Introduction
Over the last few decades, major advancements have been made in HIV treatment, testing, and prevention, including the introduction of Pre-Exposure Prophylaxis (PrEP) as a prevention option for individuals at risk of HIV infection. PrEP is a daily pill that consists of two anti-retroviral medications used in the treatment of HIV - tenofovir and emtricitabine, and commercially packaged as Truvada or Descovy. When taken as prescribed, PrEP has been shown to reduce sexual transmission of HIV by 90% and reduce risk of transmission through use of injection drugs by 70%. The efficacy of PrEP in HIV prevention has gained national attention and scaling up its use is part of the federal response to ending the HIV epidemic.

Despite the progress made in developing and promoting prevention methods, HIV diagnoses in the US have remained steady since 2013, holding around 39,000 new infections annually. Recent estimates show that over 1.1 million Americans are living with HIV as of 2016, and approximately 15% of those individuals has not yet received a diagnosis. HIV infection and prevalence is not evenly distributed across all regions and subpopulations, with the southern United States accounting for 52% of new infections, and higher than average rates of HIV among gay and bisexual men, as well as African Americans and Latinos. PrEP provides an opportunity to stymie new HIV infections, however the individuals most at risk are often not the demographics that are currently using PrEP for HIV prevention.

Understanding the population of who would benefit from PrEP is an essential starting point to prevent further infections and address disparities in access and use of prevention methods.

HIV & Homelessness
People experiencing homelessness are at an elevated risk of HIV infection, with studies showing that they face 3-9 times the risk of infection compared to their housed counterparts. One study also estimated that half of people living with HIV will experience homelessness or housing instability following diagnosis. In 2018, Health Care for the Homeless (HCH) providers served 15,113 individuals with HIV. This represented 1.50% of all patients served by HCH programs. In comparison, the overall percentage of people living with HIV seen by all Health Center Program Grantees was 0.68% in 2018.

Considering the elevated rates and risks for individuals experiencing homelessness, and the consistent infection rate over the last several years, there is a renewed need to focus efforts on prevention of HIV infection in this population. Tying into broader national efforts to significantly reduce infection rates by 2030, HCH providers can further scale and implement prevention interventions in their communities, including the provision of PrEP.

Subpopulations & Risk
It is widely known that when it comes to HIV infection rates there are disparities between various subpopulations. The same is known in relation to the demographics of people experiencing homelessness. In many cases, there is an overlap in the populations at an elevated risk for both HIV
infection and homelessness. This includes racial disparities, LGBTQ individuals – especially youth, and people who inject drugs. It is also important to note that the socioeconomic status of individuals within various subpopulations can elevate risk of HIV infection as individuals turn to survival behaviors that may expose them to the virus. The intersectionality of risk factors can be daunting to the individuals in these subpopulations and the providers working to serve them. Understanding what these intersections may be can help to address consumers holistic needs, giving providers the background to know what other vulnerabilities exist for those they are working with.

Figure 1: Intersecting Subpopulations at elevated risk of HIV and Homelessness

People who Inject Drugs

People who inject drugs (PWID) are one key subpopulation that is at elevated risk for both HIV infection and potential homelessness. The Centers for Disease Control and Prevention (CDC) estimates PWID or those who inject drugs and are men who have sex with men account for one in ten new HIV diagnoses in the United States. Sharing needles, syringes, and other equipment puts individuals at a high risk of infection if they had previously been used by a person living with HIV, which can survive on a used needle for approximately 42 days. Studies also show that in some cities, 40% of people who inject drugs report sharing syringes. PWID are also more likely to engage in other risky behaviors while under the influence, especially engaging in unsafe sex practices. One contributing factor to the high rates of HIV transmission among PWID is that many individuals do not know their own HIV status and unknowingly pass it on to those they share works with.

People of Color

It is well known that people experiencing homelessness have higher rates of substance use conditions than those who are housed. Research has shown that there is an association between episodes of homelessness and injection drug use, with one study of people who currently or formerly inject drugs finding that 38% of participants reported at least one incidence of homelessness, and 50% of those individuals reported more than one experience of homelessness. The researchers also found that homelessness was associated with relapse among participants who had stopped injecting drugs. Recognizing the intersection between PWID, homelessness, and HIV is essential when working with individuals who fall into this subpopulation to implement strategies that address the complex needs of those who are at risk of HIV infection.

Sexual Orientation & Gender Identity

There are documented disparities in HIV infection rates for people who identify as a sexual or gender minority, specifically men who have sex with men (MSM) and individuals who are transgender. In 2017, MSM accounted for 66% of all HIV diagnoses, with MSM who also use injection drugs experiencing a compounding risk. Studies have also shown disparities in HIV infection rates for black MSM compared with white MSM, likely due to access to care. Risk factors associated with unprotected sex and unknown HIV status have contributed to continued high rates of HIV among MSM.
For individuals who are transgender, a recent survey of the literature found that an estimated 14% of transgender women are HIV positive, with significantly higher rates for transgender women of color. This significant disparity is in part because transgender individuals may not feel safe accessing health care services, especially if they have had negative experiences in the past. Lack of culturally appropriate care can delay HIV diagnosis and provision of prevention interventions.

