

Virginia's Plan is a living document. The overall plan will be reviewed annually, as well as progress in achieving desired outcomes. The NHAS provides ambitious targets that Virginia will strive toward. For example, 90% of all persons living with HIV will know their serostatus, reduce new diagnoses by 25%, increase retention in care to 90%, and increase viral suppression to 85%. This plan represents an aggressive step forward toward ending HIV in Virginia.

Section I: Statewide Coordinated Statement of Need

A. Epidemiologic Overview

a. Describe the geographical region with regard to communities affected by HIV infection

The Commonwealth of Virginia is comprised of 95 counties and 39 independent cities, which span 42,769 square miles. Virginia shares the border of five states (Maryland, West Virginia, Kentucky, North Carolina, and Tennessee) and the District of Columbia (DC). Within the state, there are five health regions encompassing 35 health districts. They include the Central, Eastern, Northern, Northwest, and Southwest regions. Figure 1 presents a map and comprehensive list of Virginia's health regions, health districts, and local areas (counties and independent cities). In addition, there are two large metropolitan regions that receive dedicated federal HIV funding for services: Northern Virginia, which is part of the DC Eligible Metropolitan Area (EMA) and the Norfolk, Virginia Transitional Grant Area (TGA), which is part of the Eastern Region.

Figure 1. Virginia Health Regions, Health Districts, and Localities (Counties and Independent Cities)

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

The United States (U.S.) Census Bureau’s 2014 American Community Survey (2010-2014) estimates the current population to be 8,185,131.ⁱ This represents approximately a 2% increase from Virginia’s 2010 population of 8,001,024.ⁱⁱ Table 1 presents the total population data for Virginia (2014 population data) and total persons living with HIV, including AIDS (PLWH) and 2015 newly-diagnosed PLWH by health planning region.

Table 1. Virginia Population Estimates (2014) and Persons Living with HIV/AIDS in Virginia (2015)

Residence Status / Region	2014 General Population ¹		2015 PLWH ²		2015 New Diagnoses ²	
	Number	Percent	Number	Percent	Number	Percent
Total	8,185,131	100%	24,853	100.0%	929	100.0%
Known Residence	8,185,131	100%	24,437	98.3%	929	100.0%
Central	1,388,962	17.0%	5,920	24.2%	245	26.4%
Eastern	1,829,361	22.3%	7,697	31.0%	301	32.4%
Northern	2,343,364	28.6%	6,773	27.2%	223	24.0%
Northwest	1,266,922	15.5%	1,944	7.8%	92	9.9%
Southwest	1,356,522	16.6%	2,103	8.5%	68	7.3%
Unknown Residence			416	1.7%	0	0.0%
Norfolk TGA	1,661,809	20.3%	7,270	29.3%	280	30.1%

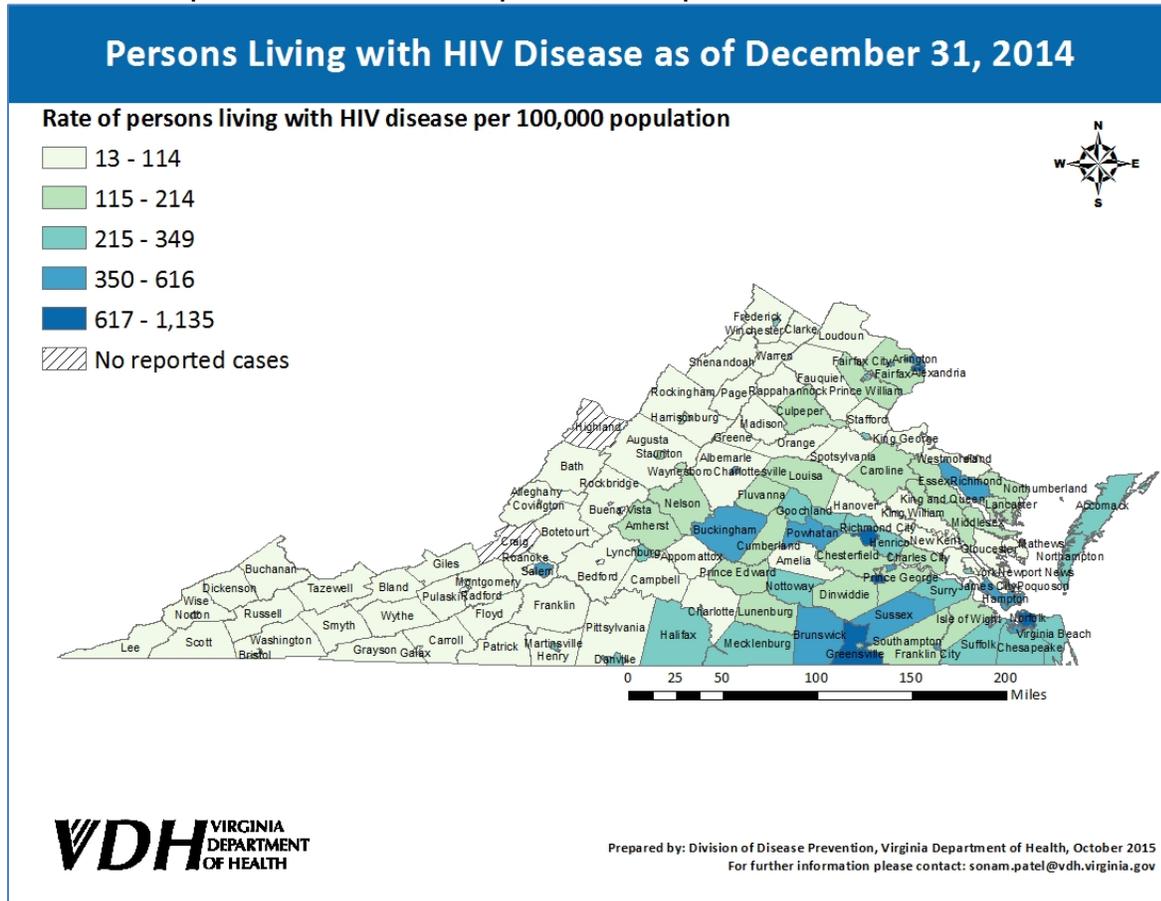
Sources: ¹2014 American Community Survey 5-Year Estimates (Health Region population compiled by Cubit Planning, Inc. based on Federal Information Processing Standard (FIPS) codes provided by the Virginia Department of Health); ²Virginia 2015 HIV Surveillance Annual Report.

Notes: 2015 HIV data are provisional due to reporting delays.

Although the 2014 general population in the Northern region is the largest among the five health regions (28.6%), it ranks second in terms of total number of PLWH (27.2%) and third in 2015 new diagnoses (24.0%). The Eastern Region, which includes the Norfolk TGA, has both the largest number of PLWH (31.0%) and largest number of 2015 new diagnoses (32.4%). These percentages are both disproportionate to their 2014 general population (28.6%). The Central Region, which is home to Virginia’s capital, Richmond, ranks third in total number of PLWH (24.2%) and second in new 2015 diagnoses (26.4%). Three regions represent a larger proportion of 2015 new diagnoses compared to their proportion of total PLWH: Eastern, Central, and Northwest. The Norfolk TGA’s general population represents 90.8% of the total population in the Eastern Region. In terms of PLWH, the Norfolk TGA contains 94.5% of the Eastern Region’s PLWH and 93.0% of the Eastern Region’s 2015 newly-diagnosed persons.

The map depicted in Figure 2 shows the geographic distribution of PLWH across Virginia expressed as a rate per 100,000 population. Examining HIV data using rates allows for the comparison of smaller populations with larger ones to highlight impacted areas. The darkest shaded areas on the map represent the counties and independent cities most impacted by HIV. As seen, the darker areas are predominantly located in the Eastern Region/Norfolk TGA, Central Region, and Northern Region of Virginia.

Figure 2. Persons Living with HIV Disease as of December 31, 2014 Across Virginia's Counties and Independent Cities as a Rate per 100,000 Population



b. Socio-demographic characteristics

i. Demographic profile

Table 2 presents the demographic characteristics of all PLWH reported as of December 31, 2015 and 2015 newly-diagnosed PLWH compared to the demographic characteristics of Virginia's general 2014 population. PLWH are predominantly male (74.1%), between the ages of 45 and 64 years (55.5%), and Black, non-Hispanic (59.2%). Due to the large number of PLWH without an identified HIV transmission category (5,113), these are excluded from the percentage calculations for planning purposes. In terms of HIV transmission risk, more than half (58.6%) report being men who have sex with men (MSM) as their risk for transmission (58.6%), followed by heterosexual risk (24.2%), and injection drug use (IDU) (11%).

Table 2. Comparison of Demographic Characteristics of Virginia's 2014 General Population with PLWH as of December 31, 2015 and New HIV Diagnoses in 2015

Characteristic	2014 General Population ¹		PLWH as of 12/31/2015 ²		2015 New Diagnoses ²	
	Number	Percent	Number	Percent	Number	Percent
Total	8,185,131	100%	24,853	100%	929	100%
Gender						
Male	4,022,624	49.1%	18,423	74.1%	750	80.7%
Female	4,162,507	50.9%	6,430	25.9%	179	19.3%
Age (years)						
<10	1,030,135	12.5%	26	0.1%	1*	0.1%
10 – 14	517,643	6.3%	29	0.1%	0	0.0%
15 – 19	550,376	6.7%	118	0.5%	43	4.6%
20 – 24	585,852	7.2%	812	3.3%	192	20.7%
25 – 34	1,137,877	13.9%	3,540	14.2%	301	32.4%
35 - 44	1,098,730	13.4%	4,715	19.0%	184	19.8%
45 - 54	1,198,183	14.6%	8,174	32.9%	125	13.5%
55 - 64	1,005,287	12.3%	5,617	22.6%	67	7.2%
65+	1,061,048	13.1%	1,821	7.3%	16	1.7%
Race (non-Hispanic)/ Ethnicity						
Black/African American	1,549,909	18.9%	14,703	59.2%	581	62.5%
White	5,227,415	63.9%	7,336	29.5%	219	23.6%
Hispanic	687,265	8.4%	2,003	8.1%	92	9.9%
Asian/Native Hawaiian/ Pacific Islander	477,411	5.8%	329	1.3%	26	2.8%
American Indian/ Alaska Native	17,252	0.2%	30	0.1%	1	0.1%
Multi-race/Some Other Race/Unknown	225,879	2.8%	452	1.8%	10	1.1%
Transmission Category**						
Known/Reported risk			19,740	100.0%	551	100.0%
MSM			11,563	58.6%	418	75.8%
Injection drug use (IDU)			2,181	11.0%	12	2.2%
MSM/IDU			914	4.6%	10	1.8%
Heterosexual contact			4,781	24.2%	110	20.0%
Pediatric			301	1.5%	1	0.2%

Sources: ¹2014 American Community Survey 5-Year Estimates and ²Virginia 2015 HIV Surveillance Annual Report

Notes: Age groups for all PLWH exclude 1 case with "unknown" age; for PLWH, age is "current age" and for new diagnoses, age is "age at diagnosis;" 2015 HIV data are provisional due to reporting delays; percentages may not add due to rounding.

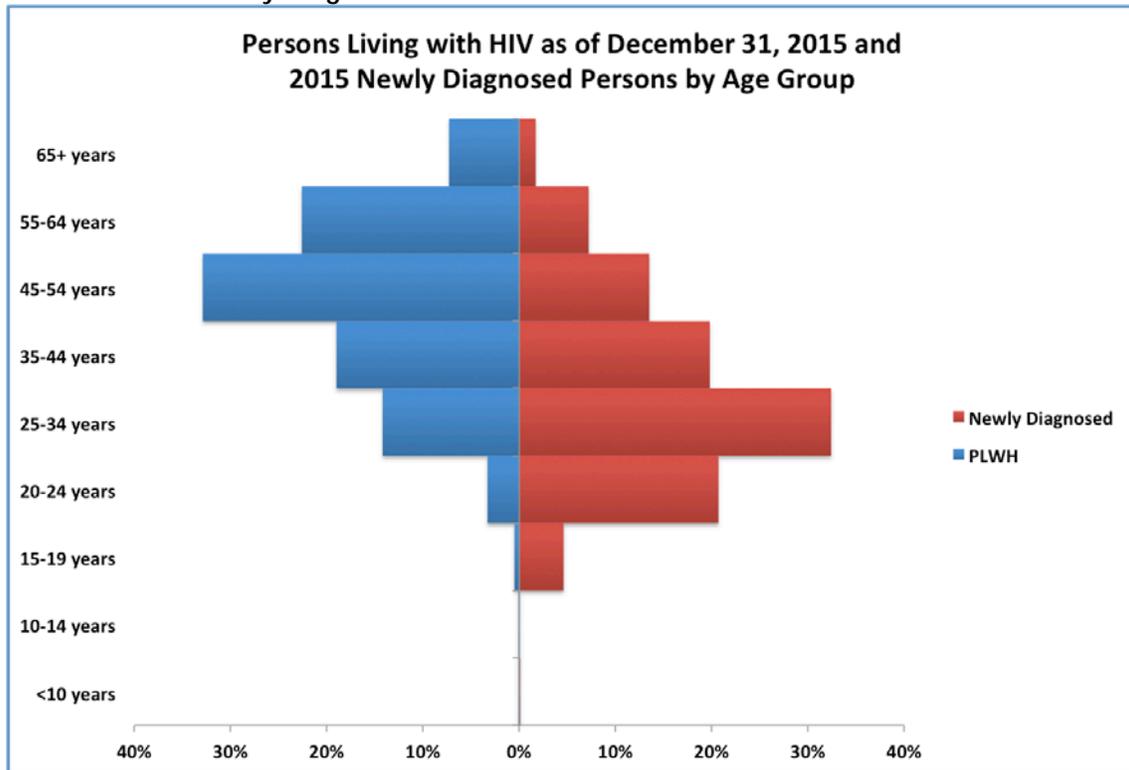
* The one pediatric case in 2015 had an unknown transmission risk. This represents a decline in pediatric cases reported in previous years.

** Virginia has a large number of total cases with unknown/not reported transmission risk (5,031 total PLWH and 378 newly-diagnosed persons in 2015). The percentages calculated are based only on cases with a known/reported transmission category.

Among newly-diagnosed PLWH in 2015 a similar pattern is seen, except in age distribution. Newly-diagnosed PLWH are male (80.7%), Black, non-Hispanic (62.5%), and have MSM as their main risk for transmission (45.0%). MSM transmission risk increases to 75.8% when the 378 newly-diagnosed PLWH without a reported transmission risk are excluded from the total. Newly-diagnosed PLWH are younger overall than all PLWH in Virginia; 53.1% are between the ages of 20 and 34 years old. Figure 3 depicts the age pattern for all PLWH and newly-diagnosed persons.

Virginia has an aging population of PLWH, as persons have been living with the disease for more than 30 years and antiretroviral therapy (ART) has transformed HIV from a once acute illness to a chronic disease. In contrast, persons who are newly-diagnosed with HIV are younger with more than half (57.8%) under 35 years of age.

Figure 3. Percentage by Age Group of Diagnosed Persons Living with HIV as of December 31, 2015 and 2015 Newly Diagnosed Persons



HIV incidence estimates currently provide the best source for identifying persons at highest risk for HIV. The Virginia Department of Health (VDH) participates in the Centers for Disease Control and Prevention’s (CDC) HIV Incidence Surveillance Project. HIV incidence is defined as “the number of new cases of a disease that occur in a population over a certain period of time.”ⁱⁱⁱ Based on the most recent HIV incidence data analysis, the populations most at risk for HIV include MSM, Black, non-Hispanic persons, and youth and young adults (ages 13 to 34 years old).^{iv} This is consistent with the pattern seen in newly-diagnosed PLWH presented in Table 2.

The Norfolk Transitional Ryan White Part A Grant Area (TGA)

Table 3. Comparison of the Virginia Demographic Characteristics of the Norfolk TGA's 2014 General Population with PLWH in the Norfolk TGA as of December 31, 2015 and New HIV Diagnoses in 2015 in the Norfolk TGA

Characteristic	2014 General Population ¹		PLWH as of 12/31/2015 ²		2015 New Diagnoses ²	
	Number	Percent	Number	Percent	Number	Percent
Total	1,661,809	100%	7,270	100%	280	100%
Gender						
Male	817,296	49.2%	5,266	72.4%	223	79.6%
Female	844,513	50.8%	2,004	27.6%	57	20.4%
Age (years)						
<10	213,720	12.9%	4	0.0%	0	0.0%
10 – 14	104,177	6.3%	10	0.0%	0	0.0%
15 – 19	115,177	6.9%	40	0.6%	20	7.1%
20 – 24	146,388	8.8%	303	4.2%	78	27.9%
25 – 34	248,004	14.9%	1,295	17.8%	92	32.9%
35 - 44	204,153	12.3%	1,333	18.3%	38	13.6%
45 - 54	235,245	14.2%	2,250	30.9%	24	8.6%
55 - 64	191,780	11.5%	1,582	21.8%	23	8.2%
65+	203,215	12.2%	453	6.2%	5	1.8%
Race (non-Hispanic)/ Ethnicity						
Black/African American	507,985	30.6%	5,060	69.6%	209	74.6%
White	933,900	56.2%	1,677	23.1%	58	20.7%
Hispanic/Latino	98,365	5.9%	333	4.6%	10	3.6%
Asian/Native Hawaiian/ Pacific Islander	62,973	3.8%	47	0.6%	2	0.7%
American Indian/ Alaska Native	4,150	0.2%	12	0.2%	1	0.4%
Multi-race/Some Other Race/Unknown	1,374	0.1%	141	1.9%	0	0%
Transmission Category*						
Known/Reported risk			5,485	100%	159	100%
MSM			3,214	58.6%	130	81.8%
IDU			618	11.3%	3	1.9%
MSM/IDU			236	4.3%	3	2%
Heterosexual contact			1,317	24.0%	23	14%
Pediatric			85	1.5%	0	0%

Sources: ¹2014 American Community Survey 5-Year Estimates and ²Virginia 2015 HIV Surveillance Annual Report

Notes: Age groups for all PLWH exclude 1 case with "unknown" age; for PLWH, age is "current age" and for new diagnoses, age is "age at diagnosis;" 2015 HIV data are provisional due to reporting delays; percentages may not add due to rounding.

* Virginia has a large number of total cases with unknown/not reported transmission risk (5,031 total PLWH and 378 newly-diagnosed persons in 2015). The percentages calculated are based only on cases with a known/reported transmission category.

Table 3 presents the demographics of the overall population of the Norfolk TGA, and also PLWH in the TGA and persons newly-diagnosed with HIV in the TGA in 2015. Compared to the general population of Virginia, residents of the Norfolk TGA are slightly younger with approximately 34.9% of Norfolk TGA residents under 24 years old (Table 3) compared to 32.7% of all persons living in Virginia (Table 2). Norfolk TGA residents are also more likely to be Black or African American (30.6%), compared to 18.9% of all persons living in Virginia (Table 2).

PLWH and persons newly diagnosed in 2015 in the Norfolk TGA have similar demographic patterns to Virginia; they are predominantly male (72.4% PLWH, 79.6% new diagnoses in the Norfolk TGA in 2015), Black or African American (69.6%, 74.6%), and have MSM as their primary transmission risk (58.6%, 81.8%). PLWH in the Norfolk TGA are mostly between the ages of 45 to 64 years (52.7%) and 60.8% of 2015 newly-diagnosed persons are between the ages of 20 to 34 years old. The key differences between PLWH in the Norfolk TGA and in Virginia are a higher proportion of Black/African American PLWH (69.6%) in the Norfolk TGA compared to 59.2% in Virginia. This difference is more striking among 2015 newly-diagnosed persons with 74.6% of newly-diagnosed persons in the Norfolk TGA being Black or African American compared to 62.5% of newly-diagnosed persons in Virginia. There is a slightly higher percentage of females living with HIV in the Norfolk TGA (27.6%) than in Virginia overall (25.9%). For persons newly diagnosed in 2015, a larger proportion are less than 25 years old in the Norfolk TGA (35%) than in Virginia overall (25.3%). Newly-diagnosed persons in the Norfolk TGA are also more likely to be Black or African American (74.6%) compared to Virginia overall (62.5%).

ii. Socioeconomic data

Table 4 presents selected socioeconomic data for Virginia and the five health regions, including the Norfolk TGA. In 2014, an estimated 11.5% of Virginians lived at or below 100% of the federal poverty level (FPL).^v Among all the health regions in the Commonwealth, the Southwest Region had the highest percentage of persons living below the FPL (17.5%).^{vi} Per capita income followed the same pattern across health regions. The highest per capita income was in the Northern Region (\$48,973), which also had the lowest percentage of persons living below 100% FPL (6.4%).^{vii, viii} The Eastern Region, including the Norfolk TGA, which had 12.5% of residents living below 100% FPL (ranks 3rd) and the second lowest per capita income (\$28,811), had the largest proportion (54.3%) of residents who pay 30% or more of their gross income on rent.^{ix, x, xi} The 30% threshold is important as it is commonly utilized as a measure of housing instability.^{xii}

Table 4. Socioeconomic Characteristics of Virginia and Five Health Regions' General Population

Characteristic	Virginia	Health Region				
		Central	Eastern/ Norfolk TGA ¹	Northern	North- west	South- west
Below 100% Federal Poverty Level	11.5%	13.5%	12.5%	6.4%	11.3%	17.5%
Per capita income	\$33,958	\$29,366	\$28,811	\$48,793	\$30,327	\$23,362
Gross rent as a percentage of household income ($\geq 30\%$)	50.1%	51.7%	54.3%	45.3%	50.2%	50.6%
Educational Attainment (population 25 years and older)						
$\leq 8^{\text{th}}$ grade	4.9%	5.3%	3.4%	4.5%	5.1%	7.3%
9 th to 12 grade (no diploma)	7.2%	8.8%	7.3%	3.9%	8.1%	10.0%
High School or Equivalent	25.0%	27.6%	26.8%	14.5%	31.2%	32.4%
Some College	20.0%	20.7%	25.5%	15.2%	19.4%	20.9%
Associates Degree	7.1%	6.8%	8.7%	5.6%	6.5%	8.4%
Bachelors Degree	20.7%	19.4%	17.6%	30.0%	17.6%	13.2%
Masters Degree or Higher	15.0%	11.4%	10.7%	26.3%	12.2%	7.7%
Unemployed (percent of population ≥ 16 years)	4.5%	5.1%	5.3%	5.1%	3.7%	4.1%
Uninsured	12.1%	12.4%	12.0%	12.0%	11.9%	12.5%
Foreign Born	11.6%	6.7%	6.2%	26.4%	6.3%	3.3%
Not a U.S. Citizen	6.0%	3.8%	2.8%	13.5%	3.6%	2.1%
English spoken "less than very well" (percent of population ≥ 5 years)	5.6%	3.6%	2.8%	12.6%	3.4%	1.7%

Source: U.S. Census Bureau, 2014 American Community Survey Five-Year Estimates (2010-2014). Data compiled for Health Regions by Cubit Planning, Inc. based on FIPS codes provided by the Virginia Department of Health.

¹Norfolk TGA data exclude Currituck County, NC; Data was aggregated separately for the 14 Virginia localities (cities and counties) within the Norfolk TGA, but the results were the same as the Eastern Region and so they are combined in one column due to space limitations.

The ability to secure a job, especially one that pays well so that a person and family can meet their basic subsistence needs such as food and housing, is correlated with educational attainment.^{xiii} As seen in Table 4, the Southwest Region has the lowest educational attainment in the Commonwealth; 7.3% of persons 25 years and older have less than a ninth-grade education, and an additional 10% have not completed high school for a total of 17.3%, followed by the Central Region at 14.1%.^{xiv} Thus, one in every six adults in the Southwest Region has less than a high school or equivalent education. This compares to 12.1% of Virginians overall.^{xv} The Northern Region has the highest level of education; 8.4% have less than a high school or equivalent education and 56.3% have a baccalaureate or higher degree.^{xvi} This is more than double the proportion of adults 25 years and older in the Southwest Region (20.9%) with a comparable level of education.^{xvii}

Although unemployment data reported in the U.S. Census Bureau's American Community Survey (ACS) is not the most current, it offers the opportunity to compare unemployment across

Virginia's health regions. In 2014, an estimated 4.5% of Virginians 16 years and older in the civilian population are unemployed.^{xviii} The Eastern Region and Norfolk TGA have the highest unemployment (5.4%) and the Northwest Region (3.7%) has the lowest.^{xix}

It is important to note that Virginia's implementation of the Patient Protection and Affordable Care Act (commonly referred as the Affordable Care Act or ACA) does not include expansion of Medicaid benefits to adults 18-64 years old or an increase of financial eligibility. However, it does include access to marketplace plans and health insurance premium subsidies for income-eligible Virginians. While not all health insurance is job-based (e.g., Medicare), employment is a source of health insurance for many. Table 4 shows that 12.1% of Virginians are uninsured according to the U.S. Census Bureau's 2014 five-year estimates.^{xx} The Northwest Region, which has the lowest unemployment, also has the lowest proportion of uninsured residents (11.9%).^{xxi} The Southwest Region (12.5%) has the highest proportion of uninsured persons, followed by the Central Region (12.4%).^{xxii}

Understanding Virginia's immigrant populations, including those who are not U.S. citizens as well as persons who may not speak English very well, is important for understanding potential barriers to health care access. Barriers to services are discussed later in this section. As seen in Table 4, approximately 11.6% of Virginia's residents are foreign born; the largest proportion is in the Northern Region (26.4%) and the lowest is in the Southwest Region (3.3%).^{xxiii} An estimated 6.2% of residents in the Norfolk TGA are foreign born.^{xxiv} The Northern Region also has the largest proportion of residents who are not a U.S. citizen (13.5%), which includes persons who may be undocumented.^{xxv} This is more than double the overall percentage in Virginia (6.0%).^{xxvi} In terms of language, an estimated 5.6% of Virginia's population five years and older does not speak English very well.^{xxvii} This proportion is largest in the Northern Region (12.6%), which also has the largest foreign-born population.^{xxviii}

c. HIV Burden in Virginia (i.e., number of PLWH, rates, trends, populations most affected, geographic concentrations, deaths, etc.).

HIV impacts Virginians of all races/ethnicities, ages, sexes and gender identities, transmission categories, and geographic regions. However, this impact is not equally distributed across populations or geographies. There are some populations that are disproportionately impacted by HIV. Disproportionate impact can be measured as a percentage (i.e., the percentage of HIV within the population is greater than their representation in the entire population) or as a rate. Examining HIV-related data as a rate per 100,000 population allows populations and geographic areas with a smaller number of PLWH to be compared to populations and geographic areas with larger numbers of PLWH. The following narrative describes the impact of HIV by population and geography, highlighting trends in new diagnoses as well as those populations and geographies with the greatest disparities and/or burden of disease.

