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Acting Health Commissioner

# CHART

## Syringe Services Programs (SSPs) are highly effective public health interventions

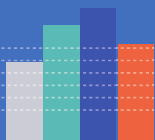
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The White House recently released the [National Drug Control Strategy](#), a document that “proposes bold, targeted, and consequential actions to bend the curve on overdose deaths in the immediate term and reduce drug use and its damaging consequences over the longer term.” The national strategy includes a focus on syringe exchange, a strategy that has been led in Philadelphia by Prevention Point for the past 30 years. In response to the Strategy, PDPH has reviewed the impact of syringe exchange, its role in addressing the public health consequences of substance use disorder in the city, and next steps in tackling the continued epidemic of infectious diseases related to drug use and overdose deaths in Philadelphia.

### KEY TAKEAWAYS

Over 100 studies and decades of research support SSP as effective public health interventions

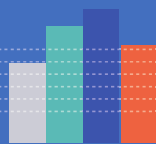
Restrictive syringe distribution policies decrease engagement with social and medical services



People who inject illicit drugs (PWID) are at risk for significant morbidity and mortality. Harms related to injection drug use include non-fatal and fatal overdoses and a variety of infectious diseases, including human immunodeficiency virus (HIV), hepatitis B and C (HBV and HCV), endocarditis, and other skin and soft tissue infections. Sharing syringes and injection paraphernalia is the primary transmission route for these infectious diseases.

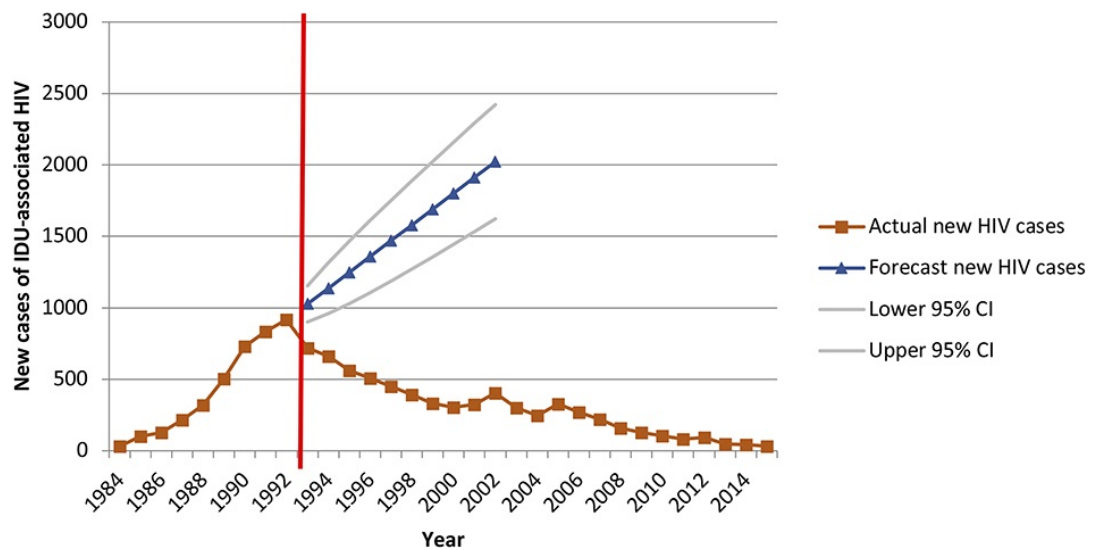
Syringe services programs (SSPs) were first implemented in the 1980s in response to epidemics of viral hepatitis (hepatitis B and what is now known as hepatitis C) and HIV. SSPs primarily focus on reducing syringe and injection paraphernalia sharing and are crucial harm reduction services for people who inject drugs. *Harm reduction* is a term that encompasses principles and practices which seek to reduce the negative consequences of drug use. Harm reduction is grounded in the belief that people who use drugs deserve the same respect and rights as all people. There have been over 100 individual studies demonstrating the effectiveness of SSPs in reducing disease transmission and injection-related risks, along with 13 systematic reviews and an overview of systematic reviews supporting the effectiveness of SSPs.<sup>1</sup> Philadelphia's first legal SSP opened in 1992. This CHART highlights the role SSPs have played in reducing infectious disease transmission among Philadelphia residents who inject drugs.

