

## Improving Outcomes in At-Risk Populations

### In this Issue...

Thirty-five years into the HIV epidemic, overall incidence has plateaued; however, certain populations continue to have heightened risk of infection, and sociodemographic, geopolitical, and cultural shifts have led to increased awareness of other potential at-risk populations. While the Centers for Disease Control and Prevention have recommended universal HIV testing for all persons 13 to 64 years of age for over a decade, it is increasingly being recognized that testing is not employed in all at-risk populations for many reasons.

In this issue we review studies of several at-risk populations, highlighting inequities in testing and access to prevention and treatment, as well disparities in HIV-related outcomes. We explore patient, provider, and systemic barriers to facilitate testing, identification, and risk reduction—with the key goal of improving recognition of at-risk, often marginalized, populations.



## Volume 3 Issue 7

### Program Information

[CME Information](#)[Accreditation](#)[Credit Designations](#)[Intended Audience](#)[Statement of Need](#)[Faculty Disclosure](#)[Disclaimer Statement](#)

### Length of Activity

1.0 hour Physicians

### Launch Date

March 12, 2018

### Expiration Date

March 11, 2020

## LEARNING OBJECTIVES

- Identify key populations at increased risk of HIV acquisition.
- Describe some of the unique issues impacting certain at-risk groups that may present barriers to testing and management.
- Determine areas for practice improvement in recognizing and testing populations at risk for HIV.

## GUEST AUTHOR OF THE MONTH

### Commentary & Reviews



**Allison L. Agwu, MD, ScM, FAAP,  
FIDSA**

Associate Professor of Pediatrics  
and Adult Infectious Diseases  
Johns Hopkins University School of  
Medicine  
Baltimore, Maryland

### Guest Faculty Disclosure

Dr. Agwu has disclosed that she has served on an expert advisory board for Gilead Sciences, Inc.

### Unlabeled/Unapproved uses

Dr. Agwu has indicated that there will be no references to the unlabeled/unapproved uses of any drugs or products.

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### Program Directors

**Alysse G. Wurcel, MD, MS**

Assistant Professor  
Division of Geographic Medicine  
and Infectious Diseases

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## HIV Outcomes Among Migrants

Tufts Medical Center  
Boston, Massachusetts

**Allison L. Agwu, MD, ScM,  
FAAP, FIDSA**

Associate Professor of Pediatrics  
and Adult Infectious Diseases  
Johns Hopkins University School  
of Medicine  
Baltimore, Maryland

## KEY TAKEAWAYS

### COMMENTARY

The demographics of new HIV diagnoses in the US are evolving. While the overall number of diagnoses has remained essentially the same, recently diagnoses have declined among those 35 and older, with stably higher rates in the younger populations (13-24 and 25-34 years of age).<sup>1</sup> As shown by 2016 data, male-to-male sexual contact continues to contribute the highest proportion of infections, particularly among younger MSM of color. In addition to populations that have consistently had the highest incidence rates, (MSM and adolescents and young adults), there is increasing recognition that certain marginalized populations such as transgender people have markedly and disparately higher rates of HIV infection and unique issues and needs, as well as poor rates of engagement and successful outcomes. Additionally, sociodemographic changes in the US, including an expanding opioid epidemic and evolving sociopolitical changes that may potentially impact migrant populations, raise concern for new key populations such as people who inject drugs (PWID) and migrants at-risk and living with HIV. The recent articles reviewed in this issue underscore these key populations, highlighting potential contributing factors as well as opportunities for intervention.

The 2017 paper by Reisner et al reports on high rates of unrecognized HIV infection among trans people, particularly young transgender females. Through a mixed-methods study of primarily young (mean age 20.7 years) trans females of color (69%), the authors describe high rates of lifetime sex work, high rates of HIV positivity, and high rates of stigma that impact these peoples' use of prevention services. As an example, less than 10% of transgender people in this cohort took preexposure prophylaxis. Despite some limitations, this study underscores the need for providers to specifically address the unique needs of this population, including using appropriate terminology, taking sexual histories, minimizing stigma, and rethinking strategies to optimize engagement for transgender youth, given their increased risk for HIV.

