

# A Community Plan to End the HIV Epidemic in Philadelphia

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Department of  
**Public Health**

CITY OF PHILADELPHIA

## Table of Contents

<b>Epidemiological Snapshot</b> .....	<b>4</b>
Characteristics of HIV in Philadelphia.....	4
Pillar One: Diagnose .....	5
Pillar Two: Treat .....	6
Pillar Three: Prevent.....	7
Pillar Four: Respond .....	8
Limitations.....	8
<b>Situational Analysis</b> .....	<b>9</b>
Needs Assessment.....	10
Pillar 1: Diagnose.....	13
Pillar 2: Treat .....	16
Pillar 3: Prevent .....	17
Pillar 4: Respond.....	18
<b>Philadelphia’s Plan to End the HIV Epidemic</b> .....	<b>20</b>
Guiding Principles.....	20
Pillar Zero: The pillar that supports all other efforts.....	21
Pillar 1: Diagnose.....	22
Pillar 2: Treat .....	25
Pillar 3: Prevent .....	28
Pillar 4: Respond.....	30
Pillar 5: Workforce Development.....	31
<b>Appendices</b> .....	<b>33</b>
Appendix A: Priority Populations for the City of Philadelphia’s Ending the HIV Epidemic Plan for Pillar 1: Diagnose and Pillar 3: Prevent .....	33
Appendix B: Priority Populations for the City of Philadelphia’s Ending the HIV Epidemic Plan Pillar 2: Treat .....	35
Appendix C: Modified HIV Care Continuum Definitions by Stage .....	37
Appendix D: Citations.....	38

The plan you are about to read is radical. It is not about a cure for HIV. It does not use dramatic, metaphorical language. There is no war or battle to be won or lost.

Instead, there is public health science used strategically to accomplish a specific, measurable goal: reducing new HIV infections by 75 percent in five years.

This is achievable with today's tools.

We've already achieved so much thanks to healthcare advancements and one of the most engaged communities in the nation. Challenges that once seemed insurmountable today serve as examples of what we can do, including:

- Implementing one of the most successful and groundbreaking syringe exchange programs in the nation.
- Increasing access to treatments that today both prolong lives and prevent new HIV infections, leading to a severe reduction in HIV related deaths.
- Taking steps ensuring PrEP, including but not limited to the daily pill that prevents HIV, gets to those who need and want it.
- Building a community-driven ecosystem of organizations, each serving and advocating for people living with HIV.

Today, the Philadelphia Department of Public Health partners with many such organizations, together serving over 30,000 people living with or at risk of acquiring HIV every single year.

Yet, behind this and other numbers are real human lives and stories, including the lives of the 439 people diagnosed as HIV-positive last year. This number is nearly identical to the previous years.

We aren't making progress in this critical area.

Likewise, numbers in other key areas, namely the number of people living with HIV who stay connected to care and those achieving viral suppression, commonly known as being undetectable, are lagging where they ought to be. Unless we dramatically reduce these new infections, Philadelphia's HIV epidemic will continue.

That is where this plan comes into play.

The community — longtime survivors, those who witnessed the crisis at its apex, people just recently diagnosed with HIV, HIV service organizations, activists, straight people, LGBTQ people, people of color, and others — came together to help us draft this plan. We held town hall events, with many participating virtually through apps and webcams once COVID-19 defined our era; others participated through phone interviews; and, some provided insight through email.

Overall, the Department of Public Health talked with over 8,000 people living with or recently diagnosed with HIV here locally. We've also commissioned community reports asking for you to probe

the plan and provide recommendations. We've had many events soliciting feedback. And we've regularly published new drafts that respond to this feedback as it comes in.

It is through these projects we've amassed a great deal of data on the needs, success factors, and gaps for people living with HIV and on the communities of focus for HIV programming. These insights drive this plan.

Overall, the plan has two groups of people in mind, those living with HIV and those at risk of acquiring HIV, served across four primary pillars. These are:

- **Diagnosing** all Philadelphians with HIV as early as possible.
- **Treating** people living with HIV quickly and effectively.
- **Preventing** new transmissions by promoting PrEP, nPEP, and syringe services.
- **Responding** quickly to HIV outbreaks.

So, what does ending the HIV epidemic look like? In 2019, 439 Philadelphians tested positive for HIV. If this plan succeeds, then in 2025, this number would look more like 110 for a total of about 1,325 new HIV diagnoses over five years. Along with these new infections, we estimate that a little over 2,000 Philadelphians living with HIV aren't aware of their status. If successful, this plan will ensure that over 1,950 of them know their status by 2025.

It's not just about diagnosing, though. Right now, only about half of all people living with HIV in our area, a total of 10,961 people, reach viral suppression, commonly called being undetectable. By 2025, should we reach our goals, then this number will increase to 15,554 people.

This is a once-in-a-generation opportunity.

We can, right now using the tools we already have, end the epidemic. But we can only do it by radically changing what we've been doing – and by providing the support necessary to communities and organizations in order to make these changes. And, this can only be done the same way we developed this plan.

That is, we can only do this together. For detailed information on the characteristics of HIV/AIDS in the region, we invite you to review:

The annual 2018 HIV /AIDS Surveillance Report:

[https://www.phila.gov/media/20191101092716/HIV\\_10\\_30\\_2019\\_FINAL\\_web.pdf](https://www.phila.gov/media/20191101092716/HIV_10_30_2019_FINAL_web.pdf)

To learn more about the federal response, please visit:

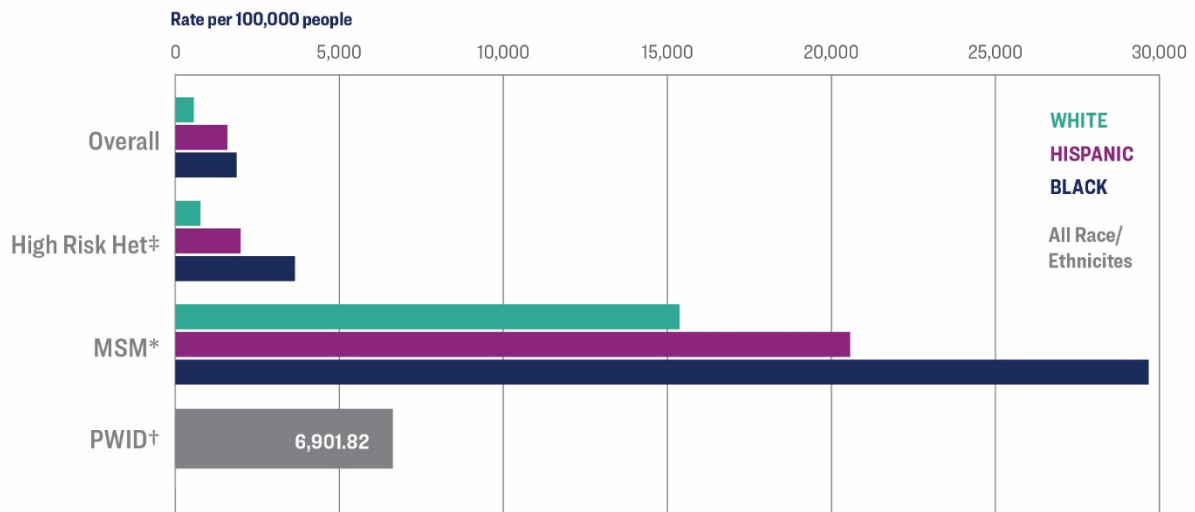
<https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview>

## Epidemiological Snapshot Characteristics of HIV in Philadelphia

In Philadelphia, reducing new HIV infections and improving health outcomes for People Living with HIV (PLWH) remains a challenge. Despite steady declines, Philadelphia is one of 48 counties in the U.S. with the highest number of new HIV diagnoses<sup>1</sup>. In 2018, there were 424 new diagnoses with significant differences between subpopulations<sup>2</sup> (*Chart 2 and Appendix A*).

Currently, 18,798 PLWH live in Philadelphia<sup>2</sup>. This number has remained stable in the past few years due to advances in HIV treatment and fewer deaths. As of 2019, 1.2% of Philadelphians were diagnosed and living with HIV with significant differences between subpopulations<sup>2</sup> (*Chart 1*).

**Chart 1: Prevalence by Race/Ethnicity and Transmission Category, Philadelphia, 2019**



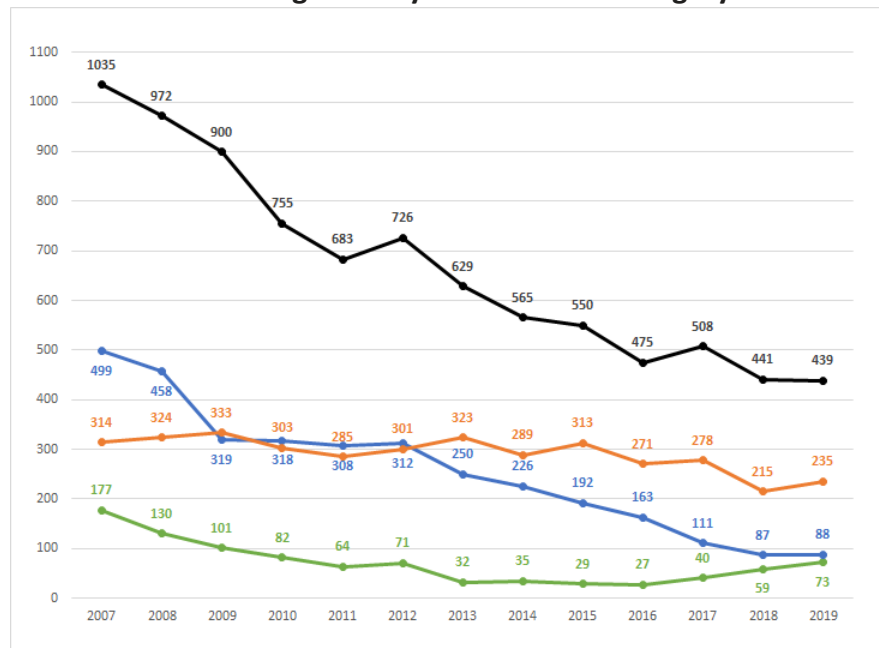
Please see *Appendix A* and *Appendix B* for prevention and care indicators arranged by pillar for all subpopulations.