The increased prevalence of fentanyl, with its shorter duration of action, has resulted in a greater risk for disease transmission and overdose among people who use drugs

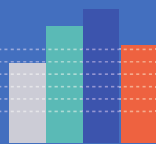


## SSPs averted over 10,000 forecasted HIV infections in Philadelphia<sup>2</sup>

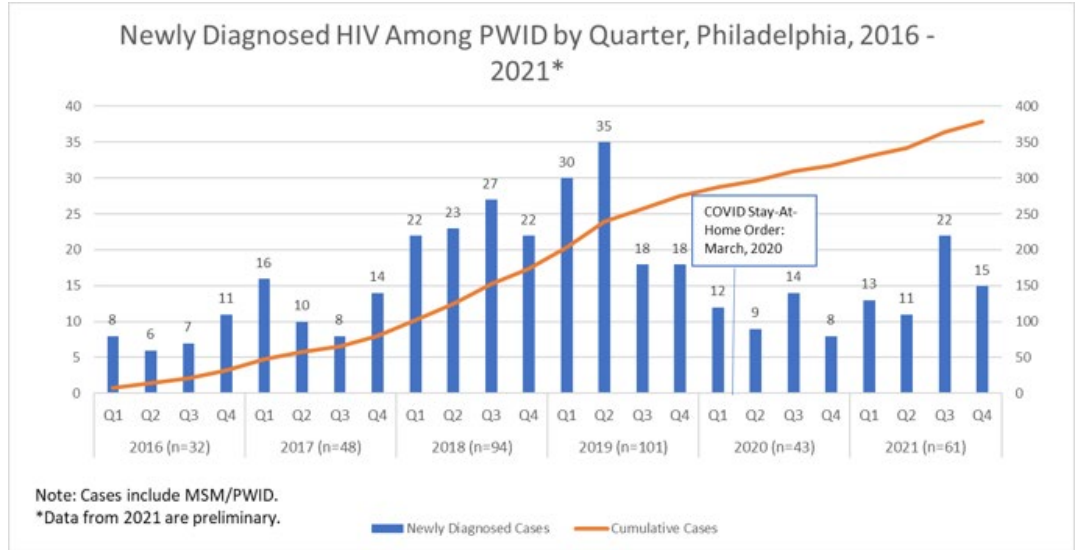
Forecasted versus actual diagnoses of PWID-associated HIV infections in Philadelphia



- SSPs began legally operating in Philadelphia in 1992 after then-Mayor Ed Rendell signed Executive Order 4-92, authorizing SSPs as a public health tool to address HIV. This was the same year that HIV diagnoses reached their peak among PWID in Philadelphia, with 819 new cases.
- Statistical modeling forecasted that 15,248 individuals would have acquired HIV through injection drug use in Philadelphia between 1993 and 2002. The data show a significant decrease in the number of newly diagnosed HIV associated with injection drug use immediately following SSP implementation and in the trend period between 1993 and 2002. The actual 4,656 HIV diagnoses observed versus the forecasted 15,248 diagnoses illustrates that 10,592 (70%) of the forecasted diagnoses are potentially averted. These data support the possibility that the policy change in Philadelphia may have capped the peak of HIV diagnoses associated with injection drug use after 1992. Furthermore, a greater than 95% reduction in HIV diagnoses among PWID was observed between 1992 and 2016.
- Averting 10,000 HIV infections saves nearly \$250 million in public funds each year and \$2.4 billion over the ten-year period.

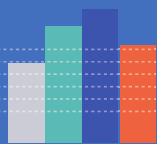


A recent and growing outbreak of HIV among PWID suggests the need to expand syringe access in Philadelphia

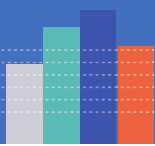


Source: Philadelphia Department of Public Health AIDS Activities Coordinating Office, Surveillance Report, 2020. Philadelphia, PA: City of Philadelphia; November 2021.

- Primarily due to the success of SSPs, new cases of HIV had been decreasing among PWID through 2016, when there were 32 newly diagnosed cases of HIV among PWID in Philadelphia.
- The Philadelphia Department of Public Health first detected an increase in newly diagnosed HIV among PWID in 2018, and in 2019 there were 101 newly diagnosed cases of HIV among PWID in Philadelphia. This represents a 3-fold increase in newly diagnosed HIV among PWID between 2016 and 2019.
- Philadelphia's synthetic opioid crisis is characterized by the introduction of illicit fentanyl, a rise in the number of people who inject drugs, an increase in homelessness among people who use drugs, an increase in hepatitis C transmission, and sharp increases in fatal and non-fatal drug overdoses.
- Fentanyl has a shorter duration of effect than heroin; thus, people who inject fentanyl are injecting more frequently, increasing their likelihood of reusing, and sharing used syringes.<sup>3,4</sup> This increase presents a renewed risk for HIV transmission and other infectious diseases among people who inject drugs and their partners.



