MINNESOTA

Minnesota HIV Strategy: A Comprehensive Plan to End HIV/AIDS

Report to Minnesota Legislature
01/11/2018

Minnesota HIV Strategy: A Comprehensive Plan to End HIV/AIDS

Minnesota Department of Health
Infectious Disease Epidemiology, Prevention and Control Division
P.O. Box 64975
St. Paul, MN 55164-0975
651-201-5414
http://www.health.state.mn.us/divs/idepc/diseases/hiv/strategy/index.html

Minnesota Department of Human Services
Disability Services
P.O. Box 65967
St. Paul, MN 55164-0967
651-431-4300
https://mn.gov/dhs/people-we-serve/adults/health-care/hiv-aids/

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DEPARTMENT OF HEALTH

Protecting, Maintaining and Improving the Health of All Minnesotans

February 1, 2018

The Honorable Michelle Benson
Chair, Health and Human Services Finance & Policy Committee
Minnesota Senate
3019 Minnesota Senate Building
95 University Avenue West
Saint Paul, MN 55155-1606

The Honorable Tony Lourey
Ranking Minority Member, Health and Human Services Finance & Policy Committee
Minnesota Senate
2211 Minnesota Senate Building
95 University Avenue West
Saint Paul, MN 55155-1606

The Honorable Joe Schomacker
Chair, Health and Human Services Reform Committee
Minnesota House of Representatives
509 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

The Honorable Tina Liebling
Ranking Minority Member, Health and Human Services Reform Committee
Minnesota House of Representatives
237 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

The Honorable Matt Dean
Chair, Health and Human Services Finance Committee
Minnesota House of Representatives
401 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

The Honorable Erin Murphy
Ranking Minority Member, Health and Human Services Finance Committee
Minnesota House of Representatives
331 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

To the Honorable Members:

We are pleased to share with you the *Minnesota HIV Strategy: A Comprehensive Plan to End HIV/AIDS*. This report was prepared to comply with Minnesota Session Laws 2017, Chapter 75, Section 1, which requires a statewide plan and recommendations to address the state's HIV epidemic be submitted to the legislature by February 1, 2018.

This report represents a collaborative effort by the Minnesota Department of Health and Department of Human Services. Additionally, the Minnesota HIV Strategy Advisory Board, a 24-member advisory committee, provided advice, guidance and recommendations during the strategic planning process. Members were selected to provide input and represented every level of the care continuum and communities affected by HIV in Minnesota.

This report represents the first step towards achieving our 2025 vision that Minnesota will be a state where new HIV diagnoses are rare and all people living with HIV and those at high risk of HIV infection will have access to high quality health care and resources they need to live long healthy lives, free from stigma and discrimination. During 2018, we will continue to identify and prioritize tactics for implementing the Strategy. This includes identifying existing resources for HIV care and prevention; estimating the total funding required to implement the strategy; determining optimal allocation and alignment of resources to achieve the greatest impact; and developing implementation and evaluation plans. We will submit an updated report to the legislature by January 1, 2019 that addresses these areas.

If you have any questions about this report, please direct them to Kristen Ehresmann at kristen.ehresmann@state.mn.us or 651-201-5507.

Sincerely,

Commissioner
PO Box 64975
St. Paul, MN 55164-0975
www.health.state.mn.us

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Acronyms

AIDS: Acquired Immunodeficiency Syndrome

ART: Antiretroviral therapy

CDC: Centers for Disease Control and Prevention

CBO: Community-based Organization

DHS: Minnesota Department of Human Services

HIV: Human Immunodeficiency Virus

IDU: Injection Drug Users

MDE: Minnesota Department of Education

MDH: Minnesota Department of Health

MSM: Men Who Have Sex with Men

MSM/IDU: Men Who Have Sex with Men and Inject Drugs

NHAS: National HIV/AIDS Strategy

PEP: Post-exposure Prophylaxis

PrEP: Pre-exposure Prophylaxis

PLWH: People Living With HIV

STD: Sexually Transmitted Disease

U=U: Undetectable = Untransmittable

UNAIDS: Joint United Nations Programme on HIV/AIDS

Acknowledgements

Thank you to everyone who contributed to the successful development of the Minnesota HIV Strategy. In particular, thank you to the members of the Minnesota HIV Strategy Advisory Board who helped create the vision, goals, strategies, indicators, and focus group questions. Advisory Board members were also critical in assisting with the scheduling, facilitating and recording of focus groups and key informant interviews. Additional thanks go to Minnesota Department of Health (MDH) and Minnesota Department of Human Services (DHS) staff who helped develop meeting materials and assisted with identifying a broad range of stakeholders, as well as organizing, facilitating and recording focus groups and key informant interviews. DHS has been a vital partner to MDH in the planning and development of the Minnesota HIV Strategy. And most of all, thank you to the many people living with HIV; people at risk; providers; members of the faith community, and staff from state, local, and tribal government agencies who took the time to share their office space, experiences, and expertise.

Executive Summary

Human immunodeficiency virus (HIV) continues to be a significant health issue in Minnesota despite innovations in HIV treatment, prevention, and policy. Since 1982, there have been 11,309 cases of HIV/AIDS reported to the Minnesota Department of Health (MDH). For the past decade, the number of new HIV diagnoses in Minnesota has remained relatively steady at approximately 300 cases per year. At the end of 2016, a total of 8,554 people were living with HIV/AIDS infection in Minnesota. Of these, approximately 47 percent were diagnosed with acquired immune deficiency syndrome (AIDS).

For the first time, the knowledge and tools exist to effectively end the HIV epidemic. Treating HIV prevents new infections from occurring and is known as "treatment as prevention." One highly effective HIV prevention strategy is antiretroviral therapy (ART), which decreases the amount of virus in the bodies of people living with HIV (PLWH) to undetectable levels, allowing them to live long, healthy lives. Another highly effective HIV prevention strategy is pre-exposure prophylaxis (PrEP), a daily pill taken by people who do not have HIV in order to prevent infection. If an HIV negative person is exposed to HIV, they can take post-exposure prophylaxis (PEP) to reduce their risk of infection.

Even though there are advances in prevention and care, Minnesota is facing growing health inequities and HIV health disparities in many communities across the state. The data clearly show that the HIV epidemic disproportionately affects historically marginalized populations. The populations in Minnesota hardest hit by HIV are:

- Gay, bisexual and other men who have sex with men (MSM)
- Injection drug users (IDU), including MSM who inject drugs (MSM/IDU)
- Populations of color and American Indians
- Transgender people

Now is the time for Minnesota to have a statewide strategy to address inequities and close the HIV disparity gap. A focus on addressing these health inequities is in line with Minnesota's efforts to advance health equity.[1]

The Minnesota HIV Strategy (the Strategy) provides a roadmap for coordinating efforts and resources to address HIV and lead towards the ultimate goal of eliminating HIV/AIDS in the state. The Strategy is the state's blueprint to end the HIV epidemic by:

- Leveraging new knowledge and tools,
- Reducing the number of newly diagnosed individuals,
- Ensuring that PLWH have access to quality, life-extending care regardless of race, gender, sexual orientation, or socioeconomic circumstances, and
- Ensuring the coordination of a statewide response to reach the ultimate goal of eliminating HIV in Minnesota.

The vision of the Strategy is that by 2025, Minnesota will be a state where new HIV diagnoses are rare and all people living with HIV and those at high risk of HIV infection will have access to high quality health care and resources they need to live long healthy lives, free from stigma and discrimination.

To achieve health equity and to end the epidemic, the Strategy has five goals:

1. Prevent new HIV infections;
2. Reduce HIV-related health disparities and promote health equity
3. Increase retention in care for PLWH
4. Ensure stable housing for PLWH and those at high risk for HIV infection
5. Achieve a more coordinated statewide response to HIV

Four quantifiable outcomes and nine indicators will be used to measure Minnesota's progress towards reaching these goals and realizing the Strategy's vision.

Recommended next steps in 2018 include identifying and prioritizing tactics, which are the detailed ways in which the Strategy will be implemented. Leadership representatives from the MDH and the Minnesota Department of Human Services (DHS) HIV programs will work to assure accountability and collaboration among partners responsible for implementation of the Strategy. Additional recommended steps in 2018 entail:

- Exploring the risks and benefits of integrating HIV care and prevention under one administration.
- Identifying all existing resources for HIV care and prevention.
- Estimating the total funding required to fully implement the Strategy.
- Determining optimal allocation and alignment of resources to achieve the greatest impact.
- Developing implementation and evaluation plans.

An updated report will be submitted to the Legislature by January 1, 2019.

Introduction

The Minnesota HIV Strategy (the Strategy) is a legislatively mandated plan, signed into law by Governor Mark Dayton on May 20, 2017. Minnesota Session Laws 2017, Chapter 75, section 1 (Appendix B) requires the Commissioner of Health, in coordination with the Commissioner of Human Services and in consultation with community stakeholders, to develop a strategic statewide comprehensive plan to end HIV/AIDS in Minnesota. The Minnesota HIV Strategy Advisory Board (Advisory Board) was convened to provide advice, information, and recommendations regarding development of the Strategy (see Appendix C for roles and responsibilities).

The 2017 legislation coincided with work on a statewide HIV strategy started by the Minnesota Department of Health (MDH) and the Minnesota Department of Human Services (DHS) in August 2016 in response to stakeholder input gathered in 2015 related to the administration of Minnesota's HIV care and prevention programs. The legislation reinforced the work that MDH and DHS had initiated.

Why Is the Strategy Important Now?

Numerous advancements have been made that give Minnesota the ability to end the HIV epidemic. Treating HIV prevents new infections from occurring (treatment as prevention). Adhering to antiretroviral therapy (ART), or the medications used to treat HIV, decreases the amount of HIV in the bodies of people living with HIV (PLWH) to undetectable levels, allowing them to live long, healthy lives. Key studies[2,3] have shown that once PLWH have undetectable amounts of virus in their body, they have effectively no risk of sexually transmitting HIV to their partners, a concept known as Undetectable = Untransmittable (U=U).

HIV medication can also be taken by HIV negative people to reduce their risk of becoming infected with HIV. Pre-exposure prophylaxis (PrEP) is a daily pill taken by people who do not have HIV. The Centers for Disease Control and Prevention (CDC) recommends PrEP for people who are at high risk for HIV infection through sex without a condom or by sharing injection drug equipment. When taken as prescribed, PrEP can greatly reduce the risk of HIV infection.

Post-exposure prophylaxis (PEP) is when an HIV negative person takes ART after being potentially exposed to HIV to prevent becoming infected. PEP is meant to be used in emergency situations and must be started within 72 hours of a possible exposure to HIV during sex, sharing injection drug equipment, sexual assault, or through work.

Advancements have also been made in health care reform. The Affordable Care Act (ACA) has decreased the percentage of uninsured Minnesotans from 9.0 percent in 2009[4] to 4.3 percent in 2016, significantly below the national uninsured rate of 8.8 percent.[5] This means that many more Minnesotans have access to the benefits and security of health coverage, including access to HIV treatment and PrEP. In addition, because of the ACA, people can no longer be denied health care coverage because of their HIV status, ending an important form of discrimination against PLWH.

In spite of these advancements, Minnesota is experiencing increasing health inequities and HIV-related health disparities. Data reported to MDH clearly shows that the HIV epidemic disproportionately affects historically marginalized communities. The populations in Minnesota hardest hit by HIV are:

- Gay, bisexual, and other men who have sex with men (MSM)
- Injection drug users (IDU), including MSM who inject drugs (MSM/IDU)
- Populations of color and American Indians
- Transgender people

These populations experience stigma, discrimination, and poorer HIV health outcomes, as well as other health disparities and health inequities. These populations are not mutually exclusive. As examples, a person could be both MSM and American Indian or a person could be IDU, African-American, and transgender.

