# Making the Case for Syringe Services Programs

The United States is facing an urgent drug overdose crisis involving the misuse of opioids, such as heroin, fentanyl, and prescription drugs, as well as psychostimulants, including methamphetamines and cocaine. 1,2 The increase in substance misuse has resulted in increases in infectious diseases related to injection drug use.<sup>3</sup> In 2018, nearly 70 000 drug overdose deaths occurred in the United States.<sup>4</sup> That same year, an estimated 44 000 persons were newly infected with hepatitis C virus (HCV),<sup>5</sup> a 4-fold increase since 2010. Since 2014, new hepatitis B virus infections have also increased.<sup>6</sup> And from 2016 to 2019, 32 states reported outbreaks of hepatitis A virus infection, affecting primarily persons using drugs and experiencing homelessness. Similarly, the longstanding decline in HIV diagnoses among persons who inject drugs (PWID) in the United States has now stalled.

Policies to address this crisis must now be implemented to prevent transmission of disease among PWID. These policies can strengthen systems that help PWID to seek and receive health care and to stop using drugs. Examples are state and local policies that enable implementation of comprehensive syringe services programs (SSPs).

SSPs are community-based prevention programs that serve PWID. SSPs vary in the services they provide. Some SSPs offer only sterile injection equipment, whereas comprehensive SSPs also include safe disposal of used injection equipment and other services—or referrals to services such as substance use disorder treatment; screening and treatment for infectious diseases (HIV, hepatitis, sexually transmitted diseases, skin infections, and endocarditis); naloxone distribution; and social, mental health, and other medical services. <sup>8,9</sup> SSPs do more than prevent infectious disease transmission. By providing naloxone to PWID, SSPs can also help decrease the number of opioid-related overdose deaths. 10,11 New users of SSPs are 5 times more likely to enter drug treatment and almost 3 times more likely to stop using drugs than persons who do not use SSPs. 12 Nearly 30 years of research has shown that SSPs are safe, effective, and cost-saving and that they do not increase illegal drug use or crime.<sup>9,13</sup> By providing care with a compassionate,



Jerome M. Adams, MD, MPH Vice Admiral, US Public Health Service US Surgeon General

Public Health Reports 00(0) 1-3
© 2020, Association of Schools and Programs of Public Health All rights reserved.
Article reuse guidelines: sagepub.com/journals-permissions DOI: 10.1177/0033354920936233 journals.sagepub.com/home/phr

**\$**SAGE

nonjudgmental approach that caters to the complex psychosocial needs of PWID, SSPs serve as a critical and accessible resource for PWID.

I saw the opioid crisis firsthand in 2014 while serving as Indiana state health commissioner. I was alerted by the state epidemiologist that the town of Austin, Indiana, located in rural Scott County, was experiencing a spike in HIV cases. Although the drug problems in the area were well known, we were surprised by this unprecedented outbreak caused by shared syringes. Ultimately, 220 persons became infected with HIV, and more than 90% were coinfected with HCV in Scott County. 14 Although I knew of evidence that SSPs were an effec-

tive way to slow the spread of HIV and viral hepatitis, local support for the programs was low. As the case count rose, then-Governor Mike Pence agreed to support SSP legislation, and, in April 2015, the state passed a law allowing the temporary use of SSPs through an emergency order. We collaborated closely with law enforcement, the faith community, and others; with their support, later that month, an SSP opened in Scott County.

The impact of SSPs in Scott County among PWID was powerful. A study by the Centers for Disease Control and Prevention (CDC) conducted before and after the SSP was opened showed that almost 90% of injection drug users surveyed reported using the program, including almost all persons living with HIV. <sup>16</sup> In the first 5 months of the program, the proportion of SSP clients who reported sharing injection equipment dropped from 74% to 22%. HIV infections began to drop, and by 2018, Scott County saw a 96% reduction in new HIV infections and a 76% reduction in new HCV infections. <sup>15</sup> In an important lesson learned, a modeling study of the Indiana outbreak showed that the earlier SSPs are implemented, the more community HIV cases they can avert. <sup>17</sup>

The infectious disease consequences of injection drug use place a heavy toll on entire communities and are a serious threat to the health and well-being of our nation. The estimated cost of providing health care services to persons living with chronic HCV infection is \$15 billion annually. 18 The average cost of a hepatitis A-related hospitalization in 2016 was \$16 610, and recent hepatitis A virus outbreaks alone have cost the nation at least \$270 million since 2016. In 2019, HIV care and treatment cost the US government more than \$20 billion.<sup>20</sup> The cost for treating HIV infections related to the Scott County outbreak is projected to be more than \$100 million.<sup>21</sup> SSPs are associated with an approximately 50% reduction in HIV and HCV incidence. <sup>18</sup> A 2019 study in Philadelphia found that SSPs averted 10 582 HIV infections during a 10-year period. This number equates to a 1-year return on investment of \$243.4 million.<sup>22</sup> By helping reduce the economic burden of drug use and associated infections, SSPs should be considered an important partner in my Community Health and Economic Prosperity initiative, which views community health as inherently linked with economic outcomes.<sup>23</sup>