Studies have also shown that a disproportionate number of LGBTQ people experience homelessness, especially among youth. While the overall number of LGBTQ people experiencing homelessness is not known, organizations that serve youth experiencing homelessness report that an estimated 30 – 45% of youth they serve are LGBQT. Often, youth run away from home or are forced out due to a lack of support from their family regarding their gender identity or sexual orientation. Once homeless, youth are also likely to engage in survival sex or be victims of sexual abuse, which puts them at a higher risk of HIV infection and other STIs. Transgender youth experiencing homelessness are at an even higher risk of HIV infection as they often face higher rates of both physical and sexual victimization.

**Racial and Ethnic Disparities**

As with many health conditions across the United States, there are significant racial and ethnic disparities in HIV infection rates. In 2014, the CDC found that African Americans accounted for 45% of new HIV diagnoses. Similarly, Hispanics/Latinos accounted for 23% of new HIV diagnoses in 2014, though they account for 17% of the overall population. HIV diagnosis rates were also higher for American Indians and Alaska Natives, who had an infection rate of 18.3 and 5.1 per 100,000 for males and females respectively (compared to 12.6 and 1.7 for white males and females). These disparities are in part caused by disparities in access and linkage to appropriate care, as evidenced by the disconnect between those who are at risk of HIV with indications for PrEP and those who acquired and filled prescriptions for PrEP as shown in the chart below (Chart 1).


Racial and ethnic disparities also persist among people experiencing homelessness. In 2017, the US Census Bureau estimated that the United States population was 72.3% White, 12.7% African American, and 0.8% American Indian or Alaska Native, as well as 81.9% Non-Hispanic and 18.1% Hispanic. By comparison, the US Department of Housing and Urban Development estimated that in 2017 the homeless population in the United States was 47.1% White, 40.6% African American, 3.0% American Indian or Alaska Native, and 21.6% Hispanic, as shown in the chart below (Chart 2). Systemic racism has informed practices over decades and has contributed to the overrepresentation of people of color experiencing poverty and homelessness in the United States. Further, many evidence-based practices...
are not evaluated for their efficacy among various racial and ethnic groups, making it necessary to adapt interventions for the population served. Providers should also consider whether their consumers match the demographics of the community they are serving to identify gaps in outreach or engagement practices that can be addressed to ensure that people of color have equitable access to health care services.

**Chart 2. Racial and Ethnic Disparities in Homelessness by Percent of Population, 2017**
Source: “Addressing Health Equity through Health and Housing Partnerships,” CSH

<table>
<thead>
<tr>
<th></th>
<th>Overall Population</th>
<th>People Experiencing Homelessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic</td>
<td>81.9%</td>
<td>78.4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18.1%</td>
<td>21.6%</td>
</tr>
<tr>
<td>White</td>
<td>72.3%</td>
<td>47.1%</td>
</tr>
<tr>
<td>African American</td>
<td>40.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0.8%</td>
<td>3.0%</td>
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**Promising Practices & Considerations in Care**
Health Care for the Homeless (HCH) programs are well positioned to provide PrEP and other HIV prevention interventions to individuals at risk of HIV infection. The HCH model of care incorporates an interdisciplinary care team model to best serve vulnerable individuals, which translates directly to testing, prevention, and connection to HIV treatment. Integrating behavioral health, primary care, and social services can help to address the underlying issues that may be leading to risky behavior and can supplement health education to reduce risk of infection. The team can also include community health workers and peers support workers, who have been shown to be an effective bridge to HIV prevention services, as well as testing and treatment, in part through the reduction of stigma around HIV.

Outreach efforts are an essential component of connecting individuals experiencing homelessness to PrEP. As HCH providers know, meeting people where they physically are is an important first step towards engaging them in care as it offers an opportunity to build trust with providers and learn about the available resources. In some communities, street outreach includes point of care testing for HIV and screening for risk factors. This also affords an opportunity to provide health education on PrEP and other prevention options, and providers can prescribe PrEP to those with a high risk of HIV infection. Health education is an especially important component of outreach efforts, as individuals may not know what PrEP is and that it is available to them.