Trends in New HIV Diagnoses (2010-2014)

During the five-year period from 2010 through 2014, there were 4,790 persons newly-diagnosed with HIV in Virginia, at an average of 958 persons diagnosed per year. An additional 929 persons were diagnosed in 2015 (provisional due to reporting delay) for a six-year total of 5,719 persons. This ranges from a high of 1,019 newly-diagnosed persons in 2010 to a low of 924

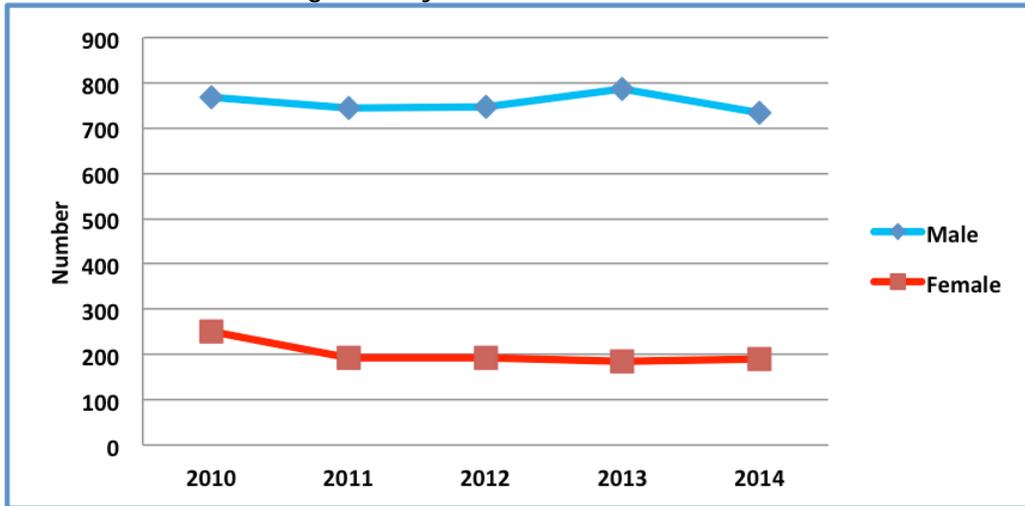
persons in 2014.

Key highlights in the five-year trends (2010-2014) for selected categories are depicted in the figures below with a brief description.

Diagnosis by sex at birth (see Figure 5)

- Most persons newly diagnosed with HIV are male (see Figure5).

Figure 5. Trend in New HIV Diagnoses by Sex at birth from 2010 to 2014



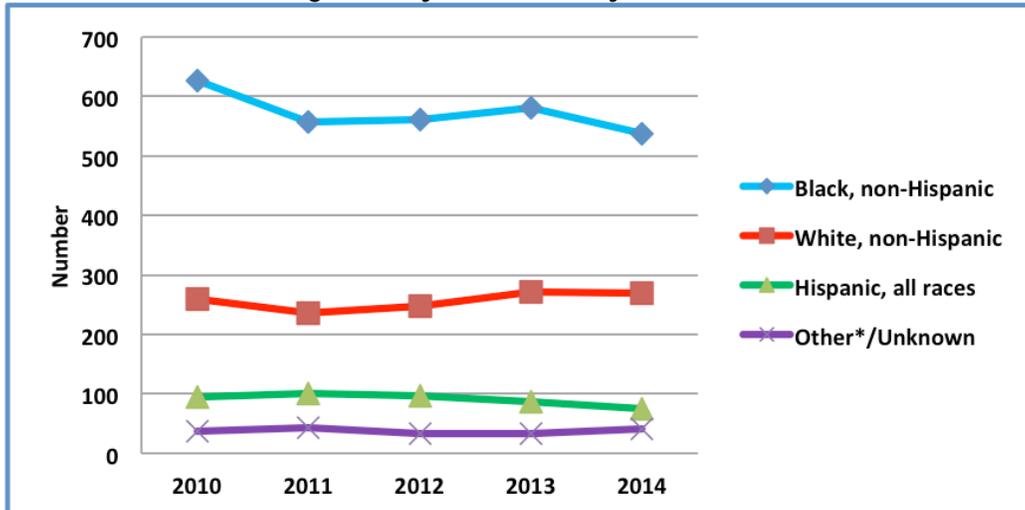
Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Note: Transgender data are not available due to incomplete reporting of current gender.

Diagnoses by race (see Figure 6)

- Most persons newly diagnosed with HIV are Black, non-Hispanic, followed by White, non-Hispanic persons.

Figure 6. Trend in New HIV Diagnoses by Race/Ethnicity from 2010 to 2014



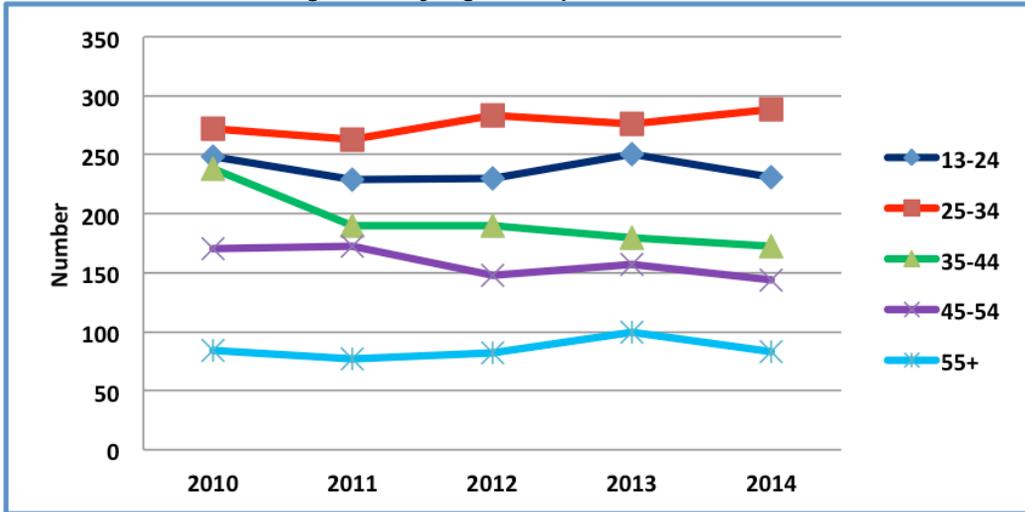
Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Note: * Includes Asian, American Indian, Alaskan Native, Hawaiian/Pacific Islander, and Multi-Race

Diagnoses by age at diagnosis (see Figure 7)

- The number of persons diagnosed with HIV between ages 25-34 appear to be increasing; and
- The number of persons diagnosed with HIV between ages 35-44 and 45-54 appear to be decreasing.
- Overall, the majority of new diagnoses from 2010 to 2014 occur between the ages of 13-34.

Figure 7. Trend in New HIV Diagnoses by Age Group from 2010 to 2014

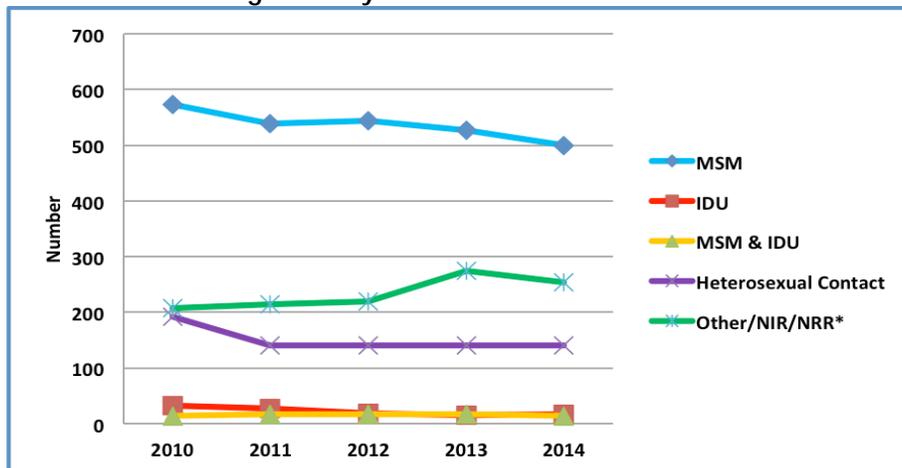


Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Diagnoses by transmission risk (see Figure 8)

- The number of persons diagnosed with HIV with a risk of MSM appears to be on a slight decline, although this could be attributed to the increase of no reported risk/no identified risk (NRR/NIR) cases, indicating the need for continual review of transmission risk information.

Figure 8. Trend in New HIV Diagnoses by Transmission Risk from 2010 to 2014

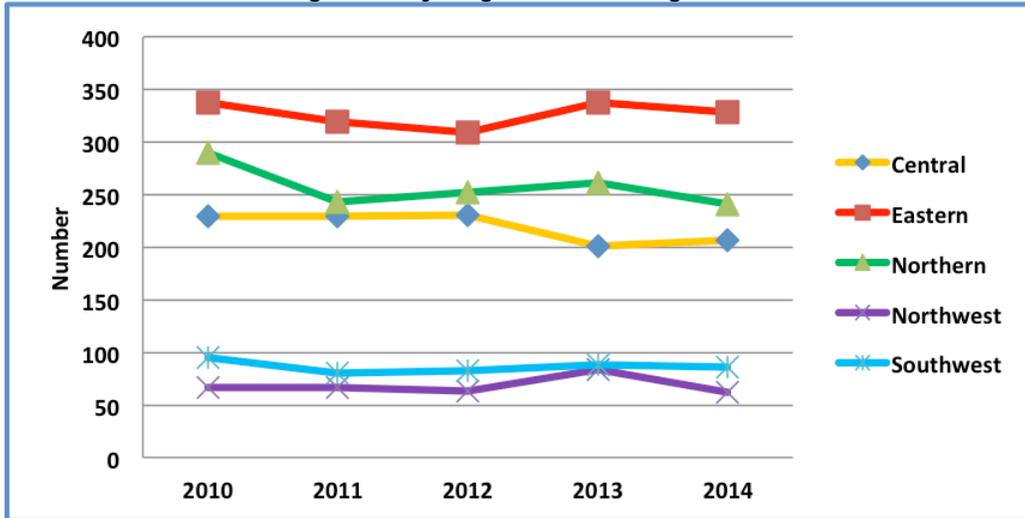


Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Diagnoses by health region (see Figure 9)

- Most new diagnoses occur in the Eastern Region, which includes the Norfolk TGA; and
- The number of new diagnoses in the Northern region appears to be decreasing.

Figure 9. Trend in New HIV Diagnoses by Virginia Health Region from 2010 to 2014

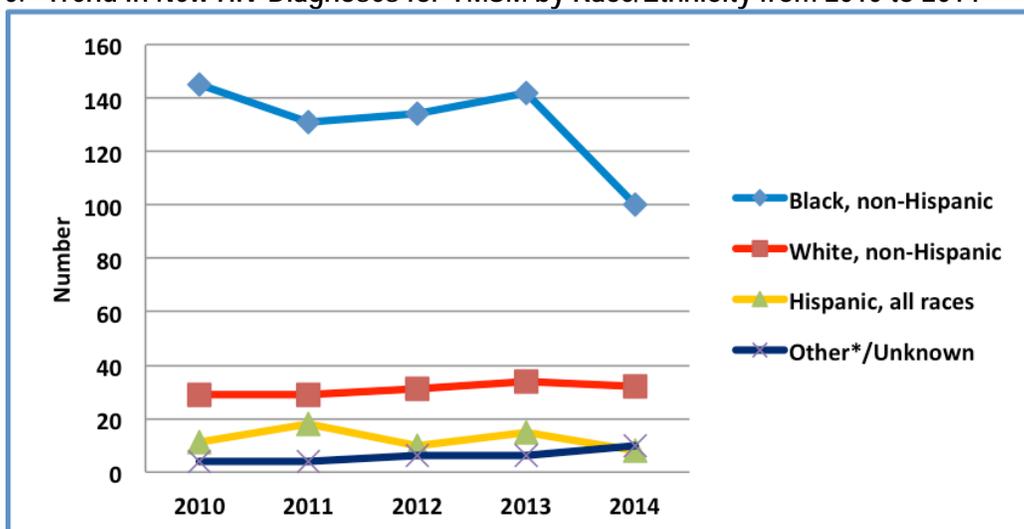


Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Diagnoses for young MSM (YMSM) ages 13-24 (see Figures 10 and 11)

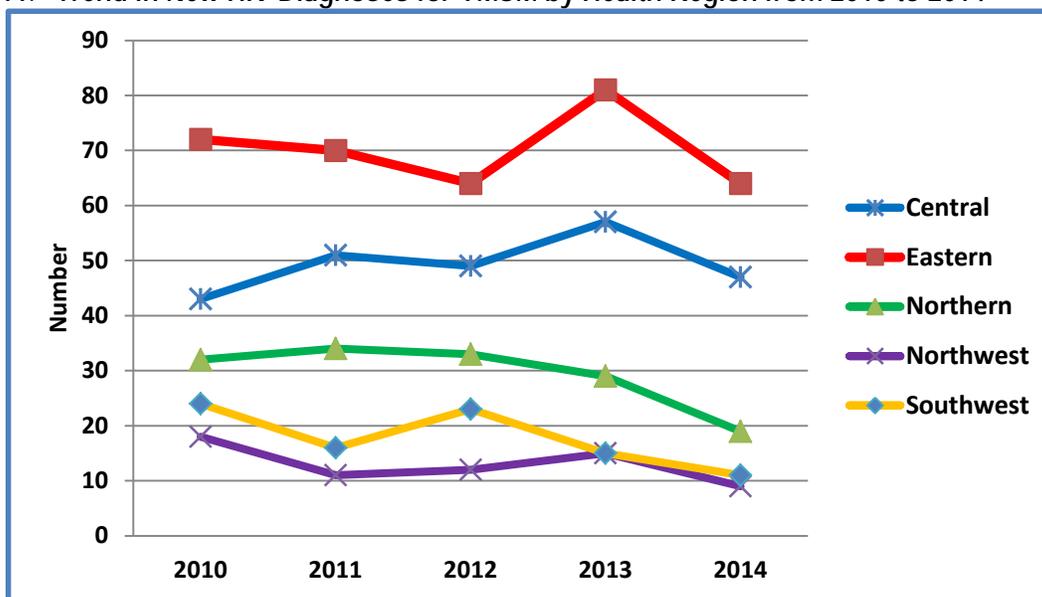
- The number of new diagnoses for this population appear to be the highest among Black, non-Hispanic persons and occur mostly in the Eastern Region;
- The number of new diagnoses for this population who are Black, non-Hispanic appear to be decreasing in 2014; however, this could be due to a general decrease in the number of new diagnoses among YMSM of all races/ethnicities in 2014 (N=150).

Figure 10. Trend in New HIV Diagnoses for YMSM by Race/Ethnicity from 2010 to 2014



* Includes Asian, American Indian, Alaskan Native, Hawaiian/Pacific Islander, Multi-Race
 Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Figure 11. Trend in New HIV Diagnoses for YMSM by Health Region from 2010 to 2014



Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Other trends across the figures presented include:

Diagnoses for White, non-Hispanic MSM aged 35 years and older

- The number of new diagnoses for this population is highest in the Northern region.

Diagnoses for Black, non-Hispanic women

- The number of new diagnoses for this population is highest in the Eastern Region;
- New diagnoses through heterosexual contact have seen a large decrease while diagnoses for people who inject drugs (PWID) have seen a smaller decrease; and

- Overall, there are decreases in the number of new diagnoses in all health regions, with a larger decrease in the Central and Eastern Regions.

Disparity Populations

Populations that are disproportionately impacted by HIV are considered to be a disparity population. Disproportionate impact can be identified and will vary across different measures, including but not limited to the following:

- total PLWH,
- newly-diagnosed PLWH,
- total persons living with AIDS (PLWA),
- newly-diagnosed PLWA,
- PLWH who are diagnosed with HIV late in their disease progression and are diagnosed with AIDS in the same year,
- total deaths among PLWH,
- PLWH who are considered “not in care,” and
- HIV incidence estimates of undiagnosed persons.

Additional disparities can be seen in Virginia’s HIV Continuum of Care if a population has HIV-related health outcomes that are worse than the average in Virginia. Although there may be some variation across measures, many of the populations that are disproportionately impacted among total PLWH and newly-diagnosed persons are also disproportionately impacted across other measures. For the purpose of this discussion, disproportionate impact among total PLWH and newly-diagnosed PLWH is presented (see Table 1). Disparities regarding the HIV Continuum of Care measures are presented in the next section.

Gender: As seen in Table 1, males comprise 49.1% of Virginia’s total population but represent 74.1% of PLWH and 80.7% persons newly diagnosed in 2015. The impact on males is largely due to sexual transmission risk among MSM, which is the primary transmission risk of Virginia’s HIV epidemic. As seen, among PLWH with an identified/reported transmission risk, MSM comprise 58.6% of all PLWH and 75.8% of persons newly diagnosed in 2015.

The data for transgender PLWH in Virginia is not complete. As part of the Integrated HIV Services Plan (Appendix B), the VDH Division of Disease Prevention (DDP) plans to implement activities to improve the data reporting for transgender persons across the Commonwealth. The Williams Institute estimates there are 31,419 transgender persons in Virginia, approximately 0.4% of Virginia’s total population based on Table 1.^{xxix}

Race/Ethnicity: Non-Hispanic Blacks are the most severely impacted racial/ethnic population in Virginia. While they represent 18.9% of the Commonwealth’s total population (Table 1), they represent 59.2% of PLWH and 62.5% of persons newly diagnosed in 2015. More than one in two PLWH is Black, non-Hispanic, and nearly two in three persons newly diagnosed in 2015 is Black, non-Hispanic.

Hispanics of all races are not currently disproportionately impacted among PLWH. Hispanics represent 8.4% of Virginia’s general population and 8.1% of PLWH. However, among persons newly diagnosed in 2015, Hispanics represent 9.9% of newly-diagnosed PLWH.

Age: The population pyramid in Figure 3 shows the differences between total PLWH and newly-diagnosed persons in 2015 by age. The advances in HIV treatment have extended not only the quantity of a PLWH's years, but the quality of those years. Thus, total PLWH are aging and younger persons are infected and diagnosed with HIV. Older persons comprise the largest number of total PLWH. Those between 45 and 64 years old represent 26.9% of Virginia's general population and 55.5% of PLWH. Among newly-diagnosed persons in 2015, this pattern is reversed. Older persons 45-64 years old represent 20.7% of 2015 newly-diagnosed persons, less than their representation in the general population. However, younger persons aged 20-44 years old represent 72.9% of 2015 newly-diagnosed persons and only 34.5% of Virginia's general population.

Transmission Risk: MSM represent more than half of all PLWH whose risk category is known (58.6%) and more than three-quarters (75.8%) of persons newly diagnosed in 2015. When the dual risk category of both MSM and injection drug use (PWID) is combined, these percentages increase to 63.2% of PLWH and 77.6% of new diagnoses in 2015. The Williams Institute estimates that approximately 3.5% of adults are gay, lesbian, or bisexual.^{xxx}

Heterosexual contact accounts for nearly one quarter (24.2%) of HIV transmission among PLWH and 20.0% among persons newly diagnosed in 2015 with a reported HIV transmission risk (Table 1). PWID account for more than one in ten PLWH in Virginia (11.0%), but only 2.2% of persons newly-diagnosed in 2015 with a reported transmission risk. PLWH with the dual risk category of MSM/PWID add an additional 4.6% to total PLWH and 1.8% to 2015 new HIV diagnoses. Although the proportion of newly-diagnosed persons is considerably smaller due to the growing opioid problem in Virginia, these data need to be monitored closely. The U.S. government lifted the ban on the use of federal funding for syringe services in January 2016 in response to the localized outbreak of HIV among PWID in Scott County, Indiana.^{xxxii} Virginia has a large number of 2015 PLWH without a known/reported HIV transmission risk category (5,031) documented. PLWH who are PWID and/or MSM may not disclose their HIV risk due to homophobia or stigma associated with being MSM and/or drug use, which could change actual percentages if reported.

Geographic Concentrations

As seen in Table 1, three health regions are home to 82.4% of all PLWH in Virginia with a known residence (i.e., Central, Eastern, and Northern Regions). They also represent 82.8% of persons newly diagnosed in 2015. However, two of these regions have a disproportionate burden of HIV compared to their percentage of the general population. The Eastern Region, which encompasses the Norfolk TGA, is home to the largest number of PLWH (31.0%) and newly-diagnosed persons in 2015 (32.4%). Yet, the Eastern Region makes up 22.3% of Virginia's total population. This same pattern is true in the Central Region, which is home to 24.2% of PLWH and 26.4% of persons newly diagnosed in 2015 and only represents 17.0% of Virginia's total population.

However, as these are large geographic areas, it is important to examine the local disparities within each region to identify the geographic areas with the greatest disease burden. This is best understood by comparing rates per 100,000 population. Table 5 presents the concentration of PLWH and 2015 newly-diagnosed persons by health region and city or county. For total PLWH,

only cities/counties with greater than or equal to 100 PLWH are presented and for persons newly-diagnosed in 2015, only cities/counties with greater than or equal to 10 newly-diagnosed persons are presented. These provide a good depiction of how PLWH are concentrated across Virginia.

Table 5. Concentration of PLWH (N≥100) and Newly Diagnosed Persons in 2015 (N≥10) for Cities/Counties by Virginia Health Region

Geography	Total PLWH as of December 31, 2015	Newly Diagnosed Persons in 2015
Virginia	24,583	929
Central Region	5,920	245
Richmond (city)	2,478	66
Henrico County	900	53
Chesterfield County	624	35
Petersburg (city)	391	29
Hopewell (city)	143	--
Powhatan County	124	--
Prince George County	122	--
Hanover County	120	--
Greensville County	117	--
Mecklenburg County	107	--
Eastern Region	7,697	301
Norfolk (city)	2,221	72
Virginia Beach (city)	1,336	65
Newport News (city)	952	38
Portsmouth (city)	752	28
Hampton (city)	727	26
Chesapeake (city)	667	19
Suffolk (city)	281	11
Accomack County	121	--
York County	--	11
Northern	6,773	223
Fairfax County	2,637	79
Arlington County	1,229	30
Alexandria (city)	1,221	38
Prince William County	1,009	46
Loudoun County	375	22
Manassas (city)	118	--
Northwest	1,944	92
Stafford County	211	12
Spotsylvania County	182	10
Charlottesville (city)	181	11
Albemarle County	157	--
Frederick County	107	--
Fredericksburg (city)	103	--
Southwest	2,103	68
Roanoke County	118	--
Danville (city)	176	--
Roanoke (city)	475	14
Pittsylvania County	100	--
Lynchburg (city)	201	--

Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Deaths

Table 6 presents the 2014 death rate (from all causes) among PLWH. As seen in Table 6, the highest death rate in 2014 among PLWH is in the Eastern Region (4.4 per 100,000), the majority of which is encompassed by the Norfolk TGA, followed by the Central Region (3.8 per 100,000). The Eastern Region has more than three times the rate of the Northern, Northwest, and Southwest regions, and the Central Region has more than double the rate of these regions.

Table 6. Number of Deaths and 2014 Death Rate per 100,000 Population Among Persons Living With HIV in Virginia as of December 31, 2014, by Health Region

Health Region	Number of Deaths	Rate per 100,000
Central	53	3.8
Eastern	82	4.4
Northern	35	1.5
Northwest	15	1.2
Southwest	15	1.1

Source: Virginia Department of Health Division of Disease Prevention, June 2016.

When examining deaths by other demographic characteristics, there are specific differences between the proportion of PLWH by a specific population compared to the proportion of deaths in that same population. These differences highlight potential disparities. As seen in Table 7, although the majority of deaths are among males (72.5%), the proportion of deaths among female PLWH (27.5%) is slightly higher than their representation among all PLWH (25.9%). PLWH (55-64 years) have the largest number of deaths (n=67) of all populations; their proportion among all PLWH deaths in 2014 (33.5%) is significantly higher than their representation among all PLWH (22.6%). In terms of race/ethnicity, non-Hispanic Blacks represent the largest number (n=132) and proportion (66.0%) of PLWH who died in 2014. This is disproportionate to their representation among all PLWH (59.2%).

Table 7. Comparison of Demographic Characteristics of Virginia's 2015 PLWH with 2014 Deaths Among PLWH (all causes) for selected populations

Characteristic	2015 PLWH		2014 Deaths	
	Number	Percent	Number	Percent
Total	24,853	100%	200	100%
Gender				
Male	18,423	74.1%	145	72.5%
Female	6,430	25.9%	55	27.5%
Age at Death (years)				
15 - 24	930	3.7%	5	2.5%
25 - 34	3,540	14.2%	18	9.0%
35 - 44	4,715	19.0%	23	11.5%
45 - 54	8,174	32.9%	60	30.0%
55 - 64	5,617	22.6%	65	32.5%
65+	1,821	7.3%	29	14.5%
Race/Ethnicity				
Black, non-Hispanic	14,703	59.2%	132	66.0%
White, non-Hispanic	7,336	29.5%	54	22.0%
Hispanic	2,003	8.1%	4	2.0%
Other*	811	32.6%	10	5.0%
Transmission Category*				
MSM	11,563	47.0%	76	38.0%
PWID	2,181	8.9%	39	19.5%
MSM/PWID	914	3.7%	6	3.0%
Heterosexual contact	4,781	19.4%	38	19.0%
Pediatric/Blood Recipient	383	1.6%	1	0.5%
No risk factor reported/identified	5,031	20.5%	39	19.5%

Source: Virginia Department of Health Division of Disease Prevention, June 2016.

Note: * "Other" includes Asian/American Indian/Alaska Native/Multi-Race/Unknown.

d. Indicators of risk for HIV infection in the population covered by your service area.

Over the past 30 years of the HIV epidemic, the understanding of what puts a person at risk for transmitting or acquiring HIV has vividly changed. Behavior is no longer considered the sole determinant of risk. Social and economic factors, as well as barriers to the full participation in available services, including stigma, have tremendous impact on individual and community health. In 2013, the CDC published its first report examining the relationship between selected social determinants of health (i.e., poverty, educational attainment, median household income, and unemployment) and new HIV diagnoses; Virginia was included in the 18 areas examined.^{xxxii} In its most recent analysis (2015), the CDC added *uninsured* to the measures examined; Virginia was included in the 11 states examined.^{xxxiii} In addition to social determinants, the improved understanding of the role of viral load in HIV transmission has led to more widespread implementation of “test and treat” strategies to identify HIV-positive persons who do not know their HIV status and to begin them on treatment immediately, as well as efforts such as Virginia’s Data to Care (DtC) initiative to identify PLWH who know their HIV status but are not engaged in HIV medical care. Lastly, the role of stigma cannot be overstated. Not only is stigma associated with HIV, there is stigma associated with being lesbian, gay, bisexual, or

transgender (LGBT); substance use, especially illicit drug use; having a mental health disorder; being homeless; and the list can go on. Persons who fall into several of these groups face stigma from multiple directions. Thus, to understand risk for HIV in Virginia, one must examine risk through multiple lenses.

- ***Transmission of HIV Along the HIV Care Continuum***

The landmark study conducted through the HIV Prevention Trials Network, known as HPTN 052, was the first “HIV Treatment as Prevention” clinical trial. It found that early initiation of ART decreased HIV transmission by 96%.^{xxxiv} A more recent study has further identified that PLWH who are not in care account for 61.3% of HIV transmission, and persons who are undiagnosed account for 30.2% of HIV transmission.^{xxxv} These findings suggest that these two populations account for 91.5% of new HIV infections. The study further estimated the percentage of HIV transmission attributed to PLWH along the steps of the HIV Care Continuum. It estimated that:

- PLWH who are retained in care (defined as attending at least one visit with a medical care provider) but not prescribed ART account for 2.7% of transmission;
- PLWH who are prescribed ART but not virally suppressed account for 3.3% of transmission; and
- PLWH who are virally suppressed account for 2.5% of HIV transmission.^{xxxvi}

The CDC estimates that 12.7% of all PLWH in Virginia are currently unaware of their HIV status.^{xxxvii} This results in an estimate of 3,576 undiagnosed HIV-positive persons based on 24,853 diagnosed persons in 2015.

