from April 2021 to September 2021.

After this rapid cluster growth, a DIS was deployed to reach out to everyone in the risk network to offer assistance with treatment and prevention services. The DIS was asked to conduct interviews, testing, PrEP referrals, and offer assistance with linking people to care. The DIS conducted numerous re-interviews with people in the transmission cluster and identified a gap in HIV prevention. She discovered 11 named partners that were not mentioned in the first partner services interview. Identifying these additional partners allowed her to reach out and offer testing and PrEP referrals. In total, she helped 14 people get tested for HIV, and offered four PrEP referrals.

No individuals in the cluster were linked to care as almost everyone in the cluster was already receiving HIV care. Three people in the cluster were identified as living out of state. The CDR team contacted these jurisdictions – Pennsylvania, Georgia and North Carolina - to alert them that a person in their jurisdiction was in this fast-growing cluster. Lessons learned included developing new protocols for 1) quickly and effectively responding to a fast growing cluster, and 2) engaging other jurisdictions in cluster response.

Most people in the transmission cluster are male, White, and age 20-59 at time of diagnosis. The majority of cluster members reside in the Northwest and Southwest regions of Virginia, which is unique to this cluster. The primary transmission risk is men who have sex with men (MSM). As of September 2022, 80% of people in the cluster were virally suppressed and in care.

VA_202005_091:

This cluster was identified in 2020, with five people in the molecular cluster. The transmission cluster has grown to 14 people, after a small amount of growth later in 2020. All individuals in Virginia were identified as being in care at the time of cluster identification. No cluster response activities were conducted.

The cluster is made up of males, with a mix of Black/African American, White, and Hispanic races, mostly age 20-29 at the time of diagnosis, living in the Central region of Virginia. The primary transmission risk is MSM. As of September 2022, 86% of people in the transmission cluster are virally suppressed and in care.

CDC_202006_1390:

This cluster was identified through national analysis in 2020, with five people in the molecular cluster and 12 people in the transmission cluster. CDC also identified three people in the molecular cluster living in Maryland (MD), and the CDR program was able to contact MD and share data on the cluster due to the existing VA/MD data sharing agreement. There were no additional cluster response activities conducted, and there has been no growth in the cluster since it was detected.

Most individuals are male, Black/African American or white, age 20-49 at time of diagnosis, and reside in the eastern region of Virginia. The primary transmission risk is MSM. As of September 2022, 54% of people in the transmission cluster are virally suppressed and in care.

COVID-19 and HIV

The first COVID-19 diagnosis in Virginia was on March 7, 2020. In 2020, 921 (3.6%) people with HIV (PWH) received a COVID-19 diagnosis in Virginia. Certain populations of PWH experienced disproportionately high rates of COVID-19 diagnosis in 2020, including PWH aged 20-34 years, PWH aged 45 – 54 years (Figure 1), Hispanic PWH (Figure 2), and PWH residing in the Southwest region of Virginia (Figure 3). These diagnoses were made primarily before vaccines were publicly available; the first COVID-19 vaccine was administered in Virginia in December 2020.