Federal funds can now be used to support SSPs under certain circumstances, with the exception that those funds may not be used to purchase needles or syringes.<sup>24</sup> To use federal funds, health departments must first consult with CDC and provide data that demonstrate the need for SSPs. As of April 2020, every state that had examined its data had found a need for SSPs, and 44 states had received concurrence from CDC to use federal funds to support SSPs.

The decision to incorporate SSPs as part of a comprehensive prevention program is made at the state and local levels. Laws vary by state and can either facilitate or be barriers to SSP implementation. In addition to a legal foundation, widespread support within a community is necessary to ensure program success. Just as was done in Scott County, the needs of PWID, law enforcement, faith-based organizations, and the community at large must be sought and considered.

For example, before legislation in 2015, SSPs were illegal in Kentucky. When passed, that law allowed public health departments to operate SSPs after approval from relevant county boards of health, county fiscal courts, and city councils. Educating officials and community members and addressing concerns and misconceptions (eg, that SSPs enable drug use) helped secure SSP approval and support. By the end of 2015, three counties in Kentucky had operational SSPs, including in the 2 largest cities, Louisville and Lexington. As of April 3, 2020, Kentucky had 70 SSPs in 60 counties, with more in the planning stages. The stage of the stage o

The number of SSPs across the country is increasing, and the evidence supporting their effectiveness continues to grow. I call on local public health officials to make use of this valuable resource that can help improve the health of those they serve.

It will take mobilized communities, evidence-based policy, and effective programs to stem the tide of infectious diseases related to drug use. Furthering the ability of SSPs to connect directly with PWID is one step that can benefit our communities as we collectively rise to meet this challenge.

## **Acknowledgments**

The author thanks Diana S. Padron, MAJC, of the Office of Policy, Planning, and Partnerships, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention; and Alice K. Asher, PhD, RN, of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, for their input on this article

### **Declaration of Conflicting Interests**

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

# **Funding**

The authors received no financial support for the research, authorship, and/or publication of this article.

#### References

- US Department of Health and Human Services. What is the U.S. opioid epidemic? Last reviewed September 2019. Accessed March 24, 2020. https://www.hhs.gov/opioids/about-the-epidemic/index.html
- 2. The White House, Office of National Drug Control Policy. The drug crisis. Accessed March 24, 2020. https://www.whitehouse.gov/ondcp/the-administrations-approach/the-drug-crisis
- Zibbell JE, Asher AK, Patel RC, et al. Increases in acute hepatitis C virus infection related to a growing opioid epidemic and associated injection drug use, United States, 2004 to 2014. Am J Public Health. 2018;108(2):175-181. doi:10.2105/AJPH. 2017.304132
- Centers for Disease Control and Prevention. Opioid overdose: drug overdose deaths. Accessed March 24, 2020. https://www.cdc.gov/drugoverdose/data/statedeaths.html
- Centers for Disease Control and Prevention, National Notifiable
  Diseases Surveillance System. Hepatitis C, acute. Accessed
  April 14, 2020. https://wwwn.cdc.gov/nndss/conditions/hepatitisc-acute
- Centers for Disease Control. Surveillance for viral hepatitis— United States, 2017. 2019. Accessed April 27, 2020. https://www.cdc.gov/hepatitis/statistics/2017surveillance/commentary.htm
- Lyss S, Zhang T, Oster AM. HIV diagnoses among people who inject drugs by urban-rural classification, 2014-2016. Poster #886.
   Poster session presented at: Conference on Retroviruses and Opportunistic Infections; March 4-7, 2019; Seattle, Washington.
- Martin NK, Hickman M, Hutchinson SJ, Goldberg DJ, Vickerman P. Combination interventions to prevent HCV transmission among people who inject drugs: modeling the impact of antiviral treatment, needle and syringe programs, and opiate substitution therapy [Erratum appears in Clin Infect Dis. 2014;58(8):1203]. Clin Infect Dis. 2013;57(suppl 2):S39-S45. doi:10.1093/cid/cit296
- Aspinall EJ, Nambiar D, Goldberg DJ, et al. Are needle and syringe programmes associated with a reduction in HIV transmission among people who inject drugs: a systematic