Similarly, given the increased risk of HIV acquisition in adolescents and young adults, it is important for providers to assess their screening practices and the post-HIV diagnosis care continuum. Despite this increased risk of HIV acquisition, Goyal et al report limited documentation of sexual activity in a large adolescent cohort. Their study highlights the association of sexual history taking with increased STI and HIV screening and suggests that the presence of parents likely hinders sexual history taking because of concerns about confidentiality. In their 2018 paper, Lally et al describe an evaluation of the continuum of care in adolescents and young adults with HIV followed at 14 adolescent clinical sites across the US. The cohort was representative of the epidemic among youth, with significant proportions of young MSM and youth of color. The authors highlight that even at these specialized sites with additional resources, though better than reported previously,<sup>2</sup> engagement and retention outcomes were lower than the 90-90-90 and US targets, with viral suppression at 59% for the cohort. They also bring to light the profound social determinants (poverty, substance use, and mental health) impacting this population that must inform innovative interventions (biomedical and behavioral) to optimizing the entire continuum from screening to viral suppression in this population. Although many providers find it challenging to take a sexual history, tools and resources are available to assist them.<sup>3</sup>

MSM continue to constitute a group with high HIV rates, and the report by McKenney et al describes the differences between urban vs rural MSM, highlighting the potential regional differences in risk assessment and access to prevention services that could potentially impact HIV acquisition. Specifically, the investigators reported that rural MSM were more

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likely to be younger, have lower incomes and educational attainment, be more likely to endorse stigma and intolerance, and be less likely to receive testing or prevention services.

Since the 2016 reports of a large outbreak of HIV and HCV in a rural population in Indiana, multiple cities have reported concentrated outbreaks of HIV among PWID.<sup>4</sup> Burnett and colleagues highlight HIV infection and HIV-associated behaviors among PWID in a large (N = 13,633) cohort across multiple regions. Interestingly, they highlight higher HIV prevalence among black PWID, those residing in the South, and those with the additional risk factor of male-to-male sex (24% HIV positivity in men who are PWID and have sex with men).

Despite lower HIV prevalence in white populations, HIV risk behaviors (eg, receptive syringe sharing, condomless intercourse) were more common among white PWID. While HIV prevalence was only 2% among the 18-29 year olds, they were more likely to be white and more recently initiated injection drug use, suggesting inadequate time having elapsed to acquire infection. Interestingly, in an article by Broz et al,<sup>5</sup> the authors examined the 2009 National HIV Behavioral Surveillance System and reported that younger PWID (18-29) were more likely to endorse receptive syringe sharing and condomless vaginal/anal intercourse. These data underscore how the combination of youth and injection drug use may increase the risk of HIV acquisition. The scope of the opioid epidemic and the heightened risk for HIV acquisition among PWID necessitate continued attention and the development of novel strategies.

Lastly, focusing on how the geopolitical changes that are occurring in the US<sup>6</sup> and globally are impacting how immigrant populations interface with society, including the medical system, the article by Ross et al described how migrants living in the US are less likely to be tested for HIV, why they present later for care, and how their special circumstances may contribute to poorer outcomes. Providers need to be cognizant of the needs of this at-risk population and the unique circumstances that may impact how they interface with the medical system.

In summary, the US HIV epidemic continues to evolve in response to factors such as the opioid epidemic, changes in immigration policy, and other social determinants. Two cross-cutting themes of the current HIV epidemic include younger age, and persistent reports of stigma preventing access and engagement in care. Critically important for providers is increased awareness of these at-risk populations, improved vigilance in screening them, and a more complete understanding of the complex factors that impact outcomes.

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# Rethinking HIV Prevention and Care in Transgender Youth

Reisner SL, Jadwin-Cakmak L, White Hughto JM, Martinez M, Salomon L, Harper GW. Characterizing the HIV prevention and care continua in a sample of transgender youth in the U.S. *AIDS Behav.* 2017 Dec;21(12):3312-3327



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Transgender and other gender minority populations constitute key at-risk groups for HIV acquisition, as demonstrated by their disproportionately high rates of HIV infection (34-fold increased odds over the general population). There is, however, limited information to inform care and prevention in this population. In this article, Reisner and colleagues aim to characterize the continuum of HIV prevention and care in transgender youth, with the goal of highlighting potential areas for interventions.