## Pillar One: Diagnose

The number of newly diagnosed PLWH decreased 13% from 507 diagnoses in 2017 to 439 new diagnoses in 2019<sup>2</sup> (Chart 2). The City has experienced steady declines in new HIV diagnoses since the mid-2000s, consistent with national trends.

- In 2019, over a third of the people diagnosed with HIV were Black men who have sex with men (MSM). In 2019, an estimated 1.6% of Black HIV negative MSM were diagnosed with HIV, compared to 1.3% of Hispanic/Latino MSM and 0.2% of White MSM.
- In 2019, there were 83 newly diagnosed cases of HIV among people who inject drugs (PWID) (including MSM who inject drugs). This is a 151% increase from 33 cases reported in 2016.
- Out of all new diagnoses in 2018, 1 in 4 were youth ages 13–24 (1 in 6 were in 20-24-year-old, 1 in 15 in 13-19-year-old).
- PDPH estimates that 1,700 people living with HIV are unaware of their HIV status. These individuals accounted for 39% of new infections in 2018.
- Of HIV transmission risk groups, MSM have the highest estimated unaware rate. One thousand MSM living with HIV, or 14%, are estimated to be unaware of their HIV status.
- Over a third of youth ages 13–24 living with HIV are unaware of their status.
- Although local data are currently not available for transgender individuals, PDPH estimates that approximately 17% are unaware of their HIV status (based on national data)<sup>3</sup>.

**Chart 2: New HIV Diagnoses by Transmission Category 2007-2019<sup>1</sup>**



<sup>1</sup> Data presented included newly diagnosed HIV reported through June 30, 2020.

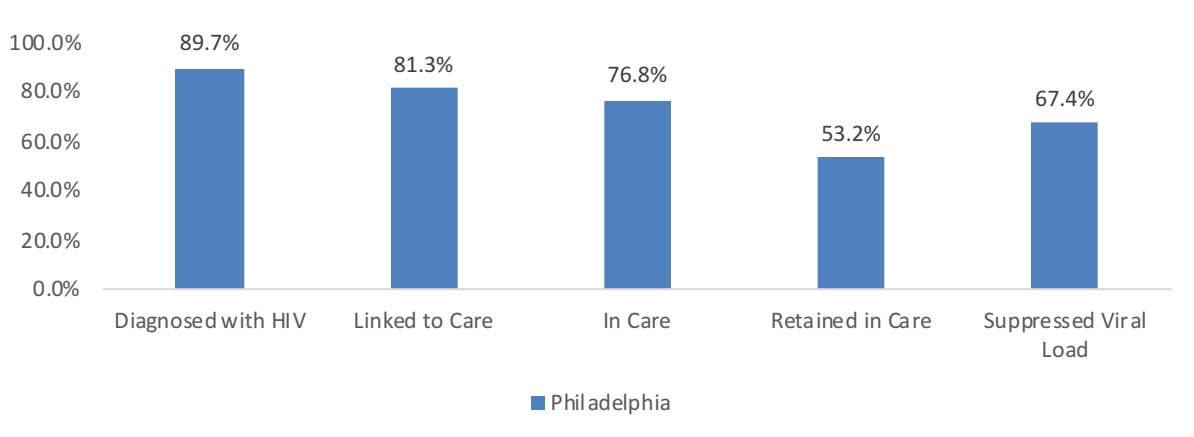
Note: In 2017, PDPH changed the method for identifying heterosexual transmission of HIV in order to align with CDC standards of risk factor collection.

## Pillar Two: Treat

### HIV Care Continuum

The HIV Care Continuum is a data-driven tool focusing on the diagnosis and care of individuals living with HIV. Engaging HIV patients in care is critical to both individual health and slowing the spread of new HIV infections. The Continuum shows the percentage of people living with HIV at various stages of engagement in care. Chart 3 below shows Philadelphia's modified prevalence-based HIV Care Continuum<sup>4</sup>. See *Appendix C* for definitions of each stage of the Care Continuum. HIV Care Continuum outcomes are typically based on total counts from HIV public health data. However, this methodology can overestimate the number of PLWH due to duplicate case reporting, migration, and missed deaths of PLWH. In this modified prevalence-based HIV Care Continuum, PDPH has excluded individuals without evidence of recent care in the last five years to more precisely evaluate our HIV Care Continuum outcomes and better identify individuals for intervention and re-engagement services for the EHE plan.

**Chart 3: Modified HIV Care Continuum Philadelphia, 2019\***



\*The definitions for each stage of the Modified HIV Care Continuum are shown in *Appendix C*.










- Nearly 4,000 PLWH with a last known home address in Philadelphia have not had care in the past five years. These individuals are likely either deceased or no longer live in Philadelphia and are excluded from the *Modified HIV Care Continuum*.
- As shown in the Modified HIV Care Continuum, over 81% of people newly diagnosed with HIV in 2019 were linked to care within 30 days (Refer to *Appendix C* for definition of linkage to care). These rates were lower for PWID, Black MSM and persons between the ages of 25 to 54. Disparities were seen among PWID and transgender individuals with 76% and 67% linking to care in 30 days, respectively (see attached tables).
- In Philadelphia, the greatest barrier to ending the HIV epidemic is poor retention in care (Refer to *Appendix C*) specifically among people who are not virally suppressed. 2,125 PLWH who had evidence of care in the last five years were not in care in 2019 in Philadelphia. In 2019 these individuals accounted for 36% of HIV transmissions in Philadelphia. There are disparities in retention across demographic and transmission risk groups, which are presented in *Appendix B*.

- Another 1 in 10 PLWH in 2019 were in care but not virally suppressed (Refer to Appendix C). These individuals accounted for 25% of HIV transmissions in Philadelphia in 2019.

### Pillar Three: Prevent

There are 310,480 people in Philadelphia estimated to be at risk for acquiring HIV (Chart 4). Among these, 13,960 have an indication for pre-exposure prophylaxis (PrEP). The greatest overall number and proportion of persons with an indication for PrEP is among MSM (Chart 4).

**Chart 4: Estimates of Adults with Indications for HIV Pre-Exposure Prophylaxis by Race/Ethnicity and Transmission Category, Philadelphia 2019<sup>2</sup>**

	NEGATIVE AT RISK			PrEP INDICATION			% NEGATIVE POPULATION		
	MSM	PWID	Heterosexual	MSM	PWID	Heterosexual	MSM	PWID	Heterosexual
Black	9,863	6,012	125,808	5,540	990	2,430	56.2%	16.5%	1.9%
Hispanic	3,464	3,753	48,250	1,580	350	530	45.6%	9.3%	1.1%
White	10,278	1,230	64,355	850	1,230	140	8.3%	9.6%	0.2%
									
TOTAL	26,354	23,217	260,909	8,290	2,570	3,100	31.4%	11.1%	1.2%

Source Philadelphia Department of Public Health, AIDS Activities Coordinating Office

Other significant factors that contribute to a higher risk of acquiring HIV include:

- **Sexually Transmitted Infections/Sexual Exposure to HIV** - Sexually transmitted infections increase the risk of both HIV transmission and acquisition<sup>6</sup>. In 2019, there were 470 cases of primary or secondary syphilis, 495 cases of early latent syphilis, 7,043 cases of gonorrhea, and 20,354 cases of chlamydia in Philadelphia<sup>7</sup>. According to 2018 Philadelphia Medical Monitoring Project data, 30.7% of PLWH who were not virally suppressed had condomless sex with a person who was HIV-negative or of unknown status<sup>4</sup>.
- **Substance Use** - Substance use contributes to behaviors that increase risk for exposure to HIV. Substance use is associated with trauma, mental illness, and other factors impacting people at risk for and living with HIV<sup>8</sup>. Injection drug use particularly increases HIV risk. As of 2019, nearly 24% of PLWH in Philadelphia had acquired HIV through current or past injection drug

<sup>2</sup> 1 Methods based on Smith, D.K., Handel, M.V., & Grey, J. (2018). Estimates of adults with indications for HIV pre-exposure prophylaxis by jurisdiction, transmission risk group, and race/ethnicity, United States 2015. *Annals of Epidemiology*.

**Notes:** The population of individuals 18 and older living below poverty level is used as a proxy for heterosexuals at increased risk for HIV infection. MSM population estimate based on number of active MSM in the past 5 years. Racial/ethnic population composition for all active PWID is based on race/ethnicity data for individuals with a primary diagnosis of opioid use disorder who participated in any Medicaid funded outpatient services in Philadelphia in 2019. Racial/ethnic population estimates for HIV negative PWID are based on the proportion of PWID who HIV negative by race/ethnicity in the National Behavioral Surveillance (NHBS) data for Philadelphia in were 2018.



use<sup>2</sup>. After many years of low rates of new HIV infections among PWID, diagnoses are on the rise.

## Pillar Four: Respond

Philadelphia is now experiencing an epidemic in use of and addiction to opioids. This epidemic is characterized by the introduction of fentanyl in the illicit drug supply, a rise in the number of people who inject drugs, an increase in homelessness among drug users, an increase in Hepatitis C transmission, and sharp increases in fatal and non-fatal drug overdoses. There were 1,150 drug-related deaths in 2019 compared to 460 in 2013<sup>22</sup>. In September 2018, PDPH identified an increase in new HIV infections among PWID. These infections are associated with the opioid crisis.

At the same time, the epidemic in Philadelphia remains concentrated among MSM. This indicates a need to investigate new cases in all risk groups.

- In 2019, 83 new HIV diagnoses were reported among PWID, a 151% increase since 2016.
- Viral suppression in previously diagnosed PWID remains lower than average.
- Viral suppression in Black and Hispanic/Latino MSM is lower than that of White MSM.
- In 2018, rates of newly diagnosed HIV were more than over 2.5 times greater among MSM compared to PWID and 26 times greater among heterosexuals compared to MSM.

Through routine public health data analysis, PDPH identified groups of rapidly growing, closely related HIV diagnosis in MSM. One group was identified in 2018 and the other, more recent group, was identified in June 2019. Recently diagnosed individuals in these groups received Partner Services and receive follow-up through a project that aims to identify patterns of missed opportunities in the HIV prevention system in Philadelphia. This project uses standardized chart reviews and interviews with sentinel cases of recently HIV-diagnosed individuals. Information gathered is reviewed through a regular, structured, inter-disciplinary Case Review Team and a Community Action Team to identify actionable policy changes to be implemented through a Policy Implementation Team.

Philadelphia continues to improve its capacity to investigate active HIV, recent and rapid growth of HIV, and respond to outbreaks.

