Prevention and Care Opportunities for People Who Inject Drugs in an HIV Outbreak — Kanawha County, West Virginia, 2019–2021

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INTRODUCTION

In 2019, the West Virginia (WV) Bureau for Public Health identified 15 HIV diagnoses among people who inject drugs (PWID) in Kanawha County, an area disproportionately affected by the opioid crisis; previously, annual diagnoses were less than 5. We investigated health care use and service delivery among PWID during the outbreak to identify opportunities to improve HIV- and opioid-related interventions.

METHODS

For PWID with HIV diagnosed during January 1, 2019–June 18, 2021 who resided in Kanawha County, we reviewed WV HIV surveillance data and medical records from the county's largest medical system, including a Ryan White Program HIV clinic, and a community clinic serving PWID. We analyzed health care encounter and HIV- and opioid-related services data from 1 year before HIV diagnosis through June 18, 2021. Opioid-related encounters included any with documentation of illicit opioid use (including prescription opioid misuse), a toxicology screen positive for opioids, or provision of syringe services. We calculated cumulative totals and percentages for all variables and the median for age and health care encounters per person.

RESULTS

Sixty-five PWID with HIV were included in this analysis. The median age at HIV diagnosis was 34 years (interquartile range, 30–37); 54% were male; 92% were non-Hispanic White. Sixty-two percent were ever homeless or unstably housed, and 31% were previously incarcerated. Twelve PWID (18%) had infection ever classified as stage 3 (AIDS), and 22 (34%) had ever achieved viral suppression (Table 1).

We identified 496 encounters during 127 person-years of follow-up, including encounters in the emergency department (207, 42%), inpatient (100, 20%), and outpatient (189, 38%) settings (Table 2). There were 181 (36%) encounters for injection drug use–associated bacterial infections, most of which were skin or soft tissue infections, and 17 (3%) for overdose. Among 291 opioid-related encounters, prescriptions for naloxone and medications for opioid use disorder (MOUD) were documented at 28 (10%) and 58 (20%) encounters, respectively. Sixty-two HIV screening tests were performed, and only 5 individuals had a negative HIV test in the year preceding HIV diagnosis. No one was prescribed HIV preexposure prophylaxis (PrEP). Four people (6%) received sterile syringes. For 80 (26%) acute care (emergency department and inpatient) encounters, patients left care against medical advice.

DISCUSSION

During this HIV outbreak, we found high health care use among PWID and identified missed opportunities to prevent HIV transmission and address illicit opioid use. We documented high rates of polysubstance use (primarily heroin and methamphetamine), homelessness, and prior incarceration. Like other recent HIV outbreaks among PWID, the Kanawha County outbreak highlights the intersection of social vulnerability with polysubstance use, mental health disorders, and HIV prevention services.[1]

Health care encounters were frequent in acute care settings, similar to prior studies of health care use in populations affected by homelessness and substance use.[2] These encounters provide opportunities to engage PWID in HIV prevention and substance use treatment and support services, which were frequently missed during the outbreak. Potential interventions for acute care settings include HIV screening, programs to increase PrEP provision, and electronic health records–based tools to facilitate HIV testing and identify PrEP candidates.[3,4] Hospital-based interventions for opioid-use disorder include MOUD initiation and linkage to follow-up treatment, addiction consultation services, and providing harm reduction services including naloxone distribution and syringe services programs.[5,6]

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Table 1 Demographic and HIV Clinical Characteristics of PWID with HIV Diagnosed During an HIV Outbreak — Kanawha County, WV, 2019–2021[*]

	Total patients (*N*=65)
	***n*, Col %[†]**
Demographic characteristics	
Age at HIV diagnosis	
18–29	14 (22%)
30–39	40 (62%)
40–49	9 (14%)
≥50	2 (3%)
Gender	
Male	35 (54%)
Female	30 (46%)
Race/Ethnicity	
White, non-Hispanic	60 (92%)
Black, non-Hispanic	2 (3%)
Hispanic/Latino	0 (0%)
Other	3 (5%)
Ever incarcerated	20 (31%)
Ever experienced homelessness or unstable housing	40 (62%)
Ever diagnosed with a mental health condition	23 (35%)
Substance use documented in medical record	
Illicit use of opioids[‡]	55 (85%)
Methamphetamine	53 (82%)
Marijuana	24 (37%)
Cocaine	8 (12%)
Illicit use of benzodiazepines	8 (12%)
Alcohol	13 (20%)
Other	13 (20%)
Polysubstance use[§]	57 (88%)
HIV clinical characteristics	
Ever classified as stage 3 (AIDS)[|]	12 (18%)
Engaged in HIV care within the last 3 months	19 (30%)
Ever virally suppressed[¶]	22 (34%)