- Restrictive syringe distribution policies have been shown to deter individuals from accessing SSPs, decreasing access to social and medical services, including substance use treatment services.<sup>5</sup>
- Internationally, SSPs have been implemented as fixed sites, mobile units, vending machines, pharmacies, healthcare agencies, co-located within other organizations, or delivered through secondary distribution by peers to address a diversity of needs. Implementing multiple delivery models in Philadelphia would improve overall access to sterile syringes in the community. A 2018 survey among PWID in Philadelphia found just 31% always used a new sterile syringe.
- SSPs that promote the secondary distribution of syringes by peers help increase access to sterile syringes for each injection and can be implemented without increasing syringe litter.<sup>6-8</sup> In 2020, 87% of the syringes distributed in Philadelphia were collected by SSPs, comparable to rates at other SSPs worldwide.<sup>9</sup> And data have shown that increased distribution of syringes through SSPs results in more people who inject drugs disposing of used syringes safely.<sup>6-8</sup>
- In addition to helping prevent the transmission of infectious diseases, SSPs offer referrals to substance use treatment, with new SSP users being three times as likely to stop using drugs than non-SSP users.<sup>10</sup>
- SSPs also help prevent overdose deaths through education and distribution of overdose prevention kits.<sup>11</sup>
- Safe syringe disposal offered through SSPs protects the public and first responders by reducing syringe litter.
- Studies have found no difference in crime rates between areas with and without SSPs.<sup>12,13</sup>



## WHAT CAN BE DONE

### The Health Department is:

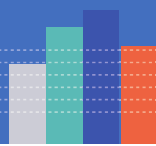
- Exploring strategies to expand access to syringe exchange and other harm reduction services, particularly to those Philadelphians who live in areas of the city not currently served by these programs.
  - Supporting syringe exchange to help decrease the spread of HIV, hepatitis, and other infectious diseases in the city and to help connect people with substance use disorder to care.
  - Offering capacity-building technical assistance to SSPs and other providers who wish to participate in syringe distribution. The department has local and national partnerships with SSP operations experts.
  - Collaborating with other city agencies and community partners to address syringe litter and other quality of life issues related to the city's epidemic of substance use disorder.
  - Should a legal pathway be created, prepared to support the opening of a community-operated overdose prevention center through technical assistance, protocol review, regular onsite inspections, and monitoring of data on overdoses prevented and any adverse events.
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### Policymakers can:

- Continue to engage with community stakeholders and subject-matter experts to identify the specific needs of our community and best practices in service delivery.
  - Review and update local and state SSP policies annually to align with known best practices and community needs.
  - Follow expert advice by eliminating SSP policies that are known to be ineffective or counter-productive, including guidelines that: a) set limits on syringe distribution through exchange ratios or frequency of visits, b) impose geographic limits, or c) require identifying documents or unnecessary data collection among people accessing SSPs.<sup>14</sup>
  - Codify and encourage secondary syringe exchange or the distribution of syringes through educated peers.
  - Explore strategies to increase funding for syringe exchange programs and expand the number of programs in the city as a critical component in addressing the city's rising rates of HIV and soft tissue infections. See [the White House announcement](#) for a review of the evidence-base behind syringe exchange programs as a quick reference.
  - Continue to explore other harm reduction strategies, including overdose prevention centers, to address escalating use of fentanyl in Philadelphia since injection patterns related to fentanyl use appears to be driving increased HIV transmission among PWID.
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### Providers should:

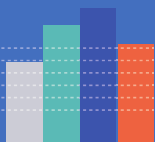
- Health systems and providers should distribute harm reduction supplies to their patients including syringes, sterile saline, naloxone, and fentanyl test strips and equipment that can save lives and prevent new HIV and other infections.
  - Internal and external research partners should identify and evaluate implementation strategies necessary to help SSPs achieve universal syringe coverage.
  - Provide referrals to ongoing effective harm reduction services, including SSPs.
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- Provide risk-reduction counseling for all patients, including discussions about sexual behaviors and drug use.
- Offer to test persons at high-risk—including HIV, HBV, HCV, and sexually transmitted infection testing—every three months for people who may use or inject drugs, people experiencing homelessness, and people who engage in transactional sex.
- Treat all patients with dignity and respect so that patients are not deterred from seeking care due to drug-related stigma.

