

# LDI *Issue Brief*

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## *Connections Between AIDS and Homelessness*

Editor's Note: Although the links between health and environment are well known, interventions that target these associations in order to improve health are rare. Health and social service agencies often function independently of one another, maintaining separate, unlinked databases. For example, relationships among homelessness, AIDS, and tuberculosis have been noted, but services have not focused on the intersecting populations these conditions affect. This Issue Brief summarizes efforts to merge databases and provide policymakers with information to guide housing, social service, and health care resources. The investigators identify risk factors associated with AIDS among the homeless, and homelessness among people with AIDS.

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### *Connections between homelessness and HIV/AIDS are hard to estimate*

Recent research has raised concerns that homeless people are a distinct at-risk group for HIV/AIDS, and that people with HIV/AIDS are at high risk for becoming homeless. However, estimates of the co-occurrence of these conditions have varied widely, because of differences in research methods, definitions, locales, and populations studied.

- Estimates of the rate of HIV/AIDS among homeless adults unaccompanied by children (single adults) have ranged from 6% to 62%. These figures are derived from small studies of particular groups of homeless people (such as those admitted to psychiatric units or requesting anonymous HIV testing), and may not reflect the HIV status of homeless people in general.
  - To determine the prevalence of homelessness among people with AIDS (PWAs), researchers have used information from housing needs-assessment surveys by local governments and advocacy organizations. However, none of these surveys included random samples, and all relied on the respondents' own reports of shelter use and AIDS diagnoses.
  - From these surveys, the proportion of people with HIV/AIDS reporting to be currently homeless has ranged from 1% in Denver to 16% in Phoenix. The proportion of people reporting to have been homeless since learning of their HIV or AIDS status has ranged from 17% to 43%. In Philadelphia, Culhane and colleagues previously reported a self-reported lifetime rate of homelessness of 35%.
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***New study integrates databases to track AIDS and homelessness in one large city***

Culhane and colleagues sought to produce more accurate estimates of connections between homelessness and AIDS by merging administrative databases on public shelters and on the incidence of AIDS cases in Philadelphia. These databases offer the advantages of providing large, highly representative study populations, and can overcome some of the limitations of survey data.

- The City of Philadelphia maintains a registry of persons requesting public shelter. For this study, the registry contained records for 44,337 adults who requested shelter from December 1989 to October 1995.
- Philadelphia also maintains a database of persons who received an AIDS diagnosis, based on a mandatory reporting requirement for health care providers. For this study, the database contained records for 7,749 persons with an AIDS diagnosis from 1982 to October 1993.
- The authors merged these datasets, matching on last name, date of birth, sex, and first initial. They found 741 people common to both databases.

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***Public shelter users are at nine times greater risk for developing AIDS within 3 years than the general population***

To analyze the prevalence of AIDS among a group of sheltered occupants, the investigators selected everyone who was in a shelter at some point in October 1991 (nearly 2,000 people), and calculated their risk for developing AIDS. The investigators measured the future risk for AIDS in terms of “person-years” observed, with each person-year reflecting one individual over one year.

- Among the shelter population, 2.5% ever received an AIDS diagnosis, including 0.2% who were diagnosed more than three years after shelter admission and 0.7% who were diagnosed any time prior to shelter admission.
- People admitted to shelters had a 3-year rate of subsequent AIDS diagnosis of 1.8 per 100 person-years, nine times the rate for the general population of Philadelphia between 1992 and 1994.
- The 3-year rate for single adults was almost twice the rate for adults accompanied by children; 73% of shelter users with AIDS are single adults.
- The 3-year rate for men was almost twice that for women; however, women represented proportionately more of the sheltered population with AIDS (26%) than in the general Philadelphia population with AIDS (15%).

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***Persons with AIDS are three times as likely as the general population to have used public shelters in previous 3 years***

For calculating measures of shelter admission among PWAs, the investigators selected the group of people diagnosed with AIDS during the years 1990-1992.