PLWH who are diagnosed and not in care are unevenly distributed across demographic categories in Virginia. Although the estimate is 43.4% overall, VDH estimates higher percentages of PLWH not in care among the following populations/geographic regions (in order from largest percentage to lowest):^{xxxviii}

- Northern Region (57.5%)
- PWID (51.7%)
- Persons 60 years and older (50.8%)
- Hispanics/Latinos (47.1%)
- Persons 50-59 years of age (45.5%)
- Males (45.3%)
- Non-Hispanic Whites (45.3%)
- Eastern Region, including Norfolk TGA (44.4%)
- Persons 40-49 years of age (44.4%)
- MSM/PWID (44.3%)
- Asian/Hawaiian/Pacific Islanders (44.1%)

- ***Behavioral Risk***

As seen in the data already presented for total PLWH and newly-diagnosed persons in 2015, there are three primary modes of transmission that constitute the majority of HIV cases in Virginia. Two modes of transmission are sexual: MSM and heterosexual transmission. The

third results from the sharing of injection paraphernalia among persons who inject drugs (PWID). This includes sharing needles and/or “works” used to inject drugs. “Works” refer to the cotton, cooker (e.g., spoon), and other paraphernalia that may be used and shared. Vertical transmission of HIV from mother to child has remained relatively stable in Virginia from 2011 to 2014, accounting for an average of 7 newly-diagnosed cases in each of these years, approximately 1% of all HIV transmission.^{xxxix} In 2015, this declined dramatically and there was only one pediatric case of HIV reported.^{xl}

Sexual Risk

HIV: The HIV data for sexual transmission of HIV were already presented in Table 2. MSM accounts for 75.8% of PLWH with a reported transmission category. The dual risk of MSM/PWID accounts for an additional 4.6% of HIV transmission. Heterosexual contact accounts for 20.0% of Virginia’s HIV transmission. When examining the data for persons newly diagnosed in 2015 with a reported transmission category, MSM accounts for an even larger proportion of reported risk (75.8%), heterosexual contact a smaller proportion (20.0%), and the dual risk of MSM/PWID accounts for a smaller proportion of risk (1.8%).

In the Norfolk TGA (see Table 3), MSM accounts for 58.6% of HIV transmission with a reported risk category among all PLWH and 81.8% of transmission risk for persons newly diagnosed in 2015. The dual risk of MSM/PWID accounts for an additional 4.3% of risk for all PLWH and 1.9% for persons newly diagnosed in 2015. Heterosexual contact accounts for 24% of all PLWH and only 14.5% of 2015 new diagnoses.

Sexually Transmitted Diseases: The CDC notes that “*In the United States, people who get syphilis, gonorrhea, and herpes often also have HIV or are more likely to get HIV in the future.*”^{xli} Having an STD puts a person at greater risk of acquiring HIV.^{xlii} It may in fact increase the odds of HIV transmission three to five fold.^{xliii} Risk behaviors for STDs are the same risk behaviors for HIV and include, among others: not practicing safer sex (including not using condoms) and other barriers to prevent exposure to blood, semen, and vaginal fluids; having multiple sex partners; having anonymous sex without practicing safer sex; and having sex under the influence of drugs and/or alcohol.^{xliv}

- *Chlamydia:* The rate of chlamydia in 2014 in Virginia was 426.7 per 100,000 population.^{xlv} This rate has fluctuated since 2011 (431.1 per 100,000) and represents a slight decrease from that time. However, the rate was highest among females (575.4 per 100,000), Blacks/African Americans (934.9 per 100,000), and younger persons.^{xlvi} Youth 15-19 years had a rate of chlamydia of 1,654.2 per 100,000; youth 20-24 years had an even higher rate of 2,447.1 per 100,000, and young adults 25-29 years had a rate of 1,088.1 per 100,000 population.^{xlvii}
- *Gonorrhea:* The rate of gonorrhea in 2014 in Virginia was 98.4 per 100,000 population.^{xlviii} This rate has increased steadily over the past four years from 81.3 per 100,000 population.^{xlix} The highest rates were in the same populations as chlamydia with one additional age group (30-34 years) experiencing a higher rate of gonorrhea. The rate among females was 102.2 per 100,000 population; Blacks/African Americans was 310.5

per 100,000 population; youth 15-19 years was 318.0 per 100,000 population; youth 20-24 years had the highest rate of all groups, 504.2 per 100,000 population; young adults 25-29 years had a rate of 272.6 per 100,000; and adults 30-34 years had a rate of 139.3 per 100,000.¹

- *Total Early Syphilis:* Total early syphilis includes persons diagnosed with primary, secondary, and early latent syphilis. The rate of total early syphilis in 2014 in Virginia was 6.7 per 100,000 population.^{li} This represents a slight increase from 2011 (6.5 per 100,000) but is a decrease from both 2012 (7.5 per 100,000) and 2013 (8.2 per 100,000).^{liii} The pattern of total early syphilis is very different than chlamydia or gonorrhea in that total early syphilis is more prevalent in males (12.5 per 100,000) than females (1.1 per 100,000).^{liiii} This is largely due to the fact that 68.7% of all 2014 total early syphilis cases were diagnosed among MSM; about 75% of all cases among males.^{liv} Blacks/African Americans have the highest rate of total early syphilis in 2014, at 17.8 per 100,000.^{lv} In terms of age, there were higher than average rates across all age groups from 20-49 years old. The two highest rates were in younger persons 20-24 years old (19.1 per 100,000) and persons 25-29 years old (20.2 per 100,000).^{lvi}

Although total early syphilis data were not reported by region, data for primary and secondary syphilis alone are available. In terms of geographic regions, the Eastern Region, which includes the Norfolk TGA, had the highest rate of primary and secondary syphilis in 2014 (4.9 per 100,000), followed by the Central Region (4.6 per 100,000).^{lvii}

Although the data have not yet been fully analyzed, Virginia experienced a significant outbreak of syphilis in 2015. This will require close monitoring to identify the populations and communities most impacted.

Drug Use

Injection Drug Use: According to HIV surveillance data, 11.0% of all PLWH in 2015 with a reported transmission risk identified injection drug use as their risk; an additional 4.6% identified the dual risk category of MSM/IDU for a total of 15.6%.^{lviii} The number of newly-diagnosed cases of HIV among people who inject drugs (PWID) has declined steadily from 2011 to 2015 from 27 newly-diagnosed PWID to 12 newly-diagnosed PWID, a decline of 44.4%.^{lix} There has also been a decline in the number of newly-diagnosed HIV cases among MSM/IDU, from 16 cases in 2011 to 10 cases in 2015.^{lx} Virginia has a large proportion of total and newly-diagnosed cases of HIV with “no risk factor reported or identified.” Further identification of transmission risk may identify injection drug use as a factor among those with no known risk.

The 2015 HIV outbreak in Scott County, Indiana put a renewed national spotlight on HIV transmission through injecting drug use behavior. This attention has led to the lifting of the ban on the use of federal funds for syringe exchange services in January 2016.^{lxi} With the current opioid epidemic that is sweeping the nation and Virginia, it is vital that reducing HIV transmission risk associated with injection drug use remain a priority.

- *Virginia's Opioid Epidemic and Hepatitis C Transmission among PWIDs:* The Commonwealth of Virginia is severely impacted by heroin abuse, as well as prescription analgesics such as methadone, fentanyl, hydrocodone, oxycodone, codeine, morphine, and tramadol. From 2004 to 2014, the number of deaths due to heroin overdose has increased dramatically from zero deaths in 2004 to 210 in 2014, with a projected 380 deaths in 2016.^{lxii, lxiii}

A secondary analysis of drug treatment data from the Virginia Department of Behavioral Health and Developmental Services (DBHDS) shows that, in 2015, there were 3,303 admissions to publicly-funded drug treatment programs among Virginians identifying injecting drug use behavior in the past year; 78% of the PWID-related admissions were among White, non-Hispanics, 61% between the ages of 18-34, and 76% reported heroin as their primary injection substance.^{lxiv} In the first six months of 2015, approximately 4,000 emergency room visits in the state were attributed to unintentional drug overdoses, with approximately 345 of these visits attributed to heroin according to VDH surveillance data.^{lxv}

With the increase of opioid use comes the increase in intravenous injection as a method to administer the drugs, which is an efficient means to transfer blood borne pathogens from an infected person to another if sharing syringes.^{lxvi} Currently, VDH HIV/STI testing sites have seen an increase in the number of persons who are identifying injection drug use as a possible risk factor for HIV acquisition. Self-reported injection drug use almost doubled from 2009-2013 among STD clinic patients in Richmond, Chesterfield, Henrico, and Alexandria health departments. In 2012, 954 persons claimed injection drug use as a risk factor during HIV counseling sessions; in 2015, that number increased to 1,559.^{lxvii} Additionally, new trends in HIV cases among PWIDs are emerging. At the end of 2015, there were 2,186 Virginians living with HIV who acquired the virus from sharing needles, primarily Black, non-Hispanic (72%), male (63%), and diagnosed between the ages of 25-44 years.^{lxviii} From 2006-2015, the infection rate among PWIDs has been fairly stable; however, White, non-Hispanic persons represented 22% of the PWID-related HIV diagnoses in 2006 and now represent 44% in 2015.^{lxix}

The relationship between needle sharing and the transmission of HIV and hepatitis C virus (HCV) is profound. CDC estimates that 60%-80% of all HCV cases occur due to needle sharing. Within two years of beginning injecting drug use, one-quarter of PWID become infected with HCV, which is usually the first blood-borne virus they acquire.^{lxx} Over time, approximately 70% of all untreated HCV cases develop into chronic liver disease, which is one of the leading causes of death in the U.S.^{lxxi} Annual direct medical costs associated with treatment of liver disease range up to \$13.6 billion nationally.^{lxxii} The 2015 HIV and HCV outbreak among PWID in Scott County, Indiana highlighted the need to monitor rural counties with high HCV rates as potential areas of risk for outbreaks of HIV. Several of Virginia's counties in the Southwest Region are among the counties the CDC lists as potential HIV outbreak sites.^{lxxiii}

Virginia has experienced a 333% increase in the number of acute HCV cases over the past five years (2010-2014) when compared to the previous five years (2005-2009).

Acute HCV refers to the first six months after contracting the virus. In most cases, 75-80% of individuals with acute HCV infection develop chronic infection, which persists life-long, unless treated.^{lxxiv} In addition, Virginia and three neighboring states (Kentucky, Tennessee, West Virginia) showed a considerable increase (364%) in the number of cases of acute HCV infection from 2006 to 2012 among persons aged ≤ 30 years, with injection drug use as the most commonly reported risk for infection (73% of those reporting a risk).^{lxxv}

In 2011, the U.S. Surgeon General determined that access to legal sterile syringes was a science-based, effective strategy for reducing the risk of HIV.^{lxxvi} Large-scale studies citing 25 years of evidence indicate that access to legal syringes does not promote or increase drug use.^{lxxvii} Conversely, persons who participate in harm reduction programs (programs that distribute sterile syringes, condoms, wound care products, overdose prevention information, drugs that can reverse the effects of an opioid, and information about substance abuse prevention to injection drug users) are five-times more likely to enter drug treatment than non-participants. Numerous studies also cite that decriminalization of syringes as drug paraphernalia helps decrease the number of used and potentially contaminated syringes in public places, as injection drug users don't fear carrying used needles to syringe disposal sites.^{lxxviii, lxxix} Correct disposal of used syringes also reduces the risk of occupational exposure to blood-borne diseases to sanitation workers, police officers, emergency medical technicians/paramedics, and other public safety personnel.

Many of Virginia's neighboring states have taken legislative action to ease or eliminate legal restrictions regarding the possession of syringes/needles as part of a more comprehensive harm reduction strategy to reduce new HIV and HCV infections. Kentucky, North Carolina, and Maryland have recently passed laws allowing for syringe exchange within their states. West Virginia has implemented syringe exchange programs and participants are exempt from arrest on drug paraphernalia laws. Other jurisdictions that have decriminalized the possession and distribution of sterile syringes have shown evidence of the impact these legal actions have on disease prevention in their states. New York City, one of the first jurisdictions to enact syringe exchange, reported in 1990 that 42% of all AIDS cases in the city were attributed to injection drug use, including 75% of AIDS cases among women and 85% of AIDS cases among children due to prenatal transmission via a mother who was injecting or had a partner who was injecting, consequently transmitting HIV to mother and child.^{lxxx} In 2013, only 6.2% of New York City's AIDS cases were attributed to injection drug use.^{lxxxii} Hawaii's 2013 Evaluation Report of its state's syringe program showed no HIV infection in a random sample of 100 persons participating in a sterile syringe exchange program and a reduction of 12% reduction of HCV cases among participants from 2010-2013.^{lxxxiii}

VDH introduced legislation in the 2016 General Assembly session that would decrease penalties for possession of paraphernalia and allow the State Health Commissioner to authorize syringe services programs (SSP) in times of public health emergency. The bill passed unanimously out of the Health, Education and Welfare Committee but was not reported out of the Criminal Law subcommittee of the Courts of Justice Committee,

although there was widespread community support for the bill from both medical and law enforcement organizations. The lack of sterile syringes being available to Virginians who inject drugs continues to hamper prevention and care efforts to this population, increasing the possibility of HIV and HCV transmission.

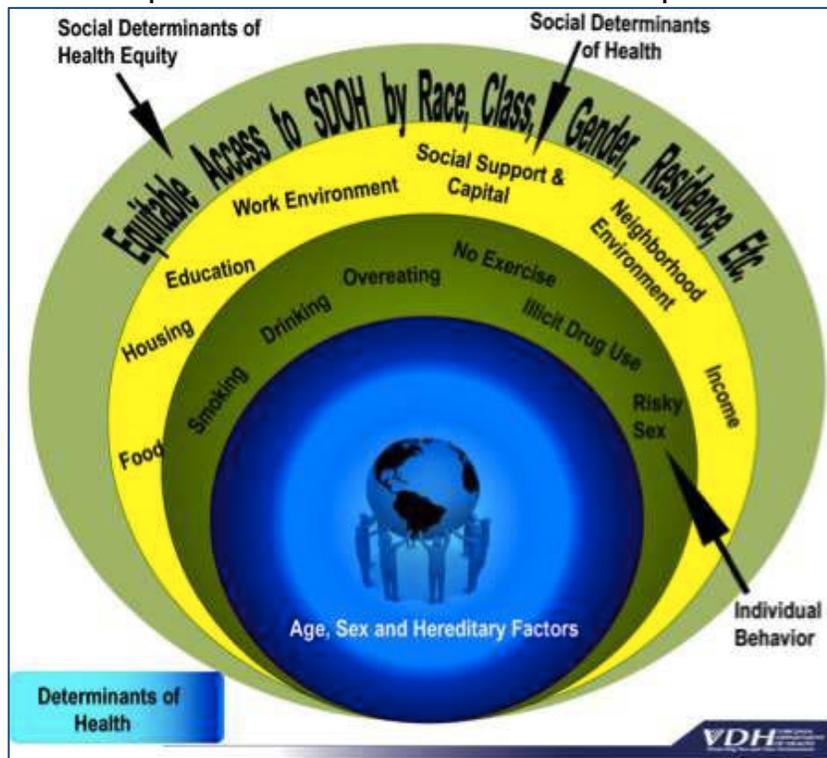
- ***Social Determinants of Health***

VDH’s Office of Minority Health and Health Equity (OMHHE) has led the conversation regarding health equity in the Commonwealth. It defines health equity:

“Health equity” is the idea that everyone should have optimal opportunity to have a healthy and long life, regardless of gender, race, ethnicity, social class, or place of residence.^{lxxxiii}

To achieve health equity, Virginians must have an understanding of the various factors that influence one’s health and well-being. Figure 11 identifies the areas of focus needed for a vibrant, healthy life: (1) individual behavior change, (2) enhancing health promoting social determinants of health, and (3) ensuring access to social determinants of health regardless of age, race/ethnicity, gender identity, place of residence, etc.^{lxxxiv} Understanding the connection between social determinants of health with HIV is essential to better understanding persons who are at greater risk of acquiring and/or transmitting HIV.

Figure 11. Virginia’s Conceptual Framework of Factors Needed for Optimal Health

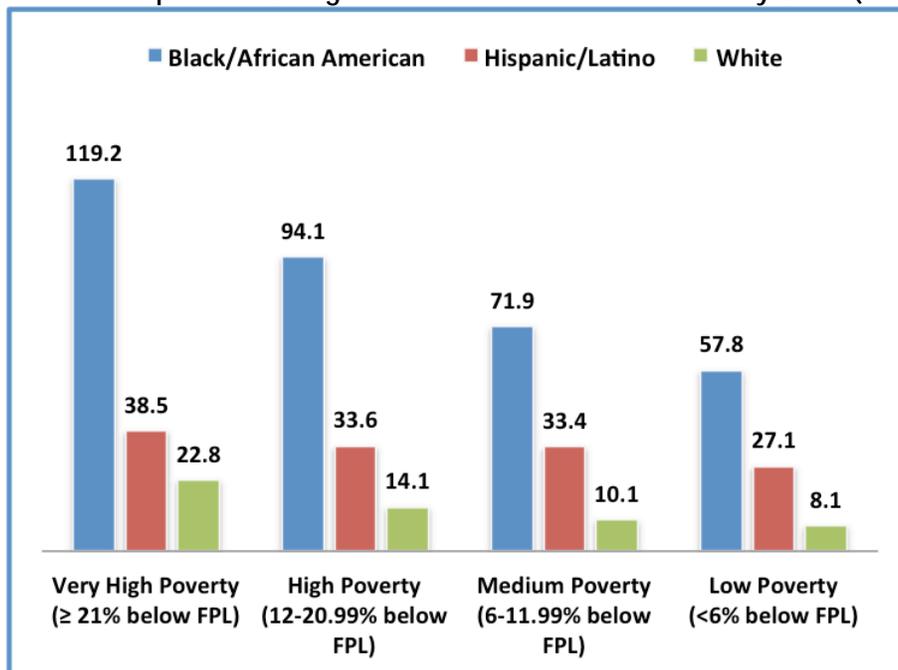


Source: VDH OMHHE, Virginia Health Equity Report, 2012

Centers for Disease Control and Prevention Analysis: Selected Social Determinants of Health and HIV

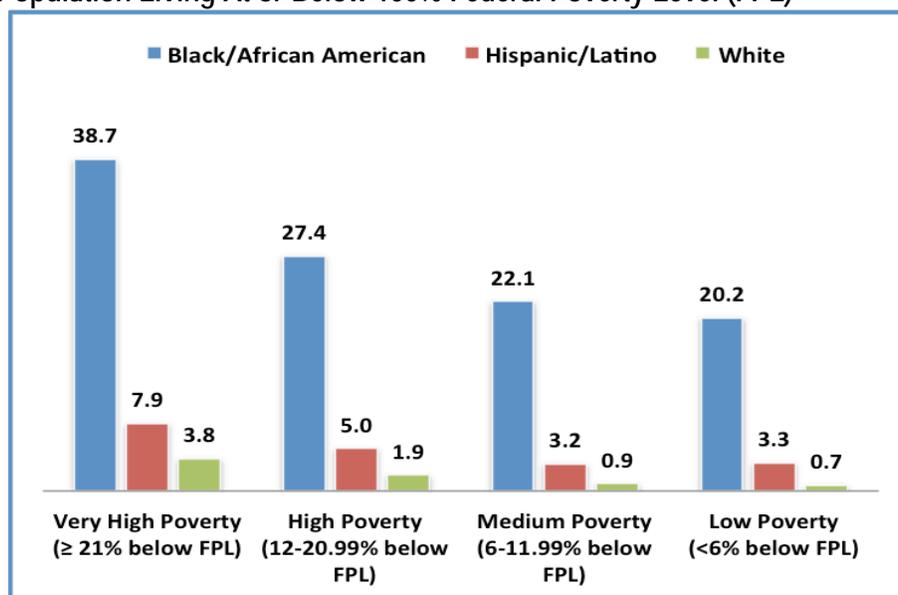
Using census tracts as the geographic level of analysis, the U.S. Centers for Disease Control and Prevention (CDC) examined 2013 HIV surveillance data in 11 states, including Virginia, the District of Columbia, and Puerto Rico in conjunction with specific social determinants of health (i.e., poverty, educational attainment, unemployment, median household income, and having health insurance).^{lxxxv} They examined the data by gender, age group, race/ethnicity, and HIV transmission category. Only one of the five social determinants examined (percent of persons living below 100% Federal Poverty Level or FPL) had a direct correlation with HIV diagnoses in every population examined. CDC found that as poverty level increased, HIV diagnoses also increased. The highest rates of HIV diagnoses in nearly every population was found in census tracts with equal to or more than 21% of the population living below the FPL. Of all populations, the highest rates were among Black/African American males (119.2 per 100,000) followed by Hispanic/Latino females who inject drugs (77.5 per 100,000), young adult males 25-34 years old (76.3 per 100,000 population), and Hispanic/Latino male who inject drugs (75.5 per 100,000 population).^{lxxxvi} Figures 12 and 13 illustrate the correlation between poverty and HIV diagnoses in males and females by race/ethnicity: HIV is highest in census tracts with the highest level of poverty.

Figure 12. Rate of HIV Diagnoses (per 100,000 population) Among Males by Race/Ethnicity by Poverty Concentration (i.e., Very High Poverty to Low Poverty) in Census Tracts for Population Living At or Below 100% Federal Poverty Level (FPL)



Source: CDC, Social determinants of health among adults with diagnosed HIV in 11 states, the District of Columbia and Puerto Rico, 2013.

Figure 13. Rate of HIV Diagnoses (per 100,000 population) Among Females by Race/Ethnicity by Poverty Concentration (i.e., Very High Poverty to Low Poverty) in Census Tracts for Population Living At or Below 100% Federal Poverty Level (FPL)



Source: CDC, Social determinants of health among adults with diagnosed HIV in 11 states, the District of Columbia and Puerto Rico, 2013.

Three other social determinants in the CDC analysis had a similar correlation with HIV diagnoses as poverty in all but one or two populations. These were: educational attainment, unemployment, and being without health insurance.^{lxxxvii} Therefore, in census tracts with the lowest educational attainment (i.e., less than a high school diploma), highest level of unemployment, and highest level of persons without health insurance, the rates of HIV diagnoses were the highest for the majority of populations examined. The correlation between median household income and HIV diagnoses was less clear.

Housing

Adequate and stable housing has a positive influence on health, and the lack of it can deteriorate health and well-being. The *National HIV/AIDS Strategy Updated to 2020* includes as a new indicator the reduction of homelessness among PLWH.^{lxxxviii} It states:

...successful access to care is often precluded by unmet basic needs such as housing. Supplementing care services with robust policies in support of basic needs is crucial for timely linkage to and retention in HIV care. (NHAS Updated to 2020, p. 5)

Research has shown that housing assistance improves health outcomes, including viral suppression.^{lxxxix,xc} The U.S. Department of Housing and Urban Development (HUD) uses the HIV care continuum to show the positive impact that housing assistance makes on persons living with HIV.^{xc} Some researchers suggest that housing status itself is a predictor of better health outcomes.^{xcii} The extent of housing instability and/or homelessness among PLWH is profound. One study found that half of all PLWH experience housing instability or homelessness after their diagnosis.^{xciii}

New York City completed an analysis of 2013 HIV care continuum measures for total PLWH and PLWH who were recipients of Housing Opportunities for People With AIDS (HOPWA) services.^{xciv} It found improved outcomes among HOPWA clients for every measure:

- 99.5% of HOPWA clients were linked to care compared to 86% of all PLWH;
- 96% of HOPWA clients were retained in care compared to 63% of all PLWH;
- 91% of HOPWA clients were presumed started on ART compared to 60% of all PLWH; and
- 71% of HOPWA clients had achieved viral suppression compared to 50% of all PLWH.^{xcv}

The importance of reducing homelessness and housing instability among PLWH cannot be overstated. As discussed earlier, a commonly-accepted standard for housing instability is when 30% or more of the gross household income is needed to pay rent.^{xcvi} Housing instability is not only a concern for PLWH in Virginia; it is a concern for at least half of Virginians. As seen in Table 4, an estimated 50.1% of Virginians pay more than 30% of their household income for rent; this is highest in the Eastern Region/Norfolk TGA where 54.3% of residents pay more than 30% of their household income for rent.

Virginia's Comprehensive HIV/AIDS Resources and Linkages for Inmates (CHARLI) program provides a continuum of services for incarcerated individuals living with HIV, starting 60-90 days prior to their release. Services included in CHARLI are pre-release discharge planning and post-release services for 18-months after discharge. A pilot transitional housing project component to CHARLI was introduced in 2013 in the Eastern Health Region as part of DDP's CAPUS initiative. Virginia's 2015 HIV Care Continuum data show that of the 33 people receiving transitional housing services, 94% were retained in care with 70% achieving viral load suppression compared to 43% and 42% for all Virginia PLWH, respectively. When compared to Virginia PLWH receiving Ryan White services (which included emergency financial assistance for housing and utilities assistance) in 2015 who achieved viral load suppression (69%), results were similar to transitional housing clients.

- ***Contributing Co-Factors to HIV Risk***

There are a number of co-factors that are associated with increased risk for HIV. These include but are not limited to: non-injection drug and/or alcohol use, mental illness, history of incarceration, transactional sex (in public health, this often refers to sexual activity that may include high risk behaviors for HIV exposure and transmission in exchange for favors, gifts, or money - which is differentiated from commercial sex work as participants in the exchange do not self-identify as sex workers and clients of sex workers), and stigma. Non-injection drug and/or alcohol use can impair a person's decision making regarding sexual and/or needle sharing behaviors. Persons with mental health disorders have also been found to have increased risk for HIV.^{xcvii} Specific data for substance use and mental health are provided below.

The Substance Abuse and Mental Health Services Administration (SAMHSA) provides some data regarding the prevalence of substance use and mental illness. Table 8 presents selected alcohol and drug indicators from the 2012-2014 National Survey on Drug Use and Health (NSDUH) for the general population in Virginia and its five health regions.^{xcviii}

Table 8. Selected Drug and Alcohol Indicators from the 2002-2014 NSDUH for Virginia and Health Regions

Characteristic (persons 12 years and older)	Virginia	Central	Eastern	Northern	Northwest	Southwest
Illicit Drug Use Other than Marijuana in Past Month	8.1%	7.7%	8.9%	6.5%	9.7%	8.6%
Marijuana Use in Past Month	6.4%	6.2%	7.0%	5.0%	7.8%	6.8%
Binge Alcohol Use in Past Month	22.3%	22.4%	21.8%	22.2%	22.3%	23.1%
Alcohol Dependence in Past Year	3.3%	3.7%	3.4%	3.1%	3.4%	3.4%
Illicit Drug Dependence in Past Year	1.8%	2.0%	2.1%	1.4%	1.9%	1.9%
Non-medical use of pain relievers	4.6%	5.0%	4.6%	4.3%	5.1%	4.5%
Cigarette Use in Past Month	22.4%	23.3%	24.1%	15.8%	23.1%	29.5%
Needing but not receiving treatment for alcohol use in past year	6.6%	6.7%	6.7%	6.3%	6.6%	6.9%
Needing but not receiving treatment for illicit drug use in past year	2.3%	2.4%	2.6%	1.9%	2.3%	2.5%

Source: SAMHSA, 2012-2014 National Survey on Drug Use and Health, Sub state Estimates.

Note: Grey shading indicates proportion that is higher than in Virginia overall.