## REFERENCES

1. Fernandes, R.M., Cary, M., Duarte, G. et al. Effectiveness of needle and syringe Programmes in people who inject drugs – An overview of systematic reviews. *BMC Public Health* 17, 309 (2017).
2. 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, *JAIDS Journal of Acquired Immune Deficiency Syndromes*: December 1, 2019 - Volume 82 - Issue - p S148-S154.
3. Morales KB, Park JN, Glick JL, Rouhani S, Green TC, Sherman SG. Preference for drugs containing fentanyl from a cross-sectional survey of people who use illicit opioids in three United States cities. *Drug Alcohol Depend.* 2019;204:107547.
4. Lambdin BH, Bluthenthal RN, Zibbell JE, Wenger L, Simpson K, Kral AH. Associations between perceived illicit fentanyl use and infectious disease risks among people who inject drugs. *Int J Drug Policy.* 2019;74:299-304.
5. Sherman SG, Patel SA, Ramachandran DV, et al. Consequences of a restrictive syringe exchange policy on utilisation patterns of a syringe exchange program in Baltimore, Maryland: Implications for HIV risk. *Drug Alcohol Rev.* 2015;34(6):637-644.
6. Tookes, Hansel E et al. "A comparison of syringe disposal practices among injection drug users in a city with versus a city without needle and syringe programs." *Drug and alcohol dependence* vol. 123,1-3 (2012): 255-9.
7. Bluthenthal, Ricky N et al. "Higher syringe coverage is associated with lower odds of HIV risk and does not increase unsafe syringe disposal among syringe exchange program clients." *Drug and alcohol dependence* vol. 89,2-3 (2007): 214-22.
8. de Montigny et al. Assessing a drop box programme: A spatial analysis of discarded needles. *Int J Drug Policy* vol. 21, 3 (2010):208-12.
9. Levine H, Bartholomew TS, Rea-Wilson V, et al. Syringe disposal among people who inject drugs before and after the implementation of a syringe services program. *Drug Alcohol Depend.* 2019;202:13-17
10. Des Jarlais DC, Nugent A, Solberg A, Feelemyer J, Mermin J, Holtzman D. Syringe service programs for persons who inject drugs in urban, suburban, and rural areas — United States, 2013. *MMWR Morb Mortal Wkly Rep.* 2015;64(48):1337-1341.
11. Galea S, Worthington N, Piper TM, Nandi VV, Curtis M, Rosenthal DM. Provision of naloxone to injection drug users as an overdose prevention strategy: Early evidence from a pilot study in New York City. *Addict Behav.* 2006;31(5):907-912.
12. Marx MA, Crape B, Brookmeyer RS, et al. Trends in crime and the introduction of a needle exchange program. *Am J Public Health.* 2000;90(12),1933–1936.
13. Galea S, Ahern J, Fuller C, Freudenberg N, Vlahov D. Needle exchange programs and experience of violence in an inner city neighborhood. *J Acquir Immune Defic Syndr.* 2001;28(3),282-288.
14. Bluthenthal, R., Clear, A., Des Jarlais, D., Friedman, S. R., Grove, D., & Hagan, H. (2009). Recommended best practices for effective syringe exchange programs in the United States. In Results of a consensus meeting. New York City Department of Health and Mental Hygiene.



## ADDITIONAL REFERENCES

<https://www.cdc.gov/hiv/effective-interventions/prevent/syringe-services-programs/index.html>

<https://www.cdc.gov/ssp/syringe-services-programs-summary.html>

<https://www.whitehouse.gov/ondcp/briefing-room/2021/12/08/white-house-releases-model-law-to-help-states-ensure-access-to-safe-effective-and-cost-saving-syringe-services-programs/>

## RESOURCES

### Drug treatment referrals and education:

888-545-2600

<http://dbhids.org/addiction-services/>

### List of health care providers that provide PrEP:

<https://go.usa.gov/xngjp>

### HIV testing sites in Philadelphia:

<https://www.phila.gov/health/aaco/AACOTesting.html>

### PDPH AIDS Activities Coordinating Office Health Information Line:

215-985-2437

### Harm reduction resources and education, including syringe exchange and infectious disease screening:

Prevention Point of Philadelphia  
215-634-5272

[www.pponline.org](http://www.pponline.org)

### Learn about and request naloxone

<https://www.phillynaloxone.com>

## Suggested citation:

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