## Limitations

Data about HIV-positive transgender and gender non-binary individuals has improved, but gaps remain. PDPH does collect and report gender identity where data is available; however, it can be limited. There is little information about disabilities among PLWH. Current data does not adequately capture people with visual, hearing, cognitive, and motor impairments. This is significant since more than half of PLWH in Philadelphia are over the age of 55, and disabilities are often acquired over time.

## Situational Analysis

The number of new HIV diagnoses in Philadelphia has declined for more than ten years. We are ready to end the HIV epidemic in Philadelphia.

Philadelphia is the largest city in Pennsylvania, with a population of approximately 1.5 million people<sup>9</sup> and home to 18,798 people living with HIV (PLWH)<sup>2</sup>. The Philadelphia Ending the HIV Epidemic (EHE) plan will reduce new diagnoses in Philadelphia by 75% in five years, consistent with the federal EHE Initiative.

For over 30 years, The PDPH AIDS Activities Coordinating Office (AAO) has conducted HIV public health data collection and analysis, and provided HIV prevention, care, and planning activities in collaboration with the communities most impacted by HIV. As the recipient of federal, state, and local funding, PDPH coordinates and monitors services for people living with HIV or at risk for acquiring HIV. This includes an extensive network of health care facilities and essential services providers: nine city health centers, 18 medical facilities that provide HIV care (including the city health centers), and 45 facilities that provide PrEP.

PDPH partners include the Pennsylvania and New Jersey Departments of Health, the Philadelphia Department of Prisons, the Philadelphia Department of Behavioral Health and Intellectual disabilities and other PDPH divisions such as the Division of Disease Control which includes the STD Control Program and the Viral Hepatitis Programs, and the Division of Substance Use Prevention and Harm Reduction. PDPH also coordinates with community health care providers, hospital emergency departments, Federally Qualified Health Centers, and various social services organizations.

The Office of HIV Planning supports the Philadelphia Eligible Metropolitan Area (EMA) HIV Integrated Planning Council (HIPC), the decision-making body that plans HIV care and prevention services in Philadelphia and the surrounding areas. The HIPC considers public and private funding throughout its planning process to maximize the number of services and reduce duplicate efforts. The EHE Draft Plan is based on the “2017-2021 Philadelphia EMA Integrated HIV Prevention and Care Plan,” authored by the Office of HIV Planning in collaboration with PDPH. The EHE Draft Plan maintains and expands critical services while incorporating novel approaches to end the HIV epidemic in Philadelphia.

Input to the EHE plan extends beyond PDPH and the partners described above. Direct input from consumers of HIV prevention and care programs funded by PDPH has been ongoing and extensive. In the last 3 years, PDPH has conducted interviews with nearly 2,900 individuals including over 500 out-of-care PLWH and participants of the Medical Monitoring and National HIV Behavioral Surveillance Projects. As part of the HIV Medical Case Management enrollment process operated by PDPH, information on met and unmet needs at intake was collected from over 5,700 PLWH. Another major source of direct consumer input is the Philadelphia HIPC, where empowering community voices is supported in all its assessment and planning activities.

Approximately 100 consumers participate annually in HIPC's standing Positive Committee. Finally, input from leading HIV researchers is available through the Department's ongoing relationship with the local NIH-funded Center for AIDS Research. Throughout the life of the EHE plan, PDPH will continue to rely on these and other community engagement activities to inform HIV planning, program implementation, and evaluation.

## Needs Assessment

Health is influenced by many factors such as social environment, economic conditions, accessibility of services, individuals' behaviors, and the infrastructure of the medical care system. Philadelphia is one of 48 counties in the U.S. that have the highest incidence and prevalence of HIV. While newly diagnosed HIV cases in Philadelphia have declined, there remains much work to be done in various communities. Barriers such as poverty, homelessness, HIV stigma, an expanding opioid crisis, and other social determinants of health continue to limit local efforts to end the HIV epidemic.

Of the ten most populated cities in United States, Philadelphia is the poorest. Nearly 26% of residents live in **poverty**. Half of these 400,000 poor residents are also living in deep poverty, at less than half of the federal poverty level. That means in 2018, a family with one adult with two children lived on an annual income of less than \$10,000<sup>9,10</sup>. Deep poverty is highest among Black and Hispanic residents. People living in poverty are more likely to acquire HIV and develop other chronic diseases that are the leading causes of death. People living in poverty also have shorter life spans. Approximately one-third of Philadelphia residents have health insurance through Medicaid<sup>9</sup>.

Racial and ethnic minorities represent the majority of Philadelphia's residents, making Philadelphia one of the most diverse cities in the country. **Racism**, in conjunction with poverty, is one of the drivers of health disparities in Philadelphia. Structural and interpersonal racism threaten the sense of physical safety and increases stress responses, which research shows negatively impacts health over time<sup>11</sup>. Structural racism also prevents access to services for racial and ethnic minority communities because of lack of resources in those communities and barriers created by the systems themselves. Philadelphia is one of the most racially segregated cities in the country. Racial segregation impacts the ability to access vital services and needed resources.

**Housing** in Philadelphia is increasingly expensive, due to gentrification and other forces. Lack of affordable housing is a pervasive problem. There is a lack of federal, state, and local resources to combat the problem. The entrenched nature of poverty makes this lack of housing resources even more acute for many Philadelphians. About half of renters in the city spend more than 35% of their annual income on rent<sup>9</sup>. On a single night in January 2019, the Philadelphia Office of Homeless Services counted 5,735 homeless people. Of these, 123 were PLWH<sup>12</sup>. PLWH experiencing homelessness were 53% less likely to receive ART. PLWH in temporary or unstable

housing were 49% less likely to achieve viral suppression<sup>4</sup>. Stable housing improves health outcomes<sup>13</sup>.

Philadelphia is home to a vibrant community of diverse sexual orientations and gender identities. However, stigma toward **lesbian, gay, bisexual, transgender, queer, intersex and asexual (LGBTQIA+)** permeates the city even with increasing social acceptance and legal protections. Discrimination based on sexual orientation or gender identity and expression present barriers to experiencing wellness and accessing healthcare. There are also emerging threats to previously protected legal rights with changes to policy at the state and federal level that affect LGBTQIA+ residents.

**Limited English speaking proficiency** is a barrier for various cultural and ethnic communities within our diverse city. Even if language interpretation and translation are available at service providers, many people are unaware or do not feel comfortable seeking services outside their communities. It is estimated that 26% of residents speak a foreign language at home<sup>9</sup> and 6.9% of residents in Philadelphia live in limited English-speaking households<sup>9</sup>.

**Experiences of medical abuse** are common among minority communities due to historic abuses and individual experiences. Such experiences can discourage individuals from fully engaging HIV medical care and prevention services, as well as not adhering to treatment regimens.

**Mental health** impacts every element of the HIV care continuum. People with diagnosed and undiagnosed mental health disorders have a much higher risk of acquiring HIV. Mental illness diagnoses are more common among PLWH than in the general population<sup>14</sup>. Philadelphia's Medical Monitoring Project found that 43% of PLWH had a mental health diagnosis, which includes depression, anxiety, mood disorders and psychosis<sup>4</sup>.

People with diagnosed and undiagnosed mental health disorders have a much poorer HIV health outcome. PLWH with moderate to severe depression were 55% less likely to stay in care and 46% less likely to receive antiretroviral treatment. PLWH with untreated moderate to severe depression were 38% less likely to achieve viral suppression<sup>15</sup>.

**Substance use** is associated with trauma, mental illness, and other factors impacting people at risk for and living with HIV. In particular, injection drug use increases HIV risk. After many years of low rates of new HIV infections among PWID, diagnoses are on the rise. As of 2019, nearly 24% of PLWH in Philadelphia had acquired HIV through current or past injection drug use.

**HIV stigma** is negative beliefs, attitudes, and feelings about people living with or at risk of acquiring HIV. HIV stigma causes harm because those attitudes and beliefs can lead to discriminating behaviors of PLWH. In recent interviews of persons in at-risk groups through the National HIV Behavioral Surveillance (NHBS) project, participants (both HIV-positive and HIV-negative) in Philadelphia were recently asked multiple questions about HIV-related stigma. High rates of stigma were reported by a large majority of NHBS participants. For example, about 8 in

10 PWID and MSM participants perceived HIV-related stigma in the Philadelphia community (81.3% of PWID and 79.5% of MSM). Addressing stigma requires multi-level, evidence-based, and measurable interventions. For organizations, the goal is a care environment in which patients feel respected and appropriately cared for from the moment of their first encounter.

**Negative encounters with law enforcement-** The criminalization of activities such as drug use or sex work, can negatively impact a person’s ability to seek HIV testing and/or treatment services and puts people at greater risk of acquiring HIV.

**Incarceration** - HIV prevalence is much higher in jails and prisons than in the general population<sup>17</sup>. In Philadelphia, the jail population, though declining, remains high<sup>16</sup>. In 2019, 539 people living with HIV were released from incarceration in Philadelphia<sup>4</sup>.

These factors must all be considered in the efforts to end the HIV epidemic.

Table 1: Needs Assessment Information for the Philadelphia Jurisdiction by Pillar	
Needs and Gaps	Strategies to Address Needs and Gaps
<b>Pillar 1: Diagnose</b>	
An estimated 1,700 PLWH in Philadelphia are unaware of their status. Based on CDC estimates, these individuals accounted for 39% of HIV transmissions in Philadelphia in 2019 <sup>18</sup> .	Increase access to and options for HIV testing, including expansion of routine opt-out testing at various venues. Implement bio-social screening in health care settings. Realign focused community-based testing efforts to ensure key populations are reached.
<b>Pillar 2: Treat</b>	
In 2019 in Philadelphia, 9.5% of PLWH (n=1,573) with evidence of medical care were not virally suppressed. Based on CDC estimates, these individuals accounted for 25% of HIV transmissions in Philadelphia <sup>18</sup> . In addition, 2,125 people had no evidence of medical care in 2019, accounting for 36% of HIV transmissions <sup>18</sup> .	Maintain and expand current core medical and other Ryan White funded services, as well as fund new services that support re-linkage, retention, and increased viral suppression rates.
<b>Pillar 3: Prevent</b>	
PDPH estimates that over 310,000 Philadelphians are at risk for HIV. An estimated 13,960 people in Philadelphia who are HIV negative have an indication for PrEP. This large group includes 8,290 MSM, 2,570 PWID, and 3,100 heterosexuals. Indications vary significantly by race/ethnicity with higher proportions of people of color with an indication for PrEP in all risk groups. Based on a recent	Maintain condom distribution program. Expand access to PrEP, nPEP. Expand syringe service programs.