The investigators first highlight the scope of the problem by stating that transgender individuals, particularly transgender females (assigned a male sex at birth and identify as trans feminine [TF]) have an estimated 21.7% laboratory-confirmed HIV prevalence, as well as high rates of unrecognized infection. They also highlight that while there is a lower prevalence of HIV among trans masculine individuals (female sex at birth and identify on the trans masculine gender spectrum [TM]), they do have high levels of HIV-related sexual risk behaviors (eg, condomless sex). More than one in three diagnoses in TF individuals occur in 13-24 year olds, representing the challenging impact of being both young and trans.

The investigators recruited 187 transgender adolescents between the ages of 16-24 years across 14 adolescent medicine trials unit (AMTU) sites in the US, including several high HIV incidence cities such as Washington, Baltimore, and Miami. To date, this is the largest published study with transgender young populations. They aimed to characterize the HIV prevention and care continua in this population through a mixed-methods study (quantitative survey, face-to-face qualitative interview about transgender identity, and personal experiences seeking prevention and care). Participants were queried about sex, gender, medical gender affirmation, psychosocial and sexual health, HIV prevention continuum (including HIV testing and status), HIV care, and stigma.

The sample included 77% trans female and 23% trans male people with a mean age of 20.7 years; 69% were youth of color. The data revealed that about half of youth (a greater proportion of TF than TM) reported lifetime sex work. Determinants of engagement in HIV prevention included older age, youth of color, and history of homelessness. The self-reported HIV prevalence was 31%, with all cases reported in TF; ie, 41% of TF in the sample reported being HIV positive. Interestingly, 11% had never previously disclosed their status, and 12% reported unknown HIV status. While a greater proportion of TF than TM had accessed HIV prevention services (63 vs 38%), 55% described the services as trans friendly and uptake of PrEP (preexposure prophylaxis—reviewed in *eHIV Review*, Vol 3; No. 3) was low at 8%.

The authors report on the complexity of factors involved in providing quality care to transgender populations. They classified interactions as gender-affirmative (supportive of patients' gender identify) and gender-stigmatizing (treated negatively because of gender identity). Unsurprisingly, as the odds of having experienced stigma in HIV prevention and testing settings increased, the odds of reporting trans friendly services meeting their needs decreased. Higher stigma was associated with an increased likelihood of having poor engagement and retention in care for those with HIV. Overall, viral suppression rates were suboptimal, with about two-thirds of people with HIV having undetectable viral loads. In an interesting paradox, individuals who had medically affirmed their gender were less likely to be virally suppressed than those who had not affirmed their gender (36.4% vs 80.9%). The authors explore this in the discussion by stating that both affirmation and stigma experiences may occur at the same visit and may vary from visit to visit, giving examples such as in the same appointment for a trans female, the front desk receptionist may appropriately identify them by their appropriate name and pronoun, but the provider may make a stigmatizing assumption that they do not have sex with cisgender men or use the wrong terminology for a sexual act, thereby leaving the individual with a mixed perception of the entire encounter, which may impact future encounters and adherence.

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There are some limitations worth mentioning, including: 1) this is a convenience sample of youth recruited through AMTUs and may not be generalizable to the entire population; 2) the self-reported HIV prevalence was not confirmed by lab biomarkers; 3) the HIV prevalence in this recruited sample is likely higher than that in the general population, 4) social desirability of responses; and 5) limited specification about sexual acts and risk factors may have skewed results. Lastly, although this was one of the larger studies of transgender youth, from a statistical perspective, the sample size, may have been insufficient to adjust for confounders.

Nonetheless, this study highlights some important take-home messages for providers. Specifically, in this population at increased risk of HIV acquisition, there is a need for health care teams (from front staff to providers) to increase their understanding (terminology, gender affirmation) to minimize stigma and optimize interventions that improve prevention, testing, and treatment engagement for transgender youth.

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## Adhering to STI and HIV Screening Guidelines for Adolescents?