Another concern is that with the growing opioid epidemic, the potential for an HIV outbreak among people who inject drugs in Minnesota is foreseeable. The state is experiencing an alarming increase in opioid use and opioid-involved deaths increased 12 percent from 2015 to 2016.[6] From 2013 to 2016, Minnesota saw an almost 100 percent increase in new HIV infections among people who inject drugs. The risk of becoming infected with HIV is very high if an HIV negative persons uses injection drug equipment that someone with HIV has used.[7]

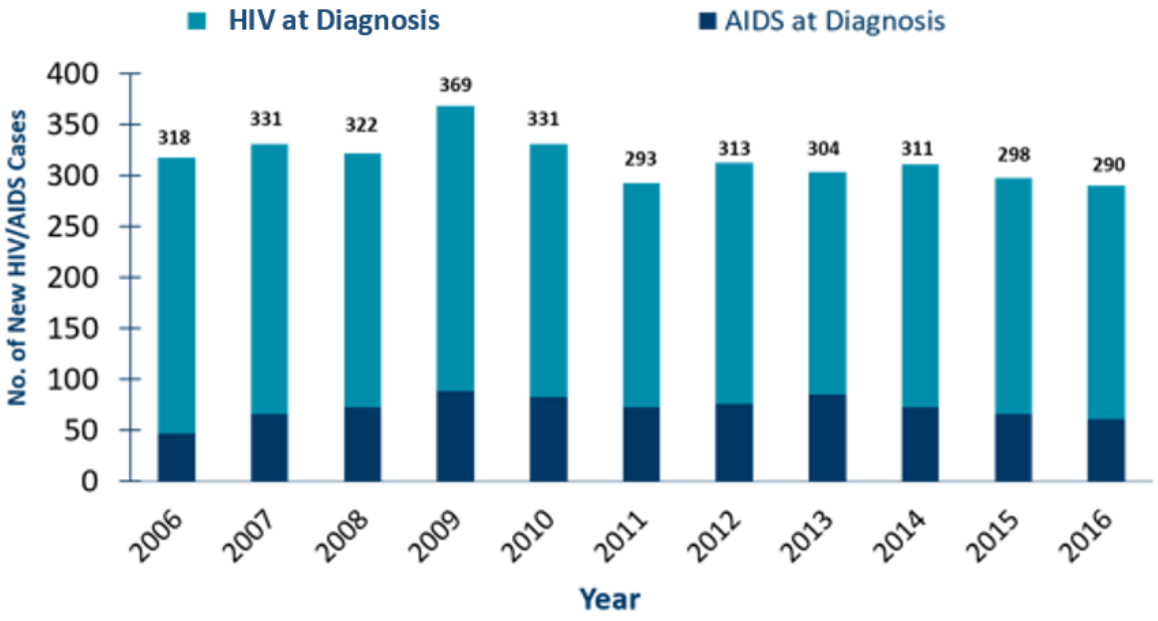
The Strategy provides a roadmap for coordinating efforts and resources to address HIV and lead us towards the ultimate goal of eliminating HIV/AIDS in the state. The Strategy is the state's blueprint to end the HIV epidemic by leveraging new knowledge and tools; reducing the number of newly diagnosed individuals; ensuring that individuals living with HIV have access to quality, life-extending care regardless of race, gender, sexual orientation, or socioeconomic circumstances; and ensuring the coordination of a statewide response to reach the ultimate goal of eliminating HIV in Minnesota.

Overview of HIV/AIDS in Minnesota

Human immunodeficiency virus (HIV) is the virus that causes acquired immune deficiency syndrome (AIDS). HIV is most commonly transmitted through anal and vaginal sex and sharing injection drug equipment, and less commonly through pregnancy, childbirth, or breastfeeding.

Despite innovations in HIV treatment, prevention, and policy, the HIV epidemic remains a significant health issue for Minnesota. It is important to understand the epidemic in order to identify effective strategies to end the HIV epidemic in Minnesota.[a]

Figure 1: New HIV Diagnoses[b] by Year, 2006-2016



Includes all new cases of HIV infection, both HIV and AIDS at first diagnosis, diagnosed within a given calendar year.

Since 1982, there have been 11,309 cases of HIV/AIDS reported to MDH. Over the past decade, the annual incidence of diagnosed HIV/AIDS cases has ranged from 290 to 369 cases a year, with a relatively stable average of 300 cases diagnosed per year during 2010 – 2016 (Figure 1).

While the total number of HIV cases for 2016 remained about the same as in 2015, some populations saw an increase in new HIV cases between 2015 and 2016, including African-born individuals, MSM/IDU, and people living in Greater Minnesota.

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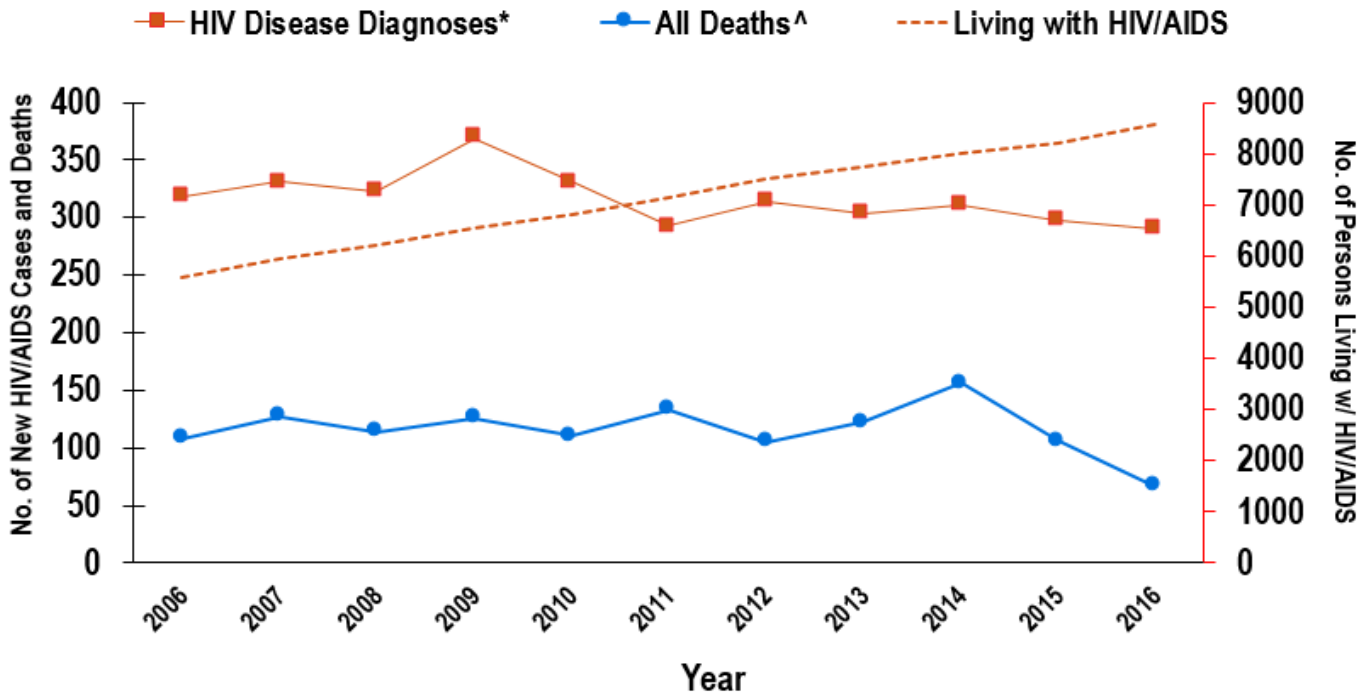
[a] Unless otherwise noted, all data presented in this section are from the Minnesota HIV/AIDS Surveillance System.

[b] At the time a person is first diagnosed, they are diagnosed with HIV or with AIDS, if the disease is more advanced and meets certain criteria. Both types of diagnoses are counted as new HIV diagnoses for the year in which the diagnoses occurred.

The number of PLWH in Minnesota continues to grow as people are living longer and healthier lives due to advances in treatment. Over the past decade the number of PLWH increased 54 percent from 5,566 cases in 2006 to 8,554 as of December, 2016. During the same period, deaths among PLWH in Minnesota have decreased (Figure 2).

Figure 2: New HIV Disease Diagnoses, Deaths, and Cases Living with HIV/AIDS by Year, 2006-2016



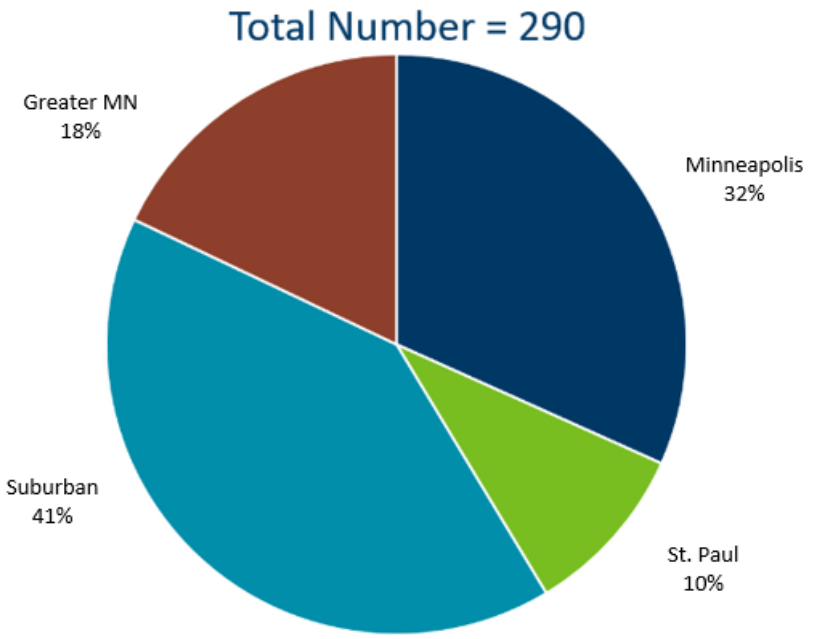
** Includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis who were diagnosed within a given calendar year.*

^ Deaths in Minnesota among people with HIV/AIDS, regardless of location of diagnosis and cause of death

New Diagnoses by Residence at Time of Diagnosis

The majority of new HIV cases live in the seven-county metro area. However, in 2016, there was a 41 percent increase in new HIV diagnoses in Greater Minnesota, with 52 cases in 2016 compared to 37 in 2015 (Figure 3).

Figure 3: HIV Diagnoses* in Minnesota by Residence at Diagnosis, 2016



**HIV or AIDS at first diagnosis*

Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington counties.

Greater MN = All other Minnesota counties outside of the seven-county metro area.

New Diagnoses by Mode of Exposure

Male-to-male sexual contact has been the most commonly reported mode of exposure since the beginning of the epidemic. In 2016, MSM accounted for 49 percent (141/290 cases) of new HIV diagnoses. Twenty-two percent (65/290 cases) of newly diagnosed HIV cases in 2016 reported heterosexual contact as their primary mode of exposure; 80 percent of these cases occurred in females. IDU and MSM/IDU accounted for nine percent (27/290 cases) of new diagnoses compared to 14 new diagnoses in 2013, an almost 100 percent increase over four years.

Perinatal HIV Transmission

The ability to stop the transmission of HIV from mother to child with ART and appropriate prenatal care is an important accomplishment in the history of the HIV/AIDS epidemic. Rates of new HIV diagnoses among newborns range from 25-30 percent without ART, but decrease to less than one percent with appropriate medical intervention.[8]

Over the past two decades, the rate of mother-to-child HIV transmission in Minnesota decreased from 15 percent in 1996 to 0 percent in 2016. Over the past decade, the number of births to HIV-infected women increased from 52 births in 2006 to 60 in 2016. Only three cases of perinatal transmission have been reported since 2013.

Late HIV Diagnoses

Despite the availability of effective antiretroviral therapy, many cases of HIV infection continue to be diagnosed at advanced stages. In Minnesota, the proportion of late testers (patients who receive an AIDS diagnosis at or within 12 months of their HIV diagnosis) has remained relatively stable over the past 10 years and was 28 percent in 2015 (most recent year available). Approximately 85 percent of late testers are diagnosed with AIDS at the time of their initial HIV diagnosis.

Disparities in New HIV Diagnoses

Race/Ethnicity Disparities

Each year MDH calculates the rate of new HIV diagnoses by race and ethnicity to assess the impact of HIV within each community. The rate takes into account the population size in Minnesota of each racial/ethnic group. Table 1 shows people of color experienced the greatest health disparities compared to whites. More than half (59 percent) of the 290 HIV cases reported in 2016 were among people of color.