Figure 1: Percent of PWH with COVID-19 diagnosis in 2020, by age
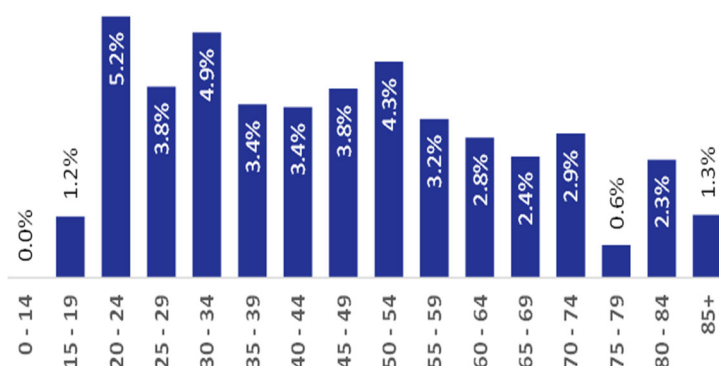
Figure 2: Percent of PWH with a COVID-19 diagnosis in Virginia in 2020, by race/ethnicity
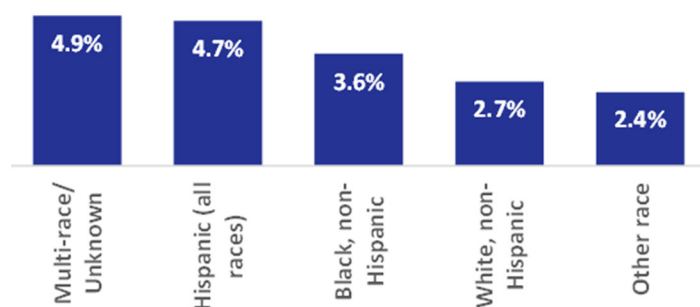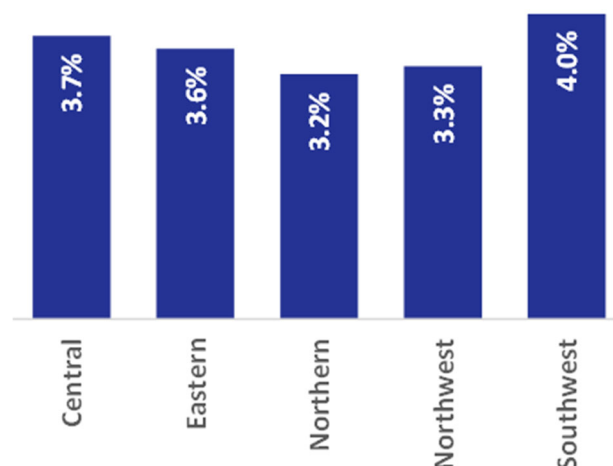

Figure 3: Percent of PWH with a COVID-19 Diagnosis in Virginia by 2020, by region of residence

The COVID-19 pandemic significantly impacted HIV surveillance and diagnosis in 2020 (Figure 4). The decrease in new HIV diagnoses is primarily attributed to widespread interruption of non-urgent medical services while healthcare systems redirected focus to pandemic response, resulting in a significant decrease in HIV testing[1]. HIV testing supported by the Virginia Department of Health in clinical and non-clinical settings dropped 56% in 2020 compared to the number of tests performed in 2018 and 2019 (Figure 5). Pre-exposure prophylaxis (PrEP) enrollment supported by the Virginia Department of Health also decreased significantly during the pandemic.

Figure 4: Newly Diagnosed HIV Cases and AIDS Cases in Virginia, 2016-2020
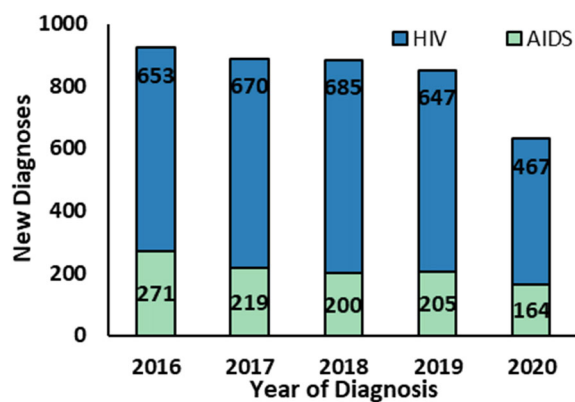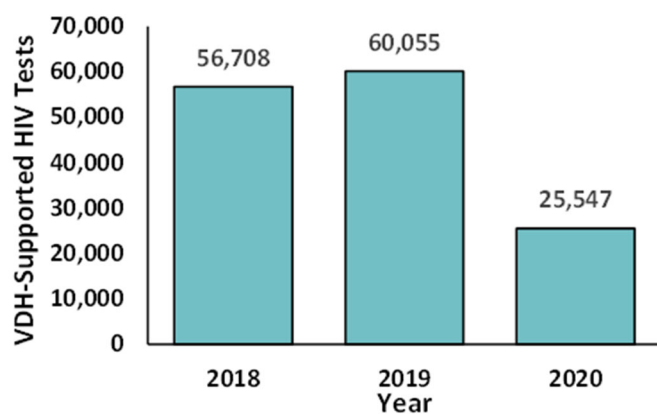

Figure 5: VDH-Supported HIV tests, 2018-2020

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1. Centers for Disease Control and Prevention. HIV Testing Dropped Sharply Among Key Groups During First Year of COVID-19 Pandemic. HIV Testing Dropped Sharply Among Key Groups During First Year of COVID-19 Pandemic | CDC Online Newsroom | CDC