



Opioids and HIV: Converging Epidemics

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Speaker Disclosure

Dr. Melin has no conflicts of interest to disclose.



Today's Objectives

- **Review the effects of opioid use in the United States and its impact on HIV transmission**
- **Discuss how Syringe Service Programs (SSPs) can decrease HIV transmission, save lives, and support overall public safety**
- **Discuss how medications for opioid use disorder (MOUDs) serve as treatment of OUD and prevention of HIV**
- **Review the signs of opioid overdose, use of naloxone in opioid reversal and linkage to treatment**

Key Terms/Acronyms

- **HIV** – human immunodeficiency virus
- **MAT** – Medication-assisted treatment
- **MOUD** – medications for opioid use disorder
- **OD** – Opioid Use Disorder
- **PWID** – People who inject drugs
- **SSP** – Syringe Service Program

Converging Epidemics

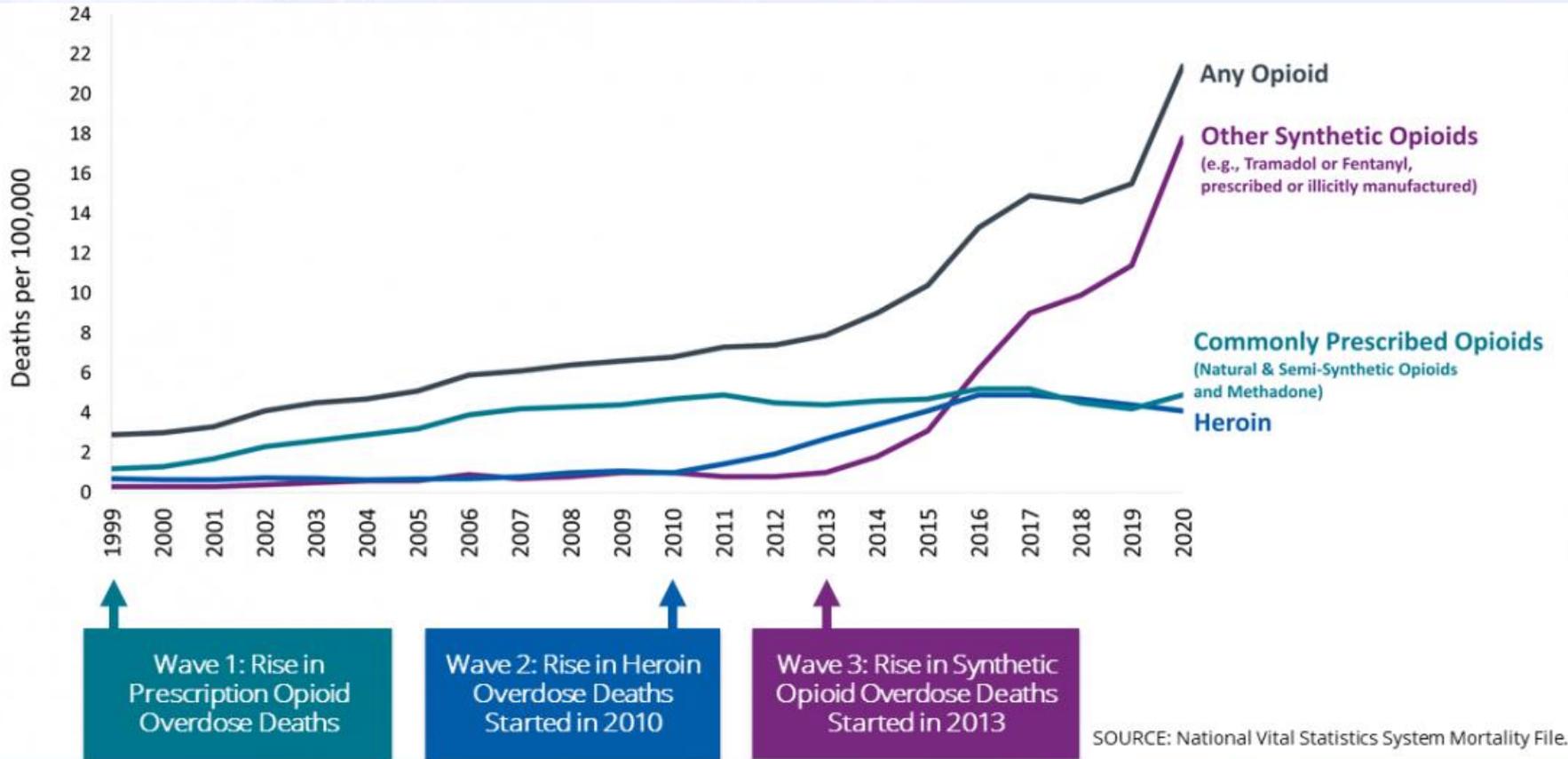
- The opioid crisis is fueling a dramatic increase in infectious diseases associated with injection drug use
 - Over 2,500 new HIV infections occur each year among PWID
- Overdose deaths remain a leading cause of injury-related death in the United States.



Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2010–2015. HIV Surveillance Supplemental Report. 2018;23(No. 1) pdf icon[PDF – 2 MB, 77 pages]. Published March 2018.

Centers for Disease Control and Prevention. Understanding the Opioid Overdose Epidemic [Internet]. 2022 [cited 2023 May 21]. Available from: <https://www.cdc.gov/opioids/basics/epidemic.html>

Three Waves of Opioid Overdose Deaths



Centers for Disease Control and Prevention. Understanding the Opioid Overdose Epidemic [Internet]. 2022 [cited 2023 May 21]. Available from: <https://www.cdc.gov/opioids/basics/epidemic.html>



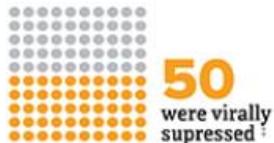
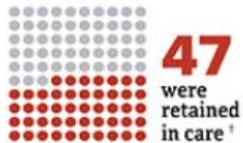
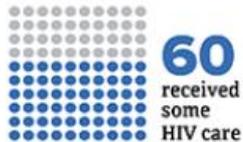
PWID With HIV in the 50 States and DC

At the end of 2018, an estimated **1.2 MILLION PEOPLE** had HIV. Of those, 186,500 were among people with HIV attributed to injection drug use.*

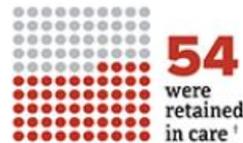
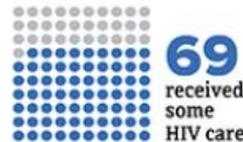
9 in 10

PWID knew they had the virus.

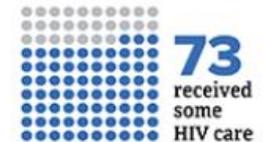
For every 100 male PWID with HIV:
(not including gay and bisexual men)



For every 100 female PWID with HIV:



For every 100 gay and bisexual
male PWID with HIV:



For comparison, for every **100 people overall** with HIV,
65 received some care, **50 were retained in care**, and **56 were virally suppressed**.

* Includes infections attributed to male-to-male sexual contact *and* injection drug use (men who reported both risk factors).

† Had 2 viral load or CD4 tests at least 3 months apart in a year.

CDC. Estimated HIV incidence and prevalence in the United States 2014–2018. HIV Surveillance Supplemental Report 2020;25(1).



HIV Testing Among PWID in 23 US Cities (2018)

People who inject drugs (PWID) should get tested for HIV at least once a year.



CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.

