

**HIV Risk Factors in the Unhoused Population: A Literature Review**

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# HIV Risk Factors in the Unhoused Population

## **Research Question**

What factors affect the likelihood of people in the homeless population contracting HIV?

## **Abstract**

HIV (Human Immunodeficiency Virus) is a sexually transmitted disease that is a significant health threat, particularly within the unhoused population, where risk factors for contraction are exacerbated by socioeconomic disparities. This literature review delves into the intersection of homelessness and HIV, specifically focusing on specific risk factors if contraction. An analysis of ten peer-reviewed articles identifies that intravenous drug use and high-risk sexual activities, including sex work and multiple partners, significantly increase the likelihood of HIV contraction among unhoused individuals. The literature review highlights the critical need for targeted interventions addressing these behaviors to reduce HIV transmission rates in this vulnerable community. By understanding and addressing the underlying risk factors, healthcare disparities within the unhoused population can be mitigated, promoting better health outcomes for the unhoused population. Further research is essential to develop effective prevention strategies tailored to the unique challenges faced by this demographic.

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### Introduction

HIV or Human Immunodeficiency Virus is a sexually transmitted disease that results in a greatly decreased ability to fight off infections in the body. This lowered immune system causes a person to generally be more susceptible to infection. Additionally, contracting HIV puts a person at a great deal of risk for AIDS, or acquired immunodeficiency syndrome. HIV is most spread via transmission of bodily fluids. The most common form of the transmission of bodily fluids is through unprotected sexual intercourse. However, transmission can also occur through shared usage of needles. Because of this, certain populations may be predisposed to contracting HIV simply because of being at a greater likelihood for exhibiting these risk factors. For example, people who have less access to sexual education and resources to practice safe sex are at a higher risk for engaging in unprotected sex and subsequently contracting HIV. HIV affects a great number of people in the American population. According to the World Health Organization, “An estimated 39.9 million [36.1–44.6 million] people were living with HIV at the end of 2023”. According to the CDC, there are a reported 4,941 deaths, with a ratio of 1.5 deaths to 100,000 total people. Although there are treatment plans used to keep the disease under control once contracted, there is currently no effective cure for HIV. However, antiviral treatment of HIV early on in the diagnosis can lead to a decreased risk of death.

Because HIV is so closely related to sexual behaviors/ drug usage, there are several disparities within the affected community that need to be addressed. One of the largest disparities and the variable that affects people the most is a person’s housing status. According to the National Coalition of Homelessness, approximately 1/3 of all people who suffer from HIV are either struggling with homelessness or on the verge of losing their housing situation (2009). A lack of stable housing greatly magnifies a person’s risk of contracting HIV. According to the

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CDC, “A lack of affordable housing options can limit a person’s ability to maintain stable housing and access other services, including staying engaged in ongoing health care. An overall inadequate supply of affordable housing in the United States, paired with regulations that discourage the development of new housing, creates barriers to maintaining stable housing for many”. Because housing has become such a prevalent issue in the United States in recent years, there is an increased risk for these individuals to exhibit behaviors that will put them at risk for diseases such as HIV.

Through research on the topic of HIV in the unhoused population, it appears that there is a significant lack of information relating to the specific risk factors that contribute to the link between HIV contraction and homelessness. There is currently no deeper explanation as to why there is a person who struggles with stable housing. The aim of this study is to determine risk factors for contracting HIV/AIDS in the homeless population. Additionally, with this information, measures can potentially be taken to lessen the risk of the unhoused population to contracting HIV. This will in turn close the gap of healthcare disparity between the housed and the unhoused populations.

### **Methods**

For the literature review, a search was conducted through PubMed and Web of Science databases for information regarding HIV in the unhoused population. Because PubMed is the standard database for scientific and medical literature, there was a litany of information regarding the topic of HIV. In order to narrow down the search, keywords including homelessness, or the unhoused population were added in. This brought the pool