<b>Table 1: Needs Assessment Information for the Philadelphia Jurisdiction by Pillar</b>	
<b>Needs and Gaps</b>	<b>Strategies to Address Needs and Gaps</b>
<p>survey of PrEP prescribers, PDPH estimates that a minimum of 2,790 individuals are on PrEP (21% of all people with an indication) in Philadelphia in 2018 for a PrEP gap of 10,323 individuals. The ongoing opioid crisis in Philadelphia has overwhelmed the existing syringe service programs in Philadelphia.</p>	
<b>Pillar 4: Respond</b>	
<p>PDPH recently identified an outbreak of HIV infections among PWID<sup>2</sup>. In 2019, 83 new HIV diagnoses were reported among PWID, reflecting an 151% increase since 2016. Meanwhile, the outbreak in Philadelphia remains concentrated among MSM, indicating the need to investigate new cases in all risk groups. In 2019, rates of newly diagnosed HIV were more than 2.5 times greater among MSM compared to PWID and over 26 times greater among heterosexuals compared to MSM(891 new HIV diagnoses per 100,000 population in MSM compared to 321 per 100,000 among PWID and 34 per 100,000 in heterosexuals).</p>	<p>Investigate and respond to all related HIV cases to stop chains of transmission. Initiate outbreak response. Make systemic changes based on the data.</p>

### Pillar 1: Diagnose

Philadelphia has an established network of testing sites in a variety of settings and has recently implemented distribution of in-home HIV test kits. There were nearly 70,000 publicly funded HIV tests in Philadelphia in 2018. In addition to community-based HIV testing programs, PDPH funded efforts include opt-out testing at three major emergency departments, two pediatric hospitals, and the Philadelphia Department of Prisons. Prison efforts have been hugely successful with most inmates tested at intake.

<b>Table 2: PDPH-Funded HIV Testing in Philadelphia, 2019</b>			
<b>Location</b>	<b>Number of HIV Tests Performed</b>	<b>Number HIV Positive</b>	<b>Number of New HIV Diagnoses</b>
Community-based settings	19,105	199	51
Clinical settings	46,277	219	78
Philadelphia Department of Prisons	22,258	81	19
<b>Total</b>	<b>87,640</b>	<b>499</b>	<b>148</b>

In 2018, just over 10% of PLWH (based on the modified HIV care continuum of PLWH in care in the last 5 years) in Philadelphia did not know they had HIV. Those unaware of their status account for 39% of new transmissions. Multiple reports suggest local testing efforts need to be strengthened. In June 2019, CDC reported that just 58% of Philadelphia residents had ever taken an HIV test, and only 21% were tested in the past year<sup>23</sup>. Philadelphia data from the NHBS found that the majority of MSM, heterosexuals, and PWID had medical care in the last twelve months, but many were not offered an HIV test or counseling for PrEP<sup>19</sup>. Frequency of HIV testing and missed opportunities are shown in *Table 3*.

PDPH will promote increased access and frequency of HIV testing through bio-social screening. Bio-social screening aims to provide clear pathways for clinicians in healthcare settings to offer HIV testing to patients. Bio-markers for screening may include suspected or confirmed diagnoses of syphilis, gonorrhea, chlamydia, hepatitis C, hepatitis A, unintended pregnancy, overdose, or injection-related infection. Social-markers for screening include people in populations with a higher prevalence of HIV, including gay, bisexual, and other men who have sex with men—especially Black and Hispanic/Latino, transgender or heterosexual women of color.

Current testing efforts in community-based settings are not engaging key populations, with only 24% of tests being in MSM (2019). Despite opt-out testing initiatives in the last decade, routine opt-out testing has not been implemented system-wide. PDPH introduced revised funding criteria for community-based testing providers to emphasize and realign testing in key populations based on public health data estimates.

<b>Table 3: HIV Testing and Medical Care Data Among Select Philadelphia Populations, National HIV Behavioral Surveillance (NHBS), 2017-2020</b>						
<b>NHBS population (number of Philadelphia respondents, and year)</b>	<b>Percent HIV tested in past 2 years (among HIV- or unknown)</b>	<b>Percent HIV tested in past 12 months (among HIV- or unknown)</b>	<b>Percent HIV tested in past 3 months (among HIV- or unknown)</b>	<b>Percent with medical care visit past 12 months</b>	<b>Percent offered HIV test among persons with a medical visit in the past 12 months</b>	<b>Percent PrEP discussion among persons with a medical visit in the past 12 months</b>
Men who have sex with men (n=575 in 2017)	93.8%	77.2%	32.0%	83.0%	60.0%	38.9%
People who inject drugs (n=621 in 2018)	88.7%	68.8%	28.5%	82.0%	61.8%	12.5%
High risk heterosexuals (n=370 in 2019)	78.4%	44.2%	13.2%	85.6%	58.5%	1.6%
Transgender Women (N=222)	87.8%	76.5%	45.2%	91.3%	74.2%	55.2%

PDPH has implemented an in-home HIV testing program, which has the potential to de-stigmatize screening. It may also provide an alternative for people at high risk for acquiring HIV who are unwilling to get tested in other venues. HIV test kits are distributed in combination with a HIV testing campaign. Consumers can request in-home test kits through the campaign website: <http://www.PhillyKeepOnLoving.com>.

**Partner Services (PS)** is an essential component in the HIV testing process that notifies partners of possible HIV exposure and links identified individuals to HIV medical care or PrEP. PS can also significantly impact the other three pillars of: treat, prevent and respond. In Philadelphia, Partner Services is conducted with (1) all people with newly identified HIV infection, previously diagnosed cases with high viral loads, and contacts to index cases who are locatable and consent to be interviewed; (2) PLWH with a diagnosis of gonorrhea, or syphilis who can be



located and consent to be interviewed; and (3) all people with newly diagnosed syphilis and contacts to index cases who are locatable and consent to be interviewed. In 2019, 56% of people with newly diagnosed HIV were interviewed by Partner Services.

Identified Gaps:

1. Insufficient testing of key populations in community-based settings
2. Insufficient opt-out routine testing in clinical settings
3. Inadequate testing among people at high risk for exposure to HIV

## Pillar 2: Treat

For people who achieve and maintain viral suppression, there is effectively no risk of transmitting HIV to their sexual partners. PDPH funds a system of 18 **outpatient medical facilities** with experienced HIV providers within the city. In Philadelphia, the 12,748 PLWH who have had at least one HIV medical care visit in the past 12 months have an 88% viral suppression rate. Rates of retention in medical care are low with only 53.2% of PLWH receiving at least two HIV visits in 2019 (See Appendix C for definition of retention in care).

Immediate **initiation of anti-retroviral therapy (ART)** will be key to achieve EHE goals and reduce barriers to care engagement for people with new diagnoses of HIV. Data are available on ART start date for approximately 50% of new diagnoses in Philadelphia. In 2019, 52 persons were initiated on ART therapy within 0-4 days of diagnosis.

**Medical Case Management (MCM)** offers a range of client-centered activities to improve health outcomes. PDPH funds 20 MCM providers within the city, which includes medical facilities where MCM services are co-located with HIV medical care (8,667 PLWH were served in 2019). MCM is a major retention intervention in Philadelphia and consists of two levels of care: (1) Comprehensive case management services focus on individuals who are not virally suppressed; (2) Standard case management services focus on maintaining virally suppressed individuals in HIV medical care. MCM activities include linkage to HIV medical care for newly diagnosed and out-of-care individuals and treatment adherence support.

Other core services offered to PLWH are mental health and substance abuse support, emergency HIV medications, medical nutritional services and oral health care (3,284 clients received these services in 2019). In addition, PDPH funds services to address social determinants of health including emergency financial assistance (for back-rent and utilities in arrears); food bank/home delivered meals; housing assistance; legal services; linguistic services (translation and interpretation); and transportation; (9,183 clients received services in 2019). For more information on core and supportive services provided through the Ryan White Program, please visit: <https://hab.hrsa.gov/about-ryan-white-hiv-aids-program/about-ryan-white-hiv-aids-program>.

**Data-to-Care (D2C)** is an evidenced-based strategy that uses HIV public health data and other data to support the HIV Care Continuum, by identifying PLWH who are out of medical care and facilitating re-engagement to care. 322 people were served in 2018 through D2C activities; 269 were relinked to HIV medical care with 209 maintaining viral suppression at one-year post enrollment in data-to-care.

Identified Gaps:

1. Immediate ART (within 0-4 days of diagnosis)
2. Re-engagement of out-of-care individuals into medical care
3. Ongoing retention in HIV medical care
4. Increasing durable viral suppression rates
5. Increased access to low-threshold HIV medical care

### Pillar 3: Prevent

PDPH participates in large scale **condom distribution** across Philadelphia. Last year PDPH distributed 1.3 million free condoms through multiple outreach activities, including education and social marketing.

PDPH is actively promoting other biomedical prevention interventions such as PrEP. PDPH funded clinics provided 1,017 people with **PrEP navigation services** in 2019. PrEP is safe and effective for preventing HIV acquisition. An estimated 13,960 people in Philadelphia who are HIV-negative have an indication for PrEP. This group includes MSM (8,290), people who inject drugs (2,570), and heterosexuals (3,100). Estimates for transgender women are forthcoming. Indications vary significantly by race/ethnicity, with higher proportions of people of color with an indication for PrEP in all risk groups. **Health promotion activities** to expand knowledge of PrEP have been undertaken through the campaign website at PhillyKeepOnLoving.com. PDPH has developed a PrEP monitoring and evaluation plan in order to be able to assess uptake by subpopulation.

**Transgender Community Mobilization** provides gender-affirming and culturally responsive spaces for transgender people who have sex with men to seek HIV prevention and treatment information, promote rights-based education around healthcare access, and conduct activities that reduce HIV stigma. Currently a diverse set of community-based organizations implement this activity across the City. Funded organizations range from residential treatment facilities to large LGBT community-based health centers.

PDPH has supported **syringe services programs** through the City General Fund since 1992. In 2019, the program served 12,557 unique exchangers and dispensed 3.9 million syringes.