Table 1: Number of Cases and Rates (per 100,000 persons) of HIV Diagnoses* by Race/Ethnicity[ł] and Rates Compared to White, non-Hispanics, Minnesota 2016

Race/Ethnicity	Cases	%	Rate	Rates Compared to White, non-Hispanics
White, non-Hispanic	119	41%	2.7	—
Black, African-American	60	21%	31.3	12 times higher
Black, African-born	70	24%	90.3~	33 times higher
Hispanic	24	8%	9.6	3 times higher
American Indian	1	0.3%	#	#
Asian/Pacific Islander	12	4%	5.6	2 times higher
Other^	4	1%	#	#
Total	290	100%	5.5	—

** HIV or AIDS at first diagnosis; 2010 U.S. Census Data used for rate calculations.*
ł "African-born" refers to Blacks who reported an African country of birth; "African-American" refers to all other Blacks.
~ Estimate of 77,577 Source: 2010-2012 American Community Survey. Additional calculations by the State Demographic Center.
^ Other = Multi-racial persons or persons with unknown or missing race.
 # Number of cases too small to calculate reliable rate.

It is important to note that, as sovereign nations, Minnesota tribal communities are not held to the State of Minnesota Communicable Disease Reporting Rule, Chapter 4605 (http://www.health.state.mn.us/divs/idepc/dtopics/reportable/rule/rule.html) although they can choose to report. Sovereignty does not extend to urban clinics, such as Native American Community Clinic and Indian Health Board, or other clinics throughout the state where Native American persons may be tested or treated for HIV.

Disparities by Country of Birth

Of new HIV diagnoses in Minnesota during 2016, 32 percent were among foreign-born persons. Based on 2010–2012 American Community Survey data, foreign-born persons make up only seven percent of the total Minnesota population and are, therefore, disproportionately affected by HIV. The number of new HIV infections diagnosed among foreign-born persons has steadily increased from 20 cases in 1990 to 94 cases in 2016. The largest number of cases occur among African-born persons increasing from eight cases in 1990 to 70 cases in 2016.

In 2016, one out of three new HIV cases were reported among foreign-born persons, the majority of whom were from Africa, followed by Latin America and the Caribbean.

Gender and Race Disparities

There are differences in the racial/ethnic distribution by gender. Among males, African-American and African-born men made up 38 percent of cases and Hispanic males of any race accounted for 10 percent of cases. The percentage of new infections among African-born males has doubled over the past decade from 8 percent in 2006 to 17 percent in 2016.

Among women, the disparities are even more apparent with women of color representing 74 percent of all the newly diagnosed females in 2016. Specifically, African-born women account for almost half (49 percent) of the cases and African-American women accounted for 20 percent of cases. The percentage of new infections among African-born females has more than doubled over the past decade from 20 percent in 2006 to 49 percent in 2016.

Mode of Exposure and Gender Identity Disparities

Male to male sexual contact results in the highest rate of HIV diagnoses compared to any other sub-category of exposure. According to the Centers for Disease Prevention and Control (CDC), if current national diagnoses rates continue, one in two African-American and one in four Hispanic MSM are at risk of being diagnosed with HIV in their lifetime.[9]

In 2016, the estimated rate of HIV diagnosis among MSM in Minnesota was 149.8 per 100,000 population (Table 2). This is 37 times higher than the rate among non-MSM men.

Table 2: Number of Cases of Adult and Adolescent HIV Diagnoses* by Gender Identity and Risk†, Minnesota 2016

Gender/Risk	Cases	%	Rate
Men (Total)	(223)	77%	10.3
MSM†	139	62%	149.8
Non-MSM	84	38%	4.1
Women	63	22%	2.8
Transgender (Total)	4	1%	X
Male to Female	2	50%	X
Female to Male	2	50%	X
Total	290	100%	6.6

** HIV or AIDS at first diagnosis over the age of 13*
† "MSM" refers to both MSM and MSM/IDU. MSM population estimated at 92,788 in Minnesota
X No current transgender population estimate available so a rate cannot be calculated

Late Tester Disparities

During the past decade, foreign-born cases have had a higher rate of late testers compared to U.S.-born cases. In 2015, 44 percent of foreign-born cases were late testers compared to 18 percent of U.S.-born cases.

Disparities among People Living with HIV

Race/Ethnicity Disparities

As with new diagnoses, when looking at rates of living HIV/AIDS cases in Minnesota, people of color experience the greatest health disparities (Table 3).

Table 3: Number of Cases and Rates (per 100,000 persons) of Persons Living with HIV/AIDS by Race/Ethnicity† and Rates Compared to White, non-Hispanics, Minnesota 2016

Race/Ethnicity	Cases	%	Rate	Rates Compared to White, non-Hispanics
White, non-Hispanic	4,107	48%	93.2	—
Black, African-American	1,836	21%	958.3	10 times higher
Black, African-born	1,283	15%	1654.3‡‡	18 times higher
Hispanic	796	9%	318.1	3 times higher
American Indian	114	1%	205.7	2 times higher
Asian/Pacific Islander	183	2%	85.2	< 1 time lower
Other^	227	3%	X	X
Total	8,546	100%	161.1	—

ǂ "African-born" refers to Blacks who reported an African country of birth. "African American" refers to all other Blacks

ǂǂ Estimate of 77,577 Source: 2010-2012 American Community Survey. Additional calculations by the State Demographic Center

^Other = Multi-racial persons or persons with unknown race

X Other population estimate is not available so a rate cannot be calculated

Census data used for rate calculations

Disparities by Country of Birth

Between 1990 and 2016, the number of foreign-born persons living with HIV/AIDS in Minnesota increased substantially, especially among the African-born population. In 1990, 50 foreign born persons were reported to be living with HIV/AIDS and by 2016, this number had increased to 1,785 persons.

Table 4: Countries of Birth Among Foreign-born Persons[ǂ] Living with HIV/AIDS, Minnesota 2016

Country of Birth	Cases
Ethiopia/Oromia	291
Mexico	267
Liberia	219
Kenya	166
Somalia	132
Cameroon	101
Sudan	73
Other^	748
Total	1785

[ǂ] Includes persons arriving to Minnesota through the HIV Positive Refugee Resettlement Program, as well as other refugees and immigrants arriving to Minnesota with an HIV diagnosis prior to arrival in Minnesota

^ Includes 100 additional countries

Mode of Exposure and Gender Identity Disparities

MSM account for the highest rate of persons living with HIV/AIDS. In 2016, the estimated prevalence of PLWH among MSM was 4997.4 per 100,000 population. This is more than 70 times higher than the rate among non-MSM (Table 5). It is important to note that MSM include cases from all racial/ethnic categories and therefore cannot be directly compared to the prevalence in various race/ethnicity subpopulations.

Table 5: Number of Cases and Rates (per 100,000 persons) of Adults and Adolescents* Living with HIV/AIDS by Gender Identity and Risk[ŧ], Minnesota 2016

Gender/Risk	Cases	%	Rate
Men (Total)	(6,354)	76%	241.4
MSM[ŧ]	4,637	73%	4,997.4
Non-MSM	1,717	27%	67.6
Women	1,980	24%	74.1
Transgender^ (Total)	69	0.8%	X
Male to Female	54	78%	X
Female to Male	15	22%	X
Total	8,403	100%	191.7

** HIV or AIDS at first diagnosis over the age of 13*

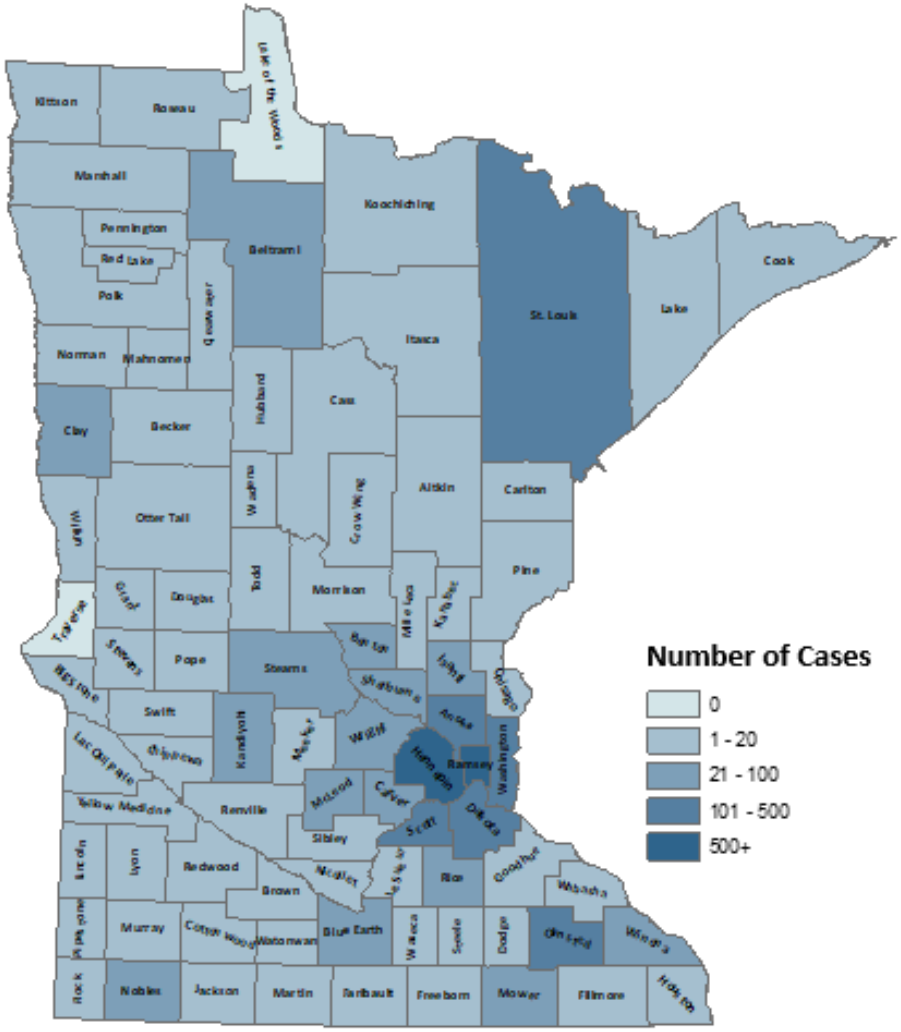
[ŧ] "MSM" refers to both MSM and MSM/IDU. MSM population estimated at 92,788 in Minnesota

^ No current transgender population estimate available

People Living with HIV/AIDS by County of Residence

There are people living with HIV or AIDS in 98 percent (85 out of 87) of counties in Minnesota (Figure 4). Of the 8,554 PLWH who were reported to MDH, the majority (81 percent) reside in the seven-county metropolitan area surrounding Minneapolis and St. Paul (Hennepin, Ramsey, Anoka, Carver, Dakota, Scott and Washington counties). However, there is a considerable and increasing share of morbidity spread across the state.

Figure 4: Living HIV/AIDS Cases by County of Residence, 2016



City of Minneapolis – 3,134
City of St. Paul – 1,108
Suburban* - 2,699
Greater Minnesota – 1,598

Total number = 8,554
(15 people missing residence information)

*7-county metro area, excluding the cities of Minneapolis and St. Paul

The HIV Care Continuum

The HIV care continuum—sometimes referred to as the HIV treatment cascade—is a nationally recognized methodology that outlines the sequential steps or stages of HIV medical care for PLWH from initial diagnosis to achieving the goal of viral load suppression (a very low or undetectable level of HIV in the body). The HIV care continuum is an important tool in measuring the successes of the Strategy.

Recent scientific advances have shown that the progressive immune system destruction caused by HIV infection, including AIDS, can be prevented by ART, the treatment of people with HIV using anti-HIV drugs.[10] The ultimate goal of HIV treatment is to achieve viral suppression, meaning the amount of HIV in the body is very low or undetectable, because it leads to improved health and substantially lowers the risk of HIV transmission. Ensuring that PLWH are aware of their status and are subsequently rapidly linked to care, begin ART, stay in care, and achieve viral suppression are critical steps towards reducing new infections in Minnesota and in the United States.

The HIV care continuum is represented as a unidirectional framework, but in reality PLWH experience the care continuum in a less linear fashion as they may exit the continuum for a period of time and regress to an earlier stage. It is important to recognize that PLWH may not be in a position to reach viral suppression because of factors that limit treatment access (e.g., inadequate access to care, poverty, racism, denial, stigma, discrimination, and criminalization). Others may choose not to be treated.