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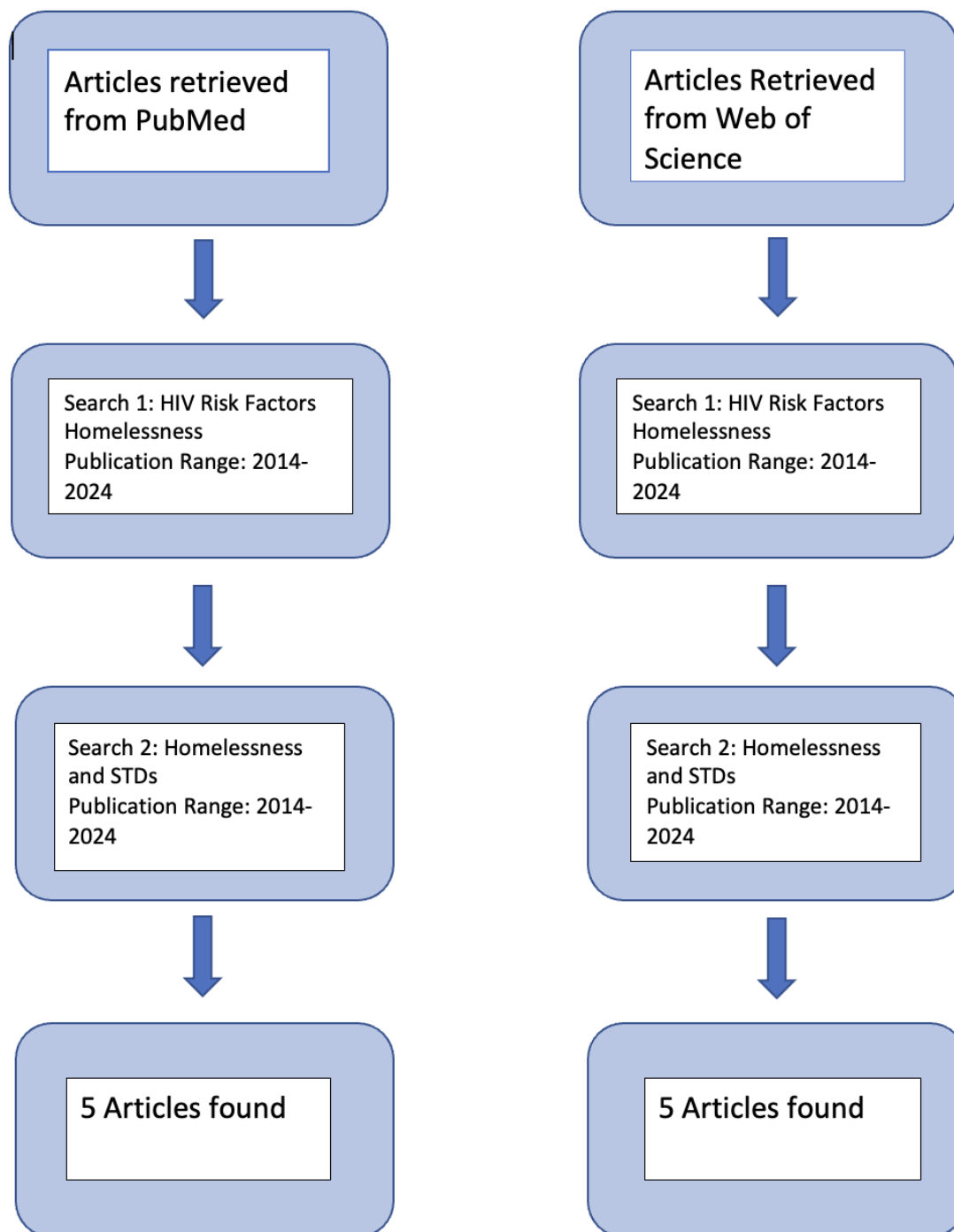
articles down to a more focused and manageable group. Finally, in order to answer the original research question, the final search included risk factors. This narrowed the search down significantly, and ultimately five research articles were picked from PubMed for the literature review.

For the PubMed database, an initial search of the phrase “STD Risk Factors” was conducted, and this search yielded 57,565 results. Then, the phrase “STD Risk Factors within the Homeless Population” was searched, and this led to 580 results. The final search that was conducted included the more specific phrase “HIV Risk Factors within the homeless population”. This search yielded 468 results. When narrowing down results to the years 2014-2024, 98 results were found. Five of the ten articles in the literature review were obtained from the PubMed search.