Previous reductions in HIV infections from injection drug use in Philadelphia were due to several protective factors, including access to sterile syringes through Prevention Point Philadelphia, access to drug treatment, and behavioral changes among experienced users. In a recent study, it was estimated that syringe exchange programs in Philadelphia averted 10,000 new HIV infections over 10 years<sup>20</sup>. However, from 2016 to 2019, the number of newly-diagnosed HIV infections among PWID increased 151% (n=83 cases). New HIV diagnoses in this population continue to rise. In 2019, Philadelphia had one of the highest drug death rates in the country related to opioid misuse with an estimated 963 deaths<sup>21</sup>. This increase correlates with Philadelphia's opioid crisis, which is characterized by the introduction of fentanyl, a rise in the number of people who inject drugs, an increase in homelessness among drug users, an increase in hepatitis C transmission, and sharp increases in fatal and non-fatal drug overdoses. Fentanyl has a shorter duration of effect than heroin, so people who inject fentanyl may be injecting more frequently.

There were no perinatal HIV infections in 2016, 2017, 2018 or 2019, however, there has been 1 perinatal HIV transmission reported thus far in 2020. PDPH maintains ongoing **perinatal HIV prevention** activities including sentinel case review and specialized case management for pregnant women living with HIV.

#### Identified Gaps:

1. Not enough people at risk for acquiring HIV are being prescribed PrEP
2. Insufficient data to evaluate the uptake of PrEP
3. Expansion of syringe services programs in the wake of the opioid crisis
4. Low awareness and access to post-exposure prophylaxis

### Pillar 4: Respond

Analysis of HIV public health data using methods outlined in the PDPH Outbreak Response Plan identifies new groups of related HIV infections. The Outbreak Response Plan guides PDPH and its community partners, including HIV care and treatment providers, substance use prevention and care providers, and community-based testing agencies, to coordinate and implement the necessary response activities to address emerging trends and to monitor an outbreak until it is resolved. For example, PDPH used geographic and time analysis of new infections to identify an outbreak of HIV outbreak among PWID in 2018. PDPH also identified new groups of related infections among MSM in Philadelphia through analysis of laboratory data. An outbreak response team that includes staff from multiple PDPH units developed interventions to address both these groups of related infections and the outbreak of HIV among PWID.

As noted above, in September 2018, PDPH identified an increase in HIV diagnoses among PWID. This increase was identified through routine analysis of HIV public health data by PDPH. Analysis showed an increase in the number of HIV cases with PWID transmission risk dispersed in specific geographic regions of Philadelphia. Of the 164 PWID HIV cases identified that are related to the outbreak by 12/31/2019, 75% were linked to care in 30 days, 51% were retained in care and 63% are virally

suppressed. The outcomes for PWID lag behind people diagnosed with HIV with MSM or heterosexual transmission during the same period. Responses have involved increasing HIV testing in key areas of the city; increasing syringe services resources; efforts to use Partner Services to locate and link people affected by the outbreak; implementation of harm reduction approaches by both prevention and care providers. Additionally, a group of “One-Stop-Shop” medical providers organized their resources to provide HIV medical care, PrEP, Medication Assisted Treatment for substance abuse, medical case management and connection to needed support services—in one location.

**Molecular HIV Surveillance (MHS)** promises to be an effective tool for responding to the HIV epidemic. MHS uses routinely collected public health data to identify emerging and growing groups of related HIV infections. MHS is the collection of HIV genetic data, routinely used by medical providers to make treatment decisions for individual patients, that has been used to support local and state health departments in monitoring trends in HIV transmission and drug resistance<sup>22</sup>. This data is also used to compare various strains of the virus to each other and identify groups, or clusters, of people with HIV who have similar strains of the virus. There are community concerns about the use of MHS. PDPH has worked with the City’s Law Department to assess legal issues related to MHS and has worked to inform the community about MHS and get input on implementation through community presentations to the AACO’s Executive Director’s Forum, the Penn CFAR Community Advisory Board, HIV Integrated Planning Council, and a workshop at Philadelphia FIGHT’s HIV Prevention Summit.

**Demonstrating Expanded Interventional Surveillance (DExIS)** is a multi-year CDC demonstration project launched in 2018 to identify missed opportunities for HIV prevention in Philadelphia using individual, system, and community level interventions. The project identifies and analyzes a cohort of sentinel cases (defined as either acute HIV infection or an HIV diagnosis within six months of a previous negative HIV test). This process discovers missed opportunities along the HIV Care Continuum and provides Partner Services to the individuals in the cohort. To address system-level gaps in HIV prevention, information is gathered from confidential interviews, medical chart abstractions, and HIV prevention program data. The DExIS priority populations are MSM, youth ages 13 – 24, and transgender people who have sex with men.

Identified Gaps:

1. Community concerns regarding data security and privacy, and medical mistrust threaten ongoing MHS efforts.

## Philadelphia's Plan to End the HIV Epidemic

### Guiding Principles

#### Implementing Philadelphia's Ending the HIV Epidemic Plan

Upon completion of Philadelphia's first Ending the HIV Epidemic Plan in October 2020, the work to implement it officially begins.

While the plan's evidence-based strategies differ, all of them are intended to be pursued using the following guiding principles for implementation that emerged during the year-long, community-based EHE planning process.

#### **Health is a fundamental human right.**

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, age, gender, sexual preference, health status, economic, or social condition.

#### **Stable housing and other basic needs are necessary for good health.**

Besides health, other basic human needs must be met including safe and secure housing, nutritious food, education, and safe working conditions.

#### **Health services must be available, accessible, and affordable.**

The right to health for all people means that everyone should have access to the health services they need, when and where they need them, without suffering financial hardship. No one should get sick and die because they are poor, or because they cannot access the health services they need.

#### **Person-centered service is the embodiment of human rights in the practice of care.**

The right to health also means that everyone should be entitled to control their own health and body free from stigma and discrimination. Person-centered care protects the universal right to privacy and treats everyone with respect and dignity. When people are engaged as active participants in their own care, when their human rights are respected, outcomes are better and health systems are more efficient.

## Pillar Zero: The pillar that supports all other efforts

At this point in the epidemic, public health workers have enough feedback from consumers, participants, and relevant research to inform us what is needed to end the local HIV epidemic. Additionally, we have the biomedical tools that will drastically reduce disparities and improve health outcomes. The success of our subsequent planning depends on being successful at the following:

1. **Provide radical customer service at all levels;** Create meaningful relationships with those we serve, and lower barriers to engaging in prevention and treatment services. Whether it's PDPH interaction with sub-recipient organizations or a linkage specialist offering HIV testing, we must aim to serve at the highest level and provide genuine customer service that leaves a good and lasting impression.
2. **Reduce HIV stigma through education, awareness, and anti-bias programs;** We must go beyond providing HIV 101 education and remind our communities of the humanity, dignity, and respect for all persons irrespective of their sexual orientation, gender identity/expression, income, education, or HIV status.
3. **Provide safe and secure housing;** Housing, like healthcare, must be a right. The challenge of housing will require partners outside the Department of Public Health and across service providers. The public health data suggest that stable housing reduces disparities in viral suppression and prevents people at the highest risk of acquiring HIV.
4. **"Flip the Public Health Script" To address a broken healthcare system;** People are not broken. We need to fix systems and structures. The community of service providers must improve the way services are communicated and delivered to adapt to the specific needs of the population they serve. We must embrace empathy and lean into the challenge of providing accessible, culturally humble services. It's time to "flip the public health script" and center the needs of those we serve.

## Pillar 1: Diagnose

### **Goal 1: By 2025, 97% of people living with HIV will know their HIV status.**

This includes (as of December 2019):

- a. Diagnosing the 1,649 of the estimated 1,700 PLWH who are unaware of their HIV status.
  - Of the 1,649: 59% are MSM, 31% are heterosexuals, and 8% are PWID.
  - 18% are youth, 13-24 (includes all risk groups).
- b. Diagnosing an additional 1,370 people that will acquire HIV by 2025.

### **Strategy 1.1: Increase access to HIV testing through bio-social screening in medical settings, including primary and urgent care settings, emergency departments, and at prison intake.**

- *Activity 1.1.1:* Expand support for opt-out HIV testing as part of routine medical care in primary and urgent care settings, emergency departments, and at prison intake.
- *Activity 1.1.2:* Focus funding opportunities on structural practice improvements (changes in electronic medical records, appointment scheduling, and practice flow to increase access to medical appointments etc.).
- *Activity 1.1.3:* Require significant participation by clinical leadership as a requirement of any funding provided to clinical settings for implementation of routine HIV testing.
- *Activity 1.1.4:* Identify key urgent care settings to build capacity for HIV testing when patients are seeking STD/STI treatment or emergency contraceptive care.
- *Activity 1.1.5:* Strengthen partnerships for routine screening in other key locations such as family planning clinics, sexual health clinics, substance use treatment clinics, and Philadelphia County Prison Health Services.
- *Activity 1.1.6:* Provide technical assistance and support by PDPH staff to clinical practices to assess barriers to and develop solutions for expanding routine HIV testing.

### **Strategy 1.2: Increase access to HIV testing through community-based programs.**

- *Activity 1.2.1:* Develop network of low-threshold sexual wellness clinics to provide HIV, STI and HCV testing, PrEP, PEP and linkage to HIV, STI and HCV treatment.
- *Activity 1.2.2:* Use geospatial analysis (geography and location) to ensure community-based testing is aligned with population needs.
- *Activity 1.2.3:* Explore implementation of pharmacy-based HIV testing in which pharmacists offer and administer HIV testing to clients.
- *Activity 1.2.4:* Partner with home HIV test kit providers to explore innovative approaches to increase correct use of home HIV test kits.
- *Activity 1.2.5:* Expand meaningful community engagement efforts to promote HIV testing, PrEP and treatment.

### **Strategy 1.3: Increase the frequency of HIV testing among key populations.**

- *Activity 1.3.1:* Expand capacity in strategic locations serving key populations for low-barrier HIV testing including walk-in options.

- *Activity 1.3.2:* Conduct health promotion activities to encourage more frequent HIV testing based on health assessment.
- *Activity 1.3.3:* Explore school-based HIV testing through partnership with community stakeholders and parent groups.