The observations by regions:

- Central Region has highest prevalence of *alcohol dependence in the past year* (3.7%);
- Eastern Region, which includes the Norfolk TGA, has the highest prevalence of *illicit drug dependence in the past year* (2.1%) and largest percentage of residents *needing but not receiving treatment for illicit drug use in past year* (2.6%);
- Northern Region has the lowest prevalence in Virginia for every indicator listed;
- Northwest Region has highest prevalence of *illicit drug use other than marijuana in past month* (9.7%) and *marijuana use in past month* (7.8%); and
- Southwest Region has highest prevalence of *binge alcohol use in past month* (29.5%) and *needing but not receiving treatment for alcohol use in past year* (6.9%).

Table 9 presents the prevalence of various mental health indicators for Virginia and the five health regions based on data from SAMHSA’s 2012-2014 NSDUH for the general population.

Table 9. Mental Health Indicators from the 2002-2014 NSDUH for Virginia and Health Regions

Characteristic (persons 12 years and older)	Virginia	Central 4	Eastern 5	Northern 2	Northwest 1	Southwest 3
Serious mental illness in the past year	4.0%	4.0%	4.0%	3.3%	4.0%	5.1%
Any mental illness in the past year	17.9%	18.5%	17.7%	16.1%	18.1%	20.5%
Serious thoughts of suicide in past year	3.9%	3.8%	3.9%	3.4%	3.9%	4.6%
Major depressive episode in past year	7.1%	7.1%	7.0%	6.7%	7.4%	7.8%

Source: SAMHSA, 2012-2014 National Survey on Drug Use and Health, Sub state Estimates.

Note: Grey shading indicates proportion that is higher than in Virginia overall.

For all four mental health indicators measured, the Southwest Region has the highest prevalence. This is contrasted by the Northern Region, which has a lower than average prevalence in every indicator. The Eastern Region has a lower or equal prevalence to Virginia in every indicator. The Central Region has a higher prevalence than Virginia for the indicator, *any mental illness in the past year* (18.5%). The Northwest Region has a higher prevalence than Virginia in two indicators: *any mental illness in the past year* (18.1%) and *major depressive episode in the past year* (7.4%). Unfortunately, SAMHSA does not collect information regarding “needing but not receiving mental health treatment.” HIV Care Continuum

B. HIV Care Continuum

b. The HIV Care Continuum for Virginia and the Norfolk TGA.

For planning, DDP currently uses a diagnosed-based HIV Care Continuum compared to a prevalence-based continuum. The diagnosed-based continuum includes all PLWH who are diagnosed and reported in Virginia’s HIV surveillance system and excludes persons who are undiagnosed.

Virginia’s HIV Continuum of Care consists of four HIV-related measures: (1) Linkage to HIV Care; (2) Evidence of HIV Care; (3) Retention in HIV Care; and (4) Viral Suppression. Table 10 defines the numerator and denominator used to calculate each measure. VDH does not have complete data for ART prescription for all PLWH in the Commonwealth and so does not use this measure in its HIV Continuum of Care. It is available for specific subsets of PLWH through its Care Markers database, specifically PLWH who receive services through Ryan White Part B funding as well as PLWH who are participants in Virginia’s Medical Monitoring Project (MMP), which is a national initiative of the CDC.

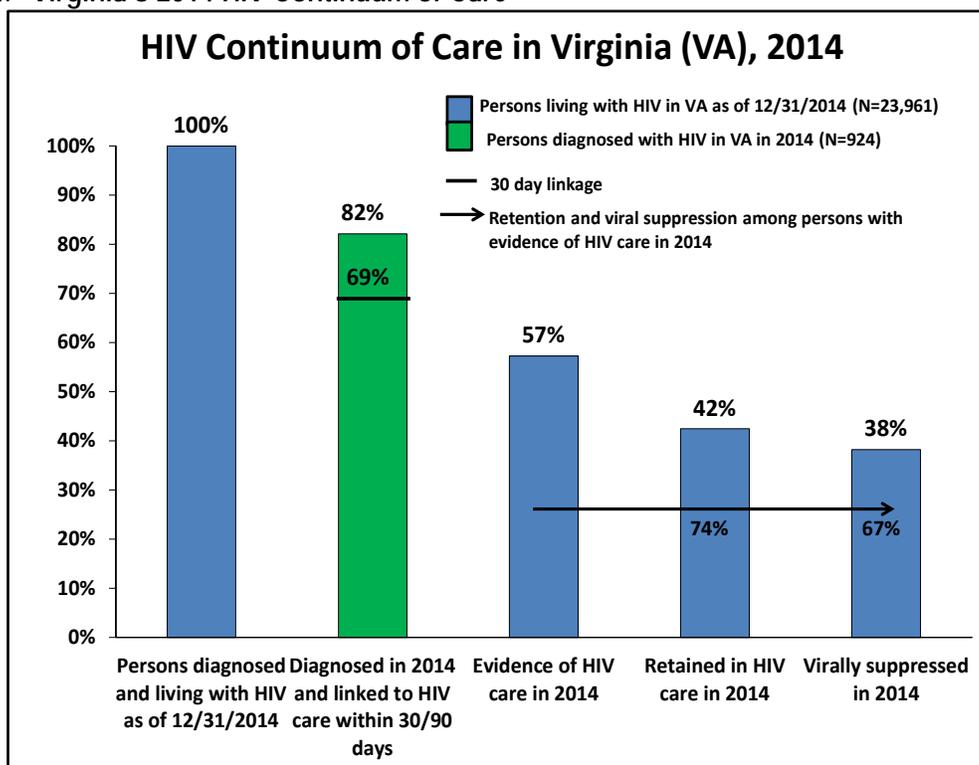
Table 10. Definition of Virginia’s 2014 HIV Continuum of Care Measures

Measure	Numerator	Denominator
Linkage to HIV Care	Persons newly-diagnosed with HIV in 2014 who were linked to care within 30 days and 90 days of initial diagnosis	Persons newly-diagnosed with HIV in 2014 (green column)
Evidence of HIV Care	Persons diagnosed and living with HIV at end of 2014 who had at least one care marker (i.e., HIV medical visit, CD4 count, viral load test, or ART prescription) during 2014	Persons diagnosed and living with HIV at end of 2014

Retention in HIV Care	Persons diagnosed and living with HIV at end of 2014 who had evidence of care at least twice during 2014 at least three months apart	Persons diagnosed and living with HIV at end of 2014
Viral Suppression	Persons diagnosed and living with HIV at end of 2014 whose last viral load test in 2014 was <200 copies/milliliter (mL)	Persons diagnosed and living with HIV at end of 2014
Retention in HIV Care (black arrow)	Persons diagnosed and living with HIV at end of 2014 who had evidence of care at least twice during 2014 at least three months apart	Persons diagnosed and living with HIV at end of 2014 who had evidence of HIV care in 2014
Viral Suppression (black arrow)	Persons diagnosed and living with HIV at end of 2014 whose last viral load test in 2014 was <200 copies/mL	Persons diagnosed and living with HIV at end of 2014 who had evidence of HIV care in 2014

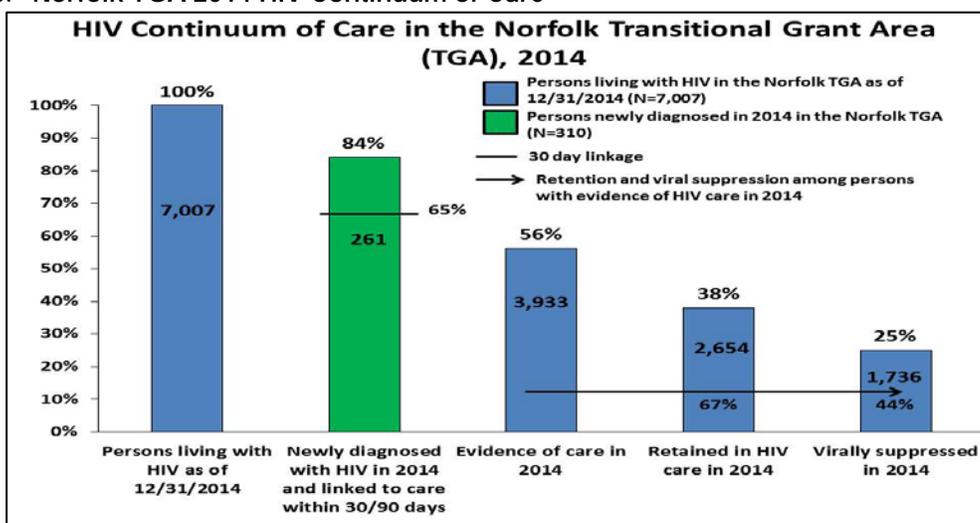
Figures 14 and 15 present Virginia’s and the Norfolk TGA’s 2014 HIV Continuum of Care for all diagnosed PLWH. In addition, Figure 16 presents Virginia’s 2014 HIV Care Continuum for PLWH who receive any Ryan White service. The narrative discussion follows the figures.

Figure 14. Virginia’s 2014 HIV Continuum of Care



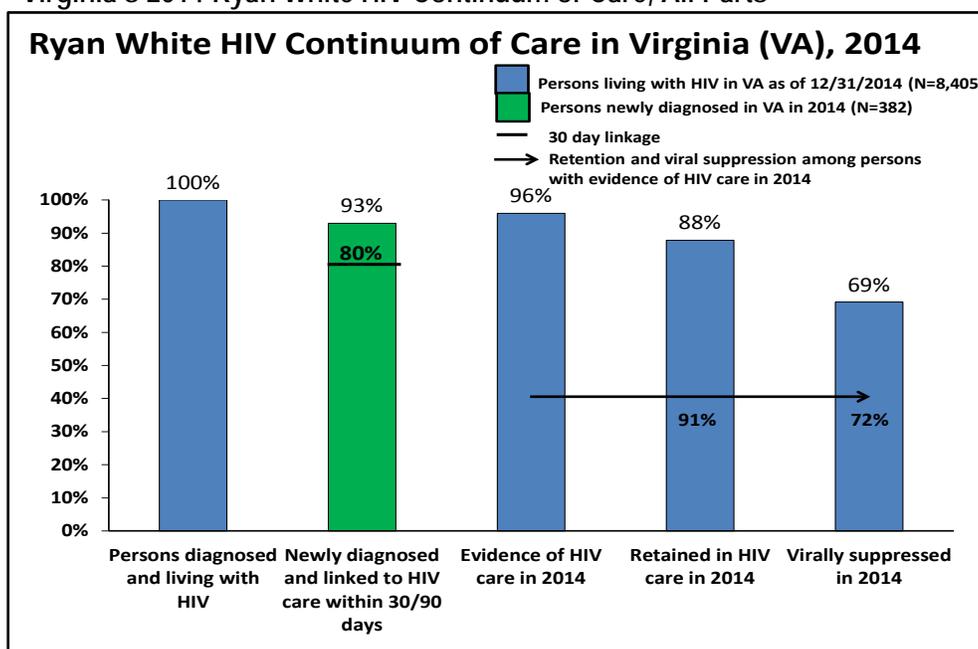
Source: Virginia Department of Health Care Markers Database, December 2015

Figure 15. Norfolk TGA 2014 HIV Continuum of Care



Source: Virginia Department of Health Care Markers Database, December 2015

Figure 16. Virginia's 2014 Ryan White HIV Continuum of Care, All Parts



Source: Source: Virginia Department of Health Care Markers Database, December 2015

When compared to Virginia overall, evidence of HIV care is similar for the state and the Norfolk TGA, at 57% and 56% of PLWH, respectively. In terms of retention in care and viral suppression, the measures for the Norfolk TGA begin to decline in comparison to Virginia. About 42% of Virginia PLWH are retained in care compared to 38% of PLWH in the Norfolk TGA. In addition, 38% of Virginia's PLWH have achieved viral suppression, compared to 25% of PLWH in the Norfolk TGA. It is important to note that some of this disparity may be attributed to data reporting issues in addition to genuine disparities experienced by PLWH in the Norfolk TGA. As VDH and the Norfolk TGA improve data reporting of providers within the TGA, these disparities will likely decrease.

In comparison, the HIV Continuum of Care for PLWH receiving Ryan White services (Figure 16) shows overall better outcomes than Virginia's HIV Continuum of Care across all measures. For example, 69% of Ryan White clients are virally suppressed compared to 38% of all diagnosed PLWH. This may suggest there are other factors that contribute to the better outcomes of Ryan White recipients, including participation in the Ryan White program as these services are designed to mitigate barriers to care and improve health outcomes. It is important to note that Ryan White-funded providers are required to report service utilization as a requirement of funding. This in turn leads to better reporting of health outcomes overall. Accordingly, the disparities between the two HIV Continua of Care must be carefully interpreted.

a. Disparities in engagement among key populations along Virginia's HIV Care Continuum.

There are a number of disparities across Virginia's HIV Continuum of Care. Table 11 presents a summary of Virginia's HIV Continuum of Care for numerous subpopulations of PLWH, including by gender (Figure 17), race/ethnicity (Figure 18), age group (Figure 19), transmission risk (Figure 20), and geographic health region (Figure 21).

Table 11. Virginia 2014 HIV Continuum of Care Data by Specific Population Groups

Population	Linked to HIV Care (30 days)	Evidence of HIV Care	Retained in HIV Care	Virally Suppressed
NHAS Updated to 2020 Targets	85%	not applicable	90%	80%
Virginia Total	69%	57%	42%	38%
Virginia Ryan White	80%	96%	88%	69%
Gender				
Male	69%	56%	41%	37%
Female	69%	62%	47%	41%
Race/Ethnicity				
Black, non-Hispanic	66%	59%	44%	38%
White, non-Hispanic	72%	55%	40%	38%
Hispanic (all races)	75%	52%	39%	39%
Asian/Hawaiian/Pacific Islander	78%	54%	39%	38%
Age (Current Age as of 12/31/2014 and Age at Diagnosis)*				
15-24 years	64%	72%	52%	43%
25-34 years	68%	64%	47%	40%
35-44 years	76%	57%	42%	38%
45-54 years	63%	56%	42%	38%
≥ 55 years	68%	53%	39%	37%
Transmission Risk				
MSM	69%	60%	44%	40%
PWID	53%	49%	38%	34%
MSM/PWID	86%	58%	44%	40%
Heterosexual	71%	65%	51%	44%
Health Region				
Central	56%	63%	52%	48%
Eastern	65%	56%	38%	26%
Northern	74%	48%	31%	35%
Northwest	74%	68%	57%	55%
Southwest	73%	66%	52%	52%

Note: *Age is assessed for PLWH by current age as of December 31, 2014, and for newly-diagnosed persons in 2014 (linkage to care) by age at diagnosis.

As noted in Table 11 and the figures that follow, there are some significant disparities across subpopulations. More significant disparities—defined as 3% or more less than Virginia’s overall percentage—vary considerably. These are highlighted in **bold italics** and grey shading in Table 12. Table 12 below reorganizes the information from Table 11 and ranks from best to worst HIV-related outcome.

Table 12. Virginia's 2014 HIV Continuum of Care Data for Specific Population Group in Order from Best to Worst HIV-Related Outcomes

	Linked to Care (30 days)		Evidence of Care		Retained in Care		Virally Suppressed	
	Best ----- HIV-related Outcomes ----- Worst	MSM/PWID	86%	15-24 yrs	72%	Northwest	57%	Northwest
Asian/Hawaiian/ Pacific Islander		78%	Northwest	68%	15-24 yrs	52%	Southwest	52%
35-44 years		76%	Southwest	66%	Central	52%	Central	48%
Hispanic		75%	Heterosexual	65%	Southwest	52%	Heterosexual	44%
Northwest		74%	25-34 yrs	64%	Heterosexual	51%	15-24 yrs	43%
Northern		74%	Central	63%	25-34 yrs	47%	Female	41%
Southwest		73%	Female	62%	Female	47%	25-34 yrs	40%
White		72%	MSM	60%	Black	44%	MSM	40%
Heterosexual		71%	Black	59%	MSM	44%	MSM/PWID	40%
MSM		69%	MSM/PWID	58%	MSM/PWID	44%	Hispanic	39%
Male		69%	35-44 yrs	57%	35-44 yrs	42%	White	38%
Female		69%	Virginia	57%	45-54 yrs	42%	Asian/Hawaiian/ Pacific Islander	38%
Virginia		69%	Eastern	56%	Virginia	42%	Black	38%
≥ 55 yrs		68%	45-54 yrs	56%	Male	41%	35-44 yrs	38%
25-34 yrs		68%	Male	56%	White	40%	45-54 yrs	38%
Black		66%	White	55%	≥ 55 yrs	39%	Virginia	38%
Eastern Region		65%	Asian/Hawaiian/ Pacific Islander	54%	Asian/Hawaiian/ Pacific Islander	39%	≥ 55 yrs	37%
15-24 yrs	64%	≥ 55 yrs	53%	Hispanic	39%	Male	37%	
45-54 yrs	63%	Hispanic	52%	Eastern	38%	Northern	35%	
Central	56%	PWID	49%	PWID	38%	PWID	34%	
PWID	53%	Northern	48%	Northern	31%	Eastern	26%	

Note: **Bold** indicates populations that are at least three percentage points below Virginia average.

Bold RED and grey shading indicates populations that are at least five percentage points below Virginia average.

Using the outcomes for Virginia as the measuring line for health outcomes, there are a number of populations in Table 12 that fall below the Virginia average. These populations have some level of disparity as compared to Virginia's overall average. However, populations with the more severe disparity (i.e., ≥ 3 percentage points less than Virginia's average) are bolded and those with the most severe disparities (i.e., ≥ 5 percentage points less than average) are bolded in red.

Disparities along the HIV Continuum of Care: Discussion

- **Linkage to HIV Care:**

In 2014, 69% of persons newly-diagnosed with HIV in Virginia were linked to HIV care within 30 days. Linkage is defined as a person newly-diagnosed with HIV in 2014 having a CD4 or viral load lab, ART prescription, or HIV medical care visit within 30 days of initial diagnosis. In 2014, lower linkage rates are seen among Black, non-Hispanic persons (66%), PWID (53%), 15-24 and 45-54 year olds (64%; 63%), and persons diagnosed in the Eastern (65%) or Central (56%) health regions as compared to Virginia overall.

- **Evidence of HIV Care:**

Evidence of HIV care in Virginia is defined as all PLWH who had at least one marker for HIV care (CD4, viral load, HIV medical visit, ART prescription) in 2014. Fifty-seven percent (57%)

of PLWH had evidence of HIV care in 2014; Asian/Hawaiian/Pacific Islander and Hispanic persons are less likely to have evidence of HIV care than the statewide average, at 54% and 52%, respectively. Older persons (55 years of age and older) are less likely to have evidence of care (53%), as well as persons living in the Northern region of the state (48%) and PWID (49%).

- ***Retention in HIV Care:***

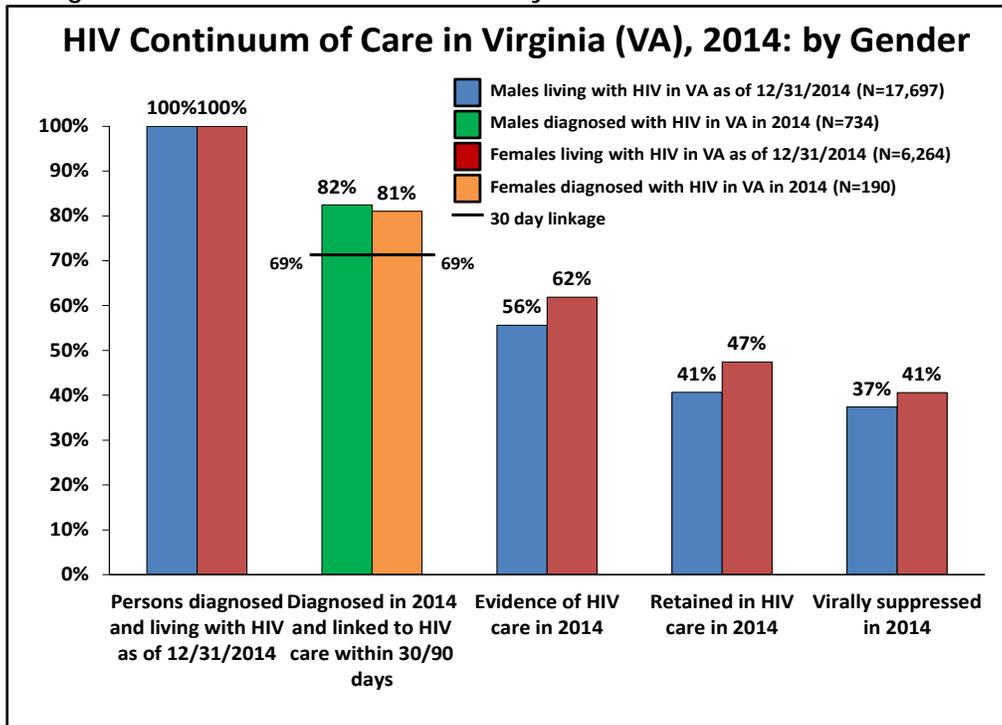
Retention in HIV care in Virginia is defined as having two or more markers for care in 2014 at least three months apart, of which 42% of PLWH in Virginia met this definition in 2014. Persons living in the Eastern (38%) and Northern Regions (31%) in Virginia had lower retention rates than the statewide average. Disparities in retention are also seen among the Asian/Hawaiian/Pacific Islander and Hispanic communities, as well as older populations and PLWH attributed to PWID.

- ***Viral Suppression:***

In Virginia, viral suppression is defined as the last viral load that is measured in 2014 is less than 200 copies/mL. Among PLWH in Virginia as of December 31, 2014, 38% were virally suppressed. PWID are less likely to be virally suppressed at 34%, and regional differences in viral suppression also exist in the Northern and Eastern Regions, at 35% and 26%, respectively.

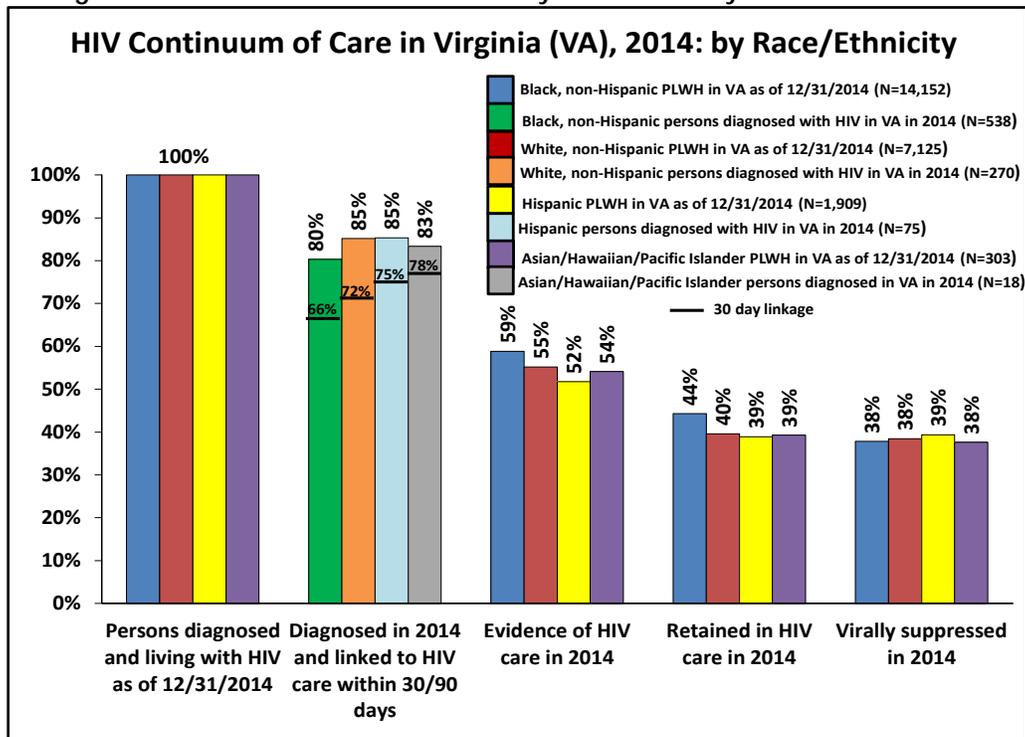
Only one subpopulation has a disparity across all four measures: PWID. Although PWID represent only 8.8% of total PLWH (Table 2), their disparity across every measure may suggest that they experience significant barriers to accessing services. Two regions (Northern and Eastern) have disparities in three of the four measures. These regions are home to 58.2% of total PLWH (i.e., 14,470 persons) in Virginia reported as of December 31, 2015 (Table 1) and are the two health regions with the most PLWH in the Commonwealth. The Northern Region is part of the Health Resources and Services Administration's (HRSA) Ryan White Washington, DC EMA, and the Eastern Region includes the Norfolk TGA. Thus, despite the additional resources that these areas get from Ryan White Part A funding, there continues to be significant challenges in each, suggesting that disparities persist due to other contributing factors (e.g., stigma and social determinants of health).