For the Web of Science database, the same phrases were used in the searches. The initial search of “STD Risk Factors” yielded 4,440 results. The search “STD Risk Factors in the Homeless population” yielded 46 results. The final search of “HIV Risk Factors within the Homeless Population” yielded 41 results. In narrowing down the publication dates to 2012-2024, nine articles were found. Of the ten articles in the literature review, five of them came from the Web of Science search.

For both of these searches, important inclusion criteria that was considered is the phrase STD or HIV in all of the searches, this was to ensure that the results would yield relevant material relating to the research question. Exclusion criteria that were considered was articles found that did not specifically have to do with the unhoused population, as the information in those studies may not be specific enough to answer the original research question.

**Methods Figure 1.**



### **Results**

HIV contraction is an issue in the homeless population that affects many and can be greatly reduced with the right intervention and discovery of the specific risk factors associated with the contraction. The ten articles in the literature review give insight into what these specific risk factors are for the unhoused community. Three general conclusions can be drawn from the findings of the search. The first finding is the increased prevalence of drug use increases an individual's risk for contracting HIV. The second finding is that increased sexual activity leads to an increased risk of contracting HIV. The third finding is that decreased socioeconomic status is directly proportional to decreased access to HIV testing, prevention, and treatment.

#### *Drug-use Related Factors*

Nine out of the ten articles found in the search ultimately concluded that intravenous drug use, whether it be frequent or infrequent, greatly increases a person's risk for contracting HIV. It was found that both injectable and non-injectable drug use, as well as higher rates of incarceration led to an increased risk of contracting HIV (Skyers et al., 2018). In another separate study, 23% of survey participants reported intravenous drug use when asked about certain risk factors associated with their contraction of HIV (Davila et al., 2018). The survey included members of the unhoused population who have tested positive for HIV. In a study performed in Puerto Rico, homelessness was found to have a strong correlation with the number of years of intravenous drug use (Carlos Reyes et al., 2019). Young people in the unhoused population who were experiencing psychological stress, sudden loss of housing, and sudden loss of stable income were more likely to report intravenous drug use. This behavior puts them at a higher risk for contracting HIV (Marcus et al., 2020). Additionally, a history of incarceration was found to have a strong correlation with intravenous drug use, with the



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number of years incarcerated correlating to a high risk of potentially using drugs. This increased risk of using intravenous drugs leads to an increased risk of contracting HIV (Courtenay-Quirk et al., 2018). Moreover, other studies found that homelessness itself was inherently a risk factor for contracting HIV, as being homeless usually is associated with little to no access to healthcare and resources to stop doing drugs once one has started (reddon et al., 2022).

### *Sexual Behavior Risk Factors*

Several of the articles reviewed also established that certain sexual behaviors put members of the unhoused community at a greater risk for contracting HIV. One study found that sex work, multiple partners, and prevalence of female rape are three of the greatest risk factors that put homeless people at a greater risk of contracting HIV (Skyers et al., 2018). Another risk factor found in a different study is engaging in a sex exchange, usually for monetary benefit. Engaging in sexual exchange frequently was found to greatly increase one's risk for contracting HIV (Courtenay-Quirk et al., 2018).

### *Socioeconomic Risk-related Factors*

A few of the articles listed also contribute low socioeconomic status as being a risk factor for contracting HIV. A lower socioeconomic status, such as being homeless, can greatly contribute to a person's likelihood of contracting HIV because they will subsequently have decreased access to preventative methods and testing (Myles et. al.,). Having less access to healthcare will result in lower rates of health literacy, which often leads to many individuals not knowing about the prevention and treatment options related to HIV(Carlos-Reyes et.

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*Table 1. Detailed Summary of Articles Reviewed*