**Strategy 1.4: Implement a status-neutral approach to linkage with realignment and expansion of key personnel. This includes linkage to HIV medical care or PrEP.**

- *Activity 1.4.1:* Support linkage to care by AACO centralized Client Services Unit by facilitating HIV medical appointments for newly diagnosed and out-of-care individuals. These individuals will be identified through the funded HIV prevention and care system as well as other diagnosing facilities (e.g., emergency departments).
- *Activity 1.4.2:* Establish an AACO Field Services Unit as a safety net resource responsible for providing intensive linkage to care services for people diagnosed with HIV at locations with limited capacity to link people to HIV medical care.
- *Activity 1.4.3:* Incentivize timely linkage to PrEP and HIV care of new patients via bi-directional partnerships (between testing and care) as a condition of funding for prevention and HIV medical services.
- *Activity 1.4.4:* Provide partner services for partner notification after possible HIV/STD/STI exposure and link people to care as appropriate.

**Key Partners:** Philadelphia Office of HIV Planning, PDPH Division of Disease Control, clinical providers, health care facilities, community-based providers, Philadelphia County Prison Health Services, and home test kit providers

**Potential Funding Resources:** CDC HIV Prevention and Surveillance Prevention Cooperative Agreement, Pennsylvania Department of Health, City of Philadelphia General Revenue, Medicaid, and other public and private funding sources

**Estimated Funding Allocation:** Current PDPH funding: \$6,375,007; Increase needed to fully implement plan: TBD. Current funding will not support all activities necessary to meet goals.

**Outcomes:**

Number of newly infected people with HIV to be diagnosed over the 5-year period: 1,370  
Number of currently unaware PLWH who will be diagnosed over the 5-year period: 1,649

**Monitoring Data Sources:** EvaluationWeb, PDPH HIV Public Health Data



**Goal 1: By 2025, 97% of people living with HIV will know their HIV status.**

<b>Table 4. Number of New HIV Infections Expected and Number of People Unaware of Their Status that Need to be Diagnosed in Philadelphia by Year</b>		
<b>Year</b>	<b>Number of new HIV infections expected</b>	<b>Number of people unaware of their status that need to be diagnosed</b>
<i>Baseline</i>	439	
Year 1	439	
Year 2	357	413
Year 3	274	412
Year 4	192	412
Year 5	109	412

## Pillar 2: Treat

***Goal 2: By 2025, 92% of people living with HIV will be virally suppressed.***

### **Strategy 2.1: Improve rapid access to HIV medications and medical appointments.**

- *Activity 2.1.1:* In accordance to federal treatment guidelines, increase access to immediate ART initiation (within 96 hours).
- *Activity 2.1.2:* Establish new low-threshold HIV treatment sites in underserved areas of the city including a clinic designed to serve PWID and explore low-threshold implementation models for HIV care, e.g., telemedicine, nurse-extended visits pharmacy-supported HIV care, and HIV in drug treatment centers and behavioral health programs.
- *Activity 2.1.3:* Build capacity in high-volume substance abuse treatment programs to diagnose HIV, immediately initiate ART, and link PLWH to HIV medical care.
- *Activity 2.1.4:* Continue to reduce barriers to Special Pharmaceutical Benefits Program and emergency pharmaceutical assistance.

### **Strategy 2.2: Improve the capacity of the HIV medical system to retain patients in care.**

- *Activity 2.2.1:* Increase re-engagement in HIV medical care by expanding the existing PDPH Data- to-Care Program to all existing HIV treatment sites.
- *Activity 2.2.2:* Support provider-initiated approaches, based on provider need and capacity, to re-engage PLWH in medical care. Use data to identify the unique needs of provider's patients and offer resources that promote retention and viral suppression. To accomplish this:
  - PDPH will identify the last medical facility patients not in care visited (within the last five years). Medical facilities will use this information to assess facility-specific plans to improve retention.
  - PDPH will fund a range of options for facilities to implement to improve retention including:
    - Expand operating hours to include evening and weekend appointments for HIV medical care in community and hospital-based HIV treatment sites.
    - Increase the capacity for more intensive levels of medical case management services system-wide by adding more medical case managers at clinical sites.
    - Strengthen the multidisciplinary team approach by adding community health workers at HIV treatment sites to implement the evidence-based Managed Problem Solving intervention.
    - Establish medical/legal partnership services consisting of lawyers and paralegals located in health care sites to serve PLWH whose health may be negatively impacted by legal needs such as access to health insurance or immigration status.

## **Strategy 2.3: Address social and structural influencers of health to improve healthcare outcomes among PLWH through behavioral health care, housing, and supportive service**

### Behavioral Health Care

- *Activity 2.3.1:* Reduce barriers to behavioral health care by expanding service access through partnership with the Department of Behavioral Health and Intellectual disAbility Services (DBHIDS) (e.g., telepsychiatry sessions).
- *Activity 2.3.2:* Increase the coordination of mental health care and HIV care for PLWH through integration of additional behavioral health consultants using the Primary Care Behavioral Health model (targeted assessment, short term intervention, and brief follow-up).

### Housing<sup>3</sup>

- *Activity 2.3.3:* Implement a Rapid Rehousing Program to assist PLWH experiencing homelessness to move into permanent housing by providing short-term subsidies and leveraging business and existing and new housing partners that have previously participated in housing for PLWH.
- *Activity 2.3.4:* Support homelessness prevention activities by providing direct emergency financial assistance for rent and utilities
- *Activity 2.3.5:* Increase capacity to house homeless and housing insecure PLWH by expanding access to transitional and long term housing
- *Activity 2.3.6:* Ensure medical case managers assess and address housing instability when developing and reviewing care plan

### Supportive Services

- *Activity 2.3.7:* Address transportation barriers for medical appointments and other necessary services.
- *Activity 2.3.8:* Support integration of trauma-informed approaches to HIV care.
- *Activity 2.3.9:* Continue to provide necessary linguistic services.
- *Activity 2.3.10:* Provide supportive services that reduce individual barriers to treatment adherence (i.e., food services, emergency financial assistance, and supportive job services).

## **Strategy 2.4: Empower people living with HIV to improve their health.**

- *Activity 2.4.1:* Increase visibility and strengthen the knowledge of people who are under-insured and uninsured about the Ryan White funded service delivery system to improve retention to care
- *Activity 2.4.2:* Reduce HIV Stigma by including health equity and cultural humility approaches to future funding request for proposals that address provider-initiated stigma and bias
- *Activity 2.4.3:* Require providers actively participate in the local continuum of care to ensure patient access to all support services.
- *Activity 2.4.4:* Develop and distribute rights-based consumer medical education, including tool-kits for PLWH.
- *Activity 2.4.5:* Increase the capacity of PDPH-funded HIV care providers to implement new and expanded activities, through targeted technical assistance activities to improve health outcomes of PLWH.

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Note: Current HIV funding is not sufficient to cover local housing needs. When possible PDPH will work with additional partners to address the urgent lack of funding for housing.

- Activity 2.4.6: Establish a public online data dashboard presenting local EHE-related information for Philadelphia that displays key performance indicators for providers. Shared information will include retention and viral suppression metrics for individual medical facilities. It will provide PLWH with the necessary information to assess medical care and other services.
- Activity 2.4.7: Ongoing data dissemination to key community partners and internal and external stakeholders to increase knowledge, close information gaps, and empower PLWH to improve their health.

**Key Partners:** PDPH AACO, PDPH Division of Disease Control, Office of HIV Planning, Philadelphia EMA Integrated Planning Council, clinical providers, health care facilities, community-based providers, Office of Homelessness Prevention, Division of Housing and Community Development, Department of Behavioral Health and disability Services, Philadelphia County Prison Health Services, Prevention Point Philadelphia, Southeastern Pennsylvania Transportation Authority, Mayor’s Office, AIDS Law Project

**Potential Funding Resources:** Ryan White HIV/AIDS Program, HRSA EHE Initiative, HRSA Bureau of Primary Care, Medicaid, Medicare, private health insurers, PA DOH, and other public and private sources

**Estimated Funding Allocation:** Current PDPH funding: \$28,095,566; Estimated additional needed to implement the plan: \$9,000,000 in first year to \$12,660,706 in year 5. Current funding will not support all activities necessary to meet goals.

**Outcomes:**

The number of PLWH who will reach viral suppression during the five years:

<b>Table 5. Number of PLWH in Philadelphia Who Will Reach Viral Suppression by Year</b>	
<b>Year</b>	<b>PLWH</b>
<i>Baseline (2019)</i>	11,175
Year 1	11,175
Year 2	12,196
Year 3	13,218
Year 4	14,239
Year 5 *	15,260
* At the end of the 5-year period, there will be no disparities in viral suppression.	

**Monitoring Data Sources:** PDPH HIV Public Health Data, PDPH AACO, CAREWare

## Pillar 3: Prevent

***Goal 3: By 2025, 50% of people with a PrEP indication will be prescribed PrEP, and 100% of people seeking nPEP will be prescribed treatment.***

### **Strategy 3.1: Increase access to low-threshold pre- and post-exposure prophylaxis (PrEP/nPEP) for priority populations.**

- *Activity 3.1.1:* Develop network of low-threshold sexual wellness clinics to provide HIV, STI and HCV testing, PrEP, PEP, and linkage to HIV, STI and HCV treatment.
- *Activity 3.1.2:* Expand new PrEP clinical-community partnerships to engage focus populations.
- *Activity 3.1.3:* Expand PrEP access and provider capacity through low-threshold implementation models, e.g., same-day PrEP telePrEP, nurse-extended PrEP, pharmacy-administered PrEP, and PrEP in drug treatment centers and behavioral health programs.
- *Activity 3.1.4:* Establish new PrEP partnerships with grassroots and community-based organizations not currently involved in HIV services.
- *Activity 3.1.5:* Expand financial support for PrEP-related routine laboratory work, through provider and home collected specimens, and adherence services.
- *Activity 3.1.6:* Increase awareness and establish a centralized mechanism to distribute PEP through pharmacy partnerships, PEP centers of excellence, and PEP hotline.
- *Activity 3.1.7:* Expand PEP availability in key settings through starter packs, navigation support from proposed PDPH AACO Field Services Unit and PDPH Client Services Unit.
- *Activity 3.1.8:* Continue to provide ongoing clinical technical assistance for implementation of PrEP in settings across the city.
- *Activity 3.1.9:* Expand capacity to evaluate PrEP uptake.