Selected Characteristics Among PWID With HIV in 23 US Cities (2018)

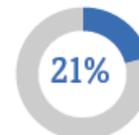
Social and economic factors may limit access to HIV treatment services among PWID with HIV.



reported being homeless



reported being incarcerated



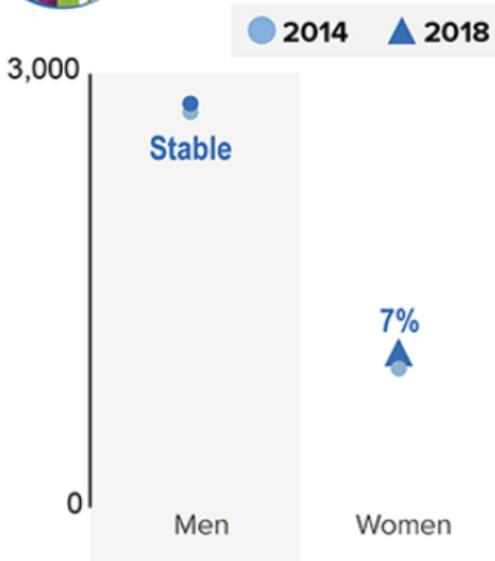
reported having no health insurance

CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.

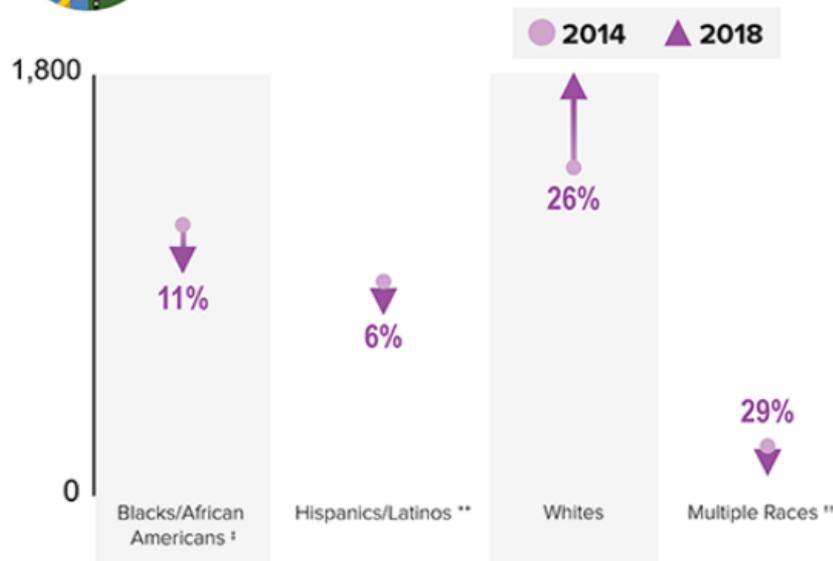
HIV Diagnoses Among PWID in the US and Dependent Areas



Trends by Sex [†]



Trends by Race/Ethnicity



This chart does not include subpopulations representing 2% or less of all PWID who received an HIV diagnosis in 2018.

* Includes infections attributed to male-to-male sexual contact *and* injection drug use (men who reported both risk factors).

[†] Based on sex assigned at birth and includes transgender people.

Black refers to people having origins in any of the Black racial groups of Africa. *African American* is a term often used for people of African descent with ancestry in North America.

^{**} Hispanic/Latino people can be of any race.

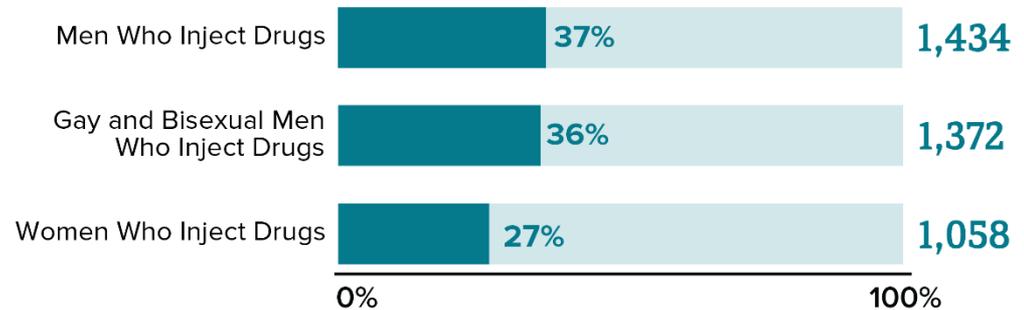
^{††} Changes in subpopulations with fewer HIV diagnoses can lead to a large percentage increase or decrease.

CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). HIV Surveillance Report 2020;31.



New HIV Diagnoses Among PWID in the US and Dependent Areas by Sex

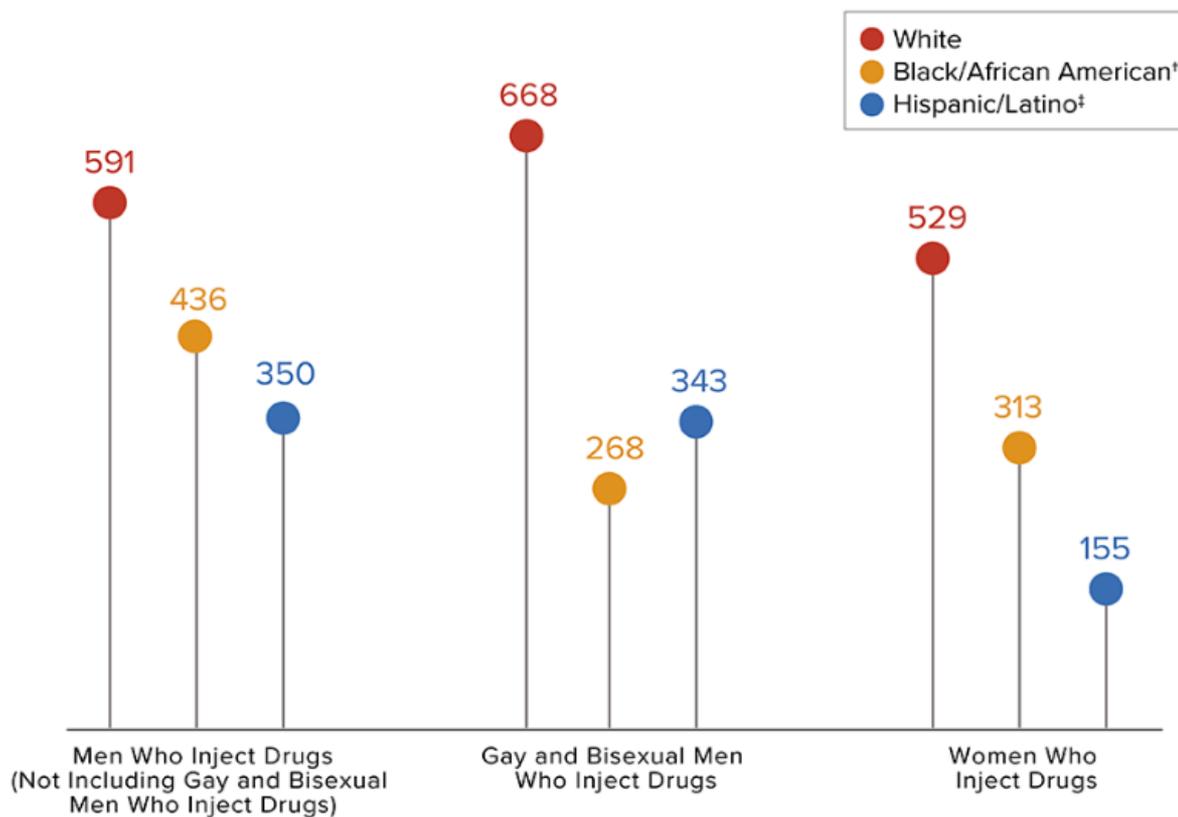
Among people who inject drugs, most new HIV diagnoses were among men.



* Based on sex assigned at birth and includes transgender people.

CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). HIV Surveillance Report 2020;31.

New HIV Diagnoses Among PWID in the US and Dependent Areas by Sex, Race/Ethnicity, and Transmission Category



* Based on sex assigned at birth and includes transgender people.

† *Black* refers to people having origins in any of the Black racial groups of Africa. *African American* is a term often used for people of African descent with ancestry in North America.

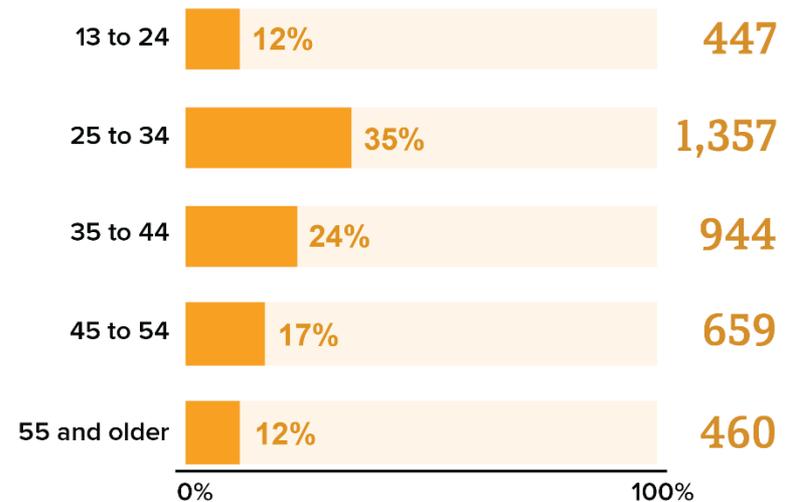
‡ Hispanic/Latino people can be of any race.

CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). HIV Surveillance Report 2020;31.



New HIV Diagnoses Among PWID in the US and Dependent Areas by Age

People aged 13 to 34 made up nearly half of all new HIV diagnoses among people who inject drugs.



The numbers have been statistically adjusted to account for missing transmission categories. Values may not equal the total number of PWID who received an HIV diagnosis in 2018.

* Includes infections attributed to male-to-male sexual contact *and* injection drug use (men who reported both risk factors).

CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). HIV Surveillance Report 2020;31.



Syringe Sharing Among PWID in 23 US Cities (2018)

Sharing needles, syringes, or other drug injection equipment puts people who inject drugs (PWID) at high risk for HIV and other infections.

 32% of PWID shared syringes

Syringe sharing is more common among young people.

 48% of people aged 18 to 24 shared syringes

 44% of people aged 25 to 29 shared syringes

 39% of people aged 30 to 39 shared syringes

 30% of people aged 40 to 49 shared syringes

 23% of people aged 50 and older shared syringes

CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.