Figure 17. Virginia's 2014 HIV Continuum of Care by Gender



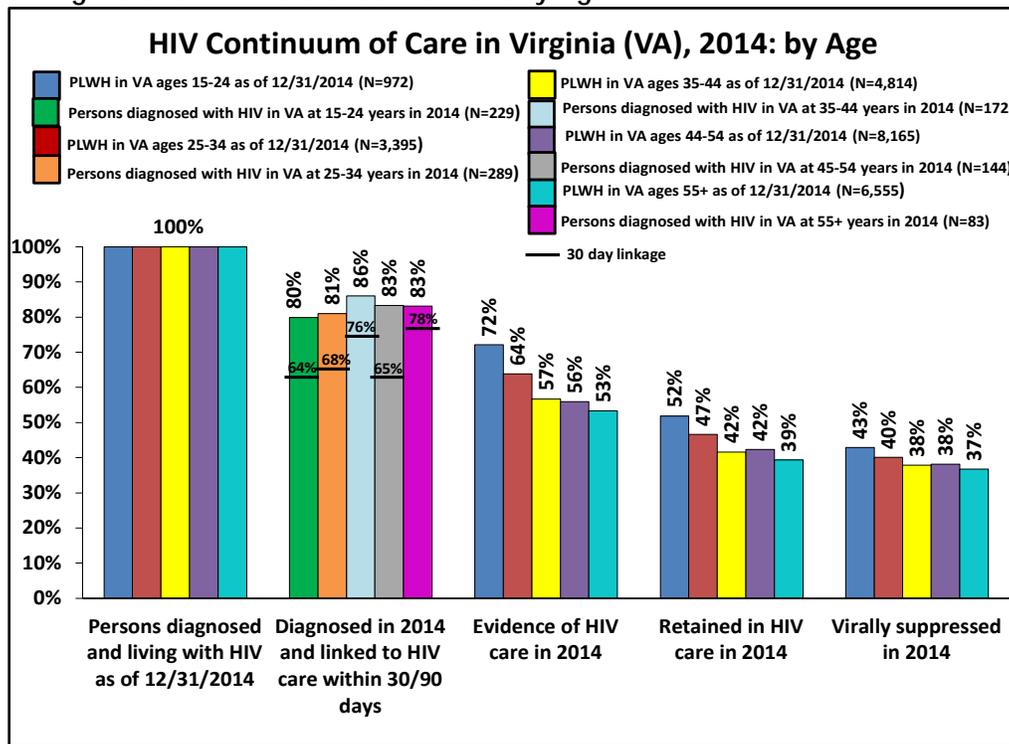
Source: Virginia Department of Health Care Markers Database, December 2015

Figure 18. Virginia's 2014 HIV Continuum of Care by Race/Ethnicity



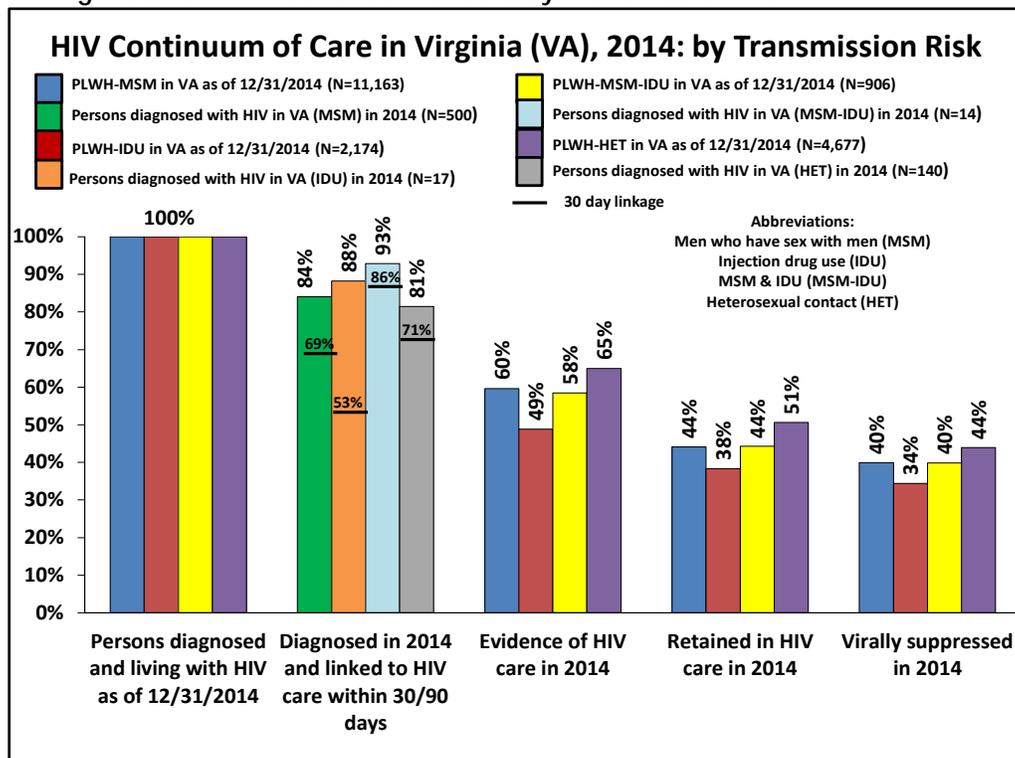
Source: Virginia Department of Health Care Markers Database, December 2015,

Figure 19. Virginia's 2014 HIV Continuum of Care by Age



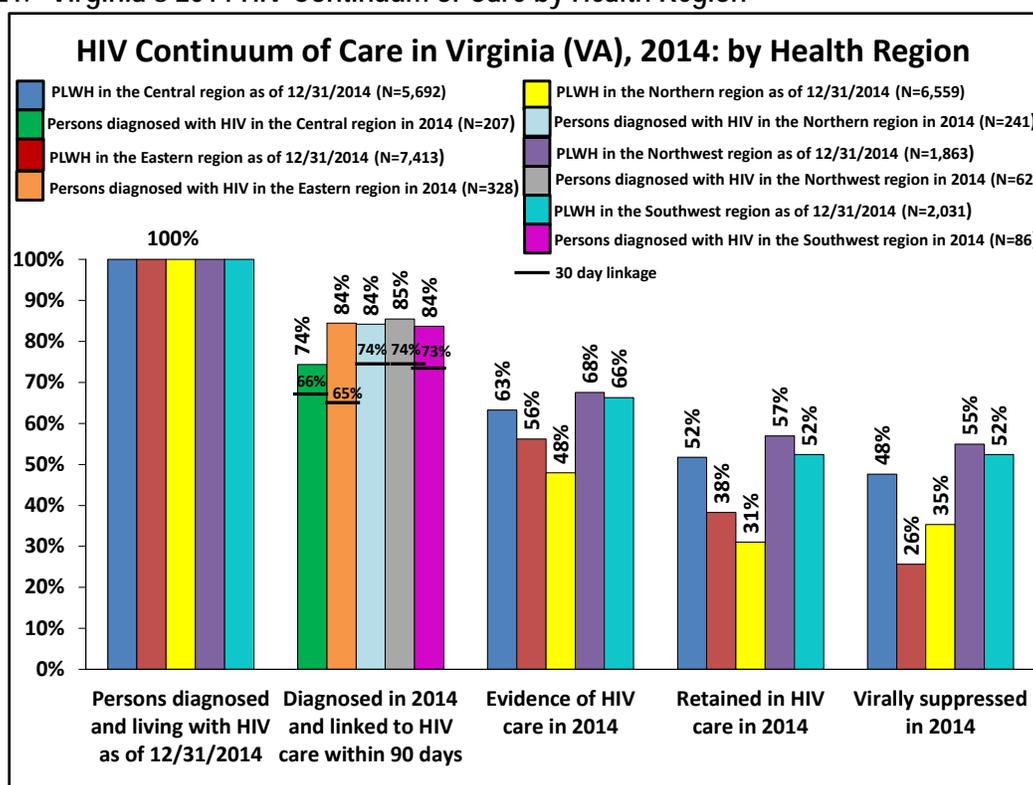
Source: Virginia Department of Health Care Markers Database, December 2015

Figure 20. Virginia's 2014 HIV Continuum of Care by Transmission Risk



Source: Virginia Department of Health Care Markers Database, December 2015

Figure 21. Virginia's 2014 HIV Continuum of Care by Health Region



Source: Virginia Department of Health Care Markers Database, December 2015, December 2015

- b. **How the HIV Care Continuum may be or is currently utilized in (1) planning, prioritizing, targeting, and monitoring available resources in response to the needs of PLWH in the jurisdiction, and (2) improving engagement and outcomes at each stage of the HIV Care Continuum.**

Virginia's HIV Continuum of Care is the cornerstone of DDP's current HIV planning. It provides a useful framework for assessing how Virginia is progressing in achieving NHAS goals and its indicators related to: (1) linkage to HIV care, (2) retention in HIV care, and (3) viral suppression. The HIV Continuum of Care data has been used extensively in the development of Virginia's Five-Year HIV Services Work Plan (2017-2021) (Appendix B) to develop baseline and target measures.

At minimum annually, DDP surveillance staff develop the HIV Continuum of Care graphs for Virginia statewide, Ryan White clients, and selected subpopulations (e.g., by gender, race/ethnicity, age, transmission category, and health region). DDP's HIV care services and prevention planners will review this information, track any changes from the previous reporting of HIV Continuum of Care measures and, with other DDP staff, make recommendations on how to address challenges along the HIV Continuum of Care. The HIV Continuum of Care measures will be presented to the statewide planning groups for their review, consideration, and feedback into the planning process. This information will be used to inform Virginia's annual Ryan White Part B application, CDC application renewal, and numerous other competitive opportunities that bring critically needed resources into Virginia to support a comprehensive HIV services

portfolio. DDP uses HIV Continuum of Care data to routinely evaluate how resources are allocated to increase the proportion of people who are aware of their HIV positive status, are linked and retained in care, and ultimately achieve viral suppression. Analyzing regional and subpopulation data provides insight into disparities within the Commonwealth to inform prioritization and allocation of resources needed to address them.

DDP conducts a statewide Needs Assessment of both providers and consumers to identify barriers to and gaps in the current portfolio of HIV services, as well as distribution of services. Virginia's Five-Year HIV Services Work Plan (2017-2021) detailed in Appendix B presents a core set of measurable objectives, which includes the three NHAS indicators related to the HIV Continuum of Care. The Work Plan outlines specific strategies that Virginia will employ to achieve the stated objectives as well as very specific, concrete activities that will be implemented to actualize the identified strategies. The focus of every conversation that led to the development of this work plan centered on how to move PLWH along the HIV Continuum of Care to ultimately achieve viral suppression, which itself is a primary strategy to curtail transmission of HIV.

Ongoing analysis of HIV Continuum of Care data analysis ensures that services are delivered in a manner that continues to meet current and emerging needs to link, engage, and retain PLWH in care, and enhance adherence in order to achieve HIV viral suppression. DDP and the Norfolk TGA will prioritize and allocate funding to the services needed to achieve these positive results.

C. Financial and Human Resources Inventory

A. Virginia's HIV Financial Resources Inventory

VDH gathered extensive information regarding financial resources available in Virginia that provide direct services for PLWH and/or persons at high risk of acquiring HIV. *Appendix A: Financial Resources Inventory* presents the most current list available, including the details of the type(s) of services supported through identified funds, as well as an assessment of how those funds impact Virginia's activities along its HIV Services Continuum (the HIV Care Continuum measures are defined and are under development for Virginia's prevention portfolio to create a model that will represent a continuum for its integrated HIV Services portfolio). For the purposes of this inventory, DDP added two additional columns to be inclusive of persons at risk for HIV infection. These columns are "Prevention" and "PrEP" to indicate if funds are used for HIV prevention services (e.g., HIV testing, condom distribution, behavioral interventions) and pre-exposure prophylaxis (PrEP) and non-occupational post-exposure prophylaxis (nPEP). HIV prevention funding also supports linkage to and retention in care, as well as treatment adherence. The inventory does not represent an exhaustive list as some financial resources, particularly those paid through public and private health insurance companies are currently not available (e.g., Medicaid, Medicare, Kaiser Permanente, Blue Cross and Blue Shield, etc.).

B. Virginia's HIV Workforce Capacity and how it impacts the HIV prevention and care service delivery system.

The portfolio of HIV services in Virginia encompasses not only medical care but HIV testing, prevention, behavioral health, housing, case management, food services, medical transportation,

and many more. Hence, the HIV workforce in Virginia spans a wide variety of job titles and classifications of workers to implement the variety of services available.

For the purposes of this plan, VDH focuses its lens on the HIV physician and, to some extent, the primary care physician workforce to discuss issues related to an aging workforce, potential retirement, and other issues that impact the size and readiness of a qualified, competent workforce. Not only is there a need to care for the growing number of PLWH in Virginia, the implementation of biomedical interventions such as PrEP to prevent HIV transmission also requires prescribing privileges. Thus, the need for primary care physicians to prescribe and monitor high-risk individuals on PrEP is key to ending HIV transmission in Virginia. This narrow focus on workforce addresses current issues that Virginia is facing.

Workforce capacity can be examined in terms of having a sufficient number of qualified workers, as well as having a workforce that has the right skills needed to do their particular jobs. Workforce capacity can also examine the diversity of the workforce to identify potential challenges with delivering culturally and linguistically-responsive services. Examples of workforce capacity challenges (all of which are not necessarily occurring in Virginia) include staff turnover, including retirement; burnout due to chronic short staffing; and organizational implementation of waiting lists for specific services or long wait times before a client's initial appointment. A total of 72 respondents, identified as program administrators or supervisors, completed the survey. The results of the survey provide insight into other workforce challenges and issues and provide a direction for future activities to address workforce capacity.

- ***HIV Physician Workforce***

In a 2010 report, HRSA brought attention to the increasing workforce challenges the country would face “to effectively treat people living with HIV/AIDS.”^{xcix} One of the recommendations of this report called for the completion of a more comprehensive HIV workforce study. That study has been completed with the results published in August 2016.^c This report asserts that “*Evidence suggests that the supply of HIV clinicians might not be keeping pace with the general growth in the demand for HIV health care services.*”^{ci} The reasons for this are abundant: (1) new PLWH are diagnosed every year and linked to HIV medical care; (2) implementation of the ACA gives more PLWH access to health insurance with the possibility of a federal subsidy; and (3) PLWH who were previously not in care are being identified and linked to care, sometimes for the first time.^{cii} PLWH are also living longer, increasing the complexity of care as PLWH experience many of the same co-morbid health conditions as older persons in the general population (e.g., cardiovascular disease, Type II diabetes, high blood pressure, and high cholesterol). These issues all impact the demand or need for HIV health services. However, there are equally important issues impacting the supply side of the HIV workforce equation (e.g., new entrants into the HIV clinical workforce or the expected retirement of current HIV workforce). The HRSA study projected the supply and demand for HIV health services from 2010 to 2015. A notable finding was that 16.5% of HIV clinicians were 65 years and older.^{ciii} The vast majority of HIV clinicians were either primary care physicians (54.5%) or infectious disease specialists (37.2%). Only 8.3% of the workforce were nurse practitioners or physician assistants.^{civ} In their projections through 2015, the authors projected that the percentage of non-physician HIV physicians would grow to 11.5% of the HIV clinician workforce by 2015.^{cv} In

terms of race/ethnicity, 68% of HIV clinicians were White, 8.3% Black, and 7.3% Hispanic.^{cvi} This lack of diversity highlights potential challenges to provide culturally and linguistically-responsive care if the demographics of providers does not change or if there is not high uptake and application of training that can assure the provision of culturally-responsive care. HIV clinicians 55 years and older accounted for 15.3% of HIV patient visits.^{cvi} Overall, the study reported an overall projected increase in clinician demand at 13.9%; if HIV testing efforts are successful in identifying undiagnosed persons; the demand for clinicians could increase to as much as 36% of the supply.^{cvi}

The study modeled two scenarios for reducing the gap: (1) increasing the proportion of clinicians' time spent working with HIV patients overall; and (2) increase the number of patients seen in an hour (i.e., less time with the patient).^{cix} Although these are two possibilities, the study did not include other innovative methods that are being implemented through HRSA's HIV workforce Special Projects of National Significance, such as the use of telemedicine, increase the number of nurse practitioners and physicians assistants, or mentoring models to expand number of primary care physicians seeing HIV patients.

DDP completed a preliminary analysis of the geographic distribution of HIV physicians based on available data and compared it to 2015 HIV prevalence data to better understand Virginia's HIV clinician workforce and identify potential problem areas. The results of this analysis are presented in Table 13, which shows the number of known physicians working with HIV patients by Virginia County/Independent City, Health Region, and Health District.

Table 13. Distribution of HIV Physician Workforce by Virginia County/Independent City, Health Region, and Health District with 2015 HIV Prevalence

County/ Independent City	Health Region	Health District	Physicians	2015 HIV Cases
Central	Central		48	5,920
Brunswick Co.	Central	13		75
Halifax Co.	Central	13		93
Mecklenburg Co.	Central	13		107
Amelia Co.	Central	14		15
Buckingham Co.	Central	14		80
Charlotte Co.	Central	14		17
Cumberland Co.	Central	14		21
Lunenburg Co.	Central	14		48
Nottoway Co.	Central	14		64
Prince Edward Co.	Central	14		59
Charles City Co.	Central	15		20
Chesterfield Co.	Central	15	3	624
Goochland Co.	Central	15		77
Hanover Co.	Central	15	2	120
Henrico Co.	Central	15	1	900
New Kent Co.	Central	15		26
Powhatan Co.	Central	15		124

County/ Independent City	Health Region	Health District	Physicians	2015 HIV Cases
Richmond (city)	Central	15	40	2,478
Colonial Heights (city)	Central	19		40
Dinwiddie Co.	Central	19		48
Emporia (city)	Central	19		20
Greensville Co.	Central	19		117
Hopewell (city)	Central	19		143
Petersburg (city)	Central	19	1	391
Prince George Co.	Central	19	1	122
Surry Co.	Central	19		15
Sussex Co.	Central	19		76
Eastern	Eastern		50	7,697
Lancaster Co.	Eastern	17		27
Northumberland Co.	Eastern	17		25
Richmond Co.	Eastern	17		48
Westmoreland Co.	Eastern	17		27
Essex Co.	Eastern	18		20
Gloucester Co.	Eastern	18		44
King and Queen Co.	Eastern	18		14
King William Co.	Eastern	18		11
Mathews Co.	Eastern	18		12
Middlesex Co.	Eastern	18		17
Chesapeake (city)	Eastern	20	6	667
Franklin (city)	Eastern	20		28
Isle of Wight Co.	Eastern	20		79
Norfolk (city)	Eastern	20	30	2,221
Portsmouth (city)	Eastern	20	4	752
Southampton Co.	Eastern	20		51
Suffolk (city)	Eastern	20		281
Virginia Beach (city)	Eastern	20	1	1,336
Hampton City	Eastern	21	3	727
James City Co.	Eastern	21		77
Newport News (city) Co.	Eastern	21	5	952
Poquoson (city) Co.	Eastern	21		9
Williamsburg (city)	Eastern	21		53
York Co.	Eastern	21		60
Accomack Co.	Eastern	22		121
Northampton Co.	Eastern	22	1	38
Northern	Northern		43	6,773
Alexandria (city)	Northern	8	1	1,221
Arlington Co.	Northern	8	8	1,229
Fairfax (city)	Northern	8	10	99
Fairfax Co.	Northern	8	14	2,637
Falls Church (city_	Northern	8	1	59

County/ Independent City	Health Region	Health District	Physicians	2015 HIV Cases
Loudoun Co.	Northern	8	7	375
Manassas (city)	Northern	8	1	118
Manassas Park (city) Co.	Northern	8		26
Prince William Co.	Northern	8	1	1,009
Northwest	Northwest		42	1,944
Augusta Co.	Northwest	6	2	68
Bath Co.	Northwest	6		5
Buena Vista (city)	Northwest	6		2
Harrisonburg (city)	Northwest	6		74
Highland Co.	Northwest	6		0
Lexington (city)	Northwest	6		8
Rockbridge Co.	Northwest	6		14
Rockingham Co.	Northwest	6		67
Staunton (city)	Northwest	6		50
Waynesboro (city)	Northwest	6		48
Clarke Co.	Northwest	7		19
Frederick Co.	Northwest	7	3	107
Page Co.	Northwest	7	1	10
Shenandoah Co.	Northwest	7		30
Warren Co.	Northwest	7		53
Winchester (city)	Northwest	7		83
Culpeper Co.	Northwest	9		96
Fauquier Co.	Northwest	9	1	74
Madison Co.	Northwest	9		8
Orange Co.	Northwest	9		56
Rappahannock Co.	Northwest	9		10
Albemarle Co.	Northwest	10		157
Charlottesville (city) Co.	Northwest	10	28	181
Fluvanna Co.	Northwest	10		40
Greene Co.	Northwest	10		13
Louisa Co.	Northwest	10		44
Nelson Co.	Northwest	10		23
Caroline Co.	Northwest	16		64
Fredericksburg (city) Co.	Northwest	16	7	103
King George Co.	Northwest	16		44
Spotsylvania Co.	Northwest	16		182
Stafford Co.	Northwest	16		211
Southwest	Southwest		19	2,103
Lee Co.	Southwest	1		25
Norton (city)	Southwest	1		3
Scott Co.	Southwest	1		12
Wise Co.	Southwest	1		30
Buchanan Co.	Southwest	2		14

County/ Independent City	Health Region	Health District	Physicians	2015 HIV Cases
Dickenson Co.	Southwest	2		6
Russell Co.	Southwest	2		12
Tazewell Co.	Southwest	2		40
Bland Co.	Southwest	3		8
Bristol (city)	Southwest	3		38
Carroll Co.	Southwest	3		17
Galax (city)	Southwest	3		7
Grayson Co.	Southwest	3		15
Smyth Co.	Southwest	3		43
Washington Co.	Southwest	3	1	43
Wythe Co.	Southwest	3		38
Floyd Co.	Southwest	4		15
Giles Co.	Southwest	4		13
Montgomery Co.	Southwest	4		78
Pulaski Co.	Southwest	4		25
Radford (city)	Southwest	4		15
Alleghany Co.	Southwest	5	1	23
Botetourt Co.	Southwest	5		26
Covington (city) Co.	Southwest	5		20
Craig Co.	Southwest	5		4
Roanoke (city)	Southwest	5	8	475
Roanoke Co.	Southwest	5		118
Salem (city)	Southwest	5	3	34
Amherst Co.	Southwest	11		57
Appomattox Co.	Southwest	11		30
Bedford Co.	Southwest	11	1	71
Campbell Co.	Southwest	11		78
Lynchburg (city) Co.	Southwest	11	4	201
Danville (city)	Southwest	12	1	176
Franklin Co.	Southwest	12		68
Henry Co.	Southwest	12		61
Martinsville (city) Co.	Southwest	12		48
Patrick Co.	Southwest	12		16
Pittsylvania Co.	Southwest	12		100
VIRGINIA TOTAL			202	24,853

Sources: Physicians on Virginia Department of Health ADAP list, American Academy of HIV Medicine List (includes members and non-members who self-report caring for HIV patients); HIV prevalence data: Virginia 2015 HIV Surveillance Report.
Note: Excludes 416 cases of HIV, including AIDS, with unknown residence.

Table 14 aggregates the number of HIV physicians and HIV cases by health district, for an estimated calculation of HIV physician to HIV prevalence ratio, assuming that all diagnosed PLWH were in care. As they are not, this ratio provides a starting point for further analysis.

Table 14. HIV Physician to HIV Prevalence (2015) Ratio by Health Region and Health District

Health District by Health Region	HIV Prevalence	HIV Physicians	HIV Physician to HIV Prevalence Ratio
Central Region	5,920	48	123:1
13	275	0	275:0
14	304	0	304:0
15	4,369	46	95:1
19	972	2	486:1
Eastern Region	7,697	50	154:1
17	127	0	127:0
18	118	0	118:0
20	5,415	41	132:1
21	1,878	8	235:1
22	159	1	159:1
Northern Region	6,773	43	157:1
8	6,773	43	157:1
Northwest Region	1,944	42	46:1
6	336	2	168:1
7	302	4	76:1
9	244	1	244:1
10	458	28	16:1
16	604	7	86:3
Southwest Region	2,103	19	111:1
1	71	0	71:0
2	72	0	72:0
3	209	1	209:1
4	146	0	146:0
5	700	12	58:1
11	437	5	87:1
12	469	1	469:1

Sources: Physicians on Virginia Department of Health ADAP list, American Academy of HIV Medicine List (includes members and non-members who self-report caring for HIV patients); HIV prevalence data: Virginia 2015 HIV Surveillance Report. Note: Excludes 416 cases of HIV, including AIDS, with unknown residence. Health districts with physician to HIV prevalence ratio greater than 200:1 are bolded in red.

There is a wide range of HIV physician to HIV prevalence estimation ratios in Virginia, from health districts with no HIV physicians to a high of 486:1 (HIV cases to HIV physicians) in the Central Region, health district 19. The second highest ratio is in the Southwest Region, health district 12, 469 HIV cases to only one HIV physician. Virginia's HIV physicians are clustered in urban centers, leaving areas outside those centers with a significant deficit.

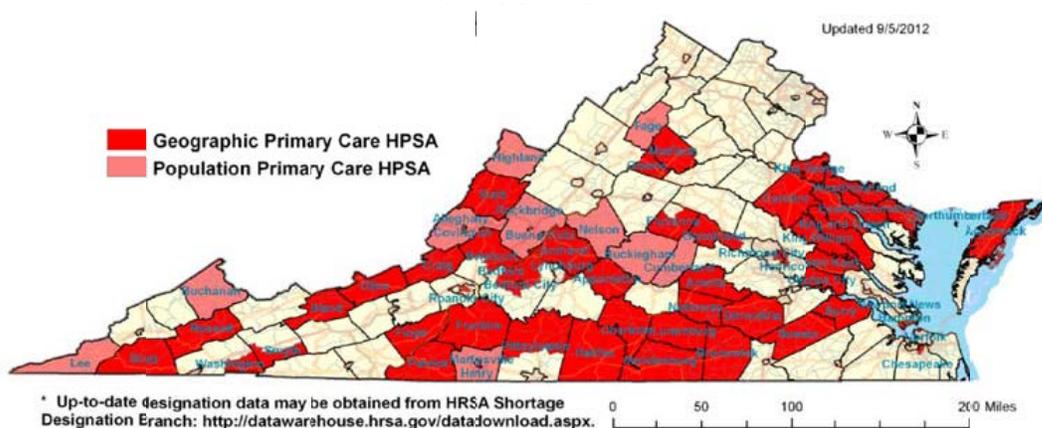
The intent of this table is to identify potential geographic areas of concern for future analysis. PLWH need to be included in future analysis to comprehensively understand depth their current travel patterns (i.e., where they seek care), their modes of transportation, and other factors that may influence their choice of a care location (e.g., concerns about stigma and discrimination while living in a small community could influence serostatus disclosure or where they seek care).

A more complete analysis should also include nurse practitioners and physician assistants.

Now 30 years into the HIV epidemic, the first wave of HIV clinicians will be planning retirement. Challenges with Virginia's HIV physician workforce are part of larger physician workforce challenges among primary care providers (i.e., general practice/family medicine, internal medicine, and pediatrics). A new U.S. report shows a projected shortfall of 12,500-31,000 primary care physicians by 2025 in the U.S.^{cx} There is a projected shortage of 5,100 to 12,300 medical specialty physicians, which include infectious disease physicians.^{cxii}

Virginia faces its own challenges. Figure 22 depicts the HRSA primary care shortage areas in the Commonwealth. Virginia has a primary care physician ratio of 91.2 per 100,000 population compared to the U.S. of 79.4 per 100,000.^{cxiii} Implementation of the ACA gives more people access to health insurance and the demand on primary care providers has increased.

Figure 22. 2012 Virginia Primary Care Shortage Areas



Source: Report of the Joint Commission on Healthcare: Update on the Virginia Physician Workforce Shortage, 2014

These data make clear that Virginia will need to employ a mix of strategies to provide access to medical care for its rural-living residents. Gathering information and developing innovative or alternative initiatives to explore new service delivery methods, i.e., the increased use of telemedicine and mobile health services will ease future challenges faced by the Commonwealth. This will be especially important as PrEP uptake is expanded and the need to identify clinicians willing to prescribe PrEP adds another dimension for consideration.

- **2016 Provider Survey, Workforce Questions: Summary of Findings**

During May 2016, VDH developed a short, four-question survey to collect information about workforce capacity. VDH used Survey Monkey and distributed the electronic survey to sub-recipients with an email link to respond in mid-June 2016. A reminder email was sent to providers asking that they complete the survey in late June 2016.

There were a total of 72 valid surveys. The responses represent a convenience sample of VDH contracted providers, which is not generalizable to all VDH contracted providers or all HIV services providers in Virginia. For planning purposes, they offer insight into areas of concern for some HIV services providers in Virginia and provide a starting point for addressing other

workforce challenges in future years of this plan. The findings discussed below are presented in the order of the four questions asked.

Workforce Challenges: The first question asked respondents to identify their level of agreement with the workforce challenges in their organization. Table 15 presents the major workforce challenges experienced by at least 25% or more of respondents who answered “agree” or “strongly agree.” (Note: Percentages of respondents are based on the total number of respondents who answered the question and vary for each question.)

Table 15. 2016 Provider Survey Top Reported Workforce-Related Challenges

Workforce Challenge (in ranked order)	Number Responding to Question	Frequency	“Strongly Agree” or “Agree” (%)
1. Staff pay is too low	44	34	77.3%
2. No benefits for part-time staff	40	29	72.5%
3. Lack of bilingual staff	43	22	51.2%
4. Continuing education available for staff but heavy workload prevents staff from obtaining continuing education	44	20	45.5%
5. Staff burnout or low morale	43	17	39.5%
6. Staff does not reflect the racial/cultural diversity of clients	44	15	34.1%
7. Have aging workforce and are anticipating retirement	42	12	28.6%
7. Staff lack a competitive benefits package	42	12	28.6%
8. High staff turnover	44	12	27.8%
9. Staff are not up-to-date on latest HIV treatment information, including pre-exposure prophylaxis (PrEP)	44	11	25.0%
9. Waiting lists exist in all or some services	44	11	25.0%

The top two issues identified are related to compensation and benefits: overall staff pay is too low (77.3% of respondents) and there are no benefits for part-time staff (72.5%). Although these challenges may have limited impact on direct client services, they can contribute to burnout, which ranks 5th (34.1%) and high staff turnover, which ranks 8th (27.8%). Staff turnover and burnout can impact the quality of services delivered. Over half (51.2%) of respondents identified the lack of bilingual staff as a workforce challenge. Although there may be opportunities for continuing education, staff are unable to take advantage of those opportunities due to a heavy workload (45.5% of respondents ranking 4th).