Abbreviations: PWID, persons who inject drugs

[*]*The outbreak investigation included persons diagnosed with HIV during January 1, 2019–June 18, 2021*

[†]*All estimates are rounded; totals may not sum secondary to rounding*

[‡]*Includes heroin, fentanyl, and illicit use of opioids (including misuse of prescription opioids) documented in the medical record*

[§]*Polysubstance use was defined as using any combination of the above substances as documented in the medical record*

[|]*HIV infection, stage 3 (AIDS) is defined as a CD4 lymphocyte count of <200 or a CD4 percentage of total lymphocytes of <14% or documentation of an AIDS-defining condition*

[¶]*HIV viral suppression is defined as a viral load result of <200 copies/mL*

We found high rates of leaving care against medical advice and low rates of HIV care engagement and viral suppression, indicating significant gaps in meeting the needs of PWID. Adopting patient-centered care models that account for concurrent social and medical challenges for PWID is important for preventing outbreaks and improving care. Health care systems can address these needs by reducing stigmatizing health care interactions, integrating social services, and providing substance use treatment and support services at every opportunity.[5] Co-locating health and social services in a "one-stop shop" model or implementing mobile or community outreach may improve engagement in care.[1]

Our findings are limited by the incompleteness of medical record and public health surveillance data, and because medical record review was limited to two health organizations.

Table 2 Health Care Use Among PWID in an HIV Outbreak, by Setting — Kanawha County, WV, 2019–2021*

	Overall	Emergency department	Inpatient	Outpatient
	n, Col %†			
Health care encounters during review period	496	207	100	189
Health care encounters per patient (median, range)	5.0 (1–33)	2.0 (1–4)	1.5 (0–1)	1.0 (0–4)
Health care encounters per person-year, before HIV diagnosis	3.2	1.9	0.9	0.4
Health care encounters per person-year, after HIV diagnosis	4.6	1.3	0.7	2.6
Encounters where patient left AMA	80 (26%)	33 (16%)	47 (47%)	N/A
Encounters with a drug overdose diagnosis	17 (3%)	11 (15%)	6 (6%)	0 (0%)
Encounters in which syringe services provided‡	4 (1%)	0 (0%)	0 (0%)	4 (2%)
Encounters with an IDU-associated bacterial infection	181 (36%)	75 (36%)	77 (77%)	29 (15%)
Skin and soft tissue infection	129 (71%)	64 (85%)	38 (49%)	27 (93%)
Sepsis or bacteremia	49 (27%)	6 (8%)	43 (56%)	0 (0%)
Endocarditis	22 (12%)	3 (4%)	19 (25%)	0 (0%)
Osteomyelitis	20 (11%)	6 (8%)	12 (16%)	2 (7%)
Opioid-related encounters§	291 (59%)	129 (62%)	82 (82%)	80 (42%)
Among opioid-related encounters§, encounters with naloxone prescription documented‖	28 (10%)	4 (3%)	12 (15%)	12 (15%)
Among opioid-related encounters§, encounters with MOUD prescription documented‖,¶	58 (20%)	12 (9%)	26 (32%)	20 (25%)

Abbreviations: AMA, against medical advice; col, column; IDU, injection drug use; MOUD, medications for opioid use disorder; N/A, not applicable
**The outbreak investigation included persons diagnosed with HIV January 1, 2019–June 18, 2021*
†All estimates are rounded; totals may not sum secondary to rounding
‡Includes providing sterile syringes and injection equipment, teaching safer injection practices, and safe disposal of syringes
§Opioid-related encounters included any with documentation of illicit use of opioids (including misuse of prescription opioids), a toxicology screen positive for opioids, or provision of syringe services
‖A documented prescription refers to a prescription provided during that encounter or documentation that the patient was currently prescribed the medication
¶MOUD includes buprenorphine, methadone, and extended release naltrexone documented in the medical record for that use

Health care systems should strive to integrate patient-centered HIV prevention and substance use treatment and support services across care settings for PWID to reduce HIV transmission and risk of future outbreaks.

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Declarations:

Ethics Approval: *This activity was reviewed by the Centers for Disease Control and Prevention and was conducted consistent with applicable federal law and CDC policy (45 C.F.R. part 46, 21 C.F.R. part 56; 42 U.S.C. §241(d); 5 U.S.C. §552a; 44 U.S.C. §3501 et seq.).*

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

Disclaimer: *The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.*

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