- The rate of public shelter admission 1 year after AIDS diagnosis was 3.9 per 100 person-years, increasing to 5.7 after two years, and 7.4 after three years.
  - The most at-risk period for shelter admission was during the first six months following an AIDS diagnosis. By five years after diagnosis, 10.9% of PWAs had a shelter admission.
  - Among the 967 PWAs diagnosed between January 1993 and September 1993, 10.3% stayed in a shelter in the three years prior to diagnosis. This compares with a rate of shelter admission in the previous three years of 2.7% for the general population in Philadelphia from 1990 through 1992.
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***Substance abuse and serious mental illness are associated with increased risk for AIDS among shelter users***

Culhane and colleagues previously found that people with serious mental disorders (as indicated in a longitudinal Medicaid database) were three times as likely to use a shelter as the general population. In the current study, they investigated whether behavioral health problems were associated with an increased risk for AIDS among shelter users.

- Diagnoses of substance abuse and serious mental illness were derived from intake data in the shelter registry, as well as nine years of Medicare, Medicaid, state hospital, and community mental health program data.
- Shelter users with a history of substance abuse were twice as likely to be diagnosed with AIDS as those without substance abuse.
- Shelter users with a history of serious mental illness were 1.6 times as likely to be diagnosed with AIDS as those without serious mental illness.

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***Among PWAs, African-Americans and drug users are at greater risk for shelter admission***

The investigators identified characteristics of PWAs that were associated with a greater likelihood of using a shelter.

- African-American PWAs were nearly three times as likely to have a shelter admission as other racial groups. This finding may be related to the heightened risk for shelter admission among African-Americans more generally, who account for 90% of the people in Philadelphia shelters, while accounting for only 40% of the city's population.
- PWAs with a history of injection drug use were 2-3 times as likely to have a shelter admission as those without a history of drug use. This finding suggests that drug use increases housing instability, possibly through its association with family conflict, employment problems, and health problems.
- Among male PWAs, having tuberculosis or recurrent pneumonia was associated with a roughly 50% greater risk of shelter admission. This finding highlights the potential health effects of homelessness for PWAs; in terms of tuberculosis, it also highlights the health risk that shelter residence among PWAs may pose for other shelter users.

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***POLICY IMPLICATIONS***

This study confirms that homelessness and AIDS frequently co-occur. Homelessness prevention programs should target people with HIV risk factors, and HIV prevention programs should be targeted to homeless persons.

- Homeless people represent a very high-risk population for developing AIDS. This association may be due in part to the role of housing instability in contributing to high-risk behaviors (e.g., trading sex and drugs for housing) and the greater exposure to drug activity in substandard housing and poorer neighborhoods.
- Substance abuse and mental health problems are also associated with housing instability. Although cause and effect are hard to disentangle in these settings, improved access to residential treatment for substance abuse for people who are homeless or at risk for homelessness could reduce the risk for both HIV transmission and homelessness.

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## **POLICY IMPLICATIONS**

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- Similarly, expanding housing opportunities for people with severe mental illness may reduce their risk for HIV infection, as may the development and targeting of more appropriate HIV prevention programs for such persons.
- The study demonstrates the feasibility of monitoring the co-occurrence of these conditions to inform health care, housing and social service resource allocations. Philadelphia's ability to link data from disparate sources is unusual, but reveals great opportunities for research and for targeted social interventions to improve health. As other cities develop computerized archives on shelter use, the potential uses of this kind of surveillance are likely to be profound.

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*This Issue Brief is based on the following article: D.P. Culhane, E. Gollub, R. Kuhn, and M. Shpaner. The Co-Occurrence of AIDS and Homelessness: Results from the Integration of Administrative Databases for AIDS Surveillance and Public Shelter Utilisation in Philadelphia. Journal of Epidemiology & Community Health, July 2001, vol. 55, pp. 515-520. See also D.P. Culhane, J. Averyt, T.R. Hadley. The Rate of Public Shelter Admission Among Medicaid-Reimbursed Users of Behavioral Health Services. Psychiatric Services, March 1997, vol. 48, pp. 390-392.*

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