	Author	Year	Article Title and Journal	Purpose	Sample	Study Type	Findings
1	Jessica A Davila, Howard J Cabral, Manisha H Maskay, Ruthanne Marcus, Yiyang Yuan, Nicole Chisolm, Pamela Belton, Lisa McKeithan, Serena Rajabuin	2019	Risk factors associated with multi-dimensional stigma among people living with HIV/AIDS who are homeless/unstably housed.  PubMed	The article explored the cross-section of HIV, homelessness, mental health, and substance use, and perceived and experienced provider stigma.	Sample members included people who were homeless with mental health issues and/or substance abuse.	Survey	Almost 70% of participants reported HIV stigma, with 1/4 experiencing stigma related to homelessness, substance use and mental health.
2	Ranell L Myles, Janae Best, Greg Bautista, Eric R Wright, Ana LaBoy, Zewditu Demissie, Hazel D Dean	2020	Factors Associated with HIV Testing Among Atlanta's Homeless Youth  PubMed	The purpose of this article is to determine what the factors are behind HIV testing among the youth homeless population.	The sample for this study included 693 homeless youth aged 14-25 years.	Survey	The findings of this study show that sexual abuse or transactional sexual encounters had a directly proportional relationship with getting tested for HIV.
3	Juan Carlos Reyes, Melissa Welch-Lazoritz, Laura Zayas-Martinez, Bilal Khan, Kirk Dombrowski	2019	Prevalence and Risk Factors associated with Homelessness among Drug Users in Puerto Rico  Pub Med	The purpose of this study is to explore the association between years of drug use and homelessness among drug users in Puerto Rico	A sample of 315 drug users in rural Puerto Rico was used.	Survey	The odds of being homeless for IDUs with 21 years or more of drug injection was almost 3 times higher than were the odds of being homeless for IDUs with fewer than 10 years of injection.
4	Nicola Skyers, Sharlene Jarrett, Willi	2018	HIV Risk and Gender in Jamaica's Homeless Population PubMed	The purpose of this study is to uncover any links between HIV and the	Three hundred twenty-three homeless people from St.	Survey	Sex work, multiple partnerships, incarceration, non-injecting drug use, and female rape were common

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	McFarland, Dahlia Cole, Uki Atkinson			homeless population in Jamaican homeless population.	James, St. Ann, Kingston, and St. Andrew (the main urban centers)		among the participants. Long-term, multilayered, HIV-specific, female-focused interventions are required for the population, along with additional female-centric research.
5	Elizabeth A Bowen	2016	A Multilevel Ecological Model of HIV Risk for People Who Are Homeless or Unstably Housed and Who Use Drugs in the Urban United States  PubMed	This article synthesizes extant research on this population and situates it in a multilevel, ecologically based model of HIV risk.	Review of previous literature	Survey	Modeling risk at multiple levels of the environment underscores the need to expand the focus of research, treatment, and prevention interventions for HIV/AIDS and addictions beyond individuals and their risk behaviors to address facets of structural violence and incorporate the broader social, political, and economic contexts of risk and health.
6	<u>Marcus, R</u> (Marcus, Ruthanne)	2022	(Bowen, 2016) Web of Science	The purpose is to evaluate the association between homelessness and injection risk and prevention behaviors among HIV-negative PWID who were recruited by respondent-driven sampling in 23 U.S. cities.	People of certain sociodemographic characteristics, history of overdose, and behavioral risk and prevention factors for HIV were used for this study.	Survey	Those experiencing homelessness were significantly more likely to report injection risk behaviors, share syringes/equipment, non-fatal opioid overdose, and prevention behaviors, testing for HIV in past 12 months, and using syringe services programs, than those not experiencing homelessness

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7	Courtenay-Quirk, C (Courtenay-Quirk, Cari); Pals, SL (Pals, Sherri L.); Kidder, DP (Kidder, Daniel P); Henny, K (Henny, Kirk) ; Emshoff, JG (Emshoff, James G.)	2018	Factors Associated With Incarceration History Among HIV-Positive Persons Experiencing Homelessness or Imminent Risk of Homelessness  (Bowen, 2016; Courtenay-Quirk et al., 2008; Myles et al., 2020; Padilla et al., 2020; Reyes et al., 2019; Skyers et al., 2018)Web of Science	The purpose of the study is to examine factors associated with a history of incarceration among HIV-positive clients of housing agencies in Baltimore, Chicago, and Los Angeles	Logistic regression was used to conduct analyses. Of the 581 participants, 68% reported a history of incarceration had spent more than 1 year incarcerated.	Survey	Incarceration history was associated with having ever injected drugs, ever engaged in sex exchange, and ever experienced physical abuse. Incarceration history was also associated with having a detectable HIV viral load, better mental health, and being a biological parent. It was not associated with current risk behavior.
8	<u>Reddon, H</u> (Reddon, Hudson) ; Socias, ME (Socias, M. Eugenia)	2022	Periods of Homelessness Linked to Higher VACS Index Among HIV-Positive People Who Use Drugs Web of Science	The purpose of this study is to evaluate the impact of homelessness on HIV disease progression among people who use unregulated drugs (PWUD) living with HIV	The study uses a general linear mixed-effects modeling to estimate the longitudinal relationship between homelessness and the Veterans Aging Cohort Study (VACS) Index, a validated measure of HIV disease progression that predicts all-cause mortality, among a prospective cohort of PWUD	Survey	These findings indicate that homelessness was a significant risk factor for HIV disease progression and this association was marginally mediated by ART adherence.