Goyal MK, Witt R, Hayes KL, Zaoutis TE, Gerber JS. Clinician adherence to recommendations for screening of adolescents for sexual activity and sexual transmitted infection/HIV. *J Pediatr.* 2014 Aug;165(2):343-7.



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Given the disproportionately high rates of new HIV infections among young people, Goyal and colleagues evaluated how well clinicians adhere to guidelines for documenting sexual history and screening for sexually transmitted infections and HIV during routine adolescent well visits. This retrospective cross-sectional study reviewed the electronic medical records of 1000 randomly selected, routine well visits of adolescents 13-19 years of age seen at 29 primary care practices that follow 40,000 adolescent patients. They aimed to assess a diverse (race/ethnicity, insurance, geographic) sample. The investigators evaluated the frequency of documentation of sexual history as well as any testing for STIs/HIV; they then examined factors associated with documentation and testing. The study was conducted between January and December 2011—five years after the 2006 Center for Disease Control and Prevention (CDC) recommendations for routine opt-out HIV testing for all people 13 to 64 years of age, which is endorsed by the American Academy of Pediatrics.

Of the 1000 patient visits: the median age was 15.1 years, 50% were male, 22% were non-Hispanic black, 84% had private insurance, 89% were accompanied by a parent or guardian, 82% were seen by an attending physician, and 70.3% of clinicians were female. Of the visits, 212 (21%) had a documented sexual history, of which only 45 (21%) were documented as being sexually active. Only 23 (2%) of patients had been tested for gonorrhea or chlamydia at or within one year of the visit, and only 1.6% had ever undergone HIV screening per CDC guidelines. If a sexual history was documented, there was an increased likelihood of GC/CT (chlamydia/gonorrhea) screening (OR 19.3; 95%CI 6.5-17.4), and confirmed sexual activity was associated with 20-fold and 16-fold increased odds in GC/CT and HIV screening, respectively. Documentation of HIV sexual history was associated with older age (15-16 vs 13-14 years), black race, nonprivate insurance, and female gender of clinician. The patient visits where sexual history was less likely to be documented included adolescent males and visits where a caregiver accompanied the adolescent. However, when examining factors associated with GC/CT testing, older age (17-19 vs 13-14 years), black race (odds ratio 66.5; 95% CI 8.9-498.6), and nonprivate insurance were associated with increased likelihood of GC/CT and HIV testing, while caregiver presence was associated with a lower likelihood of GC/CT or HIV testing.

The authors highlight several issues in their discussion: 1) despite AAP and CDC recommendations, adolescents, who have disproportionately high rates of HIV infection, are not routinely screened according to guidelines; and 2) certain factors, including race and ethnicity, reflect clinician biases regarding risk and socioeconomic status and HIV risk.



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Because this was a retrospective review, it is possible that discussions were not documented in the medical record, and generalizability to other locales may be limited, despite the investigators' attempt to sample a diverse population.

However, the large sample size and diversity of clinic types are strengths. Since asking and documenting sexual history prompted STI/HIV testing and parental presence discouraged both sexual history taking and STI/HIV testing, the study underscores the importance of providers' developing proficiency in sexual history taking among adolescents and young adults and understanding privacy and confidentiality, even when parents are involved in the encounter. During and after the adolescent years, encounters with the medical system become more episodic and less routine, often triggered by urgent or emergency events. The adolescent years establish the framework for how emerging adults will interact with their health care provider as they mature, particularly around sensitive issues such as sexuality and risk behaviors. For both the adolescent and the provider, this study highlights challenges and opportunities to change how these interactions occur, as well as to improve testing for an at-risk population.

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## Young People and the HIV Care Continuum

Lally MA, van den Berg JJ, Westfall AO, et al; Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN). HIV continuum of care for youth in the United States. *J Acquir Immune Defic Syndr*. 2018 Jan 1;77(1):110-117.



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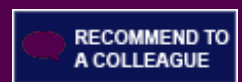
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Young people between the ages of 13 to 24 continue to account for over 20% of new HIV diagnoses in the US.<sup>1</sup> Once HIV is diagnosed, this age group has lower rates of engagement, retention, and HIV viral load suppression.<sup>1</sup> Understanding the continuum of care for youth is important to identifying factors associated with worse and better outcomes to inform interventions for this at-risk population.