### **Strategy 3.2: Ensure access to syringe service programs, provide harm reduction services and linkage to substance use disorder treatment.**

- *Activity 3.2.1:* Expand capacity for syringe service programs to distribute and collect syringes.
- *Activity 3.2.2:* Provide organizational development and capacity building to expand local partnerships and establish new organizations providing SSP services and new locations of service based on need and HIV public health data.
- *Activity 3.2.3:* Expand the promotion and distribution of community-specific sexual wellness and harm reduction information and supplies through innovative approaches

### **Strategy 3.3: Provide HIV prevention activities for communities at risk.**

- *Activity 3.3.1:* Continue City-wide distribution of free condoms including high schools, locations accessed by youth, and at syringe service program sites.
- *Activity 3.3.2:* Re-establish community-based partnerships for age-appropriate, comprehensive sex education and HIV education through existing health education programs including work with Philadelphia Schools.
- *Activity 3.3.3:* Expand capacity for HIV prevention workforce to provide primary HIV-related education.

### **Strategy 3.4: Provide perinatal HIV prevention activities.**

- *Activity 3.4.1:* Continue sentinel case review and system improvement activities.
- *Activity 3.4.2:* Provide specialized case management for pregnant persons living with HIV.

- **Activity 3.4.3:** Develop PrEP navigation support for pregnant HIV-negative women at risk of HIV acquisition.

**Key Partners:** PDPH AACO, PDPH Division of Disease Control, PDPH Division of Substance Use Prevention and Harm Reduction, PA DOH, clinical providers, health care facilities, community-based organizations, Prevention Point Philadelphia, The School District of Philadelphia, local colleges and universities, local legislators, agencies that can provide translation (Spanish), FQHCs, SEPTA, neighborhood based businesses

**Potential Funding Resources:** CDC HIV Prevention and Surveillance Cooperative Agreement, CDC EHE Initiative, HRSA Bureau of Primary Care, Pennsylvania Department of Health, City of Philadelphia General Revenues

**Estimated Funding Allocation:** Current PDPH funding \$5,015,898; Estimated additional funding needed to implement the plan: TBD

**Monitoring Data Sources:** PDPH AACO, CAREWare, EvaluationWeb, NHBS

**Outcomes:**

<b>Table 6. PrEP-Related 5-Year Goals by Population</b>		
<b>Population</b>	<b>Percent of population with PrEP indication on PrEP</b>	<b>Number on PrEP</b>
<b>Overall</b>	<b>50%</b>	<b>6,950</b>
Transgender persons	75%	TBD
MSM with recent syphilis	75%	TBD
Black MSM	50%	2,770
Cis-gender women	50%	1,087
PWID	50%	1,285
Latino MSM	50%	790
Young MSM	50%	TBD

<b>Table 7. Goals for number of people on PrEP by year</b>	
<b>Year</b>	<b># on PrEP</b>
<i>Baseline (2019)</i>	<i>2,790</i>
Year 1	2,790
Year 2	3,837
Year 3	4,885
Year 4	5,932
Year 5 *	6,980

## Pillar 4: Respond

### ***Goal 4: Identify and investigate active HIV transmission clusters and respond to HIV outbreaks.***

#### **Strategy 4.1: Maintain a robust core HIV public health data system to identify outbreaks of HIV.**

- *Activity 4.1.1:* Increase the capacity for HIV-related lab reporting (as we focus on linking more PLWH to care the volume of labs will increase).
- *Activity 4.1.2:* Maintain capacity for new diagnoses follow-up.
- *Activity 4.1.3:* Maintain capacity for molecular HIV surveillance activities and cluster review.
- *Activity 4.1.4:* Quickly implement outbreak response plan as necessary to respond to rapidly growing networks of HIV transmission.
- *Activity 4.1.5:* Streamline systems of data management to avoid duplication, enhance data-linkage and ascertain death factors.

#### **Strategy 4.2: Review incidences of HIV acquisition through Philadelphia's DExIS Project (Demonstrating Expanded Interventional Surveillance).**

- *Activity 4.2.1:* Conduct systematic cohort reviews of sentinel new HIV diagnoses to identify missed HIV prevention opportunities and to deepen understanding of care-seeking among people at risk of infection.
- *Activity 4.2.2:* Develop plans for sustaining the DExIS activities after demonstration project ends.
- *Activity 4.2.3:* Establish interventions for implementing system-wide changes based on findings of the review teams.

**Key Partners:** PDPH AACO, HIV Outbreak Response Team, PDPH Division of Disease Control, community partners, DExIS Case Review Team, Community Action Team, and Policy Implementation teams

**Potential Funding Resources:** CDC HIV Prevention and Surveillance Prevention Cooperative Agreement (includes Component B funding for DExIS), Pennsylvania Department of Health, HRSA EHE, CDC

**Estimated Funding Allocation:** Current PDPH funding \$2,269,023; Increased funding needed to implement plan: TBD

**Monitoring Data Sources:** HIV public health data, HIV Prevention program data, CAREWare.

**Outcomes:** PDPH will finalize protocols of cluster detection and response procedures.

## Pillar 5: Workforce Development

***Goal 5: Ensure that the HIV workforce is appropriately trained, supported to achieve the goals of the Philadelphia Ending the HIV Epidemic Plan.***

**Strategy 5.1: Assess the size, experience, and competency of the workforce needed to implement the EHE plan.**

- *Activity 5.1.1:* Assess the need for additional staff in all levels of the EHE response
- *Activity 5.1.2:* Assess scope of training and development needs of existing and new staff.

**Strategy 5.2: Develop the scope and expanse of the prevention workforce to center the needs of focused populations.**

- *Activity 5.2.1:* Develop radical-customer-service approach at the provider level through tailored organizational trainings based on quality improvement data
- *Activity 5.2.2:* Develop health equity programs at each organization to increase accessibility of services and reduce provider-initiated stigma
- *Activity 5.2.3:* Support expansion of the role of HIV testers to include responsibilities for linkage to medical care and PrEP through training and performance measures.
- *Activity 5.2.4:* Provide guidance to funded partners to increase compensation of community-based HIV testing workforce to reflect responsibilities
- *Activity 5.2.5:* Hire directly from the community and make experience comparable to formal education as it relates to the responsibilities of the job
- *Activity 5.2.6:* Develop and promote trainings for frontline staff, supervisors and peer educators for Sexual Wellness Hub
- *Activity 5.2.7:* Increase availability of trainings for PrEP & HIV Navigation Services for frontline staff and supervisors

**Strategy 5.3: Utilize HIV public health data to develop the capacity of the HIV care workforce.**

- *Activity 5.3.1:* Provide technical assistance and support staff to clinical practices to assess barriers to and develop solutions for expanding HIV testing.
- *Activity 5.3.2:* Ensure HIV workforce is trained in new and expanded interventions
- *Activity 5.3.3:* Continue to provide technical assistance for implementation of PrEP in settings across the city.
- *Activity 5.3.4:* Expand community mobilization to use community as a workforce partners in implementing the EHE plan.
- *Activity 5.3.5:* Develop recommendations to Increase pathways for leadership among frontline workers and people connected to affected populations.
- *Activity 5.3.6:* Expand HIV-related knowledge among hepatitis investigators and STD staff to link people into HIV treatment and PrEP care.
- *Activity 5.3.7:* Provide technical assistance and training for staff with direct client roles to improve cultural humility regarding how health care information is received, and how patient rights and protections are exercised.
- *Activity 5.3.8:* Partner with the School District of Philadelphia to integrate current initiatives



**Strategy 5.4: Develop capacity to implement services responsive to the changing landscape of healthcare relating to COVID-19 pandemic.**

- *Activity 5.4.1:* Increase ability and application to use telehealth
- *Activity 5.4.2:* Develop appropriate virtual means of provider training and service provision to people living with or at risk of HIV.

*Workforce activities are cross-cutting, and many have been previously included other key strategies. HIV workforce activities are listed here to provide focus on the needs of the EHE plan.*

## Appendices

### Appendix A: Priority Populations for the City of Philadelphia’s Ending the HIV Epidemic Plan for Pillar 1: Diagnose and Pillar 3: Prevent

Category	Pillar 1: Diagnose			Pillar 3: Prevent
	2019 HIV Diagnoses	2019 Linkage to Care in 30 Days (#/%)	2018 Unaware (#/%)	# of HIV Negative Persons with a PrEP Indication
<b>Total</b>	<b>439</b>	<b>357 (81.3%)</b>	<b>1,700</b>	<b>13,960</b>
<b>PWID</b>				
PWID (Includes MSM/PWID)	83	64 (77.1%)	150 (4.6%)	2,570
<b>MSM</b>				
Black MSM	157	127 (80.9%)	1,000 (13.7%)	5,540
Hispanic/Latino MSM	45	39 (86.7%)		1,580
White MSM	24	21 (93.9%)		850
Multi-Race non-Hispanic MSM	<6	<6 (87.5.0%)		N/A
Asian/Pacific Islander MSM	<6	<6 (66.7%)		N/A
American Indian MSM	<6	N/A (100%)		N/A
<b>Transgender</b>				
Transgender	10	9 (90.0%)	N/A	
<b>Heterosexual Contact</b>				
<i>Male (Birth Sex)</i>				387
Black	9	<6 (55.6%)	280 (12.1%)	
Hispanic/Latino	<6	<6 (100.0%)		
White	<6	<6 (10.0%)		
Multi-Race non-Hispanic	0	N/A		
Asian/Pacific Islander	0	N/A		
American Indian/Alaskan Native	0	N/A		

Category	Pillar 1: Diagnose			Pillar 3: Prevent
	2019 HIV Diagnoses	2019 Linkage to Care in 30 Days (#/%)	2018 Unaware (#/%)	# of HIV Negative Persons with a PrEP Indication
<i>Female (Birth Sex)</i>				2,173
Black	60	52 (86.7%)	250 (7.3%)	
Hispanic/Latino	14	13 (92.9%)		
White	<6	<6 (66.7%)		
Multi-Race non-Hispanic	0	N/A		
Asian/Pacific Islander	0	N/A		
American Indian/Alaskan Native	0	N/A		
<b>Age Group</b>				
Youth 13 – 19	32	96 (89.7%)	300 (36.7%)	N/A
Youth 20 - 24	75			
25 - 54	287	223 (77.7%)	1,210 (11.9%)	
≥ 55	45	38 (84.4%)	190 (3.4%)	

Appendix B: Priority Populations for the City of Philadelphia’s Ending the HIV Epidemic Plan  
Pillar 2: Treat