Language Services: When asked how their organization provides services to clients with limited English proficiencies, half of respondents reported that their organization has a *contract in place with a company for interpreter services*. Almost a third (30.7%) of respondents stated that they *have bilingual front-line staff* to assist with verbal interpretation. Less than a quarter (23.6%) of respondents stated that they *have bilingual medical staff*. A significant cause for concern is that 23.7% of respondents report that they use *family or friends of the client to interpret*.

Continuing Education Needs: The most frequently reported continuing education need (6 of 27 respondents to the question) was for cultural competency training related to the LGBT community. This was followed by three respondents identifying need for training related to PrEP; one of which was to teach nurse practitioners to prescribe PrEP. Other training needs identified by individual respondents included among others: everyday Spanish, motivational interviewing, HIV and HCV treatment updates, rapid HIV testing, and dental training for HIV dental management. Two respondents identified the need for pursuing advanced degrees, one of which was specific to mental health. Several respondents reiterated that the problem is not the availability of training but the lack of staff time to attend training. This may indicate need for more training opportunities via web-based trainings.

Help With Workforce Challenges: When asked how VDH can help with workforce challenges, the most frequent response was *additional funding* (31.9%), followed by *offer more training and/or continuing education opportunities for staff* (29.2%), and *conduct a statewide salary survey of HIV-related staff positions* (25.0%). Other areas of respondent interest include ensuring that services provided under the Care and Prevention in the United States (CAPUS) demonstration project continue beyond the funding that is ending; better compensation for nurses; better follow-up with ADAP questions and concerns; provide more training by polycom/webinar rather than in-person trainings which often require long travel distances; training for administrative staff to understand the Ryan White/HRSA/VDH standards; centralized eligibility by the VDH central office; and increased salaries for outreach workers, peer case managers, and disease intervention specialists (DIS).

c. How different funding sources interact to ensure continuity of HIV services.

The resources inventory presented in Appendix A includes over \$94 million of resources identified that provide services to PLWH and persons at risk for HIV. As this inventory does not include resources paid for through public (i.e., Medicaid, Medicare, Veterans Affairs) and/or private health insurance, it represents a low estimate of total resources. These insurance resources are likely to be sizeable as they are predominantly for the medical care of PLWH, which supports viral suppression thereby minimizing HIV transmission.

VDH is the recipient of a significant portion of federal funding that comes into the Commonwealth through HRSA and the CDC. DDP hosts regular HRSA Ryan White All Parts Grantee meetings (2 regions receive Part A funding [Northern Virginia as part of the Washington, D.C. Eligible Metropolitan Area and the Norfolk Transitional Grant Area]; 7 Part C Early Intervention Services [EIS] grantees; and two Part D grantees) to collaborate with other recipients of Ryan White funding. There is only one CDC directly-funded organization in the Commonwealth, located in Norfolk (Eastern Region), three SAMHSA-funded organizations, and two organizations that receive Housing Opportunities for People With AIDS (HOPWA) funds (located in Northern Virginia and Richmond). Due to the low number of other HOPWA funding recipients in the Commonwealth, it is not difficult keeping track of these organizations. To ensure coordination of funding streams, as well as sufficient programmatic resources to fund Virginia's HIV portfolio, VDH regularly conducts the following activities:

1. Internal DDP coordination of HIV prevention, surveillance, and Ryan White Part B

- resources to maximize community impact and minimize duplication of efforts;
2. DDP internal coordination and external collaboration with other funding streams for development and implementation of shared activities (e.g., public forums, trainings, community awareness, and community events); and
 3. DDP identification of new HIV resources, including private and governmental funding, to fill gaps in the Commonwealth's portfolio of HIV services (e.g., to continue successful demonstration projects beyond their grant period and/or to provide resources to fill newly identified service gaps).

Examples of these coordination efforts, as well as program continuation beyond the initial grant period, include the following:

1. VDH expanded its Ryan White Part F Special Projects of National Significance (SPNS) Linkage to Care grant for its Patient Navigation program within the existing pilot health regions (i.e., Central and Southwest) using Ryan White Part B funds and CDC Care and Prevention in the United States (CAPUS) demonstration project funding program to support Patient Navigation programs in the Northern, Eastern, and Northwest health regions of the state;

2. Data to Care

Data to Care illustrates a coordinated effort between Prevention, Care and Surveillance Units at VDH. The strategy was initiated at VDH as a result of CAPUS funding. Data to Care activities involve the use of HIV surveillance data to determine individuals who may need linkage-to-care or re-engagement services, and they are a key step to supporting individuals along the HIV care continuum and ultimately reduce their viral load.

3. DDP collaborates internally as well as with community HIV testing partners to coordinate the Active Referral process. DDP used Ryan White SPNS Linkage funds to help develop the Active Referral Protocol for Disease Intervention Specialists (DIS). Active Referrals are intended to maximize receipt of the referred service versus passively providing an individual with referral information. Now that the protocol is fully developed and implemented, DDP sustains the Active Referral strategy through HIV Surveillance and other STD Surveillance, Operations and Data Administration (SODA) resources. HRSA Ryan White Part B supplemental funding augments SODA resources by providing salary support for eight DIS.
4. DDP's Ryan White SPNS Patient Navigation program contracted services to local community based organizations (CBO) to improve PLWH linkage and retention in HIV medical care and treatment. The successes of the program warranted continuation, especially to aid PLWH who have transitioned to insurance with follow up to ensure that they are retained in care. Then, the Patient Navigation strategy has been sustained through RW Part B and HIV Prevention resources.

5. Using Ryan White Part B Minority AIDS Initiative (MAI) funding, DDP also expanded the Patient Navigation strategy to an additional site (i.e., Centra Health) in the Southwest region of the state, serving the Lynchburg and Danville areas;
6. DDP partnered with Virginia Commonwealth University (VCU) Institute for Drug and Alcohol Studies (IDAS) to administer Motivational Interviewing Training and Fidelity Monitoring of the Patient Navigators including both Ryan White and CDC-funded navigators; and
7. DDP's Ryan White SPNS Mental Health strategy has been sustained beyond its initial grant period through Ryan White Part B and insurance reimbursement resources as sites are credentialed for providing comprehensive assessments, referral, and treatment.
8. DDP has established an internal weekly meeting between DDP HIV Care and HIV Prevention programs to better facilitate collaboration and resources allocation between HIV Care Services Care Coordination processes and the Comprehensive HIV/AIDS Resources and Linkages for Inmates (CHARLI) program, managed by the HIV Prevention Unit. Both programs provide services to PLWH released from correctional facilities.
9. HIV Prevention Services funds a contractor to train patient navigators in the Community Health Worker model and conducts monthly webinars and quarterly in-person trainings for all patient navigators and linkage personnel regardless of funding source (CAPUS, Ryan White HIV/AIDS Part B, HIV Prevention).
10. The Virginia Ryan White Part B Grantee, HIV Surveillance, and HIV Prevention are jointly funding a program to enhance the health information technology (HIT) client-level data system in the state called *e2Virginia* and the HIV Care Markers database. The enhanced HIT systems fully integrate and utilize relevant measures of HIV treatment, surveillance, and laboratory data to allow for more efficient data collection, monitoring and tracking of health outcomes of PLWH along the HIV Continuum of Care.
11. DDP facilitates the Ryan White Cross-Parts Quality Management Collaborative. This collaborative includes representation from Ryan White Parts A, B, C, D, and F Ryan White program administrators, staff, and clinicians who come together to learn, share, build skills, and network with their Ryan White colleagues throughout the State. The Quality Management Advisory Committee including 35 members meets on a quarterly basis and the Quality Management Summit is held annually. The Summit includes presentations on the federal Ryan White Program, the ACA, medication assistance programs, testing and linkage to care, quality management, a variety of care topics, and emerging HIV medication treatments.

To ensure that Ryan White is *payer of last resort*, all PLWH are screened for eligibility and apply for health insurance (e.g., Medicaid, Medicare, FAMIS, marketplace insurance plans) and other public programs (e.g., Supplemental Nutrition Assistance Program, Housing Choice Plus, HOPWA). PLWH who are denied assistance under these programs or have needs that are not

covered may be eligible for services offered through the Ryan White Program. In regions where there are multiple Ryan White funding sources (e.g., Part A, B, C, and D) for the same services (e.g., outpatient/ ambulatory medical care for PLWH), the organization providing services tracks expenditures for each client to ensure that there is no duplication. Whenever possible, a single Ryan White funding stream pays for the services of the PLWH or at least until those funds are exhausted.

d. Needed resources and/or services and steps being taken to secure them.

DDP gathers information through a wide variety of sources to assess ongoing needs, barriers, and gaps in Virginia's portfolio of HIV services. Resource needs are generally tied to service needs. The following list provides a description of various service needs and the efforts that DDP is making to obtain the necessary resources.

- Both needs assessment and health outcomes data show that rural clients are a population group that experiences significant health disparities. In the Southwest region, one of the biggest challenges is recruiting HIV clinical providers. One long-time physician is retiring. To address this major gap in HIV medical care delivery, VDH is funding telemedicine services through the University of Virginia Medical Center to provide ongoing access to specialty care for PLWH in the Lenowisco Health District. Clients now have the opportunity to see a medical specialist without driving five or more hours or hundreds of miles to medical facilities in other states. This initiative has the potential for replication and scale-up in other geographical areas to address clinical provider shortages.
- The data for HIV testing conducted through VDH shows that fewer males are being tested for HIV than females. As part of the development of this five year HIV services plan, VDH has discussed the need to develop new and expand successful HIV/STD testing strategies to ensure more men get tested as part of its *No Wrong Door* approach to testing. As part of the efforts to address this need, VDH will develop activities to expand routine testing, encourage physicians to test more men, include HIV/STD content in educational materials, expand social network testing models, have a social media presence, build new partnerships, and continue its pilot home-based testing program targeting MSM). Pharmacy testing, initiated under the CAPUS demonstration project, is being incorporated into the base HIV Prevention grant as the CAPUS program ends. Many of the resources needed for development of these efforts will be staff time and building new and/or expand existing partnerships.
- Virginia's HIV Continuum of Care data has identified a challenge in retaining PLWH in care and treatment. In comparison to all PLWH, PLWH receiving Ryan White services (all Parts) have dramatically better retention. For example, the retention rate for Ryan White clients (all Parts) is 91.8% compared to 43% for PLWH overall. DDP developed a fishbone cause and effect diagram to identify the problem. DDP learned that one of the major causes was the lack of case managers' knowledge about health insurance and HIV medication management. To address this, DDP conducted a two-day Case Management Retreat "Leading the Right Path" in March 2016, focused on specific HIV clinical

information, the new Virginia Case Management Standards, Virginia Data to Care initiatives, insurance management, and how to sharing existing resources. DDP will continue assess retention ongoing and offer this training as needed in future years.

DDP is planning to expand access to pre-exposure prophylaxis (PrEP) and non-occupational post-exposure prophylaxis (nPEP) for high-risk individuals, particularly MSM, over the next five years. However, because Virginia is not a Medicaid expansion state and not everyone qualifies for subsidies under the ACA, low-income individuals may not have access to PrEP outside of Gilead Sciences, Inc.'s Truvada for PrEP Medication Assistance Program. DDP has purchased medications for both PrEP and nPEP with state funding. DDP is working with both health districts and other medical providers across the state to increase access to PrEP and nPEP for individuals at risk for HIV. In addition, DDP has received funds through CDC to promote PrEP and nPEP in the Virginia Beach-Norfolk-Newport News MSA. These activities include conducting provider education, recruiting providers to become PrEP and nPEP prescribers, patient navigation services for PrEP and social marketing to promote PrEP awareness with a focus on reaching MSM, transgender persons (especially among communities of color) as well as others at risk for HIV including partners of people living with HIV.

D. Assessing Needs, Gaps, and Barriers

a. Process used to identify HIV prevention and care service needs of people at higher risk for HIV and PLWH (diagnosed and undiagnosed).

Overview of Process

- **Commonwealth of Virginia**

VDH utilized a mixed methods approach to assess the need for HIV prevention and care services within the Commonwealth. This included the review and analysis of the data already presented in the Epidemiology Overview section of this plan (e.g., HIV surveillance data, HIV Care Continuum data, demographic and socio-economic data from the 2014 five-year American Community Survey [ACS], etc.). The 2014 ACS data included: demographic profile of the general population (i.e., total population by sex, race/ethnicity, and age group), population living below 100% of the federal poverty level (FPL), educational attainment, per capita income, employment status, foreign-born population, language spoken at home, English spoken less than “very well,” gross rent as a percentage of household income, and health insurance status. This data was compiled for Virginia’s five health regions using the Federal Information Processing Standard (FIPS) codes, for the counties and independent cities in each region. FIPS codes are used to uniquely identify counties and county equivalents in the U.S. Additional data that were reviewed included Ryan White program data, HIV testing data, specific HIV surveillance reports (e.g., late testing, deaths, HIV incidence surveillance), sexually transmitted disease information, and the 2015 End of Year Report for Comprehensive HIV Prevention Programs for Health Departments. Lastly, many journal articles were also reviewed to inform this process.

VDH augmented this data with a number of qualitative data sources through interviews, surveys and focus groups, which focused on the identification of needs, barriers, and gaps. The

qualitative data was gathered at: (1) a two-day consumers training on quality management of HIV/AIDS, which targets PLWH; (2) the cross-parts collaborative Quality Management Advisory Committee (QMAC) meeting, a committee which comprises of VDH staff, contracted providers and consumers; and (3) the Quarterly Contractors Meeting which comprised of contracted providers. In addition, a provider survey was disseminated via Survey Monkey, which assesses needs and challenges faced by providers in providing care to consumers and people at risk for HIV.

In addition to this data analysis, VDH conducted additional needs assessment data collection with targeted groups. These included:

- 2016 consumer survey distributed during two consumer meetings (88 responses)
- 2016 19 semi-structured consumer interviews
- 2016 targeted consumer focus groups/town halls targeting both PLWH and persons at risk for HIV (4 focus groups/town halls completed with 120 participants)
- 2016 provider survey (123 respondents)
- 2016 focus groups with provers (52 participants)
- Survey among People Who Inject Drugs
- Medical Monitoring Project data

- **Norfolk TGA**

To assess the needs specific to the Norfolk TGA, VDH relied heavily on a review of their local documents. These included the following:

- Norfolk TGA Comprehensive in Care, Newly Diagnosed & Out of Care PLWH/A: 2013 Report of Findings
- Fiscal Year (FY) 2016 Ryan White Part A Grant Application – sections specific to the Early Identification of Individuals with HIV/AIDS (EIIHA) and unmet need analysis
- FY 2014 Client Demographics
- 2017 Prioritized Service Categories for Ryan White Part A Services
- 2017 Resource Allocation by Service Category
- 2016 financial resources inventory
- 2016 assessment of clinical (i.e., HIV physicians) workforce challenges

In addition, VDH reviewed 2015 HIV surveillance data for the TGA, HIV Care Continuum data, and 2014 five-year ACS demographic and socio-economic data described above.

Strategies for Targeting, Recruiting, Retaining and Participants in Process

The following describes the process used for targeting, recruiting, and retaining participants in the needs assessment process for targeted activities.

- **Participation from PLWH and Persons at Risk for HIV**

As part of its mixed methods design, VDH used three tools to gather additional needs assessment data from PLWH and persons at high risk for HIV (i.e., survey, semi-structured interviews, and focus groups/town halls). VDH conducted recruitment and implementation of these tools during May and June of 2016. Due to time limitations, VDH leveraged pre-scheduled meetings to

recruit participants for the semi-structured interviews, focus groups, and distribute the consumer survey. A limitation of this approach was that there were more PLWH than persons at-risk for HIV or PLWH not engaged in care in attendance. As a result, the qualitative and survey data gathered is more representative of PLWH than of persons at-risk for HIV or lost-to-care. The consumer survey specifically targeted PLWH; 108 questionnaires were distributed to PLWH and 88 returned for a 73.3% response rate.

Recruitment for the PLWH focus groups/town halls, semi-structured interviews, and consumer survey were completed at pre-scheduled meetings and training events that brought together PLWH and persons at-risk for HIV. These events included the cross-parts collaborative Quality Management Advisory Committee (QMAC) and the consumers training on quality management. The focus groups/town halls, interviews, and surveys predominantly reached African American males and VDH partnered with providers and community-based organization (CBO) with a large Latino client base to recruit participation from more Latinos living with and at risk for HIV. NovaSalud, a CBO serving the Latino population in the Northern region, assisted in organizing a 12- person, Spanish-language focus group with Latinos from myriad of countries of origin, who were living with or at-risk for HIV.

- **Participant Description**

The majority of participants in the consumer focus group and survey assessments were African-American males who self-identified as gay. Latino gay men comprised the second largest group of participants. Ages of participants ranged from younger than 25 years to over 70 years. Sixty-two percent of survey respondents were male; 36.4 % were female; and 1.6% transgender. All consumer focus groups were comprised of more male participants than female. Ninety-eight percent of the consumer survey respondents reported currently being in care. About 98% of consumer interview and focus group respondents also reported being in care.

- **Provider Surveys and Focus Groups**

In addition to investigating the needs of clients from their perspective, DDP also assessed service needs from the provider's perspective. DDP conducted four provider focus groups and administered a provider survey via Survey Monkey. One hundred and twenty three (N=123) providers across the state responded to the survey and fifty-two participated in the focus groups. Except for the online provider survey, pre-scheduled meetings and training events were used to recruit participants for the provider focus group. The two meetings included the cross-parts collaborative Quality Management Advisory Committee (QMAC), the Virginia Ryan White Part B Quarterly Contractors Meeting (QCM). One hundred and twenty three providers responded to the online survey.

- **Engagement of Other Stakeholders, Including PLWH**

VDH planning staff presented the consumer and provider needs assessment findings to Virginia's Community HIV Planning Group (CHPG), the Norfolk TGA's Greater Hampton Roads HIV Services Planning Council, PrEP planning group, 1506/1509 planning team, Drug User Health Workgroup, Racial Disparities Among MSM workgroup, and the VDH Integrated Plan workgroup, which was comprised of the Surveillance Unit, HIV Prevention Unit, HIV Care Unit, STD Surveillance, and Operations and Data Administration (SODA) for feedback and prioritization of need. The strategies and activities outlined in the work plan are outcomes of an

integrated working session between CHPG members, which is comprised of representatives from Ryan White Parts A, B, C and D, CBOs, Department of Behavioral Health, the Department of Corrections, homeless service institutions, , HIV prevention and care providers, labor industries, academic institutions, psychosocial support and treatment service providers, officials supporting efforts against transmission of HIV, tuberculosis, hepatitis and STDs, local and state health departments, and other stakeholders. The working sessions led to agreement of what objectives, strategies and, activities to include in the work plan, as well as target population prioritization. Participants at the CHPG meeting were asked to review initial strategies and activities, and to provide feedback. Amendments were made and incorporated into the final work plan (Appendix B).

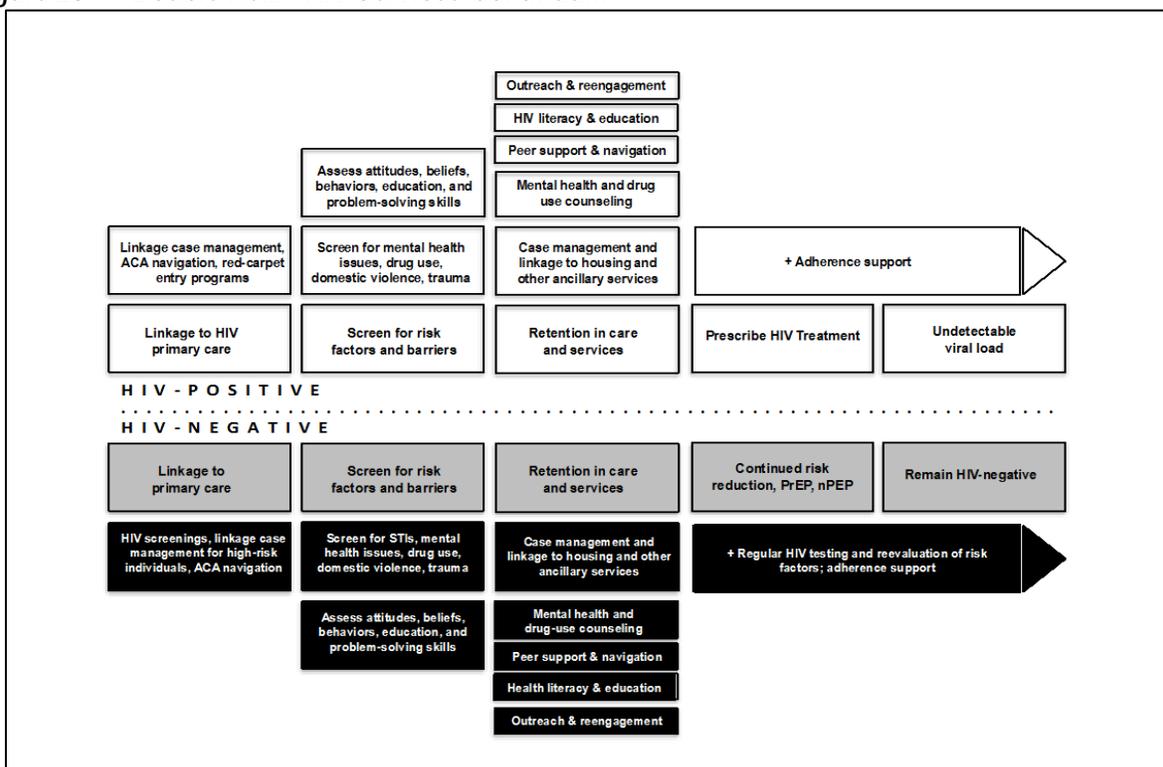
b. & c. HIV prevention and care *service needs and gaps*.

Overview

The tremendous advances in science, including the understanding of not only how to treat HIV, but also to prevent HIV has resulted in the need for more integration between HIV prevention and care. Science has demonstrated that there is reduced transmission when PLWH are virally suppressed.^{cxiii} As a result, “treatment as prevention” has become one of the foremost strategies to end the HIV epidemic. Nine of the CDC’s 14 required interventions that are part of its current *High-Impact HIV Prevention* strategy target HIV positive individuals and include efforts to improve linkage to care, retention in care, and treatment adherence.

Thus, to understand service needs, gaps, and barriers, one must identify the populations that will need these services as well as the specific services themselves. The two broad categories of people needing these services include those who are HIV positive (i.e., PLWH) as well as those who are HIV negative whose behaviors put them at high risk for HIV (i.e., high-risk negative persons, abbreviated as HRN). Although the HIV Care Continuum provides an invaluable tool for discussing needs of PLWH, it is less useful for HRN. VDH plans to develop an integrated HIV prevention and care continuum. However, until this model is complete, the Treatment Action Group’s “Double Helix” continuum (Figure 23) offers a starting point for discussing service needs.^{cxiv}

Figure 23. 'Double Helix' HIV Services Continuum



Source: Treatment Action Group, Toward Comprehensive HIV Prevention Service Delivery in the United States, June 2015.

The double helix in the figure above provides a “mirrored” services continuum, focusing on PLWH (i.e., HIV positive) on the top and High Risk Negative persons (HRN) on the bottom. The service needs within each continuum are similar with only slight differences specific to HIV status. The first layer of services for PLWH closely aligns with the HIV Care Continuum, and begins with “linkage to care” and works towards having an “undetectable viral load.” The upper layers of the HIV-positive half of the double helix address a variety of other medical and support service needs of PLWH that help ensure they become fully engaged and retained in HIV medical care and adherent to treatment. Screening for personal risk factors and barriers is an essential part of the individual’s needs assessment and care planning process as these factors can be major barriers to engagement and retention in care.

The HIV-negative side of the double helix depicts a similar path for HRN and begins with linkage to care. Now that full implementation of the ACA is well underway, ensuring that HRN individuals also accesses regular primary care services may well serve as a protective factor against acquiring HIV. Having a medical home may also facilitate access to pre-exposure prophylaxis (PrEP) for those at highest risk of acquiring HIV. The goal of this continuum is that the person remains HIV-negative over time.

However, within these broad population groups there are specific subpopulations with different needs. For example, there are three broad subpopulations of PLWH (i.e., persons in care, persons not in care, and persons who remain undiagnosed). Other subpopulations (e.g., racial/ethnic, gender identity, age group, those grouped by transmission risks) may also have unique service needs, as well as barriers to accessing them). Not all populations have equitable

access to services. There are many social, structural, and personal barriers that prevent PLWH and HRN from engaging and utilizing HIV services available to them.

Shared Service Needs and Gaps - All Populations

There are some needs that are shared by all persons, regardless of their HIV status, and regardless of their age, race, ethnicity, sex, gender identity, or sexual orientation. Addressing them, will improve the quality of services and health outcomes and remove systemic barriers that prevent the full and equitable participation of all Virginians in the portfolio of HIV services available to them. Table 16 summarizes at least three common service needs with their associated gap(s).

Table 16. Shared Service Needs and Gaps of All Populations

Needs	Gaps
<ul style="list-style-type: none"> To address social determinants of health, especially poverty, educational attainment, housing, etc. that are associated with increased risk for acquiring/transmitting HIV 	<ul style="list-style-type: none"> No coordinated effort across health, education, social service, and employment sectors to address social determinants of health as a strategy to improve health outcomes of PLWH and persons at risk for HIV
<ul style="list-style-type: none"> Improved access to and use of health care services 	<ul style="list-style-type: none"> An estimated 12.1% of Virginians are uninsured Approximately 27% of FY 2016 ADAP clients are uninsured
<ul style="list-style-type: none"> A trauma-informed approach to service delivery 	<ul style="list-style-type: none"> HIV service providers lack training on trauma-informed care to understand the impact of different types of trauma (emotional abuse, neglect, physical abuse, other forms of violence including intimate partner violence, family dysfunction) on people’s lives, behavior, and their health outcomes, as well as how long-lasting effects of trauma may be a barrier to accessing the full portfolio of HIV services in Virginia

Service Needs and Gaps of PLWH

The service needs and gaps of PLWH must be examined through multiple lenses, using mixed methods data collection and analysis. As noted earlier, there are three subgroups of PLWH, including those who are: (1) ‘unaware’ of their HIV status, (2) aware of their HIV status but ‘not in care,’ and (3) are ‘in care.’

- Persons Living with HIV who are Unaware of their HIV status**

Persons who have undiagnosed HIV infection need to be (1) found, (2) tested for HIV to learn their HIV status, and (3) linked to care once newly-diagnosed. Table 17 examines the associated gaps to these activities.