Lally and colleagues conducted a longitudinal cohort study of youth ages 13-24 at 14 adolescent medicine trial units affiliated with the Adolescent Trials Network located in multiple US regions. The study was conducted between February 2015 and February 2016 and included collection of demographic and socioeconomic information, HIV diagnoses (acquisition risk, date, viral load, CD4), and behaviors (substance use, readiness, self-efficacy, ability) using audio computer-assisted self-interview and abstraction from the medical record of clinical utilization and outcomes. Participants included in the analysis were followed at the clinical sites, data was abstracted for up to six months retrospectively, and all had to have one year of follow-up in the study. The investigators then aimed to characterize the continuum of care among the population according to standard definitions by the federal Health Resources and Services Administration (HRSA).

Nine-hundred-twenty-four youth were enrolled in the study; however, because of early termination of the study, one year of follow-up was only available on 467 of those enrolled. The majority (57%) were between 22 and 24 years old, with 16% between the ages of 16 and 19. Of the key demographic characteristics, 80% were assigned male gender at birth, with 3% identifying as trans female, and 71% were black/non-Hispanic. About one-third had HIV diagnosed within the year of the interview, and about one-half within the three years before the interview. Of note, 74% reported male-to-male sex (personal communication). These cohort demographics highlight many challenges with this population, with 63% having only a high school education or less, 50% reporting an annual income of \$6000 or less, and 40% reporting a history of incarceration. Seventy-eight percent of the sample reported never using opioids, sedatives, cocaine, amphetamines, cocaine, or hallucinogens, but 39% reported weekly or more frequent marijuana use. The majority of participants (85%) had disclosed their HIV status to someone else. Depression and anxiety were identified by the symptom inventory in 43% and 31% of participants, respectively.

The care continuum from this article is displayed in Figure 1, showing that 86% of the study population met criteria for care engagement, with at least two care visits 90 days apart within

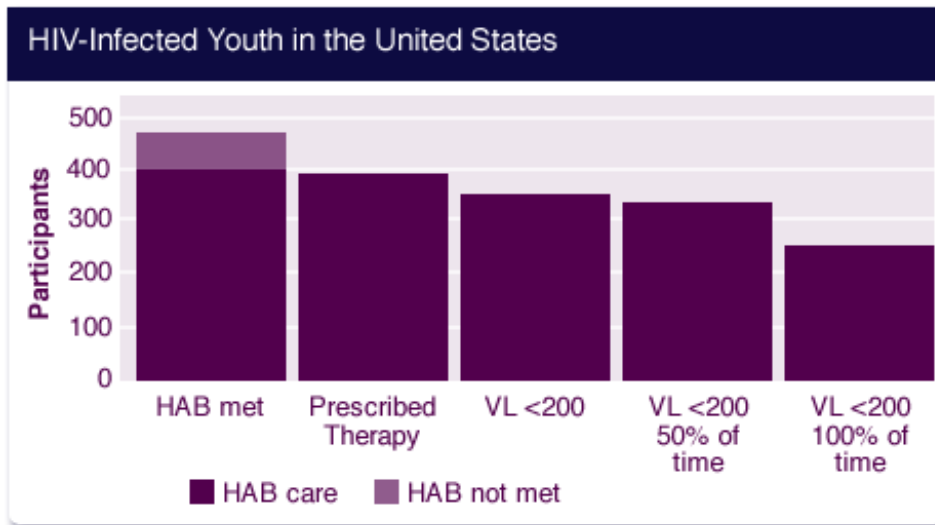


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a one-year period. Most of the people engaged in care (98%) were prescribed HIV medications and most (89%) had HIV viral suppression for at least half of the viral measurements during that time. Even with the multitude of social determinants that have been associated with poor outcomes (ie, substance use, unemployment) the care continuum was better than previously reported by Zanoni et al (2014),<sup>2</sup> but worse than the 90-90-90 goal and the current national standards across the continuum. If youth could be engaged in care, they were more likely to achieve viral suppression, underscoring the critical importance of bolstering interventions to improve engagement in care for youth.