Since 2013, the care continuum has been calculated on an annual basis to help Minnesotans better understand the state's HIV epidemic and the disparities that exist in delivery of care among PLWH.[c]

Stages of the HIV Care Continuum

The HIV care continuum consists of the following stages, with the ultimate goal of viral suppression:

- **HIV Diagnosis:** The HIV care continuum begins with a diagnosis of HIV infection. The only way to know for sure that a person is infected with HIV is to be tested. Individuals need to be aware of their infection before they will seek HIV care and treatment.
- **Linkage to Care:** Being linked to competent HIV medical care within 30 days of diagnosis and starting ART early significantly lowers the possibility of developing AIDS and other illnesses and reduces the risk of transmitting HIV to others.
- **Retention in Care:** HIV has no cure so treatment is a lifelong process that requires a person to receive ongoing medical care. Because of the benefits of ART, it is critical that persons with HIV

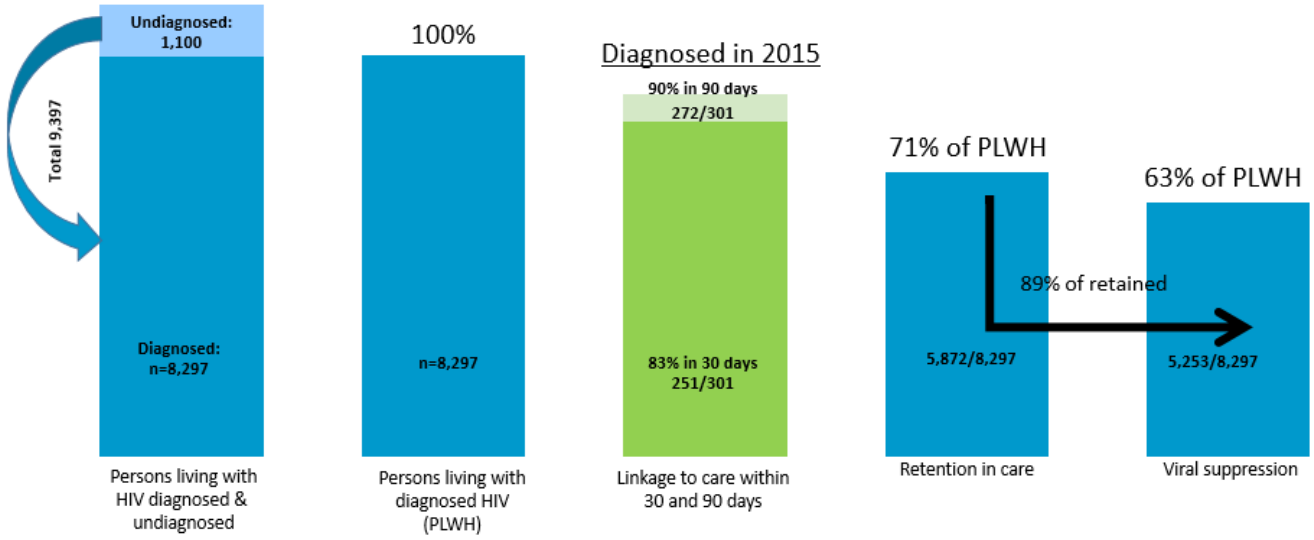
[c] Unless otherwise noted, all data presented in this section are from the Minnesota HIV/AIDS Surveillance System.

infection stay in care over time. For people living with HIV, retention in medical care is an important precursor to becoming virally suppressed.

- **Viral Suppression:** Having very low or undetectable levels of HIV in the blood helps PLWH stay healthy and live longer, and effectively eliminates the risk of transmitting HIV to sex partners. Viral suppression does not mean a person is cured; HIV still remains in the body. If ART is discontinued, the person's viral load will likely return to a detectable level.

Minnesota's 2016 HIV Care Continuum

Figure 5: Percentages of Persons with HIV[d] Engaged in Selected Stages of the Continuum of Care, Minnesota 2016



The bars of the HIV care continuum in Figure 5 are defined as follows:

- **Persons living with HIV diagnosed and undiagnosed:** The number of people living with HIV includes an estimate of the number of people living in Minnesota with undiagnosed HIV infection as well as the number of people who were diagnosed with HIV infection.

  According to the 2016 care continuum, an estimated 9,397 people ages 13 and older are living with HIV (diagnosed and undiagnosed). Of these, 8,297 (88 percent) are diagnosed with HIV. The remaining 1,100 (12 percent) are estimated to be undiagnosed/unaware of their HIV status. This means that approximately one in eight people living with HIV in Minnesota are unaware of their infection, and therefore not accessing the care and treatment they need to stay healthy and reduce the likelihood of transmitting HIV others.

[d] The HIV care continuum does not include persons with HIV who are less than 13 years of age.

- **Persons living with diagnosed HIV (PLWH):** The number of people who were diagnosed with HIV infection (regardless of stage of disease at infection) by the end of 2015 and were still alive at the end of 2016. There were 8,297 people who met these criteria.
- **Linkage to care:** This bar is shown in a different color and with a different denominator because it only includes people who were newly diagnosed with HIV during 2015 and who visited a health care provider within 30 days or 90 days after initial diagnosis.

  Of the 301 people diagnosed with HIV in 2015, 83 percent (251) were linked to care within 30 days and 90 percent (272) were linked within 90 days of their initial diagnosis.
- **Retained in Care:** The number of people who were diagnosed with HIV by the end of 2015, were alive at the end of 2016, and had received HIV medical care, which is defined as having one or more CD4 or viral load test results during 2016.

  Among the 8,297 people living with HIV in Minnesota at the end of 2016, 71 percent (5,872) were retained in care.
- **Virally Suppressed:** The number of people who were diagnosed by the end of 2015, were alive at the end of 2016, and whose last viral load test during 2016 was suppressed (at a very low level) of ≤200 copies/mL.

  Of the 8,297 people living with HIV in Minnesota at the end of 2016, 63 percent (5,253) were virally suppressed at last lab test in 2016. In other words, only six out of 10 PLWH in Minnesota had the virus under control.

  Of the 5,872 PLWH who were retained in care during 2016, 89 percent (5,186) were virally suppressed.

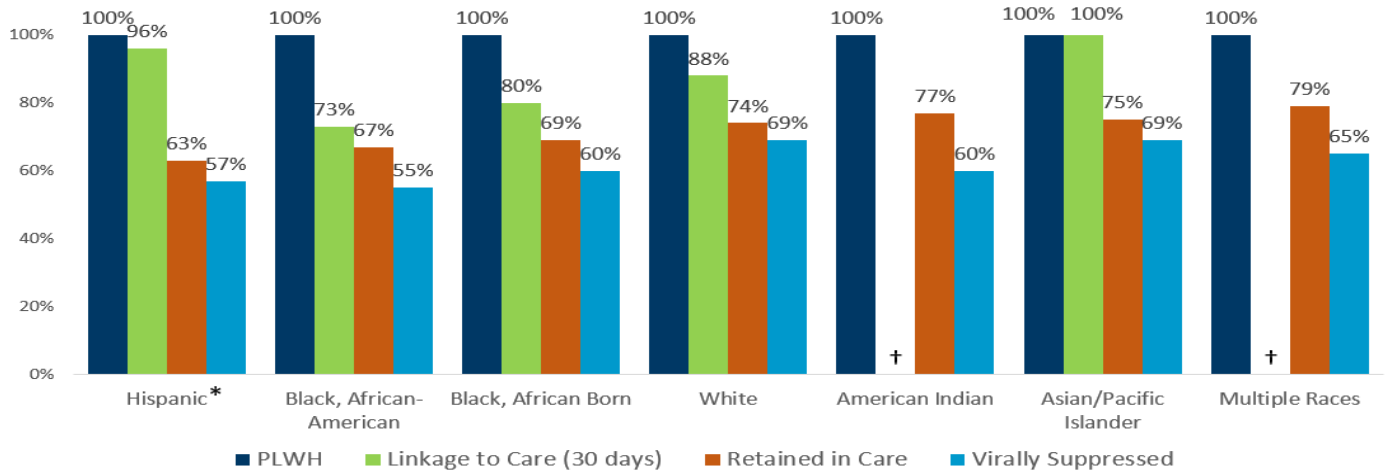
The HIV care continuum clearly indicates areas where increased attention is needed to ensure that all individuals living with HIV in Minnesota are aware of their infection and able to realize the full benefits of available care and treatment. The estimated number of people with undiagnosed HIV infection (1,100) underscores the importance of continued and intensified efforts to reach more people with testing. In addition, it is important to make sure that PLWH receive prompt care and treatment and, even more importantly, stay in ongoing care so they can live longer, healthier lives and prevent the spread of HIV to others.

The care continuum also demonstrates that efforts will need to focus on communities with the highest rates of new HIV diagnoses and highest percentages of out of care individuals in order to decrease and ultimately eliminate new HIV diagnoses in Minnesota.

Disparities in Outcomes Along the Care Continuum

By closely examining the proportion of people living with HIV in each stage of the HIV care continuum, policymakers and service providers are able to pinpoint where gaps exist. Knowing where the drop-offs are most pronounced and for which populations is vital to identifying how, where, and when to intervene to improve health outcomes and break the cycle of HIV transmission in Minnesota.

Figure 6: Percentage of Persons Diagnosed with HIV (n=8297) Engaged in Selected Stages of the Care Continuum By Race, Minnesota 2016



† *Not reportable, <5 in population*

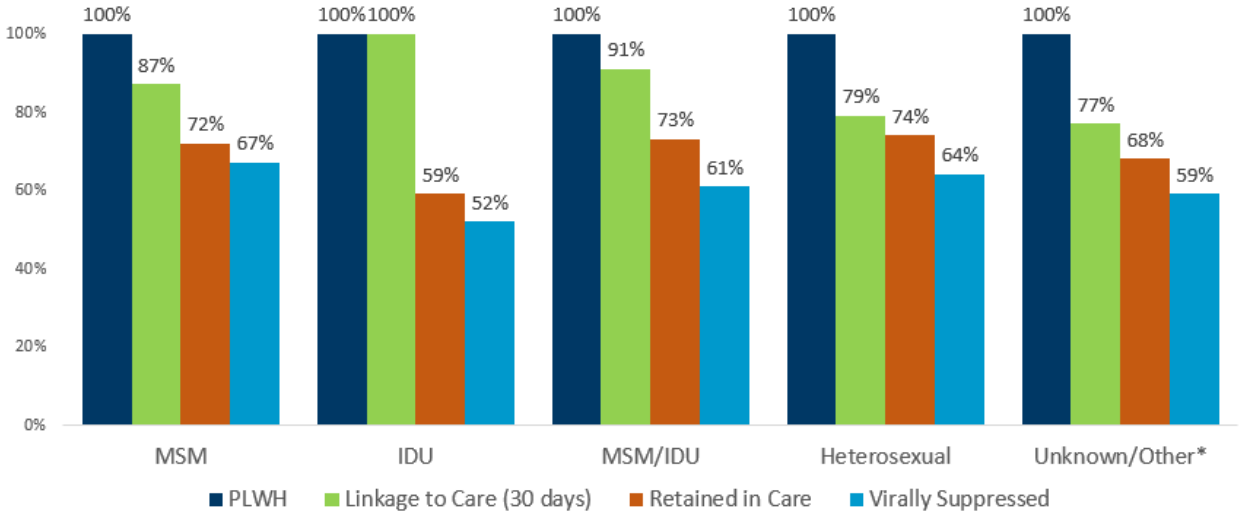
**Includes all races*

Figure 6 shows the HIV care continuum by race and Hispanic ethnicity. The percentage of newly diagnosed Black, African-Americans (73 percent) and Black, African-born (80 percent) linked to HIV medical care within one month of their HIV diagnosis is lower than whites (88 percent) and below the national goal of 85 percent. In addition, Black, African-Americans, Hispanics, Black, African born, and American Indians have lower rates of viral suppression at 55, 57, and 60 percent respectively.

The out of care population are PLWH who were not retained in care, which is defined as not having a CD4 or viral load test conducted during the calendar year. Black, African-born; Black, African-American; and Hispanics of any race have the highest percentages of being out of care at 31, 33, and 37 percent respectively.

Figure 7 shows differences in the care continuum based on mode of exposure. IDUs experience much lower percentages of retention in care (59 percent) and viral suppression (52 percent) compared to other modes of exposure.