Table 17. Service Needs and Gaps of Persons Living with HIV who are *Unaware* of Their Status

Needs	Gaps
<ul style="list-style-type: none"> To identify high risk individuals through effective, innovative 	<ul style="list-style-type: none"> CDC estimates that 12.7% of all PLWH in Virginia are undiagnosed; this estimate is even higher (14.8%) for males

<i>outreach</i> (e.g., social network models, high risk venues, social media approaches, etc.) and other approaches (e.g., partner services)	13 years and older attributed to male-to-male sexual contact; applying this 2012 estimate to Virginia's 2015 HIV diagnosed cases yields an estimate of 3,576 undiagnosed persons, of whom an estimated 2,009 are MSM*
<ul style="list-style-type: none"> • Increase accessibility and provide <i>HIV testing</i> to high risk individuals 	<ul style="list-style-type: none"> • Based on a 1%-4% HIV seropositivity test rate, Virginia will need to conduct between 89,400 to 357,600 HIV tests to identify the estimated 3,576 persons (this excludes any new infections that occur to increase HIV prevalence) • CDC estimates higher new HIV diagnoses in geographic areas impacted by social determinants of health (SDH). Except for VDH's pharmacy based testing program, there are few programs that geographically target testing using SDH combined with HIV prevalence data.
<ul style="list-style-type: none"> • Provide <i>linkage to care</i> for newly-diagnosed HIV positive individuals 	<ul style="list-style-type: none"> • Linkage to care is not a billable service under any health insurance plan. Thus, resources to support this service must be identified through other potential sources (e.g., CDC, Ryan White, state/local discretionary funds, etc.)

*This likely underestimates total MSM as it excludes persons with dual risk of MSM/IDU and also excludes the large proportion of cases that have no identified risk, many of which may be MSM.

• **Persons Living with HIV who are Aware of their HIV status but Not in Care**

Similar to unaware PLWH, PLWH who already know their status share two needs: (1) to be found, and (2) linked to care for the first time if they have never been in care or re-engaged into care if they were once in care but dropped out. Once they are re-engaged into care, they share all of the needs of PLWH who are in care. Table 18 presents a brief description of these two needs of this population and associated gaps in Virginia's HIV services continuum.

Table 18. Service Needs and Gaps of Persons Living with HIV who are *Not in Care*

Needs	Gaps
<ul style="list-style-type: none"> • Effective, innovative <i>outreach</i> (e.g., social network models, data-to-care, use of social media, etc.) that identifies PLWH who are not in care 	<ul style="list-style-type: none"> • Virginia launched its Data to Care intervention in 2014. This CDC intervention uses HIV surveillance data to identify PLWH who appear to be 'not in care'. Virginia uses a hybrid model and partners with local health departments and HIV medical clinics to assist in the follow-up. The program itself is labor intensive and requires an ongoing commitment of staff resources for success. The program needs to expand, especially in high prevalence areas with large numbers of PLWH who appear to be not in care • Innovative models need to be developed to identify PLWH who are not in care
<ul style="list-style-type: none"> • <i>Linkage to care</i> to engage or re-engage PLWH who are not in care into care 	<ul style="list-style-type: none"> • Linkage to care is not a billable service under any health insurance plan. Resources to support this service must be identified through other potential sources (e.g., CDC, Ryan White, state/local discretionary funds, etc.)

- **Persons Living with HIV who are in care**

On the Double Helix continuum—“screen for risk factors and barriers”—represents the individual needs assessment of a PLWH. This is followed by “retention in care and services.” Identifying the needs of PLWH and addressing them is critical as it promotes retention in care and treatment adherence. To assess the service needs of PLWH, VDH conducted a brief survey with PLWH recruited through a consumer training on quality management. VDH also conducted focus groups and semi-structured interviews with PLWH to deepen their understanding of needs, barriers, and gaps. The survey is a convenience sample of attendees of the meeting and results are not generalizable to all PLWH in Virginia. They provide a glimpse of the service needs and gaps of the survey respondents. A total of 88 PLWH completed the survey. Table 16 presents the results of service needs and gaps identified through the consumer survey. One question asked respondents to identify whether or not if they *needed* a service and if they were using the service or if they *needed but did not receive* the service (i.e., a gap). The results are listed in the order of the *service gap* versus *service need* as this approach highlights where there may be challenges in the service delivery system that require attention. At the consumer level, a service need that is filled is not a problem. It is the service need that is not filled that is the real challenge.

There were some challenges with the PLWH survey data; not everyone who took the survey completed every question. Therefore, the percentages are derived from the number of PLWH who completed the question versus the number who completed the survey. None of the questions were required, so a respondent could skip that specific question. Except for oral/dental care, four of the top five service gaps are for services that are categorized by HRSA as Ryan White support services. The top five service gaps are: (1) emergency financial assistance (25.9%); (2) housing assistance (24.4%); (3) food assistance (22.6%); (4) oral/dental care (22.0%); and non-medical case management (18.2%).

As housing assistance ranked as the second-highest need in the data from the consumer survey, this was also an expressed need of in the client focus groups, along with other basic living needs. One participant stated:

If I do not have a place to live, my priority should be finding a place to live, not getting HIV medication. Also, if I have no money to get basic needs like food and water, do you really think my HIV medications are my priority? Medications go with food and water and if I cannot provide those, I won't be taking any medications.

The need for oral/dental care was identified by survey respondents as the top needed service (80.5%) of survey respondents; it also ranked fourth in terms of a service gap (22%). Good oral health is especially important for PLWH because having dental problems increases the likelihood of developing serious oral manifestations and oral cancers. Poor oral health can lead to inadequate food intake, which affects HIV medication absorption. There is a shortage of oral/dental health providers willing to provide services to PLWH in Virginia. The need for more oral/dental health providers varies across the state: the Southwest, Northwest, and Northern regions are areas that need more dental providers to serve PLWH. The need for an increase in mental health and substance use treatment providers were needs also cited by focus group participants. Shortage of mental health and substance use treatment counselors in Virginia was

identified as a major barrier to access these services. Respondents from the Southwest are excited about the telemedicine mental health service now available in the area and hope that this will be replicated for other services, as the Southwest region experiences a shortage in healthcare providers compared to other areas of the state. The shortage of mental health and substance use providers can result in poorer health outcomes for PLWH needing these services.

Norfolk TGA: As a Ryan White Part A jurisdiction, the Norfolk TGA regularly conducts a needs assessment with PLWH who are in care, not in care, and are newly-diagnosed to determine needed services, gaps in services, and barriers to care. Table 19 presents the top ranked service needs and service gaps of newly-diagnosed PLWH and PLWH who are in care who are living in the Norfolk TGA. Also included are top five ranked services with experienced barriers.

The results of the Norfolk TGA needs assessment are slightly different than the brief survey conducted by VDH. It is important to note that the Norfolk TGA needs assessment took place in 2013, which was prior to the full implementation of the ACA. Although Virginia is not a Medicaid expansion state, Virginians living at or below 200% of the FPL are eligible for government subsidies, making health insurance more affordable. The top five service gaps for PLWH who are in care are: (1) housing assistance, (2) insurance, (3) emergency financial assistance, (4) transportation, and (5) nutrition assistance. The top five services for newly-diagnosed persons are: (1) housing assistance, (2) health insurance premium cost sharing assistance, (3) insurance, (4) transportation, and (5) medication co-pay assistance. Thus, the needs of PLWH who are in care are largely support services needs, while the needs of PLWH who are newly-diagnosed center on getting and maintaining access to medical care and medications. The Norfolk TGA is planning their 2017 needs assessment and it will be important to see any changes in these gaps, especially post ACA implementation.

Table 19. Service Needs and Gaps of People Living with HIV: Findings from 2016 PLWH Survey, n88

Description of Service	Total Respondents	Need	Gap	
		Percent	Number	Percent
Emergency Financial Assistance	85	45.9%	22	25.9%
Housing assistance	82	40.2%	20	24.4%
Food assistance	84	56.0%	19	22.6%
Oral/dental care	82	80.5%	18	22.0%
Non-medical case management	77	51.9%	14	18.2%
Emotional support	84	56.0%	14	16.7%
Job training	80	22.5%	12	15.0%
Mental health	82	50.0%	11	13.4%
Legal	77	19.5%	10	13.0%
Health insurance premium/ cost sharing assistance	82	69.5%	10	12.2%
Medical nutrition therapy	82	31.7%	10	12.2%
Treatment adherence counseling	75	41.3%	8	10.7%
Medical transportation	83	37.3%	8	9.6%
Medical case management	85	81.2%	7	8.2%
Outpatient HIV care	80	56.3%	6	7.5%
Outreach	80	30.0%	6	7.5%
Assistance applying for insurance, SSD benefits, Medicare, Medicaid, etc.	83	42.2%	6	7.2%
Patient assistance program through pharma	75	32.0%	5	6.7%
Health education/risk reduction	80	37.5%	5	6.3%
Assistance telling my current or future sex/needle sharing partner about my HIV status	81	9.9%	5	6.2%
AIDS Drug Assistance Program (ADAP)	80	63.8%	4	5.0%
Substance use treatment	80	12.5%	3	3.8%
Home health care	80	11.3%	3	3.8%
Translation services during medical visits	80	7.5%	3	3.8%
Child care	79	6.3%	3	3.8%
Access to free condoms	84	49.4%	2	2.5%
HIV prevention services for my sex/needle sharing partners	79	11.4%	2	2.5%
HIV medication assistance after being released from jail	82	17.1%	1	1.2%
Interpretation and translation	74	6.8%	1	1.4%
Assistance notifying my sex/needle sharing partners to get tested	81	11.1%	1	1.2%
HIV or STD testing	82	39.0%	1	1.2%
Linkage to a medical provider	84	35.7%	1	1.2%

Source: 2016 VDH Consumer Survey (convenience sample of attendees at QM training)

Table 20. 2013 Ranked Service Needs and Gaps for Newly-Diagnosed and In Care PLWH

NORFOLK TGA	
<i>The Norfolk TGA includes the Virginia cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg; and counties of Gloucester, Isle of Wight, James City, Mathews and York within Virginia's Eastern Health Region; and Currituck County in North Carolina.</i>	
Top ranked service needs	
'Newly Diagnosed' Persons	'In Care' PLWH
1. Ambulatory Outpatient Medical Care	1. Ambulatory Outpatient Medical Care
2. Support Groups	2. Medication Assistance
3. Medication Assistance	3. Housing assistance
4. Nutrition Assistance	4. Support Groups
5. Health Education / Peer Mentor	5. Transportation
6. Medical Case Manager	6. Insurance
7. Mental health	7. Nutrition Assistance
8. Housing assistance	8. Mental health
9. Transportation	9. Medical Case Manager
10. Exercise	10. Other: Employment Assistance
11. Insurance	11. Health Education / Peer Mentor
12. Emergency Financial Assistance	12. Exercise
Top ranked service gaps	
'Newly Diagnosed' Persons	'In Care' PLWH
1. Housing assistance	1. Housing assistance
2. Health Insurance Premium Cost Sharing Assistance	2. Insurance
3. Insurance	3. Emergency Financial Assistance
4. Transportation	4. Transportation
5. Medication Co-Pay Assistance	5. Nutrition Assistance
6. Emergency Financial Assistance	6. Other: Vision Care
7. Other: Disability Assistance	7. Health Insurance Premium Cost Sharing Assistance
	8. Other: Employment Assistance
	9. Oral Health
	10. Support Groups
	11. Medication Co-Pay Assistance
	12. Other: Disability Assistance
Top 5 ranked services with barriers	
'Newly Diagnosed' Persons	'In Care' PLWH
1. Housing Assistance	1. Housing Assistance
2. Health Insurance Premium Cost Sharing Assistance	2. Emergency Financial Assistance
3. Insurance	3. Other: Employment Assistance
4. Emergency Financial Assistance	4. Insurance
5. Other: More Services in Rural Areas	5. Transportation

Source: Norfolk TGA, Comprehensive 'In-Care', 'Newly Diagnosed' & 'Out of Care' PLWH/A Needs Assessment, 2013 Report of Findings. Available from: <http://www.ghrplanningcouncil.org/site/2015/04/2014NorfolkTGAFinal%20Report08192014.pdf>.

Service Needs for Persons at-risk for HIV

The Double Helix continuum shows the service needs of HIV-negative individuals’ mirrors that of HIV-positive individuals. It begins with linkage to primary care and includes HIV screening at that first step. It progresses to include screening for risk factors and behaviors, retention in care and services, continued risk reduction and access to PrEP and nPEP as appropriate. All these stages culminate in the person remaining HIV-negative. Table 21 presents the service needs and gaps of persons at risk for HIV, including HRN.

Table 21. Service Needs and Gaps of Persons at-risk for HIV

Needs	Gaps
<ul style="list-style-type: none"> Improved access to and use of health care services 	<ul style="list-style-type: none"> An estimated 12.1% of Virginians are uninsured
<ul style="list-style-type: none"> Access to pre-exposure prophylaxis (PrEP) and non-occupational post-exposure prophylaxis (nPEP) 	<ul style="list-style-type: none"> Limited number of providers currently prescribing PrEP (less than 25 identified by VDH as of August 2016)
<ul style="list-style-type: none"> CDC high-impact prevention toolbox 	<ul style="list-style-type: none"> <i>Behavioral interventions targeting HRN</i> – Resources need to support effective interventions among highest risk groups.
<ul style="list-style-type: none"> Syringe exchange services 	<ul style="list-style-type: none"> Syringe exchange services are currently illegal in Virginia. However, they play an important role in reducing risk of HIV transmission among PWID. The experience of the HIV outbreak in Scott County, Indiana put a national spotlight on HIV transmission through sharing of needles, which culminated in January 2016 of the lifting of the ban to use federal funds for syringe services. Continued efforts are needed in Virginia to make syringe services available to PWID.
<ul style="list-style-type: none"> Partner Services 	<ul style="list-style-type: none"> The CDC’s 2015 STD Treatment Guidelines recommend that partner services be provided to all persons newly-diagnosed with HIV infection. They also recommend that identified partners be provided nPEP. Currently, the capacity to conduct partner services across local health departments varies considerably. Continued resources need to support expansion of partner services for newly-diagnosed PLWH.

Population Specific Service Needs

The populations below were prioritized by the Virginia Community HIV Planning Group (CHPG) as being populations of concern in the Commonwealth. The service needs and gaps described are the result of innumerable meetings, presentations, and discussion of this group over the past three years since completion of the last Comprehensive HIV Plan and Statewide Coordinated Statement of Need in 2012 and Prevention Plan update in 2014. The needs described represent the consensus of this group.

Men who have Sex with Men, including those living with HIV

Need: Expand availability of and access to culturally-sensitive health care pertaining to health issues of gay/bisexual and other MSM.

Gap: There are gaps in the provision of culturally competent health care for MSM in different areas of the state and in different health care settings. MSM indicate that they frequently feel stigmatized for being MSM, and also for being HIV positive. This is even more frequently experienced in the rural portions of the state.

Need: Improve retention in care among all MSM, with an emphasis on young minority MSM in order to increase health outcomes and lower viral loads in the community.

Gap: Stigma, lack of access to transportation, the inability to navigate health care systems, substance use, mental health, trauma and isolation, health inequities and the nature of adolescence have all been named as contributing factors to decreased health care retention in this population.

Need: Increase the availability, acceptability, affordability, and accessibility of mental health and substance abuse services for all MSM.

Gap: There are gaps in accessing mental health care and substance abuse treatment throughout the Commonwealth, due to high demand for the services and few publically funded service providers. This gap broadens when seeking public assistance for these services for those without insurance or the underinsured. Finding mental health professionals with experience and expertise in mental health provision for MSM and MSM living with HIV further increases the gap in this service.

Need: Increase prevention efforts to reach minority MSM, particularly Black and Latino youth, and engage them in prevention and testing activities.

Gap: DDP has only one contractor located in Northern Virginia that focuses on prevention efforts specifically for Latino MSM. Prevention and testing contractors throughout the state lack the ability to engage young Latino MSM due to language barriers and lack of staff with knowledge of the population. Gaps also exist in engaging young MSM of color outside of urban areas where prevention contractors are located. Local Health Departments (LHDs) are not seen as gay or minority friendly by many young MSM.

People Who Inject Drugs, including those living with HIV

Need: Availability of syringe exchange services.

Gap: VDH put forth a legislative proposal in 2016 to allow for sterile syringe exchange within the Commonwealth in areas with high morbidity of Hepatitis C virus (HCV) and HIV. The bill was not passed. Currently, syringe exchange as part of a comprehensive harm reduction approach is not legal in Virginia.

Need: Address the holistic health needs of PWIDs, in order to increase access to medical care by this population.

Gap: PWIDs have many health issues that could be addressed by HIV prevention and care providers. Wound care, accessing mental health and substance abuse services, enrollment in health plans, and hepatitis testing are among a few of the gaps that exist across the state.

Need: Increase the number of PWIDs that get tested for HIV each year, particularly young PWIDs.

Gap: The face of the heroin epidemic has changed. Methods that worked in the 1990s to address HIV among PWIDs are no longer relevant in a world where drugs can be ordered through the internet. Methods of engaging and outreaching to the “new” opioid users are needed.

Need: Address the need for additional mental health/substance abuse treatment and detoxification (i.e., detox) centers in the state.

Gap: Virginia, like other states, doesn’t have the resources to offer mental health and substance abuse treatment to all of its citizens in need. Virginia did not expand Medicaid, further creating a gap in accessing these services among those uninsured. While Opioid Treatment Facilities are expanding, there are few in the rural western part of the state where prevalence of opioid use is high, and community acceptance of these facilities is often low.

Need: Harm reduction, including PrEP and Naloxone, for active users and their families and/or friends in order to reduce HIV and HCV transmission, and fatality risk from overdose.

Gap: The utilization of PrEP to prevent HIV infections among PWIDs in Virginia is only just being explored by DDP and some LHDs. Staffing of PrEP clinics within LHDs remains an issue since CDC funding to pay for clinician’s services is not allowable. Harm reduction techniques, such as bleach kits, used to prevent HIV are not always effective in the prevention of hepatitis transmission, and sterile syringe exchange is not available. Naloxone became

available without prescription at one retail pharmacy chain in Virginia in 2015. However, uptake is low and much of the population is unaware of its use and or availability. Stigma surrounding addiction and PWIDs plays a role in the lack of utilization of PrEP and Naloxone in the injection community as providers hesitate to discuss these options with patients who could benefit from their use.

High Risk Heterosexuals (HRH), including those living with HIV

Need: Increase routine sexual health assessments and STI/HIV/Hepatitis testing in primary care settings for patients under 35 years old.

Gap: HIV screening (testing) may be routinely offered to patients in all health-care settings. Virginia law allows for routine opt-out HIV testing (§32.1-37.2) and requires that, prior to HIV testing, a medical care provider shall inform the patient that the test is planned, provide information, and advise them of their right to decline the test. However, routine opt-out HIV testing has not been widely adopted by primary care providers, federally qualified health centers, emergency rooms and other clinical sites in Virginia. Many primary care providers express their lack of comfort and lack of skill in taking adequate sexual histories to ascertain the need for STD/HIV/hepatitis testing.

Need: Develop gender and age-specific education regarding PrEP and nPEP to increase awareness and access to this biomedical intervention.

Gap: Much of the promotional education surrounding PrEP and nPEP has been aimed at MSM in throughout the state. Efforts to educate young high-risk heterosexual males and females are needed. Increased efforts to inform both male and female victims of sexual assault and those engaged in high-risk behaviors regarding the use of nPEP are also needed.

Need: Increase efforts to engage heterosexual men, particularly men of color, in prevention and care interventions.

Gap: There are few effective behavioral interventions developed for heterosexual males. Stigma surrounding HIV being a “gay disease” is also prevalent and precludes heterosexual males from participating in prevention interventions. Heterosexual men living with HIV often find they are assumed to be gay or PWIDs and therefore do not engage in care interventions.

Need: Increase patient navigation for persons who are newly-diagnosed with HIV to increase engagement in care.

Gap: Patient navigation is available at most major HIV care centers in Virginia; however the expansion of these services in community health clinics and other arenas where PLWH receive treatment would be beneficial. Navigation services are also needed for persons whose native language is not English, and severe gaps exist with that need around the state.

Need: Increase HIV testing efforts among minority high-risk heterosexual (HRH) males.

Gap: Heterosexual males are among the populations least tested for HIV in Virginia, especially men of color.

Transgender Persons, including those living with HIV

Need: Create more safe havens, safe shelters, and safe job training services in order to provide a stable environment for transgender persons living with HIV.

Gap: Gaps exist in specialized services for transgender persons in the state. Collaborative efforts between prevention and care providers with community partners in housing and vocational skill attainment are needed.

Need: Increase education to transgendered persons about benefits of health insurance and help with health insurance enrollment, help navigating health systems, and help responding to questions related to current gender and gender listed on birth or ID records are needed. These can cause transgender individuals not to access health services.

Gap: Gaps exist in cultural competency to work with the transgender community in many arenas, including health plan enrollment. Capacity and educational programs to increase provider knowledge regarding barriers to health care access for this population is needed.

Need: Provide more holistic HIV prevention services that address injection drug use, commercial sex work, coping with discrimination and stigma, mental health, substance abuse, and self-esteem/self-worth issues.

Gap: Viewing HIV prevention services as a part of a holistic health care need for transgender persons is often overlooked by HIV prevention contractors, and as a new concept in the delivery of prevention services requires training and skills building initiatives.

Need: Provide more HIV care, retention, and adherence support services for transgender persons.

Gap: Transgender individuals in Virginia have low retention in HIV care.

Need: Increase the number of medical care providers with knowledge of transgender health issues.

Gap: Additional provider education and cultural capacity building sessions are needed in order to effectively provide services to transgender individuals.

Sex-Workers, including those living with HIV

Need: Create job training centers/programs and educational institutions that provide services with flexibility in order to accommodate commercial sex workers who are looking for other opportunities for employment.

Gap: Comprehensive resource directories for providers that include educational and vocational training opportunities that would benefit sex workers are lacking. Collaborative partnerships between educational/vocational organizations and providers of HIV prevention and care are also lacking in the state.

Need: Availability of affordable housing opportunities in the state, particularly for young adults in order to decrease the financial hardship that often results in engaging in sex work to remain housed.

Gap: Few HIV care and prevention providers explore housing opportunities for HIV negative individuals, and don't have the funding or expertise to do so.

Need: Increase the number of sex workers who receive PrEP.

Gap: Gaps exist in the number of HIV prevention contractors who target sex workers in their prevention efforts (currently two in Virginia). The lack of screening for sex work and the lack of capacity of providers to engage sex workers impede PrEP promotion to this community.

Need: Increase the number of mental health providers, substance abuse treatment centers, support groups, and shelters that are culturally sensitive and can address the unique needs sex workers may have.

Gap: Gaps exist in targeted services for sex workers are impeded by the illegal nature of their work. Promoting services geared toward this group could also invite intervention by police in order to arrest or identify sex workers. Collaborative efforts between law enforcement and service providers are needed in order to advance services targeted to sex workers.

Need: Increase the number of sex workers who receive at least two HIV tests per year.

Gap: Data collection on behaviors during HIV testing does not include mandatory questions regarding sex work in Virginia. Estimation of the number of sex workers in the state in order to ascertain testing habits is also difficult. Providers of HIV testing services should increase effective testing strategies, such as social networking, to increase the number of sex workers who receive at least two HIV test per year. However, capacity and funding issues targeting this population are lacking.

Rural Populations, including those living with HIV

Need: Improve transportation services that allow PLWH and high-risk individuals to more easily access health care providers.

Gap: Gaps in transportation services in rural communities are an ongoing issue. Stigma surrounding HIV often keeps rural PLWH from disclosure, preventing communities from realizing a gap exists. Lack of resources by care providers to furnish transportation services, lack of the existence of public transportation in some areas of the state, and lack of community mobilization around HIV care and prevention are also primary reasons for these gaps.

Need: Increase the number of mobile clinics (vans, buses) that provide sexual health services in rural communities.

Gap: Providing mobile clinics to address HIV and other sexual health services requires resources, including staffing and funding, which many care centers cannot afford. Collaboration with existing mobile health outreach efforts, such as mammography and prenatal care may address this issue partially, but does not engage males.

Need: Design and implement community interventions to reduce stigma regarding HIV/STDs and LGBT communities, which would decrease patient fears in accessing health care.

Gap: Gaps exist in the number of prevention providers in rural areas of the state. Current prevention efforts in rural Virginia are being absorbed by the opioid epidemic, and target PWIDs. Resources for non-PWIDs are lacking.

Active Duty Military, including those living with HIV

Need: Increase collaborative efforts to link male and female enlisted personnel with sexual assault services, nPEP, and mental health and substance abuse counseling in a safe environment.

Gap: Gaps in providers to address the unique needs of military personnel seeking services off-base due to sexual assault within the military, or mental health and substance abuse counseling that the enlisted person feels may negatively impact their service status exist and are difficult to address. Conflicts with confidentiality when using military insurance programs off base, and limited access due to military services play a part in this gap.

Need: Expand outreach to veterans or enlisted men with post-traumatic stress disorder (PTSD) who engage in high-risk sexual and drug using behaviors due to their mental health disorder to encourage HIV testing and use of mental health counseling.

Gap: Community organizations providing prevention and care services and the federal entities that administer veteran's care do not or cannot in many ways form collaborations to address the needs of veterans living in Virginia. The lack of veteran's care centers in the state also impedes this process.

Need: Create transitional services for enlisted personnel living with HIV, who are leaving a managed care system and do not have health literacy skills to navigate health systems on their own.

a. Gap: Enlisted personnel living with HIV have managed health care that schedules appointments, provides transportation, and does not require insurance and health care navigation skills. Upon discharge, many veteran PLWH do not have the skills to access health care. Currently no collaborative efforts with prevention and care providers address this issue in Virginia.

Latinos, including those living with HIV

Latino focus group participants, including PLWH and persons at risk for HIV, identified the following needs:

Need: Sex and HIV education. Focus group participants identified the need for sex and HIV education in schools. One participant stated:

We do not see anything happening in the community regarding HIV/AIDS awareness. We need to see more community engagement efforts. You need to use the old school method to advertise services, meaning you need to preach the word at barbers shops, construction sites, churches and schools.

Need: Community based education to foster awareness of prevention and care services in Spanish.

Over half of the Spanish-language focus group participants reported that advertisements through community outreach initiatives proved the most impactful. One participant's reflections,

We need to know more about the services available out there. You should come to our communities to enlighten us. Some of us cannot read and so your very wordy brochures do not help us.

Participants identified that reaching out to predominantly Latino churches, schools, community based organizations and construction sites for such campaigns will be very beneficial. Respondents voiced that this will also help in fighting stigma and would have better health outcomes for PLWH.

Need: Culturally and linguistically appropriate services for the Latino population. Focus group participants stated that they find prevention and care services culturally-and linguistically-inappropriate, with very little information about services available in Spanish. Most said they find it hard expressing themselves to healthcare providers with a completely different culture from theirs. Most participants suggested that any promotional material targeting the Latino population be reviewed by some members of the Latino community for cultural appropriateness. Most providers also reported having insufficient cultural competency training or not being confident with the training they received.

Need: Legal assistance.

Latino focus group participants perceived intimate partner violence as prevalent in the Latino community with mostly men perpetrating violence against women. Participants stated that in a community where "machismo" is still very prevalent, women have no room to negotiate safer sex practices. Most of these women are unaware of how to seek help. In addition, the Latino community includes undocumented residents with no knowledge of their own basic rights in the U.S. Many undocumented Latinos fear

that an undocumented HIV patient will be deported. Consequently they do not seek care.