HAB met among cohort	Prescribed Therapy among those who met HAB	VL <200 among those who met HAB	VL <200 50% of time among those who met HAB	VL <200 100% of time among those who met HAB
86% (403/467)	98% (394/403)	89% (360/403)	81% (325/403)	59% (238/403)

Note: HAB = HAV/AIDS Bureau measure

Of note, the sites where these youth were followed are all “optimal” adolescent sites that include adolescent-focused care and offer specialty services such as adherence counseling (100%), peer support groups (88%), clinic based substance use (64%) and mental health (93%) treatment, clinic-based peer navigators (100%) and case management (100%), which may not be available at all sites where youth may be seen. Our prior data from the HIV Research Network<sup>3,4</sup> show that the large majority of youth are actually seen at adult sites and therefore the results demonstrated in the Lally study may not be generalizable to youth seen at adult sites. Other key limitations include self-report of certain measures, which is subject to bias, and a limited proportion of youth who had a one-year follow-up.

The study highlights the challenges facing many youth and calls for strategies to better engage this high priority population that continues to face disproportionately higher rates of HIV infection and poorer outcomes.

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## Urban vs Rural MSM: Risk Behaviors and Prevention Services Use

McKenney J, Sullivan PS, Bowles KS, Oraka E, Sanchez TH, DiNenno E. HIV risk behaviors and utilization of prevention services, urban and rural men who have sex with men in the United States: Results from a national online survey. *AIDS Behav.* 2017 Oct 6.

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There are regional differences in the HIV epidemic, with the southern U.S. having higher rates of HIV infection, particularly among gay, bisexual, and other men who have sex with men (MSM).<sup>1,2</sup> There is concern that a lack of culturally competent and nonstigmatizing resources in areas outside of large metropolitan areas may lead to decreased access to HIV prevention messages and resources. McKenney et al aimed to compare risk behaviors and use of prevention services among men who have sex with men in urban vs rural areas of the US.

The investigators delivered a 15-minute, self-administered Web-Based HIV Behavioral Survey (WHBS) to assess self-reported HIV risk behaviors, HIV testing behaviors, and access to and use of HIV prevention services among MSM. The survey was administered on the internet and recruited participants were an internet-based convenience sample. The study was conducted between June and August 2012 among US residents ages 18 and older who considered themselves male (not transgender), were English or Spanish-speaking, and endorsed oral or anal sex with a man. Participants were recruited using banner ads, social media, and peer referral. Internal protocol addresses were collected to assure unique respondents. ZIP code of residence was collected and urban vs rural classification was made based on the US Census Bureau's data (rural population density < 1000 people per square mile and urban > 1000 people per square mile).

Some 13,147 persons were screened, and ultimately the analytic sample included 9,019 men (43% from rural and 57% from urban areas). Demographic characteristics included black race (4.7%), Hispanic/Latino (10.1%) and white (77.8%); 26% of participants were under age 25; and 14.4% had never been tested for HIV. Rural MSM were more likely to be younger than urban MSM, comprising one-third of the rural versus one-fifth of urban cohorts, respectively. Further, rural MSM were also more likely to have lower incomes and educational attainment.


Examining the 2,794 HIV-negative or status-unknown individuals, the investigators found no differences in reports of condomless anal intercourse between the two groups; however, lower proportions of rural MSM reported being tested for STIs or HIV in the past year: 26% vs 38% for gonorrhea, 26% vs 37% for chlamydia, 27% vs 40% for syphilis, and 79% vs 88% for HIV, respectively, in rural vs urban participants. Further, rural MSM were less likely to access free condoms or have received individual prevention services in the prior year. In contrast to previous studies, there was no significant difference in reports of condomless sex between rural and urban MSM. Lastly, rural MSM were more likely to report perceived intolerance because of sexual identity and a trend toward increased discrimination.

While there are some important limitations to the study, including, among other limitations, that it is a convenience sample and with limited numbers of black respondents. However, the findings do highlight that there are likely important distinctions between MSM in urban vs rural areas that may warrant different approaches to reach these at-risk populations.