Adams and Stokes 3

- review and meta-analysis. *Int J Epidemiol*. 2014;43(1):235-248. doi:10.1093/ije/dyt243
- Seal KH, Thawley R, Gee L, et al. Naloxone distribution and cardiopulmonary resuscitation training for injection drug users to prevent heroin overdose death: a pilot intervention study. *J Urban Health*. 2005;82(2):303-311. doi:10.1093/jurban/ jti053
- Leece PN, Hopkins S, Marshall C, Orkin A, Gassanov MA, Shahin RM. Development and implementation of an opioid overdose prevention and response program in Toronto, Ontario. *Can J Public Health*. 2013;104(3):e200-e204. doi:10.17269/ cjph.104.3788
- 12. Hagan H, McGough JP, Thiede H, Hopkins S, Duchin J, Alexander ER. Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange participation in Seattle drug injectors. *J Subst Abuse Treat*. 2000;19(3):247-252. doi:10.1016/S0740-5472(00)00104-5
- Bernard CL, Owens DK, Goldhaber-Fiebert JD, Brandeau ML. Estimation of the cost-effectiveness of HIV prevention portfolios for people who inject drugs in the United States: a modelbased analysis. *PLoS Med.* 2017;14(5):e1002312. doi:10.1371/ journal.pmed.1002312
- 14. Sightes E, Ray B, Watson D, Huynh P, Lawrence C. The Implementation of Syringe Services Programs in Indiana: Benefits, Barriers, and Best Practices. Indiana University Richard M. Fairbanks School of Public Health; 2018. Accessed April 14, 2020. https://fsph.iupui.edu/doc/research-centers/ SSP Report 20180516.pdf
- 15. Ind. Code Title 16. Health § 16-41-7.5
- Dasgupta S, Broz D, Tanner M, et al. Changes in reported injection behaviors following the public health response to an HIV outbreak among people who inject drugs: Indiana, 2016. AIDS Behav. 2019;23(12):3257-3266. doi:10.1007/s10461-019-02600-x
- Gonsalves GS, Crawford FW. Dynamics of the HIV outbreak and response in Scott County, IN, USA, 2011-15: a modelling study. *Lancet HIV*. 2018;5(10):e569-e577. doi:10.1016/S2352-3018(18)30176-0

- 18. Chahal HS, Marseille EA, Tice JA, et al. Cost-effectiveness of early treatment of hepatitis C virus genotype 1 by stage of liver fibrosis in a US treatment-naive population. *JAMA Intern Med.* 2016;176(1):65-73. doi:10.1001/jamainternmed. 2015.6011
- Hofmeister MG, Yin S, Aslam MV, Teshale EH, Spradling PR. Hepatitis A hospitalization costs, United States, 2017. *Emerg Infect Dis.* 2020;26(5):1040-1041. doi:10.3201/eid2605. 191224
- Kaiser Family Foundation. U.S. federal funding for HIV/AIDS: trends over time. Accessed April 23, 2020. https://www.kff.org/ hivaids/fact-sheet/u-s-federal-funding-for-hivaids-trends-overtime
- National Public Radio. 5 years after Indiana's historic HIV outbreak, many rural places remain at risk. February 16, 2020.
   Accessed April 23, 2020. https://www.npr.org/sections/health-shots/2020/02/16/801720966/5-years-after-indianas-historic-hiv-outbreak-many-rural-places-remain-at-risk
- 22. Ruiz MS, O'Rourke A, Allen ST, et al. Using interrupted time series analysis to measure the impact of legalized syringe exchange on HIV diagnoses in Baltimore and Philadelphia. J Acquir Immune Defic Syndr. 2019;82(suppl 2):S148-S154. doi:10.1097/QAI.0000000000002176
- Bauer UE. Community Health and Economic Prosperity: an initiative of the Office of the Surgeon General. *Public Health Rep.* 2019;134(5):472-476. doi:10.1177/0033354919867727
- 24. Department of Defense and Labor, Health and Human Services, and Education Appropriations Act, 2019, and Continuing Appropriations Act, 2019, Pub Law No 115-245 (2019).
- 25. KY Rev Stat §218A.500 (2015).
- Bixler D, Corby-Lee G, Proescholdbell S, et al. Access to syringe services programs—Kentucky, North Carolina, and West Virginia, 2013-2017. MMWR Morb Mortal Wkly Rep. 2018;67(18):529-532. doi:10.15585/mmwr.mm6718a5
- Kentucky Cabinet for Health and Family Services. KY syringe services program (SSP) locations and hours by county. April 3, 2020. Accessed April 23, 2020. https://chfs.ky.gov/agencies/ dph/dehp/hab/Documents/KYSSPHours.pdf