Category	Total number of PLWH with evidence of care in last 5 years	PLWH with no care in 2019	PLWH in care not virally suppressed in 2019	Total not in care or virally suppressed	Percent of population not in care or virally suppressed
Total	14,873	2,125	1,573	3,698	24.9%
<b>PWID</b>					
PWID (Includes MSM/PWID)	2,135	294	262	56	26.0%
<b>MSM</b>					
Black MSM	3,83	605	464	1069	27.9%
Latino MSM	868	159	90	249	28.7%
Multi-Race MSM	180	20	26	46	25.5%
White MSM	1,531	232	74	306	20.0%
Asian/PI MSM	80	11	*	*	*
American Indian MSM	10	*	*	*	*
<b>Transgender</b>					
Sexual contact	250	34	41	75	30.0%
Other°	61	<6	12	*	*
<b>Heterosexual Contact</b>					
<i>Male (Birth Sex)</i>					
Black	1,482	223	163	386	26.0%
Hispanic/Latino	303	61	24	85	28.1%
Multi-Race (non-Hispanic)	47	*	6	*	*
White	165	16	15	31	18.8%
Asian/Pacific Islander	30	*	*	*	*
American Indian/Alaskan Native	10	*	*	*	*

Category	Total number of PLWH with evidence of care in last 5 years	PLWH with no care in 2019	PLWH in care not virally suppressed in 2019	Total not in care or virally suppressed	Percent of population not in care or virally suppressed
<i>Female (Birth Sex)</i>					
Black	2,178	242	211	453	20.8%
Hispanic/Latino	391	49	28	77	19.7%
Multi-Race (non-Hispanic)	66	6	*	*	*
White	168	24	14	38	22.6%
Asian/Pacific Islander	24	*	*	*	*
American Indian/Alaskan Native	<6	*	*	*	*
<b>Age Group</b>					
Youth 13 – 19	74	<6	16	*	*
Youth 20 – 24	444	54	89	143	32.2%
25 –54	8,997	1,516	1,127	2,643	29.4%
> 55	5,344	549	352	901	16.9%
° Includes PWID, Sexual Contact/PWID, and Unknown/NIR)					

Appendix C: Modified HIV Care Continuum Definitions by Stage

Indicator	Numerator Definition	Denominator Definition
Diagnosed HIV infection	Number of PLWH in Philadelphia with diagnosed HIV infection in 2019	Number of PLWH with diagnosed HIV infection with a reported CD4 or viral load in the last five years (1/1/2015–12/31/2019) and number of PLWH estimated to be unaware of their HIV status in Philadelphia in 2019
Linkage to care	Number of persons with newly diagnosed HIV in Philadelphia that were linked to care in 30 days in 2019	Number of persons with newly diagnosed HIV in 2019 in Philadelphia
In care	Number of PLWH in Philadelphia who had evidence of at $\geq 1$ CD4 count and/or viral load in 2019	Number of PLWH with diagnosed HIV infection with a reported CD4 or viral load in the last five years (1/1/2015–12/31/2019) and number of PLWH estimated to be unaware of their HIV status in Philadelphia in 2019
Retention in care	Number of PLWH in Philadelphia who had evidence of $\geq 2$ CD4 counts and/or viral loads at least 90 days apart in 2019	Number of PLWH with diagnosed HIV infection with a reported CD4 or viral load in the last five years (1/1/2015–12/31/2019) and number of PLWH estimated to be unaware of their HIV status in Philadelphia in 2019
Viral suppression	Number of PLWH in Philadelphia whose last viral load of the year was $< 200$ copies/mL in 2019	Number of PLWH with diagnosed HIV infection with a reported CD4 or viral load in the last five years (1/1/2015–12/31/2019) and number of PLWH estimated to be unaware of their HIV status in Philadelphia in 2019

## Appendix D: Citations

1. *Status of HIV in America*. Atlanta, GA; 2019. [https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/hiv-in-america#\\_ftnref1](https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/hiv-in-america#_ftnref1). Accessed December 31, 2019.
2. Philadelphia Department of Public Health. *HIV in Philadelphia: Surveillance Report*. Philadelphia; 2018. [https://www.phila.gov/media/20191101092716/HIV\\_10\\_30\\_2019\\_FINAL\\_web.pdf](https://www.phila.gov/media/20191101092716/HIV_10_30_2019_FINAL_web.pdf).
3. *HIV and Transgender Communities Strengthening Prevention and Care for a Priority Population.*; 2016. <https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-transgender-brief.pdf>.
4. Philadelphia Department of Public Health. Unpublished local data. Philadelphia, PA. 2018.
5. Smith DK, Van Handel M, Grey J. Estimates of Adults With Indications For HIV Pre-Exposure Prophylaxis By Jurisdiction, Transmission Risk Group, and Race/Ethnicity. *Ann Epidemiol*. 2018;28(12):850-857.e9. doi:10.1016/j.annepidem.2018.05.003
6. Galvin SR, Cohen MS. The Role of Sexually Transmitted Diseases in HIV Transmission. *Nat Rev Microbiol*. 2004;2(1):33-42. doi:10.1038/nrmicro794
7. Philadelphia Department of Public Health. *Reported Cases of Sexually Transmitted Diseases and Rates per 100,000 Population: Philadelphia, 1990-2018*. Philadelphia, PA; 2018. [https://hip.phila.gov/Portals/\\_default/HIP/DataReports/GeneralSTDs/2018/STD\\_ReportedCasesSTDs\\_1990\\_2018.pdf](https://hip.phila.gov/Portals/_default/HIP/DataReports/GeneralSTDs/2018/STD_ReportedCasesSTDs_1990_2018.pdf). Accessed December 31, 2019.
8. Brief DJ, Bollinger AR, Vielhauer MJ, et al. Understanding The Interface of HIV, Trauma, Post-Traumatic Stress Disorder, And Substance Use and Its Implications for Health Outcomes. *AIDS Care*. 2004;16(sup1):97-120. doi:10.1080/09540120412301315259
9. United State Census Bureau. American Community Survey: Philadelphia. US Census Bureau. [https://data.census.gov/cedsci/table?q=Philadelphia&g=0500000US42101&hidePreview=false&table=DP05&tid=ACSDP1Y2018.DP05&vintage=2018&cid=DP05\\_0001E&layer=county&lastDisplayedRow=17](https://data.census.gov/cedsci/table?q=Philadelphia&g=0500000US42101&hidePreview=false&table=DP05&tid=ACSDP1Y2018.DP05&vintage=2018&cid=DP05_0001E&layer=county&lastDisplayedRow=17). Published 2018. Accessed December 31, 2019.
10. Pew Charitable Trust Philadelphia. *The State of the City*. Philadelphia, PA; 2019. [https://www.pewtrusts.org/-/media/assets/2019/10/sotc\\_2019.pdf](https://www.pewtrusts.org/-/media/assets/2019/10/sotc_2019.pdf). Accessed December 31, 2019.
11. Williams DR, Mohammed SA. Racism and health I: Pathways and scientific evidence. *Am Behav Sci*. 2013;57(8):1152-1173. doi:10.1177/0002764213487340
12. Office of Homelessness Services. *Philadelphia Annual Point-in-Time Count*. Philadelphia, PA; 2019. <http://philadelphiaofficeofhomelessnesservices.org/know-homelessness/point-in-time-count/>. Accessed December 1, 2020.
13. National Academies of Sciences, Engineering and M. *Permanent Supportive Housing: Evaluating the Evidence for Improving Health Outcomes Among People Experiencing Chronic Homelessness*. Washington, D.C.: National Academies Press; 2018. <https://www.ncbi.nlm.nih.gov/books/NBK519591/>.
14. Remien RH, Stirratt MJ, Nguyen N, Robbins RN, Pala AN, Mellins CA. Mental health and HIV/AIDS: The Need For An Integrated Response. *Aids*. 2019;33(9):1411-1420. doi:10.1097/QAD.0000000000002227
15. Mashas A, Miller M, Williams L, Brady KA. Care Continuum Outcomes of PLWH with Mental Illness and Depression Symptoms. In: *National HIV Prevention Conference*. Atlanta, GA; 2019.
16. *Philadelphia's Jail Population*. Philadelphia, PA; 2018. <https://www.phila.gov/media/20190130113435/December-2018-Jail-Population-Report.pdf>.
17. Westergaard RP, Spaulding AC, Flanigan TP. HIV Among Persons Incarcerated In The USA: A Review of Evolving Concepts in Testing, Treatment, And Linkage To Community Care. *Curr Opin*

- Infect Dis.* 2013;26(1):10-16. doi:10.1097/QCO.0b013e32835c1dd0
18. Li Z, Purcell DW, Sansom SL, Hayes D HH. *Vital Signs: HIV Transmission Along the Continuum of Care — United States, 2016.*; 2019.  
[https://www.cdc.gov/mmwr/volumes/68/wr/mm6811e1.htm?s\\_cid=mm6811e1\\_w](https://www.cdc.gov/mmwr/volumes/68/wr/mm6811e1.htm?s_cid=mm6811e1_w).
  19. Philadelphia Department of Public Health. *National HIV Behavioral Surveillance.* Philadelphia, PA; 2019.
  20. Ruiz MS, O'Rourke A, Allen ST, et al. Using Interrupted Time Series Analysis to Measure the Impact of Legalized Syringe Exchange on HIV Diagnoses in Baltimore and Philadelphia. *J Acquir Immune Defic Syndr.* 2019;82:S148-S154. doi:10.1097/QAI.0000000000002176
  21. Philadelphia Department of Public Health. Substance Use Philadelphia Dashboard. Unintentional Drug Related Deaths by Year. <https://substanceusephilly.squarespace.com/unintentional-overdose-deaths>.
  22. HIV Molecular Surveillance: Questions and Answers. Centers for Disease Control and Prevention. <https://www.cdc.gov/hiv/programresources/guidance/molecular-cluster-identification/qa.html>. Published 2019. Accessed December 31, 2019.
  23. Pitasi MA, Delaney KP, Brooks JT, DiNenno EA, Johnson SD, Prejean J. HIV Testing in 50 Local Jurisdictions Accounting for the Majority of New HIV Diagnoses and Seven States with Disproportionate Occurrence of HIV in Rural Areas, 2016-2017. *MMWR Morb Mortal Wkly Rep* 2019; 68;561-567. DOI:  
[https://www.cdc.gov/mmwr/volumes/68/wr/mm6825a2.htm?s\\_cid=mm6825a2\\_w](https://www.cdc.gov/mmwr/volumes/68/wr/mm6825a2.htm?s_cid=mm6825a2_w)