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## HIV and Persons Who Inject Drugs — A Look at 20 US Cities

Burnett JC, Broz D, Spiller MW, Wejnert C, Paz-Bailey G. HIV infection and HIV-associated behaviors among persons who inject drugs — 20 Cities, United States, 2015. *MMWR Morb Mortal Wkly Rep* 2018;67:23–28.

As opioid use soars in the US, there is increasing concern that outbreaks like that reported in Indiana in 2014-2015 (involving injection use of oxycodone) will continue to evolve with resultant increases in HIV and HCV transmission.<sup>1</sup>

In this 2018 publication, Burnett et al describe HIV infection and HIV-associated behaviors among persons who inject drugs (PWIDs) across 20 US cities, with the goal of highlighting potential opportunities for interventions to tide the epidemic. The authors first highlight that 9% of incident HIV infections in the US in 2015 were attributed to injection drug use, with 79% occurring in urban areas. The National HIV Behavioral Surveillance (NHBS) aims to monitor HIV prevalence as well as behaviors that can be associated with HIV infection among PWID. To do this, they conducted a cross-sectional behavioral survey and HIV testing across 20 cities including Atlanta, Baltimore, Chicago, Boston, New Orleans, New Jersey, Washington DC, and Miami. To recruit PWID, they used respondent-driven sampling, in which participants are asked to recruit/refer others to the study. The study methods included a face-to-face administered questionnaire and anonymous HIV testing. Participants were asked to report on behaviors occurring in the past 12 months, including high-risk injection (specifically receptive sharing) or sexual behaviors, testing for HIV and HCV, as well as participation in HIV behavioral interventions. Since a diagnosis of HIV infection may change/influence one's behavior, the investigators then analyzed the data in HIV-negative participants (confirmed by their HIV testing obtained in the study).

The 2015 NHBS study included 13,633 persons, of whom 2,955 were ineligible, and 330 had incomplete data, leaving 10,348 PWID with HIV test results. Of those, 709 (7%) tested positive and 9,639 tested negative. Of those who tested positive, HIV prevalence was found to be higher among blacks than whites (11% vs 6%) and among those residing in the South (10%) vs the Midwest (3%) vs the Northeast (5%). A particularly higher-risk group was male PWID who reported male-to-male sex, with prevalence of 24%. In examining age, the highest HIV prevalence was seen in those 40-49 years (11%) with only 2% among the 18-29 year-olds.

The authors speculate that the higher HIV prevalence in blacks who inject drugs than in whites who inject drugs, despite fewer risk behaviors in blacks, may be due to the length drug use, with whites being more likely to report recent (within five years) initiation of drug use. This factor may suggest that the lower incidence among white PWID may be related to less time elapsed to acquire infection.

The rest of the study examined the risk behaviors among HIV-negative PWID. Among this group, 27% shared syringes (receptively), 67% endorsed condomless vaginal sex, 22% condomless heterosexual anal sex, and 45% had more than one opposite sex partner. Of note, receptive syringe sharing was more commonly reported among whites (39%) than among Hispanics (24%) and blacks (17%), with a similar pattern for sharing injection equipment. Also, vaginal and anal sex without a condom was more commonly reported among whites (74% and 25% respectively) than among blacks (62% and 17% respectively).

About half (58%) of HIV-negative PWID reported being HIV tested in the prior 12 months, 52% reported receiving syringes from a syringe service, and 34% reported all syringes were from sterile sources. White participants (51%) were less likely than black (65%) or Hispanic (62%) participants to undergo HIV testing. Individuals in the South were least likely to receive syringes from a syringe service programs or to obtain sterile syringes than those in other regions. Health insurance impacted HIV testing, with those who were insured being more likely to report HIV testing and behavioral interventions than those without insurance.

Some important limitations include generalizability, recruitment and participation bias, inadequate numbers in some locales, and self-report and social desirability bias

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(respondents answer questions in a manner that they think will be viewed favorably). Nonetheless, the article highlights that nearly half of this high-risk population did not undergo recent HIV testing, and significant proportions have not accessed syringes or behavioral interventions. There are regional disparities in access to care, especially in the southern US. With the spike in injection opioid use, there are potential gaps and opportunities to limit acquisition and transmission of HIV infection. Diligence in awareness, HIV testing, prophylaxis, and treatment, referral to mental health and substance use programs, and expansion of programs (eg, syringe services) are critical to avert future outbreaks.