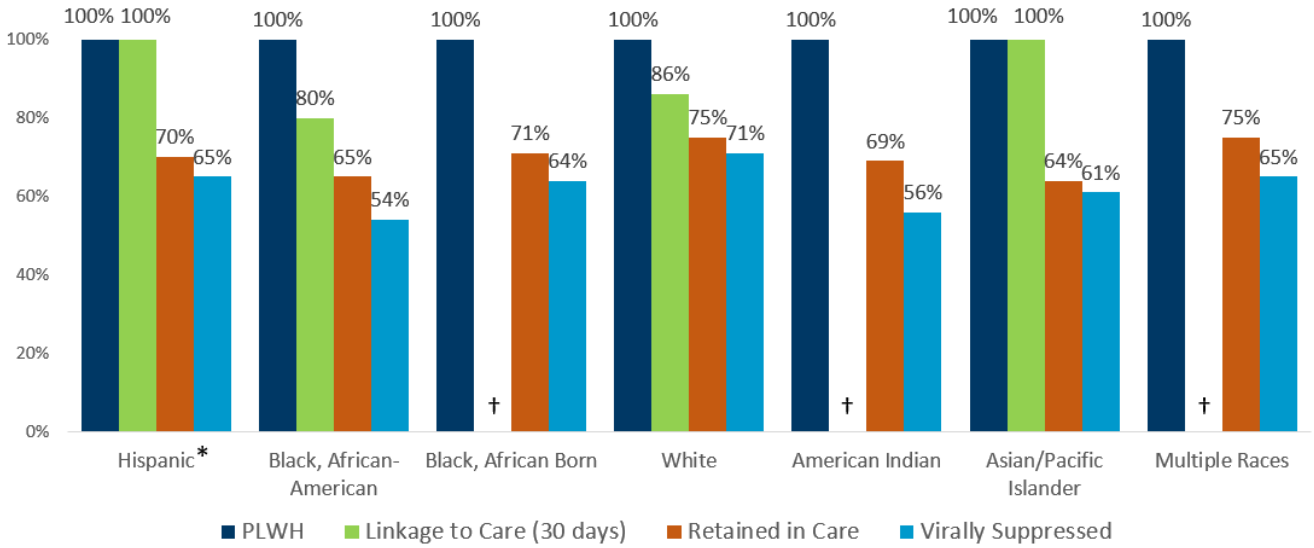
Figure 7: Percentage of Persons Diagnosed with HIV (n=8297) Engaged in Selected Stages of the Care Continuum by Mode of Exposure, Minnesota 2016



** Unknown includes no mode of transmission identified. Other includes those with unspecified risk, hemophilia, transplant recipients, transfusion recipients, or a mother with HIV or HIV risk.*

In general, men of color who have sex with men have lower viral suppression than white MSM. Black, African-American and American Indian MSM have the lowest percentages of viral suppression at 54 percent and 56 percent respectively (Figure 8). American Indian; Black, African-American and Asian/Pacific Islander MSM have the highest percentages of being out of care at 31, 35, and 36 percent respectively.

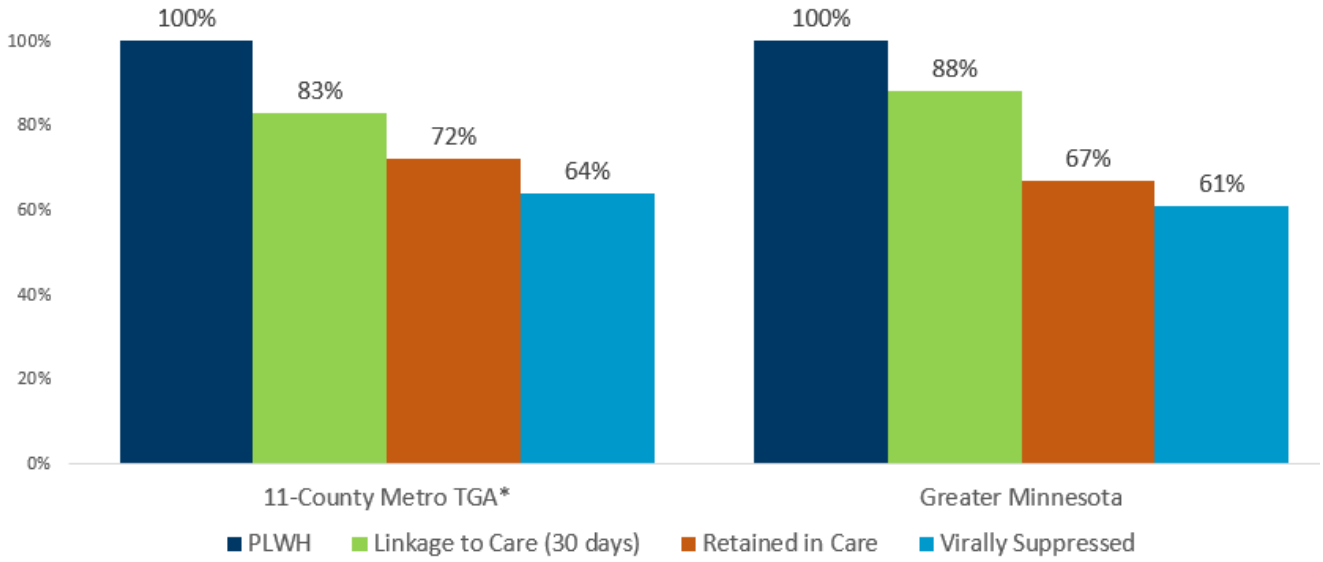
Figure 8: Percentage of MSM (n=4137) Diagnosed with HIV Engaged in Selected Stages of the Care Continuum by Race, Minnesota 2016



† Not reportable,<5 in population
**Includes all races*

Care continuum data also highlight unequal engagement in HIV care based on geography. PLWH living in Greater Minnesota have lower percentages of retention in care and viral suppression compared to PLWH living in the 11-county transitional grant area (TGA) (Figure 9).

Figure 9: Percentage of Persons Diagnosed with HIV (n=8297) Engaged in Selected Stages of the Care Continuum by Current Residence, Minnesota 2016



** TGA includes Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright counties*

Factors Impacting Access and Adherence to Care

Social Determinants of Health

Effective systems to treat HIV must take into account the social determinants of health. Social determinants of health are the structural determinants and conditions in which people are born, grow, live, work, and age[11] that directly or indirectly affect their vulnerability to accessing care and their ability to benefit from HIV treatment. They include factors like socioeconomic status, education, physical environment, employment, social support networks, and access to health care. Social determinants of health play a role in HIV infection and the ability of PLWH to seek treatment, care, and support.

The Advisory Board identified the following factors that can negatively impact a person's self-esteem and can reduce their ability to protect themselves from HIV: stigma and discrimination, homelessness, racism, homophobia, physical and sexual abuse, addiction, lack of education, poverty/limited income, powerlessness, untreated mental health problems, lack of health insurance, language barriers, lack of transportation, economic disparities, lack of choice, lack of legal resident status, and lack of social support.

Stigma and Discrimination

PLWH may experience structural stigma from societal attitudes, practices, policies, and services that marginalize them because of their HIV infection. HIV-related stigma refers to the "negative beliefs, feelings and attitudes towards PLWH, groups associated with PLWH (e.g., the families of people living with HIV) and other key populations at higher risk of HIV infection, such as people who inject drugs, sex workers, men who have sex with men and transgender people."[12]

HIV-related discrimination refers to the "unfair and unjust treatment (act or omission) of an individual based on his or her real or perceived HIV status. HIV-related discrimination is usually based on stigmatizing attitudes and beliefs about populations, behaviors, practices, sex, illness and death. Discrimination can be institutionalized through existing laws, policies and practices that negatively focus on people living with HIV and marginalized groups, including criminalized populations."[13] HIV-related stigma and discrimination add to the barriers and disparities experienced in access to appropriate housing and care, along with adherence to HIV treatment.

PLWH and people at high risk of acquiring HIV often experience overlapping types of stigma. These may be related to gender identity, race or ethnicity, sexual orientation, poverty, homelessness, drug use, and/or mental health conditions.

PLWH anticipate stigma and discrimination because they are aware of the negative social perceptions towards HIV. As a result, they may internalize their experiences related to their HIV status by accepting stigmatizing attitudes. PLWH who have other marginalized intersecting identities (e.g., race, gender, sexual orientation, and economic status) are even more likely to experience stigma.[14]

Vision of the Minnesota HIV Strategy

By 2025, Minnesota will be a state where new HIV diagnoses are rare and all people living with HIV and those at high risk of HIV infection will have access to high quality health care and resources they need to live long healthy lives, free from stigma and discrimination.

Operating Principles

The Strategy is built on the following three operating principles:

- **A strategy that requires all hands on deck.** Creating and implementing the Strategy will require broad support, coordination, and collaboration among state, local and tribal government agencies; community-based organizations (CBOs); health care providers; faith communities; community members; academic institutions; correctional and drug treatment facilities; and other key stakeholders. All Minnesotans, working in partnership, have a part to play in helping to achieve the Strategy's vision.
- **A strategy that calls for dynamic action.** Ending the HIV epidemic will require policy changes to further implementation of the Strategy's goals.
- **A strategy that focuses on equity and social justice.** The HIV epidemic does not affect Minnesotans equally. It disproportionately affects historically marginalized communities that continue to face discrimination. The epidemic will end when these communities are equal and active partners in the Strategy's implementation. These partnerships will create new solutions and ensure that all Minnesotans benefit from efforts to end the epidemic.

Outcomes

Successful implementation of the Strategy will require achievement of four measurable outcomes mandated in the legislation. The Advisory Board identified the year by which each outcome will be achieved.

1. Increase the percentage of individuals living with HIV who know their serostatus to at least 90 percent by 2025;
2. Increase the percentage of individuals diagnosed with HIV[e] who are retained in care[f] to at least 90 percent by 2025;
3. Increase the percentage of individuals diagnosed with HIV who are virally suppressed to at least 90 percent by 2025; and
4. Reduce the annual number of new HIV diagnoses by at least 75 percent by 2035, with an interim outcome of reducing the annual number of new HIV diagnoses by at least 25 percent by 2025.[g]

The outcomes are ambitious but attainable. Implementing routine opt-out HIV testing for all Minnesotans; increasing HIV testing within key communities hardest hit by HIV; increasing access and adherence to PrEP; enhancing programs that link newly diagnosed individuals to care; ensuring that HIV positive individuals begin and stay on ART; and re-engaging those who have fallen out of care will aid in achieving these legislatively mandated outcomes.

Increasing the percent of people who are aware of their serostatus (Outcome 1) and reducing the number of new HIV diagnoses (Outcome 4) appear to contradict each other. Increasing the percent of people who know their serostatus means that more people will test HIV positive, which is at odds with decreasing the number of new diagnoses. However, once 90 percent or more of PLWH are aware of their status, engaged in ongoing HIV medical care, and have achieved viral suppression, Minnesota will be in an optimal situation to achieve Outcome 4. In other words, a 75 percent reduction in annual diagnoses is a long-term goal that depends on first achieving Outcomes 1 through 3.

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[e] The phrases “Individuals diagnosed with HIV” or “living with diagnosed HIV” or “diagnosed PLWH” refer to people who have been diagnosed with HIV at some point in their life and their diagnosis has been reported to MDH’s HIV surveillance program. “New diagnoses” or “newly diagnosed” refer to people who received an HIV diagnosis for the first time during a given year and were reported to MDH’s HIV surveillance program.

[f] The corresponding outcome in the legislation refers to “individuals living with HIV who are receiving treatment.” However, receiving treatment is not something that can be measured on a statewide level through the Minnesota HIV/AIDS surveillance system. Retained in care is measured using CD4 and/or viral load lab results that are reported to MDH and is a proxy measure for receiving treatment.

[g] The Advisory Board added an interim outcome of reducing the number of new HIV diagnoses by at least 25 percent by 2025.

Goals and Strategies

The goals and strategies that will move Minnesota towards achieving the four legislatively-mandated outcomes are presented below.

In 2018, MDH, DHS, the Advisory Board, and other stakeholders will identify and prioritize tactics, or specific activities that will be used to implement the Strategy. The tactics will be based on analyses of findings from focus groups and key informant interviews that were conducted during the summer and early fall of 2017 in all eight regions of Minnesota (Appendix D), as well as additional stakeholder input that will be gathered in 2018, and other relevant data sources. The tactics will likely focus on specific sub-populations within the four broader populations identified as being most impacted by HIV in Minnesota.