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9	Halverson, M (Halverson, McKenna); Hatchimonji, DR (Hatchimonji, Danielle R.); Treglia, D (Treglia, Dan); Flatley, CA (Flatley, Claire A.)	2022	Risky sexual behavior and STI testing among teens experiencing homelessness Web of Science	The purpose of this study is to test for differences in sexual behaviors and STI/HIV testing based on student homelessness and intersecting factors	Data is used the 2019 Youth Risk Behavior Survey administered in 7 states and 3 school districts.	Survey	Students who experienced homelessness were more likely to report risky sexual behavior. Race moderated this link, suggesting that Asian students who experienced homelessness were at greater risk.
10	Hershow, RB Worthington, N Adams, M McDonald, R Wilson, S McBee, S Curran, KG	2024	A Qualitative Analysis of Barriers to Accessing HIV Prevention Services During an HIV Outbreak among Persons who Inject Drugs in West Virginia Web of Science	The purpose of this study is to identify barriers to accessing HIV prevention services among PWID using the risk environment framework	Interviews with 26 PWID and 45 community partners were completed.	Survey	Political factors included low community support for syringe services programs (SSPs); physical factors included low SSP coverage, low coverage of HIV testing outreach events, low HIV preexposure prophylaxis availability, and homelessness; social factors included stigma and discrimination; economic factors included community beliefs that SSPs negatively affect economic investments and limited resources for HIV screening in clinical settings. Individual-level barriers included co-occurring acute medical conditions and mental illness.

### **Discussion**

HIV within the homeless population is a pressing issue that needs to be addressed at the root of the problem. The literature review aims to address this problem by identifying what specific risk factors put people in the unhoused population at a higher risk for contracting HIV.

The overarching findings of the literature review show that the biggest risks people in the unhoused population face include drug-use related factors and sexual activity-related factors. These findings suggest that people in the unhoused population circumstantially are more likely to engage in behaviors such as intravenous drug use and sexual exchange. These behaviors put individuals at a significantly higher risk for contracting HIV, as HIV is contracted via sexual transmission or needle sharing practices.

The findings from the articles support the idea that in order to alleviate the contraction of HIV in the unhoused population, these risk factors need to be better managed. For example, program implementation that would help prevent intravenous drug use could potentially lead to a decrease in contraction rate, as drug use is one of the leading causes of contraction. The implications of these findings include the idea that people in the unhoused population are in need of programs that aid in alleviating these risk factors. With programs in place to help with sexual health literacy and health literacy in terms of the dangers of drug use/needle sharing, the unhoused population's risk of contracting HIV has the potential to diminish greatly.

### *Limitations*

Because the literature review only has ten articles, there are a few notable limitations to address. There is a vast body of knowledge available that addresses the different risks of contracting HIV, and this literature review was only able to review a small portion of it. Because of that, there will be a limited conclusion that can be drawn, as not all the information that exists

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in the body of knowledge will be considered in this literature review. Some additional limitations to consider is that a majority of the data used for the articles considered in the literature review are surveys. This means that the data is all self-reported, which can result in skewed data due to the sensitive and personal nature of the topic.

### *Further Research*

Further research should be conducted as to what the best possible interventions would be in order to put a stop to or limit their risk factors from the unhoused population. Now that it is established what the most notable causes are, interventions can now be made to prevent this community from exhibiting these risk factors at such high rates and subsequently, having such high contraction rates.

### *Conclusion*

HIV within the homeless population is a pressing issue that needs to be addressed at the root of the problem. The literature review aims to address this problem by identifying what specific risk factors put people in the unhoused population at a higher risk for contracting HIV. A database search found ten articles that aligned with the original research question. The findings from these articles showed that the two greatest risk factors exhibited from people in the unhoused population are intravenous drug use and sexual behaviors.

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