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## HIV Outcomes Among Migrants

Ross J, Cunningham CO, Hanna DB. HIV outcomes among migrants from low-income and middle-income countries living in high-income countries: A review of recent evidence. *Curr Opin Infect Dis*. 2018 Feb;31(1):25-32.



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In this 2018 report, Ross et al undertake a review of the literature to provide a deeper understanding of HIV prevalence and outcomes among migrant populations in high-income countries. The authors define migrants as people living temporarily or permanently outside their country of birth and note an estimated 11 million undocumented migrants are living in the US (and an estimated 244 million people worldwide). In many high-income countries, the proportion of new HIV diagnoses represented by migrants actually exceeds the percentage of foreign-born persons in the general population.<sup>1</sup> The article highlights that stigma and limited access to care are likely the main drivers of increasingly recognized poor HIV outcomes among migrants in high-income countries such as the US and discusses opportunities to address/improve these outcomes.

Prior research<sup>2-4</sup> that relied on participant self-report or CD4 testing suggested that migrant populations from low-income countries were infected with HIV prior to moving to high-income countries. Recently, however, reports from Europe<sup>5</sup> that have used more robust methods estimate that nearly 50% of migrants were actually infected *after* migration. In the US the data are more limited: however, detailed phylogenetic/network analysis has revealed in one study<sup>6</sup> that 62% of migrants with HIV had partners who were born in the US, with other analyses suggesting that 61% were infected after arriving in the US. The highest post-migration infection rates are seen among PWID and MSM, with the lowest seen among those who report heterosexual sex. Other identified risk factors for post-migration infection include young age, male sex, being from Latin America or the Caribbean, and having lived in one's home country for a longer time (ie, migrating at an older age).

Examining reasons for the disproportionately higher HIV rates, the authors report on qualitative studies in the US and other high-income countries suggesting that the reasons are multifactorial and include stigma, increased risk behavior (including involuntary sexual activity), and limited access to HIV prevention services. Further, other issues — including the disruption of social networks, social and legal challenges, and isolation — impact access of prevention services. Migrants are less likely to be tested for HIV (49% of black and Hispanic migrants in one US study had never been tested) and more likely to present to care later, as evidenced by lower median CD4 counts on diagnosis.

Once HIV is diagnosed, migrants' outcomes are impacted by individual, structural, and

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cultural barriers such as language, laws, insurance and cost, access, transportation, and high mobility. Interestingly, migrant populations in Europe with HIV are less likely to initiate HIV treatment, less likely to have HIV viral suppression, and more likely to be lost to follow-up. In the US and Australia, however, there was no difference in these outcomes between migrant and nonmigrant people with HIV. Further, immigrants may have different barriers (eg, less substance use) than nonimmigrant populations with HIV.

The authors discuss targets for interventions, including provider education about the risks and special needs of these migrant populations, peer navigators, cultural competency, and bundling HIV testing with other more “acceptable” testing such as diabetes or hypertension screening. They point out that understanding the epidemiology of HIV is highly reliant on the patients’ country of origin, a data point not always included in public health reports. The authors also stress the need to develop, study, and implement interventions to address HIV prevention and treatment access disparities experienced by this at-risk population that is often hiding in plain sight. They acknowledge that interventions developed in one country or part of the world may not be applicable or scalable globally. This finding is especially pertinent to successful interventions developed in the US that have been employed on nonimmigrant populations, which may not be applicable to immigrant populations and may need to be modified.

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## KEY TAKEAWAYS

- While HIV incidence has remained stable overall, it has increased in specific populations, including MSM, transgender people, and adolescents/young adults.
- Other key populations, such as PWID and immigrants, have shown an increased risk of HIV acquisition, with additional challenges (eg, high mobility, legal concerns, decreased access to medical system, lower uptake of testing) that impact how they engage with health care, including testing.
- Each of the at-risk populations has unique needs that impact their risk of acquisition, testing practices, and post-testing care, and management.
- There are regional differences in risk perception, testing practices, and access to preventive services.



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