Goal 1: Prevent New HIV Infections

Over the past decade, approximately 300 cases of new HIV infection have been reported every year despite innovations in HIV treatment, prevention, and policy. These improvements include health care reform, treatment as prevention, PrEP, PEP, syringe services programs, and harm reduction. Now is the time to take full advantage of these programs in order to end Minnesota's HIV epidemic. However, many of the benefits of these programs cannot be realized unless Minnesotans know their HIV status, which underscores the importance of HIV testing.

Strategy 1.1: Increase HIV education and awareness for all Minnesotans, especially health professionals, students, and high risk populations.

Strategy 1.2: Increase routine opt-out HIV testing and early intervention services.

Strategy 1.3: Immediately link newly diagnosed individuals to person-centered HIV care and treatments.

Strategy 1.4: Increase availability, access and use of evidence-based interventions that prevent HIV infections, such as PrEP, PEP, syringe services programs, and partner services.

Goal 2: Reduce HIV-related Health Disparities and Promote Health Equity

In Minnesota, the HIV epidemic continues to disproportionally impact people of color. To end the epidemic, health equity needs to be achieved among populations of color who are hardest hit by HIV. Currently, these populations are Black (African-American and African-born) MSM, Hispanic MSM, African-American women, African-born women (in particular from Somalia, Liberia, Ethiopia, Kenya, and Cameroon), Hispanic women, American Indians, and transgender women of color. The populations of color hardest hit by HIV may change over time as the epidemic evolves.

These populations of color experience greater HIV incidence (number of newly diagnosed cases) and prevalence (number of living HIV/AIDS cases), in addition to disparities in HIV-related outcomes, such

as reduced access to HIV care, higher out of care rates, lower viral suppression rates, and higher HIV-related health complications and mortality. These disparities are in part due to the lack of culturally and linguistically appropriate services and the geographic distribution of appropriate HIV care and treatment services. These barriers make it difficult for PLWH to access appropriate HIV care and treatment in certain regions of the state.

Strategy 2.1: Protect and enhance advancements in health care policies, including Minnesota Health Care Programs expansion, coverage for people with pre-existing conditions, and access to preventative treatments without cost sharing.

Strategy 2.2: Engage community leaders, non-profit agencies, PLWH, and other community members to identify and to address barriers that prevent testing and person-centered care.

Strategy 2.3: Dedicate adequate resources to populations of color hardest hit by HIV to eliminate health inequities.

Strategy 2.4: Reduce HIV-related stigma, systemic racism, and other forms of structural discrimination that prevent people from accessing HIV care and prevention services.

Goal 3: Increase Retention in Care for People Living with HIV

Positive health outcomes for PLWH in Minnesota greatly depend on two factors—rapid linkage to care and retention in care. A culturally competent and skilled workforce is an essential component of addressing these two factors. Models of care that treat the whole person (person-centered care) are equally vital to ensure that Minnesota residents living with HIV have healthy and vibrant lives. Additionally, robust polices that support a person's basic needs are critical for the timely linkage to and retention in HIV care.

Strategy 3.1: Employ high-impact public health approaches to identify and to re-engage individuals who are out of HIV care and treatment.

Strategy 3.2: Ensure person-centered strategies that support long-term retention in care.

Strategy 3.3: Provide culturally and linguistically appropriate services, as well as gender appropriate and sexual orientation appropriate services in clinical and/or community support settings.

Strategy 3.4: Identify and reduce barriers to accessing mental health and substance use services and care.

Strategy 3.5: Ensure access to services that meet the basic needs of PLWH.

Goal 4: Ensure Stable Housing for People Living with HIV and Those at High Risk for HIV Infection

Safe, secure, and affordable housing is a basic human need. It is essential to eliminate circumstances in which PLWH have to make desperate choices about which necessities to prioritize. Housing stability is the base that makes good health a possibility for PLWH and those at high risk for HIV infection. Housing status is a stronger predictor of HIV health outcomes than individual characteristics such as gender, race, age, drug and alcohol use, mental health issues, and receipt of social services. Stable housing improves the health of PLWH. Housing also plays a significant role in HIV prevention. In fact, the condition of homelessness is independently associated with increased rates of behaviors that can transmit HIV.[15]

Strategy 4.1: Identify gaps in affordable housing statewide.

Strategy 4.2: Build partnerships that increase the supply of safe, affordable housing units for PLWH and those at high risk of HIV infection.

Strategy 4.3: Ensure that PLWH and those at high risk of HIV infection have access to necessary supports that maintain their housing stability.

Strategy 4.4: Secure long-term, sustainable resources to meet the growing need for affordable housing and supportive services.

Goal 5: Achieve a More Coordinated Statewide Response to HIV

A coordinated statewide approach is needed to reduce the number of new HIV infections in Minnesota. This will require an all-hands-on-deck approach to take advantage of new knowledge, tools to treat, and to prevent HIV. Enhanced collaboration and coordination of services among government agencies, tribal nations, not-for-profit CBOs, faith organizations, harm reduction services, universities, health care clinics, mental health services, correctional services and others are needed in order to expand the scope of partners in the journey to end the HIV epidemic.

Strategy 5.1: Create a leadership structure that is held accountable for implementing and updating this strategy. This leadership structure will include key stakeholders that this strategy affects, such as government leadership, community-based organizations, PLWH, and Minnesota residents that the HIV epidemic hits hardest.

Strategy 5.2: Integrate HIV prevention, care and treatment throughout all sectors of government (e.g., health, human services, education), health care systems, and social services.

Strategy 5.3: Identify, research, and replicate new, effective interventions through partnerships between local public health and state governments, tribal nations, HIV providers, community-based and religious organizations, the University of Minnesota and other academic institutions, research partners, and others.

Strategy 5.4: Establish policies that encourage an innovative culture and delivery of comprehensive statewide services. An innovative culture includes recognizing that prevention and treatment options evolve and leadership must be willing to respond to new technologies to reduce HIV burden.

Strategy 5.5: Create effective information sharing partnerships and systems that produce reliable data and that inform decision-making, strategy development, and program accountability.

Indicators

In addition to the legislatively-mandated outcomes, the Advisory Board identified nine indicators that will be used to monitor progress towards achieving the goals and outcomes. Data from 2017 will be used as the baseline to measure the indicators.

Indicator 1: By 2025, increase the percentage of newly diagnosed individuals who are linked to HIV care within 30 days of diagnosis to 90 percent.

Indicator 2: By 2025, increase the percentage of persons prescribed PrEP by 500 percent**.**

Indicator 3: By 2025, decrease the number of new HIV diagnoses among people of color hardest hit by HIV[h] by 25 percent.

Indicator 4: By 2025, increase the percentage of people of color hardest hit by HIV who are retained in care to 90 percent.

Indicator 5: By 2025, increase the percentage of people of color hardest hit by HIV who have achieved viral suppression to 90 percent.

Indicator 6: By 2025, decrease the percentage of people of color hardest hit by HIV who are diagnosed with AIDS at or within one year of initial HIV diagnosis by 15 percent**.**

Indicator 7: By 2025, increase the percentage of PLWH re-engaged in care by 10 percent each year.

Indicator 8: By 2025, increase the percentage of those retained in care who are virally suppressed to 90 percent.

Indicator 9: By 2025, at least 95 percent of people living with HIV who have been served through the Ryan White HIV/AIDS Programs are stably housed.

[h] People of color hardest hit by HIV are individuals who belong to the following populations: Black (African-American and African-born) MSM, Hispanic MSM, African-American women, African-born women (in particular from Somalia, Liberia, Ethiopia, Kenya, and Cameroon), Hispanic women, American Indians, and transgender women of color. When measuring indicators 3 through 6, results will be reported in aggregate and by specific population.

Recommended Next Steps for 2018

The Strategy provides a roadmap for ending the state's HIV epidemic. Specific recommendations for how to end the epidemic, along with an implementation plan and evaluation plan, will be developed in 2018. Additional information about barriers and gaps in services will be integrated into the Strategy in 2018, as well.

Leadership representatives from the MDH and DHS HIV programs will work to assure accountability and collaboration among partners responsible for implementation of the Strategy.

Both governmental and community leadership will work on the following in 2018:

- **Leadership and Collaboration**
  - Explore the risks and benefits of integrating HIV care and prevention under one administration.
  - Assist collaborative conversations and efforts within AIDS service organizations to increase efficiency in HIV prevention and care services.
  - Encourage new partnerships between organizations providing HIV services and small organizations that are culturally specific.
  - Explore communication strategies to continue to receive community input and keep communities informed.
  - Clarify and identify data needs between state, local, and tribal governments and work to resolve barriers to data access in accordance with existing data practices law.

- **Implementations and Evaluation Plans**
  - Identify and prioritize tactics for each of the goals and strategies based on input gathered through focus groups, key informant interviews, additional stakeholder input, and other data sources.
  - Review Minnesota 2017 HIV/AIDS surveillance data and trends (2017 data will be the baseline for measuring progress of the Strategy).
  - Compare the Strategy to Minnesota's five-year Integrated Care and Prevention Plan and Positively Hennepin strategy. The purpose of the comparison is to identify the current services covered by the two plans and assess the gaps, current resources, and activities in place.
  - Develop implementation and evaluation plans.

- **Financial Resources**
  - Determine existing funding resources including federal, state, and local support for HIV care and prevention, as well as available funding to increase education, capacity building, and awareness.
  - Determine the amount of additional funding needed to fully fund the Strategy's activities.
  - Identify funding that may be available through charitable foundations, and corporate giving, or other philanthropic avenues.
  - Optimize allocation and alignment of resources to achieve greatest impact and ensure a coordinated statewide effort and efficient use of resources.
  - Explore models to assist Minnesota in the development of resource allocation to provide a data driven, evidence-based approach to achieve the developed objectives.

An updated Minnesota HIV Strategy will be submitted to the Legislature by January 1, 2019.

Appendices

Appendix A: Glossary

AIDS is Acquired Immunodeficiency Syndrome, the most advanced stage of HIV infection. HIV destroys the CD4 T lymphocytes (CD4 cells) of the immune system, leaving the body vulnerable to life-threatening infections and cancers. To be diagnosed with AIDS, a person with HIV must have an AIDS-defining condition or have a CD4 count less than 200 cells/mm^3 (regardless of whether the person has an AIDS-defining condition).

Culturally and linguistically appropriate services (CLAS) consist of 14 standards organized by the themes of culturally competent care, language access services, and organizational supports for cultural competence. The standards are primarily directed at health care organizations but individual providers are also encouraged to use the standards to make their practices more culturally and linguistically accessible. Some of the standards are requirements for all recipients of federal funds. CLAS is a way to improve the quality of services provided to all individuals, which helps reduce health disparities and achieve health equity. CLAS is about respecting the whole individual and responding to the individual's health needs and preferences.

Early intervention services include the following components (although the specific components vary slightly based on the category of Ryan White HIV/AIDS Program funding): counseling individuals with respect to HIV, targeted HIV testing, referral and linkage to HIV care and treatment services, outreach and health education/risk reduction services related to HIV diagnosis, and other clinical and diagnostic services related to HIV diagnosis.

Goal is simply what you would like to accomplish.

Harm reduction is a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use. Harm reduction refers to policies, programs and practices that aim primarily to reduce the adverse health, social and economic consequences of the use of legal and illegal psychoactive drugs without necessarily reducing drug consumption.[16]

Health equity is the attainment of the highest level of health for all people. Health Equity means efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives.

Health inequities are differences in health that are avoidable, unfair, and unjust. These are avoidable inequalities in health between groups of people within countries and between countries.

Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations

High impact public health approach is an approach to medicine that is concerned with the health of the community as a whole. Public health is the science of protecting the safety and improving the health of communities through education, policy making and research for disease and injury prevention.

HIV (human immunodeficiency virus) is the virus that can cause AIDS (acquired immune deficiency syndrome). HIV is most commonly transmitted during anal and vaginal sex, while sharing syringes or equipment to inject drugs or other substances, and less commonly, during pregnancy, childbirth or breastfeeding.

Housing Opportunities for Persons With AIDS (HOPWA) program is the only federal program dedicated to the housing needs of people living with HIV/AIDS.