**Other Prevention Strategies**
While PrEP is highly effective, it may not be the best fit for every individual served. Other prevention strategies can be considered and include:
- Diagnosis and treatment of other sexually transmitted infections
- Health education including condom use
- HIV testing & connection to treatment to reducing viral load of those with HIV can prevent transmission
- Needle exchange and other harm reduction Programs
- Access to substance use treatment
As individuals presenting at the health center may have multiple co-morbidities, it is easy to see how PrEP could be passed-up in favor of addressing immediate needs. Some HCHs have found it beneficial to have a designated PrEP coordinator to ensure that it does not fall through the cracks. A PrEP coordinator may work to build relationships with consumers, review individual risks, and work with providers to get the consumer a prescription for PrEP. Having one person dedicated to this process makes sure that someone is actively addressing the prevention needs of the population they serve rather than asking every provider to add this task to their list. When capacity limits the health center’s ability to designate one individual to this task, they could also conduct an all staff training to ensure everyone is comfortable discussing PrEP with consumers and review their workflow to identify a natural place to incorporate risk screening and prescription of PrEP to reduce provider burden while also ensuring that consumers have access to PrEP and other prevention interventions.

The social determinants of health (SDOH) are also an important consideration for individuals experiencing homelessness and at risk of HIV infection. Determining the individual’s barriers to accessing the health center, pharmacy, and complying with medication recommendations is an important first step towards addressing these needs. Discussions with the consumer and screening tools, like PRAPARE,\textsuperscript{40} can help to identify these barriers and be a starting place to address them. For example, transportation is often an issue for individuals with limited income. Providing bus passes or ride sharing options can help to engage individuals in care and follow-up on treatment. Similarly, folks may not be able to afford PrEP. Recognizing this barrier is important and can be addressed through financial assistance programs.\textsuperscript{41} Often social needs, like housing and food security take immediate precedence for people experiencing homelessness. Working with them to address these issues while initiating PrEP and other medical treatment can help to build trust and improve overall quality of life.

**Recommendations**

**Build on the HCH Model of Care**
Use the integrated care team model to address the holistic needs of the individual while working to connect them to PrEP. Incorporating community health workers and peer support builds a robust prevention program that is supportive and responsive to consumer needs.

**Designated Provider or Updated Workflow**
Identifying a provider that may be a community health worker or peer if appropriate, to ensure that PrEP is discussed with those who may be eligible and at risk for HIV infection, is an effective way to ensure that it does not fall through the cracks. When this is not possible, health centers can consider where conversations about PrEP fall best into their current workflow.

**Partner with Ryan White Programs**
Ryan White Programs focus on testing and treatment of HIV across the country. Working with these partners can help to create a smooth system across the HIV care continuum\textsuperscript{42} for those who are HIV positive and can provide additional access to prevention resources and other community partners.

**Learn from Medication Management Strategies**
Once an individual is connected to PrEP, medication management is key. Learning what works for people experiencing homelessness in other cases can help to inform health center strategies around PrEP. Some examples include using pill boxes for individuals who have multiple medications to keep track of. If medication is lost, stolen, or there is a lack of storage options, the health center can work with the pharmacy to provide a shorter duration of medication with more frequent follow-ups, meaning less
medication is lost or needs to be transported. It is important to consider the individual consumer when working through what will work best with their needs.

**Culturally and Linguistically Appropriate Care**

Providing services that are responsive and sensitive to the people served, including those in the community who are not engaged in care, is important to ensure continued connection to health care services. This includes having staff that represent the community, tailoring interventions to best meet their needs, and providing a safe and affirming environment for transgender and gender non-conforming individuals.

**Address Social Determinants of Health**

The social determinants of health, including housing, transportation, income, and food security all impact an individual’s ability to comply with medical recommendations. When possible, health centers can screen and work towards addressing these needs, which can help to ensure that consumers have access to PrEP and other medical services.

**Combine PrEP with other HIV Prevention Efforts**

PrEP is most effective in combination with other HIV prevention methods including condom use to prevent other STIs. Including education on safe sex practices and harm reduction strategies around syringe use is important to reduce overall risk, especially for individuals who may have difficulty with medication management.

**Staff and Community Education**

It may be that some health center staff are not aware of PrEP as an HIV prevention option. Ensuring that staff have up to date information will allow them to have a greater level of comfort discussing PrEP as an option for individuals at high risk for HIV. Similarly, the broader community may not be aware of PrEP or the need for HIV prevention. Providing community education can engage new partners and stakeholders and can help to reduce stigma surrounding HIV and PrEP.

**Conclusion**

Connecting individuals who are at high risk of HIV infection to PrEP is a major step towards ending the HIV epidemic in the United States. HCHs are well positioned to address the disparities in HIV prevention as many of the subpopulations at risk overlap with those experiencing homelessness. Using the unique skills, care model, and values that HCH providers bring to the field will allow them to engage individuals at high risk of HIV infection in prevention activities, including initiation of PrEP where appropriate.

**Resources**

- [Alliance Health Project PrEP Navigation Protocols by UCSF Capacity Building Assistance Partnership](#)
- [PrEP Financial Assistance Programs](#)
- [Ending the HIV Epidemic: A Plan for America](#)
- [PrEP Basics by the Centers for Disease Control and Prevention](#)

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