Need: *The need for a “one stop shop” where HIV-positive patients can also access other chronic disease services.*

Participants identified the need for holistic approaches in health assessment of PLWH especially those suffering from co-morbid conditions. Eleven percent of the PLWH survey respondents said they were diagnosed with, or treated for HCV within the last twelve months, and 6 % reported being diagnosed with or treated for hepatitis B virus (HBV). All respondents who reported being diagnosed or treated for syphilis also reported being diagnosed or treated for gonorrhea. About 33% of providers reported that they would like to increase capacity to provide HBV and HCV testing. Focus group participants stated that having a ‘one stop shop’ will improve health outcomes since it will address some of the barriers they already face like transportation and travel time.

Geographic-Specific Needs that Address Gaps in their Portfolio of HIV Services

Similar to the population-specific needs described above, the geographic needs discussed represent the culmination by the Virginia Community HIV Planning Group (CHPG) as being populations of concern in the Commonwealth. The service needs and gaps described are the result of innumerable meetings, presentations, and discussion of this group over the past three years since completion of the last Comprehensive HIV Plan and Statewide Coordinated Statement of Need in 2012 and Prevention Plan update in 2014. The needs described represent this group.

CENTRAL HEALTH REGION

- Expand availability of HIV prevention and testing services in eastern Piedmont area (Farmville), Crater (Colonial Heights, Greenville) and Southside areas of the health region (i.e., areas outside of Richmond, Henrico, Chesterfield, and Petersburg).
- Increase availability of HIV prevention, testing, and care services offered in Spanish, as well as translation services.
- Create new and/or improve collaborative efforts between HIV service organizations and community agencies to increase “buy-in” for those services within the community, leading to more sustainable efforts.

EASTERN HEALTH REGION

- Increase collaborative efforts between health care providers, HIV care providers, and community based organizations regarding education and referral about PrEP and nPEP.
- Mobilize CBOs and faith-based institutions to address issues surrounding HIV such as stigma, HIV testing, and adherence.
- Expand the number of health education and HIV prevention programs that specifically target young MSM in areas such as health literacy, condom negotiation, and treatment adherence.

- Provide educational programming targeting young Black MSM regarding the benefits of health coverage through the ACA, health care systems; and how to navigate those systems.
- Improve availability of and access to substance abuse and mental health treatment.

NORTHERN HEALTH REGION

- Expand availability of bilingual and/or medical translation services in HIV care centers and at HIV testing locations.
- Increase availability of transportation services for PLWH to attend medical and other care-related appointments.
- Diversify the HIV workforce, especially clinical care providers and care centers that treat PLWH.
- The need for additional community-based resources/organizations that focus on specific targeted populations in the region (i.e., youth, minorities, MSM, PWID, etc.)
- Improve the availability of support groups, either online or in person, for MSM, drug users, persons requiring disclosure assistance, etc.

NORTHWEST AND SOUTHWEST HEALTH REGIONS

- Improve access to and increase availability of transportation services for PLWH.
- Develop collaborative initiatives in rural communities to reduce stigma surrounding HIV, STDs, and lesbian, gay, bisexual, and transgender (LGBT) persons.
- Increase HIV testing in non-traditional sites (e.g., pharmacies).
- The need to increase access to care by increasing the number of providers who are trained in HIV care.
- The need for community mobilization efforts to increase the quality of life in rural communities, including better employment, educational, substance abuse and other health care opportunities.

c. *Barriers to HIV prevention and care services.*

Barriers to accessing HIV services exist due to a wide variety of reasons. They may be legal or structural in nature. In other cases, the service may be available but the travel distance and time is so great that individuals choose not to access them. Some organizations may not have convenient hours of operation, which become barriers, especially for working adults. For individuals, a resource may be available but the person does not access the service due to personal reasons. Thus, there are real and perceived barriers to HIV services that prevent the full and fair participation of all populations. It is only to the extent that people are able to access and use services that needs are met. The following narrative describes many of the barriers that prevent Virginians from accessing the full spectrum of HIV services from free condoms, HIV testing, and pre-exposure prophylaxis (PrEP) to full engagement in HIV medical care and supportive services.

i. Social and structural barriers

• Lack of Health Insurance

Lack of health insurance prevents access to a wide variety of billable health care services including primary medical care, mental health, home health care, etc. As noted in Table 4, about 12.1% of Virginians are uninsured with a range from 11.9% in the Northern Region to 12.5% in the Southwest Region.^{cxv} In 2014, Hispanics/Latinos were the most likely to be uninsured racial or ethnic group in Virginia (27.9%), followed by non-Hispanic Asians (13.7%), non-Hispanic African Americans/ Blacks (13.6%), and non-Hispanic Whites (7.5%).^{cxvi}

• Cultural Differences, Linguistic Challenges, and Stigma as Barriers

Virginia is a diverse state inhabited by many cultural groups. Increases in the growth of minority populations over the last few decades have posed challenges in the delivery of health care and prevention services that are acceptable to these communities. Although Virginia's Hispanic/Latino population represents 8.4% of the general population and Asian/Native Hawaiian/Pacific Islanders represent 5.8% of the population (Table 2), few health care providers are able to provide linguistically appropriate services for these populations.^{cxvii}

Various regional cultures exist within the Commonwealth. Urban areas such as Northern Virginia, Richmond, and Hampton Roads are vastly different from rural areas of the state in perceptions about health care, mental health, substance abuse, and trusting governmental systems. Western Virginia is mountainous and densely populated, which serves to add to transportation barriers in accessing health care and health information. Rural areas of the state tend to be politically conservative while urban areas politically more moderate to liberal, with some exceptions.^{cxviii}

• Stigma and Racial/Ethnic Prejudice

Stigma and racial/ethnic prejudice in Virginia area also barriers to quality health care. Stigma surrounding HIV and STDs is particularly detrimental to the achievement of NHAS goals of identifying undiagnosed PLWH and retaining those diagnosed in care. Perceptions that HIV is a “gay disease,” a “black disease,” “a disease that you deserve for being promiscuous”, and a disease that “doesn’t happen around here” are all pervasive attitudes that help fuel the epidemic in Virginia.^{cxix} Reporting epidemiological trends in HIV may also unintentionally add to this stigma when governmental agencies focus on the epidemic data reports on one population or subset of a population.^{cxx} Homophobia, transphobia, and racism are pervasive attitudes across the U.S., including Virginia. The impact of these attitudes is felt in the number of LGBT individuals and persons of color who report that they felt they did not get quality health care due to provider or care center prejudices, or misperceptions their health care providers had due to their color, gender identity, and/or sexual orientation.^{cxxi} Stigma surrounding substance use and addiction as a weakness or delinquent behavior also has negative impact on engaging PWIDs into care.

• Undocumented and Migrant Communities

The Pew Research Center, in their November 2014 report on unauthorized immigrants in the U.S., ranks Virginia as 10th overall with approximately 275,000 undocumented individuals living in its borders.^{cxxii} This accounts for approximately 3.5% of Virginia's population. Undocumented individuals are difficult to engage in health care and other social services due to

the fear of being identified and deported. PLWH or those at high-risk for acquiring HIV, who are also undocumented, pose unique challenges to health care and prevention staff and require community efforts, such as free clinics and mobile outreach units, which many communities do not have the resources to provide.

Virginia's migratory communities are inclusive of farmworkers, college students, and military personnel, as all play a significant role in the challenges of delivering prevention and health care in the state. Migrant farm workers in Virginia are most abundant in the Northwest and Eastern Health Regions. Many travel to Virginia just long enough to harvest a particular crop then move along to other states to do the same. Providing health care and prevention efforts to these populations is difficult in that they may not be in one area long enough to receive needed medical information, such as lab results, prescription renewals, and follow-up visits. Approximately 20% of Virginia's undergraduate populations in public schools in 2015 were out-of-state students.^{cxxiii} Some schools have out-of-state populations that exceed 33% of the total undergraduate population. While Virginia requires students enrolled in higher education to have insurance, influx of this population increases demands in health care settings. Also, sexual activity and drug use associated with young adults may also increase transmission of undiagnosed STDs acquired in their home state to students in Virginia and vice versa.

Similar conclusions can be formed with members of the military stationed in Virginia. Virginia is the home to the largest Naval Base and Marine Base in the U.S. Over 25% of all enlisted naval personnel live in Virginia, predominantly the Norfolk/Hampton Roads area.^{cxxiv} Enlisted personnel interact with residents in the area creating the opportunity for disease transmission.

With both college students and military personnel, difficulties exist when notifiable diseases occur. Access to military bases for Disease Intervention Specialists for partner services, coordinated care efforts between school and military clinics and Virginia care centers, and confidentiality concerns when billing insurance are barriers to serving these populations. Both university health care systems and military health care systems require low health literacy to navigate, since the school or military provide managed care. Graduating students and discharged service members who are PLWH and lack health literacy skills will have greatly impeded transitions into mainstream health care.

ii. Federal, state, or local legislative/policy barriers^{cxxv}

• Syringe Exchange and Drug Laws

VDH introduced legislation in the 2016 session of the General Assembly that would decrease penalties for possession of paraphernalia and allow the State Health Commissioner to authorize syringe services programs (SSP) in times of public health emergency. The bill passed unanimously out of the Health, Education and Welfare Committee but was not reported out of the Criminal Law subcommittee of the Courts of Justice Committee. VDH and community partners who supported this proposal continue to strategize proposals to reintroduce the legislation for successful passage to add legal exchange of sterile syringes to the public health collection of harm reduction strategies to prevent HIV and other blood-borne infections.

State and Federal laws and policies that enforce punishment rather than treatment of individuals

with substance use addiction often are counterintuitive to public health methods. Treatment of substance use and drug addiction has been found to be less costly, and more beneficial than incarceration. The expansion of drug courts and social programs to address the needs of persons living with addiction and their families would greater serve the individual and the Commonwealth, than increased penalties for drug user offences.

- **Expedited Partner Therapy**

In June 2015, DDP received permission from VDH senior management to proceed with an expedited partner therapy (EPT) Legislative Proposal Request, after having postponed this activity in 2014. During a September 2015 stakeholders meeting, the Virginia College of Emergency Physicians argued that liability protections must be provided in order for physicians to prescribe EPT. The Virginia Trial Lawyers Association contended that immunity laws leave those who are harmed by negligent conduct without legal recourse for any harm done to them, and therefore should be reserved for extraordinary circumstances. As a result of these differences of opinion among stakeholders, which could not be reconciled, the proposal did not move forward.

- **Non-Medicaid Expansion State**

Virginia has not adopted Medicaid expansion, and many poor adults with incomes at or below 138% FPL with incomes below the federal poverty level fall into a coverage gap because they remain ineligible for Medicaid but earn too little to qualify for premium tax credits for Marketplace coverage. As a result, they are likely to remain uninsured. The impact of the coverage gap varies by race and ethnicity, with poor uninsured African Americans most likely to fall into the gap followed by poor uninsured Latinos. This gap in access to health care coverage will likely continue to contribute to racial and ethnic disparities in many key HIV prevention areas, such as the acquisition of PrEP and nPEP and HIV testing in clinical settings.

- **Funding for PrEP, nPEP, and Behavioral Health**

Lack of Medicaid expansion severely impacts the implementation of biomedical interventions, such as PrEP and nPEP, as well as mental health and substance use treatment. Federal funding opportunities require the advancement of biomedical interventions, but do not allow states to allocate funding for medication and clinical costs associated with implementing these strategies. While prescription assistance programs fill some of the need, the ability for high-risk individuals to access PrEP and nPEP is often hampered by medical visit costs. In order to overcome constrictive out-of-pocket expenses to pay for medical visits, Virginia is piloting PrEP and nPEP clinics in LHDs. Laboratory work need for medical assessment for eligibility of PrEP is being absorbed by the LHD or state funding. While this system benefits persons in need of PrEP and nPEP, it poses another burden on already burdened and underfunded health department system. The need for additional clinical staff to evaluate and prescribe PrEP is a common concern noted by LHDs considering becoming PrEP clinics. Federal partners recognize the connection that mental health and substance use play in high-risk behaviors that put individuals at risk of acquiring or transmitting HIV, and require state HIV programs to refer to these services, which often are non-existent in many areas of the state, or not culturally-competent to handle the special needs of PLWH, gay men, transgender individuals, and PWIDs.

- **The Criminalization of HIV in Virginia**

Virginia Code §[18.2-67.4:1](#) outlines the penalties of Infected Sexual Battery laws in Virginia. It is a Class 6 felony in the state to intentionally infect an individual with HIV, Hepatitis B virus (HBV), or syphilis. It is also a Class 1 Misdemeanor to not disclose to sexual partners that you are infected with any of these diseases. A workgroup formed by the CHPG in 2013 examined this issue and determined that legislation may provide a barrier to individuals wanting to get tested for HIV and/or HBV for fear of having to disclose having one these diseases. It also provides a barrier for ongoing partner services for persons with HIV, as they open themselves up to possible criminal charges for using the service. PLWH who participated in the workgroup said the law also poses the potential for vindication from partners who were disclosed to, but misrepresent that fact due to a failed relationship.

- iii. Health department barriers^{CXXVI}**

A team of VDH staff representing DDP, LHDs, and the Health Commissioner's office met in April 2016 to discuss implementation of LHD third-party billing procedures for STI services. The focus of the initial meeting was to discuss the rationale for billing for services traditionally provided at no charge, and to review Virginia's Eligibility Guidance to assess feasibility of the process. Issues outlined included potential costs for "services" versus "goods" in the clinical setting; fee determination; potential privacy concerns regarding billing documents being sent to clients' home addresses; concerns for teens seeking STD screening and care; and considerations for fee variations among volunteer clients versus those referred for care through public health communicable disease procedures.

DDP continues to review a proposed regulatory amendment regarding incidence surveillance, with final approval expected sometime in 2016. The request is currently undergoing the third and final stage of the review and approval process. Status of the regulatory proposal may be viewed at <http://townhall.virginia.gov/L/ViewStage.cfm?stageid=7406>. Once the amendment has been adopted, DDP's HIV Surveillance program will distribute the information to HIV testing laboratories in Virginia and to out-of-state reference laboratories performing HIV testing on Virginia residents.

DDP's Molecular HIV Surveillance staff also continued to monitor the progress of a state regulation amendment requiring the reporting of HIV nucleotide sequence data. The proposed regulatory amendment is currently undergoing Stage III Final Regulation and Executive Branch review; HIV Surveillance staff will continue to monitor progress of the amendment until implementation occurs.

Addressing the opioid epidemic as a public health entity is impacted in the fragmentation of services for substance abuse and substance abuse treatment in Virginia and within VDH. Prevention services are distributed between several state agencies with no one lead agency. Within VDH, the Office of Injury Prevention (OIP) and DDP provide some prevention services, but they are not comprehensive and focus on specific populations, persons driving while intoxicated (OIP) and PWIDs (DDP) as they pertain to HIV and HCV transmission.

iv. Program barriers^{CXXVII}

DDP has launched a new client-level database called e2Virginia, which will allow for the analysis of HIV prevention, care, and surveillance data from one source, in order to better track HIV Continuum of Care outcomes. Discrepancies in how data is reported, the timeliness of data reporting and the accuracy of data reporting from LHDs and prevention and care contractors may be improved with the initiation of this data system.

The lack of prevention contractors throughout the state, particularly in the Northern Health Region impedes DDP's prevention efforts. Currently, only two contractors deliver prevention services in an area that is home to one-fourth of Virginia's population. Several contractors statewide lack capacity in engaging MSM and PWID into prevention programs and HIV testing.

v. Service provider barriers^{CXXVIII}

Staffing issues remain a problem with many service providers. Low wages and the lack of adequate benefits make keeping qualified staff difficult. Capacity needs to address the inclusion of integration of care and prevention strategies. Biomedical interventions and behavioral interventions that address viral suppression are lacking as well.

Engaging substance use and mental health providers in HIV prevention efforts has had moderate success. More collaborative efforts are needed to bring these services to high-risk negative individuals, as well as PLWH. Forming collaborations and community focus groups to address issues such as the opioid problem in Virginia, homelessness, homophobia, and racism are also needed and should include representation from public health, social services, criminal justice, policy makers, and the targeted populations to be effective. Community mobilization efforts are needed to engage community members in issues such as overcoming stigma surround HIV, sexuality, sexual orientation, gender identity, and addiction would also benefit efforts to advance policy within the Commonwealth.

vi. Client barriers

In the 2016 consumer survey, a total of 79 respondents at-risk for HIV and PLWH answered questions related to barriers to HIV services. Table 22 shows that the majority of all respondents (60%) stated that they did not have any barriers to accessing HIV-related services. However, among those experiencing barriers, the top barrier to accessing services was *fear and/or stigma* (50% of respondents reporting barriers), followed by *lack of transportation* (26.9%), and *culturally inappropriate services* (23.1%).

Table 22. Survey respondents' top three barriers to accessing HIV prevention and services within the last twelve months (N=79)

Barrier	Number	Percent (all responses) (N=79)	Percent (Persons w/Barriers) (N=26)
Fear/stigma	13	14.7%	50.0%
Lack of transportation	7	8%	26.9%
Culturally inappropriate services	6	6.8%	23.1%
No barriers	53	60%	

Source: Virginia Department of Health, Division of Disease Prevention, 2016 Consumer Survey.

These barriers are discussed in more detail below in addition to barriers identified through the additional forums described.

Fear/stigma

Respondents identified fear and stigma as their biggest barrier. Most participants from the Northwest and Southwest regions are afraid of being stigmatized and therefore prefer to not access services. The lack of anonymity in small rural communities is perceived to decrease the likelihood of confidentiality and increase the risk for discrimination. This was highlighted by one focus group participant who said:

Where I live in the Southwest, everybody knows everybody. I would rather travel six hours to access care than see a clinician in my area and have everybody in the village start pointing fingers at me. But then, a six hours journey is quite a drive, which renders me incapable of attending all my medical appointments.

Lack of transportation

While lack of transportation is not as major a problem with PLWH who live in Central and Eastern Virginia, it is a barrier cited by those who live in rural areas, especially those who reside in the Northwest Region where there is lack of public transportation. PLWH find it costly and time consuming to travel four to six hours to access care. For hourly workers, taking a day off work to access care is not a priority or a possibility. Latino respondents said that many in their communities are unable to drive because they are undocumented and do not have drivers' licenses. Their families and friends who have a driver's license are usually very busy with work and seldom in the position to assist with transportation.

Culturally inappropriate services

A common barrier cited by respondents is culturally-inappropriate services. PLWH indicated that they would like to be assigned case managers who are of similar race/ethnicity and/or sexual orientation because they believe their challenges and concerns would be better addressed by someone who understood their culture. This was a common barrier expressed by PLWH of color.

Inconvenient Times and Locations of Services

A barrier to accessing prevention and treatment services was identified as the inconvenience of scheduled time and place of services and/or events. Focus group participants and interview respondents stated that most organized events interfered with work schedules or were not

accessible due to lack of transportation due to location. One focus group participant echoed the feelings of others when he said:

Most events are in the afternoon. I go to work at from 9 a.m. until 6 p.m. I cannot afford to take off as I am an hourly employee and need the money. Events are not organized on weekends, unfortunately.

This was also a major barrier echoed by the Latino focus group participants.

Shortage of providers

Shortage of providers was mostly reported by consumers who reside in the Southwestern region of Virginia. As a result, most consumers end up accessing care out of state or go without treatment. The Latino community in the Northern region expressed the need for more providers who understand the Latino culture. This was not a common response on the surveys and interviews but was a barrier identified by nearly all of the participants in the focus group conducted in the Latino community.

E. Data: Access, Sources, and Systems

VDH utilized numerous data sources to conduct the needs assessment, including development of the Virginia's HIV Continuum of Care. These included HIV surveillance, prevention, and care data that is integrated into Virginia's Care Markers Database (CMDDB); surveys targeting both clients and providers; focus groups; and semi-structured interviews. A description of several of these data sources follows.

Enhanced HIV/AIDS Reporting System (eHARS)

The Enhanced HIV/AIDS Reporting System (eHARS) serves as the main data system for all PLWH within Virginia, as it collects data on all reported cases of HIV. Following a positive, confirmatory HIV test, the case is entered into eHARS from the CDC case reporting form, which contains information on patient demographics and risk, testing and treatment history, and medical history on HIV-related conditions. Updates include laboratory results on CD4 counts and viral loads that are received either electronically or on paper, as well as updates on patient history and location, received from medical sites and local health departments. The eHARS data serve as the base for Virginia's HIV Continuum of Care, as it is used to generate the number of persons living with HIV as of a given date, as well as the number of new diagnoses in a given time frame.

Medical Monitoring Project (MMP)

MMP is an ongoing supplemental HIV surveillance program that uses a patient's medical record abstraction (MRA) and a patient interview to provide a representative sample of the HIV epidemic in Virginia in order to better assess the needs of PLWH. Approximately 400 randomly selected participants from HIV medical provider sites are interviewed to obtain demographics, medical history, insurance, housing, and income status. The associated MRA is retrieved from the patient's medical provider site and information is entered into the MMP data system, including labs, medical visits, medication history and other information for a two-year period.

E2Virginia/CAREWare/Virginia Client Reporting System (VACRS)

E2Virginia (e2VA) is a secured web-based system where community-based and medical providers report intake and encounter data on clients receiving services funded by Ryan White. Data in e2VA include all Ryan White Part B providers and all medical providers for Ryan White Parts A, C, and D, patient navigation process data for all patient navigation programs statewide, HIV testing, and data for the HIV Prevention Comprehensive HIV/AIDS Resources and Linkages for Inmates (CHARLI) corrections program. This data system launched in February 2016 and is the new system being utilized for HIV care and prevention data; the previous legacy system was Virginia Client Reporting System (VACRS).

These data are received either through data import via CAREWare, which is a HRSA-provided software designed to manage and monitor Ryan White clinical care, or by direct data entry via the front-end e2VA interface. Currently about half of Ryan White providers in the state use CAREWare and send data monthly, which is then imported into e2VA.

AIDS Drug Assistance Program Database

The AIDS Drug Assistance Program (ADAP) database contains client-level data on persons who receive medication assistance through ADAP. Enrollment and recertification data for ADAP are collected by VDH through a centralized eligibility process and entered into the ADAP database. These data include CD4 counts and viral loads that are collected every 6 months. Prescription data for the direct medication program are received monthly from the four pharmacies that provide medications to the local health departments and are imported into the ADAP database.

Evaluation Web

CDC's EvaluationWeb program is used to capture and report HIV risk reduction activities for both HIV negative and HIV positive persons and to enter client-level data for HIV testing.

STD*MIS

Data from Disease Intervention Specialist (DIS) field interviews are collected in STD*MIS, which is the surveillance system for all reportable sexually transmitted diseases (STDs). These data include interviews with HIV positive persons, as well as persons with other STDs and their partners who are interviewed.

Other data sources:

Department of Medical Assistance Services (DMAS)

VDH receives Medicaid data from DMAS that can be utilized for Virginia's HIV Continuum of Care. A quarterly file is sent by DMAS to the HIV Surveillance program that contains data on all fee-for-service Medicaid clients living with HIV, including labs, HIV medical care visits, and ART prescription information which is integrated into the CMDB.

Black Box Project

The Black Box Project is a Georgetown University project through which VDH shares client level data (i.e., vital status, laboratory data, and current address) via a data sharing agreement with Maryland (MD) and District of Columbia (DC). The data is then matched with data from the two jurisdictions (exact and fuzzy matched) to cases in Virginia's eHARS. The laboratory data, comprised of clients' last CD4 and viral load test dates, provide additional information on

the HIV-related care that PLWH receive. The inclusion of these data in the CMDB assists VDH in more accurately assessing Virginia's HIV epidemic. It also assists in more accurately calculating linkage to and retention in care measures along the HIV Continuum of Care for PLWH, particularly those who move frequently across neighboring states' boundaries for medical care and other service needs. Virginia is continuing monthly data exchanges of HIV surveillance data with MD and DC through secured file sharing.

Care Markers Database and Data Integration

Care Markers Database (CMDB)

VDH has combined some of the systems described above into the CMDB. Living cases from eHARS serve as the base for the CMDB, and currently, data extracts from e2Virginia, ADAP database, MMP, Medicaid, and Black Box are being matched on a monthly basis to create a merged care marker file. Care markers are considered any one of the following: a CD4 count, a viral load, a medical visit, or evidence of ART. The CMDB data is used to produce the HIV Continuum of Care for Virginia overall and for specific subpopulations and regions.

Focus groups, Semi-structured interviews and consumer surveys

Focus groups, semi-structured interviews, and surveys were conducted at pre-scheduled meetings and training events that brought together PLWH and PARFH. These events include the cross-parts collaborative Quality Management Advisory Committee (QMAC), the Virginia Ryan White Part B Quarterly Contractors Meeting (QCM) and consumers training on quality management. A Spanish-language focus group targeting the Latino population was conducted at NovaSalud, a community based organization which serves the Latino population in the Northern region of VA. The focus groups interviews and consumer surveys, focused on assessing the need, barriers and gaps in HIV services as perceived by consumers.

Online provider surveys

A provider survey was administered via Survey Monkey to assess needs, barriers, and gaps in services as perceived by providers. Considering the views of both the consumers and providers will ensure a well-informed plan.

- a. Describe any data policies that facilitated and/or served as barriers to the conduct of the needs assessment, including the development of the HIV Care Continuum.**

The integration of the CMDB allows for a holistic framework in which to conduct the needs assessment and develop the HIV Continuum of Care, as multiple data sources are linked together in order to more comprehensively assess health outcomes of PLWH in Virginia. In addition, HIV prevention, surveillance, and care are integrated under the DDP and share data across units, thus facilitating a more complete overview of the needs assessment and HIV Continuum of Care outcomes.

- b. Describe any data and/or information that the planning group would like to have used in conducting the needs assessment including developing the HIV Care Continuum and the plan, but that was unavailable.**

National HIV Behavioral Surveillance (NHBS)

National HIV Behavioral Surveillance (NHBS) is a CDC supplemental HIV surveillance project used to conduct behavioral surveillance among persons at high risk for HIV infection, focusing on three annual cycles: MSM, persons who inject drugs (PWID), and high-risk heterosexuals (HRH). VDH was just awarded the NHBS grant in January 2016; thus, data collection and evaluation was not available at the time of the needs assessment.

Insurance claims data

The landscape of medication claims data is changing with the advent of the ACA. As nearly three-quarters of Virginia ADAP clients are now insured, increased coordination with insurance companies is required to ensure that all needed data are received. Therefore, insurance claims data would support better assessment of health outcomes along the HIV Continuum of Care, with the addition of HIV medical care visits and ART prescriptions for all PLWH.

An All Payer Claims Database (APCD) is available in Virginia; however, the APCD only collects aggregate insurance claims data on clients and is not client-level. Therefore, insurance claims cannot be linked to the CMDDB at this time on an individual level to assess health outcomes of PLWH.

Health Information Exchange/Electronic Medical Records

Virginia is currently implementing a health information exchange to link electronic medical records with VDH data. The health information exchange will assist in ascertaining additional markers for care for all PLWH; however, these data are not currently available as the implementation process is not yet complete. Section II: Integrated HIV Prevention and Care Plan

Section II: Integrated HIV Prevention and Care Plan

A. Integrated HIV Prevention and Care Plan

a-c. Five-Year work plan objectives, strategies, and activities

Appendix B: Virginia Five-Year HIV Services Plan presents the NHAS goals with specific SMART objectives, associated strategies and activities in a table format. The table also includes a column entitled “Gap” to indicate if the specific activities are intended to fill gaps along Virginia’s Continuum of Care. For the most part, the “yes” response in the Gap column indicates a new activity within Virginia. If the activity is designed to expand existing programs and services, there will be a “no” response in the column.

The following table summarizes the SMART objectives and their associated strategies for each NHAS goal. Appendix B provides additional detail.