Incidence in epidemiology is a measure of the probability of occurrence of a given medical condition in a population within a specified period of time. Although sometimes expressed simply as the number of new cases during a specific time period, it can also be expressed as a proportion or a rate with a denominator. Incidence conveys information about the risk of contracting the disease.

Incidence rate is the number of new cases per 100,000 population in a given time period.

Incidence of diagnosed HIV/AIDS cases is the number of new HIV/AIDS cases diagnosed.

Indicator is a specific, observable, and measurable characteristic or change that represents achievement of a goal.

Late tester is a person living with HIV who is diagnosed with AIDS within a year of his or her HIV diagnosis or who is first diagnosed at the AIDS stage. The immunity of a late tester is already severely impaired by the time the disease has been first diagnosed. This designation includes those who have a CD4 T-lymphocyte count of less or equal to 200 copies/mL at the time of diagnosis and those who are first recognized as having HIV/AIDS because they have an AIDS-defining illness even though they did not seek medical care earlier.

New HIV diagnoses refers to HIV-infected Minnesota residents who were diagnosed in a particular calendar year and reported to MDH. This includes persons whose first diagnosis of HIV infection is AIDS (AIDS at first diagnosis).

Outcome is the final result of a process or activity.

Opt-out testing means telling a person an HIV assay will be part of their routine bloodwork unless they specifically decline HIV testing.

Partner Services include a variety of related services that are offered to persons with HIV or other sexually transmitted diseases (STDs) and their sexual or needle-sharing partners. By identifying infected persons, confidentially notifying their partners of their possible exposure, and providing infected persons and their partners a range of medical, prevention, and psychosocial services, partner services can improve the health not only of individuals, but of communities as well.

Peer navigators are defined as medication-adherent role models living with HIV, a shared experience, and a shared community membership as the populations with which they work. Peers are trained, often paid professional staff members rather than volunteers.

Person-centered HIV care involves keeping the person at the center of their HIV care, using individualize intervention and honoring the person's preferences.

Pre-exposure prophylaxis (PrEP) involves taking HIV medicines daily to lower a person's risk of getting infected. PrEP can stop HIV from taking hold and spreading throughout the body. It is highly effective if used as prescribed, daily PrEP reduces the risk of getting HIV from sex by more than 90 percent. Among people who inject drugs or other substances, it reduces the risk by more than 70 percent. A person's risk of getting HIV from sex can be even lower if PrEP is combined with condoms and other prevention methods.[17]

Prevalence is the number or proportion of cases in the population at a given time rather than rate of occurrence of new cases. Prevalence is the proportion of the total number of cases to the total population and is more a measure of the burden of the disease on society with no regard to time at risk or when subjects may have been exposed to a possible risk factor.

Populations most affected by the HIV epidemic in Minnesota:

- Gay, bisexual, and other men who have sex with men (MSM
- Injecting drug users (IDU), including MSM who also inject drugs (MSM/IDU)
- Populations of color (African-Americans, African-born, Hispanic, Asian/Pacific Islanders, multi-racial) and American Indians
- Transgender populations

Post-exposure prophylaxis (PEP) means taking antiretroviral medicines (ART) after a potential HIV exposure to prevent becoming infected. PEP must be started within 72 hours after a potential exposure to HIV. If a person thinks they have been recently exposed to HIV during sex or through sharing syringes or works, they should talk with a health care provider or an emergency room doctor about PEP right away.[18]

Ryan White HIV/AIDS Program is a federally funded comprehensive system of care that includes primary medical care and essential support services for people living with HIV who are uninsured or underinsured. The program distributes funds to cities, counties, states, and local community-based organizations and clinics to provide HIV care and treatment services to more than half a million people in the United States each year.

Serostatus is the state of either having or not having detectable antibodies against a specific antigen, as measured by a blood test (serologic test). For example, *HIV seropositive* means that a person has detectable HIV antibodies; *HIV seronegative* means that a person does not have detectable HIV antibodies.

Strategy is the approach you take to achieve your goal. Strategies are broadly-stated activities required to achieve the goals.

Structural discrimination (also known as structural inequality or systemic discrimination) is an unintentional form of discrimination resulting from policies that were enacted with the intent to be neutral with regard to characteristics such as race and gender. Structural discrimination occurs when these policies, despite apparently being neutral, have disproportionately negative effects on certain groups. Some structural discrimination is a result of past policies that continue to impact present-day

inequality, while other policies still exist today and with disproportionately negative effects on minority groups.

Structural racism is the normalization of an array of dynamics—historical, cultural, institutional and interpersonal—that routinely advantage white people while producing cumulative and chronic adverse outcomes for populations of color and American Indians. Structural racism is deeply embedded in American society and is a potent factor leading to inequities in all major indicators of success and wellness.

Syringe Services Programs is an umbrella term for services to clients who use injection drugs, including hormones. Most syringe services programs offer other prevention materials (e.g., alcohol swabs, vials of sterile water, condoms) and services, such as education, on safer injection practices and wound care; overdose prevention; referral to substance use disorder treatment programs including medication-assisted treatment; and counseling and testing for HIV and hepatitis C.[19]

Systemic Racism is about the way racism is built right into every level of our society. It is a popular way of explaining, within the social sciences and humanities, the significance of race and racism both historically and in today's world.

Systemic means that the core racist realities are manifested in each major part of U.S. society—the economy, politics, education, religion, the family—reflects the fundamental reality of systemic racism.[20]

Tactics are the activities you do to accomplish a goal and implement a strategy.

Temporary or short-term housing means that the housing situation is intended to be very short-term or temporary (30, 60, or 90 days or less). It includes the following:

- Transitional housing for homeless people
- Temporary arrangement to stay or live with family or friends
- Other temporary arrangement such as a Ryan White HIV/AIDS Program housing subsidy
- Temporary placement in an institution (e.g., hospital, psychiatric hospital or other psychiatric facility, substance abuse treatment facility, or detoxification center)
- Hotel or motel paid for without emergency shelter voucher

Treatment as prevention refers to the use of antiretroviral medication to prevent HIV transmission. Treatment as prevention involves prescribing antiretroviral medication to PLWH in order to reduce the amount of virus in their blood to undetectable levels so there is effectively no risk of HIV transmission.

Underserved populations are specific groups of people who face economic, geographic, cultural, linguistic and/or other barriers to accessing health care and other supportive services.

Unstable housing includes the following:

- Emergency shelter, a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings, including a vehicle, an abandoned building, a bus/train/subway station/airport, or anywhere outside.

- Jail, prison, or a juvenile detention facility.
- Hotel or motel paid for with emergency shelter voucher.

Undetectable = Untransmittable (U=U) As of October 23, 2017, Minnesota became the third state to endorse the U=U consensus statement and sign on as a community partner. With this endorsement, Minnesota joined more than 400 organizations from 60 countries to endorse the U=U Campaign, which describes the scientific consensus that people living with HIV who take antiretroviral therapy daily and achieve and maintain an undetectable viral load have effectively no risk of transmitting HIV to their sex partners.[21] The U=U campaign destigmatizes HIV because it removes fear of PLWH as "risky" and "infectious" to their sexual partners thus dismantling HIV stigma on the community, clinical, and personal level further improving the lives of people living with HIV.[22, 23]

Viral load refers to the number of copies of HIV per mL of blood. In other words, it's the amount of virus in the blood.

Viral suppression: is when the level of circulating virus in the blood is reduced to a very low level of ≤200 copies/mL.

Appendix B: Legislation Mandating the Strategy

CHAPTER 75--H.F.No. 2047

An act relating to health; requiring the commissioner of health to develop a comprehensive strategic plan to end HIV/AIDS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. **COMPREHENSIVE PLAN TO END HIV/AIDS.**

(a) The commissioner of health, in coordination with the commissioner of human services, and in consultation with community stakeholders, shall develop a strategic statewide comprehensive plan that establishes a set of priorities and actions to address the state's HIV epidemic by reducing the number of newly infected individuals; ensuring that individuals living with HIV have access to quality, life-extending care regardless of race, gender, sexual orientation, or socioeconomic circumstances; and ensuring the coordination of a statewide response to reach the ultimate goal of the elimination of HIV in Minnesota. The commissioner, after consulting with stakeholders, may implement this section utilizing existing efforts. The commissioner must develop the plan using existing resources available for this purpose.

(b) The plan must identify strategies that are consistent with the National HIV/AIDS Strategy plan, that reflect the scientific developments in HIV medical care and prevention that have occurred, and that work toward the elimination of HIV. The plan must:

(1) determine the appropriate level of testing, care, and services necessary to achieve the goal of the elimination of HIV, beginning with meeting the following outcomes:

(i) reduce the number of new diagnoses by at least 75 percent;

(ii) increase the percentage of individuals living with HIV who know their serostatus to at least 90 percent;

(iii) increase the percentage of individuals living with HIV who are receiving HIV treatment to at least 90 percent; and

(iv) increase the percentage of individuals living with HIV who are virally suppressed to at least 90 percent;

(2) provide recommendations for the optimal allocation and alignment of existing state and federal funding in order to achieve the greatest impact and ensure a coordinated statewide effort; and

(3) provide recommendations for evaluating new and enhanced interventions and an estimate of additional resources needed to provide these interventions.

(c) The commissioner shall submit the comprehensive plan and recommendations to the chairs and ranking minority members of the legislative committees with jurisdiction over health and human services policy and finance by February 1, 2018.

Presented to the governor May 17, 2017
Signed by the governor May 20, 2017, 3:43 p.m.

Appendix C: Minnesota HIV Strategy Roles and Responsibilities

Members of the 2017 Advisory Board: Colleen Bjerke, Cheri Booth, Sharon M. Day, Eva Enns, Roger Ernst, Reneka Evans, Peter Famanda, Bielca Guevara, Jonathan Hanft, Ejay Jack, Christine L. Jones, Mary Johnson, Keith J. Horvath, Richard Oni, Chuck Peterson, Meghan Rothenberger, Mary St. Marie, Antony Stately, Brooke E. Stelzer, and Matt Toburen.

Minnesota HIV Strategy Coordinator: Dr. Alvine Laure Ekame
Minnesota HIV Strategy Student Worker: Esther Mwangi

Role of Minnesota HIV Strategy Advisory Board (Advisory Board)

Advisory Board Member Responsibilities

The Advisory Board has a membership that includes people living with HIV; individuals from communities impacted by HIV; state and local government employees; academics; community leaders; HIV non-clinical service providers and HIV clinical service providers; social service; mental health services; prevention and housing providers.

The Advisory Board is made up of American Indians, Hispanics/Latinos, African-Americans, African-born, Whites; adults, older adults, men, women, transgender individuals, heterosexuals, lesbians, and gay and bisexual men. Most of the members live in the metro area and three live in Greater Minnesota.

Advisory Board members provide advice, information, and recommendations regarding the creation of the Minnesota HIV Strategy. Specifically, Advisory Board members are asked to:

1. Advise the Minnesota HIV Strategy Coordinator.
2. Assist in the identification of gaps in service and barriers to accessing prevention, care and treatment.
3. Provide recommendations and feedback throughout the planning process in regards to the goals, strategies and tactics to ensure our vision of ending new HIV infections in Minnesota.
4. Provide input and recommendations for the prioritization of strategies and development of performance indicators.
5. Assist in the identification of gaps in service and barriers to accessing care and treatment and provide recommendations about how Minnesota can eliminate identified gaps and barriers.
6. Assist in the identification of existing HIV plans, best practices and research in the areas of HIV care and prevention.
7. Assist with identification and recruitment of key stakeholders for key informant interviews and focus groups.
8. Assist in the dissemination and sharing of our collective work to obtain new perspectives and ideas about how to improve the HIV/AIDS continuum of care in Minnesota.

9. Serve as ambassadors:
    a. Assist in developing community dissemination and outreach strategies
    b. Promote the Minnesota HIV Strategy in various networks
10. Assist in the selection of co-chairs

Co-chair Responsibilities

1. Prepare for Advisory Board meetings in coordination with the Minnesota HIV Strategy Coordinator.
2. Facilitate the Advisory Board meetings.
3. Provide counsel to the Minnesota HIV Strategy Coordinator.
4. Develop a good leadership structure in coordination with the Minnesota HIV Strategy Coordinator. Often this involves creating subcommittees, appointing members from Advisory Board, and delegating tasks and accountability for those tasks.

Responsibilities of Guests at Advisory Board Meetings

Advisory Board meetings are open to the public.

1. Guests are encouraged to contact the Minnesota HIV Strategy Coordinator in advance in order to ensure enough materials are available for all participants.
2. Guests are encouraged to participate in discussion during the meetings according to direction provided by the Minnesota HIV Strategy Coordinator and/or co-chairs.
3. Guests do not participate in voting.

Role of Minnesota Department of Health

Management

1. Hire and supervise staff responsible for developing and implementing the Minnesota HIV Strategy.
2. Provide feedback on the Minnesota HIV Strategy process, timeline, webpage development and recruitment of Advisory Board members.
3. Assist with stakeholder engagement.
4. Review, edit and provide comments on the Minnesota HIV Strategy.
5. Facilitate movement of the Minnesota HIV Strategy through the legislative report review process.

Minnesota HIV Strategy Coordinator

The Minnesota HIV Strategy Coordinator:

1. Coordinates the development of a statewide HIV strategy that aligns with the National HIV/AIDS Strategy (NHAS).
2. Serves as primary contact for the HIV strategy process.
3. Writes the Minnesota HIV Strategy based on relevant data sources and input gathered from community stakeholders. The strategy must be in alignment with the NHAS and build upon the Hennepin County HIV Strategy and the Integrated HIV Prevention and Care Plan.
4. Organizes meetings to gather input from community stakeholders to inform development of the Minnesota HIV Strategy.
5. Establishes and maintain a mechanism(s), such as a website and/or social media, for ongoing communication with partners and stakeholders.
6. Coordinates the work of the Advisory Board, including recruiting members, staffing the meetings, developing agendas and minutes, providing information to the co-chairs and members, and managing conflict that may arise between participants.
7. Develops a good leadership structure in coordination with the Advisory Board co-chairs. Often this involves creating subcommittees, appointing members from Advisory Board, and delegating tasks and accountability for those tasks.
8. Facilitates process to gather feedback from community stakeholders on the draft Minnesota HIV Strategy.
9. Develops a plan for implementing the Minnesota HIV Strategy that delineates tasks, responsible party(ies), and timeline for completion.
10. Develops a process for monitoring progress in implementing the Minnesota HIV Strategy.

Student Worker

The Student Worker:

1. Provides administrative and logistical support to the Minnesota HIV Strategy Coordinator for Advisory Board meetings and community meetings/events related to the development of the Minnesota HIV Strategy.
2. Assists the Minnesota HIV Strategy Coordinator with data collection and analysis; research into successful approaches for addressing HIV; and development of the strategy, implementation plan and/or evaluation plan.

Administrative Staff

Assist with meeting logistics and ordering of food and supplies.

Executive Office

1. Assistant Commissioner, Deputy Commissioner, Chief Financial Officer, Communications Office, and Office of Legislative Relations all review, edit, and provide comments on the draft Minnesota HIV Strategy as it moves through the legislative report review process.
2. Commissioner of Health approves the Minnesota HIV Strategy before submission to the Legislature.
3. Office of Legislative Relations shares the strategy with the Governor's Office, the Legislature, and the Legislative Reference Library.

Role of the Minnesota Department of Human Services

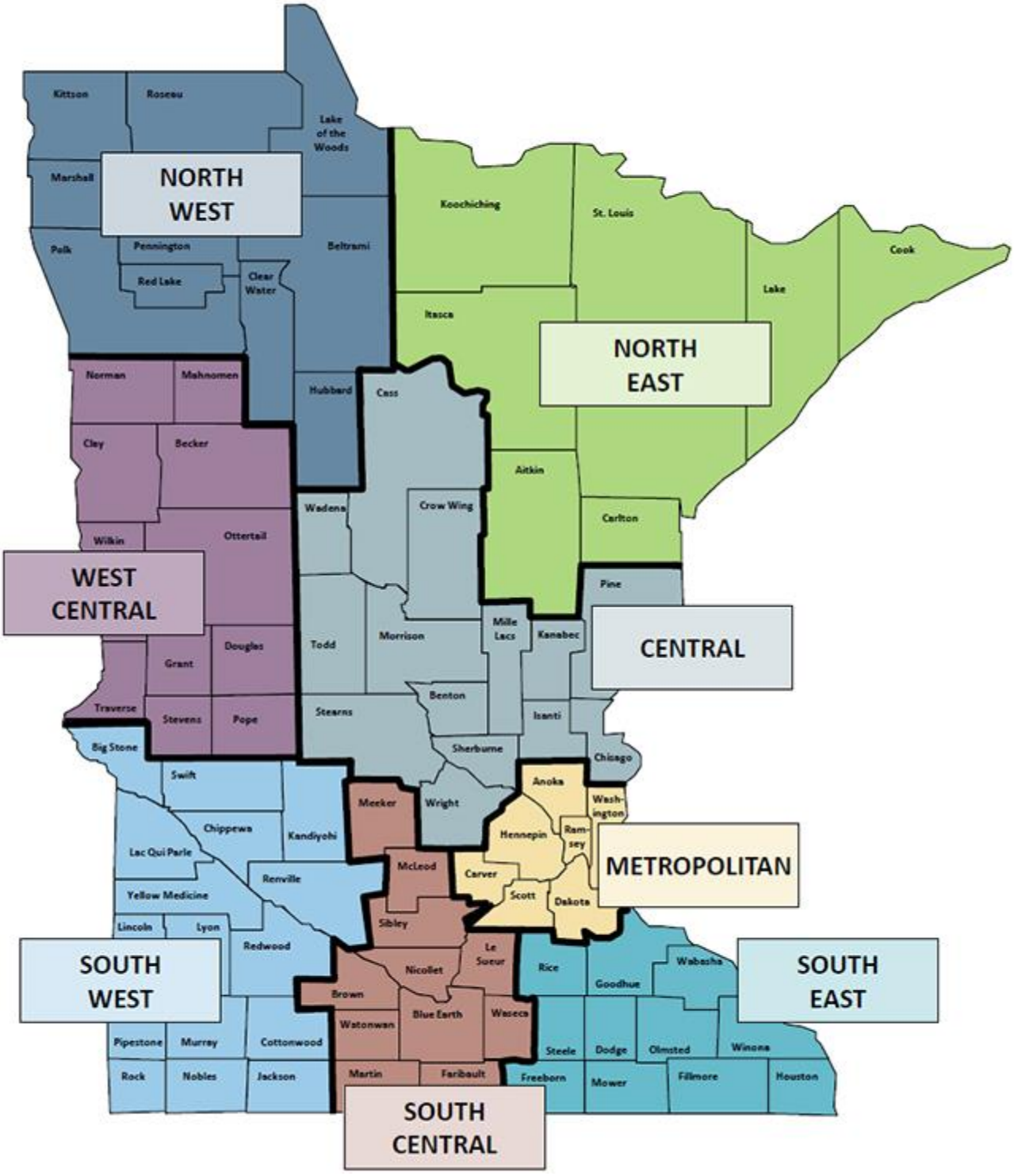
Management

1. Provide funding for the development of the Minnesota HIV Strategy.
2. Assist with stakeholder engagement.
3. Provide feedback on the Minnesota HIV Strategy process, timeline, webpage development and recruitment of Advisory Board members.
4. Assist with data collection.
5. Review, edit and provide comments on the Minnesota HIV Strategy.
6. Facilitate movement of the Minnesota HIV Strategy through the legislative report review process.

Executive Office

Commissioner of Human Services approves the Minnesota HIV Strategy before submission to the Legislature.

Appendix D: Map of Eight Regions in Minnesota



Appendix E: Development of the Minnesota HIV Strategy

The work of developing the Strategy was led by the strategy coordinator. This position is housed at MDH and funded by DHS; this arrangement highlights the collaborative nature of this effort between the two agencies.

The Strategy was developed by a broad range of stakeholders, including Advisory Board members, who identified strategies that draw on many of the advancements that have occurred in HIV care and prevention with the ultimate goal of eliminating HIV/AIDS in the state.

Information That Informed Development of the Strategy

Information used to develop the Strategy was gathered through a number of sources:

- Review of the National HIV/AIDS Strategy: Update for 2020[24] and the 90-90-90 Initiative[25]
- Review of the Minnesota and Minneapolis-St. Paul Transitional Grant Area Integrated HIV Prevention and Care Plan 2017 - 2021 (Integrated HIV Prevention and Care Plan)[26]
- Review of Positively Hennepin[27]
- Review of strategies from other states and local jurisdictions
- On-site technical assistance provided by the New York City Department of Health and Mental Hygiene
- Input gathered through focus groups and key informant interviews with a broad range of stakeholders from across Minnesota

Relationship to Other Minnesota HIV Plans

The Minnesota HIV Strategy is by design more comprehensive than either Positively Hennepin or the Integrated HIV Prevention and Care Plan.

Positively Hennepin is Hennepin County's strategy to achieve no new HIV infections in Hennepin County by year 2027 and was developed in 2015. The Integrated HIV Prevention and Care Plan was developed by the Minnesota Council on HIV/AIDS Care and Prevention in 2015. While it considers HIV-related needs in the whole state, it is focused on what can be achieved using federal Ryan White HIV/AIDS Program funds, rebate dollars generated through the 340B Drug Discount Program, federal HIV prevention funds, state HIV case management and medication funds, and state HIV prevention funds.

One of the next steps in 2018 will be to compare the Strategy to the Integrated HIV Prevention and Care Plan and Positively Hennepin to identify where there are gaps and determine additional resources needed to achieve the goals and objectives of the Strategy.

Implementation of the Minnesota HIV Strategy

The Strategy is a multi-faceted approach to HIV prevention and care that will enhance the state's ability to reduce new HIV diagnoses; ensure that PLWH have access to quality, life-extending care and

treatment regardless of geography, race, gender, sexual orientation, or socioeconomic circumstances; reduce HIV-related health disparities; increase health equity for communities and target populations most affected by HIV/AIDS in Minnesota; and ensure the coordination of a statewide response to reach the ultimate goal of eliminating HIV in Minnesota.

The Strategy will:

- Pursue a treatment as prevention approach that includes:
  - Routine and targeted HIV testing
  - Early linkage to HIV care and treatment
  - Retention in care, including re-engagement of people who have fallen out of care
  - Provision of PrEP, a daily pill that is given to individuals at risk of acquiring HIV to keep them HIV negative
- Provide a comprehensive approach based on regional HIV-related needs to:
  - Eliminate the inequities and burden of the epidemic in the most marginalized and underserved communities
  - Reduce stigma and create opportunities for community healing
  - Meet basic needs and provide person-centered care
- Provide recommendations for the allocation of research and programmatic funds to ensure there are sufficient resources and assistance for those living with HIV, particularly in communities experiencing HIV disparities.

Appendix F: Comparison of the Minnesota HIV Strategy, National HIV/AIDS Strategy, and 90-90-90 Initiative

The Minnesota HIV Strategy is in alignment with the National HIV/AIDS Strategy (NHAS): Update for 2020, as well as the 90-90-90 Initiative. The NHAS was first released by the White House in 2010 and was updated five years later with indicators to be achieved by 2020. The 90-90-90 Initiative was released in 2014 by the Joint United Nations Programme on HIV/AIDS (UNAIDS) and includes three treatment targets to also be achieved by 2020.

Table 7: Comparison of Similar Minnesota HIV Strategy Outcomes, National HIV/AIDS Strategy Indicators and 90-90-90 Initiative Targets

Minnesota HIV Strategy	National HIV/AIDS Strategy	90-90-90 Initiative
▪ Increase the percentage of individuals living with HIV who know their serostatus to at least 90 percent	▪ Increase the percentage of people living with HIV who know their serostatus to at least 90 percent	▪ 90 percent of all people living with HIV will know their HIV status
▪ Increase the percentage of individuals diagnosed with HIV who are retained in care to at least 90 percent	▪ Increase the percentage of persons diagnosed with HIV infection who are retained in HIV medical care to at least 90 percent	▪ 90 percent of all people diagnosed with HIV infection will receive sustained antiretroviral therapy
▪ Increase the percentage of individuals diagnosed with HIV who are virally suppressed to at least 90 percent	▪ Increase the percentage of people with diagnosed HIV infection who are virally suppressed to at least 80 percent	▪ 90 percent of all people receiving antiretroviral therapy will have viral suppression
▪ Reduce the annual number of new HIV diagnoses by at least 75 percent	▪ Reduce the number of new diagnoses by at least 25 percent	N/A

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