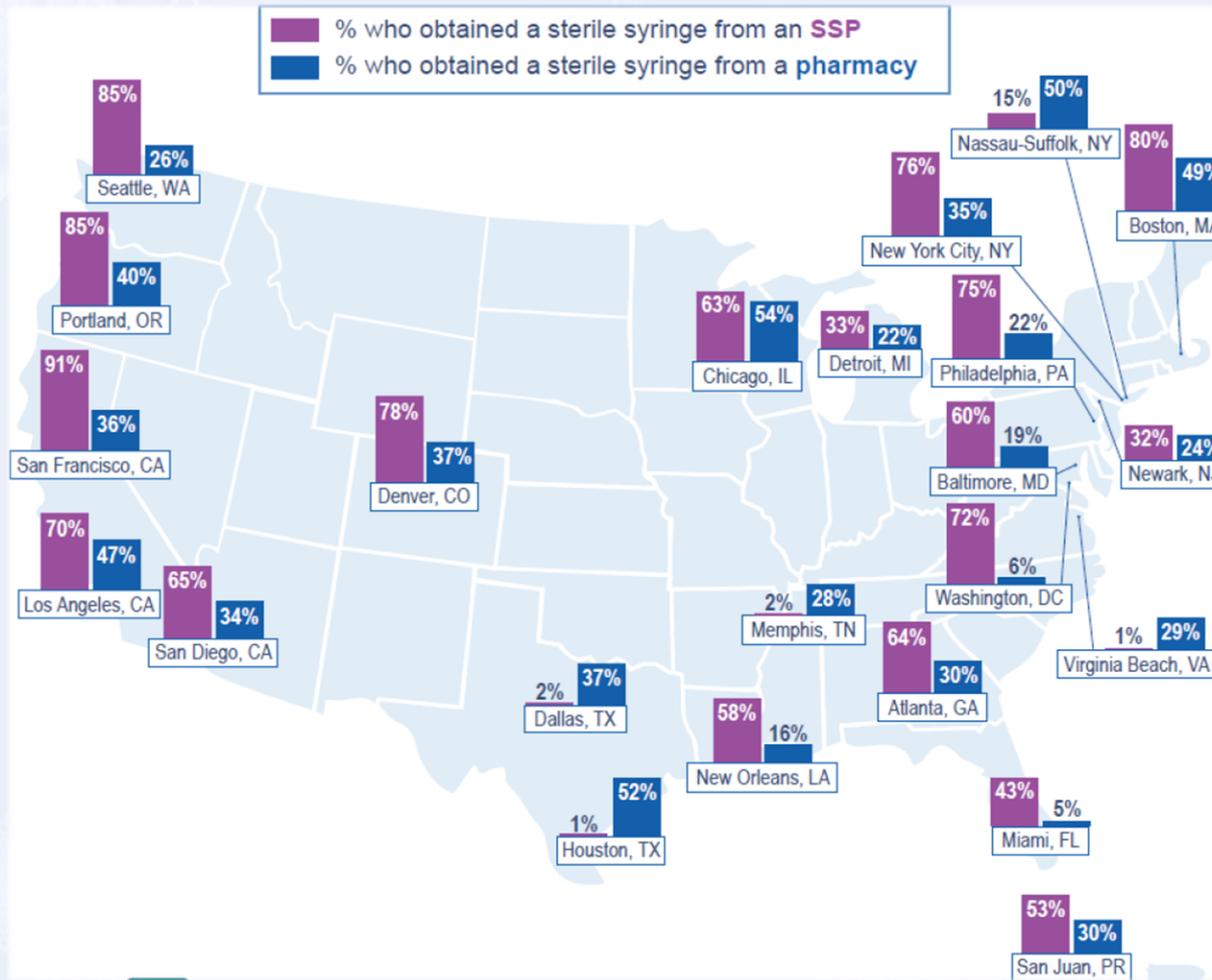
Receipt of Syringes from SSPs Among PWID in 23 US Cities (2018)

Syringe services programs (SSPs) are effective at reducing syringe sharing and most provide HIV testing and linkage to care.

 53% of PWID reported getting syringes from SSPs

CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.

Access to Sterile Syringes Can Prevent Transmission of HIV and Other Infections (2018)

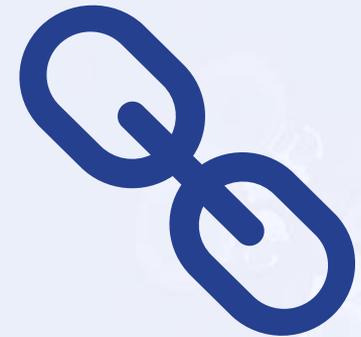


CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.



Syringe Services Programs (SSPs)

- SSPs prevent transmission of blood-borne infections
 - Associated with an estimated 50% reduction in HIV and HCV incidence.
 - SSPs combined with MOUD reduce HCV and HIV transmission by over two-thirds
 - Serve as a link to other health services, including HCV and HIV testing and treatment and MOUD



Platt L, Minozzi S, Reed J, et al. Needle syringe programmes and opioid substitution therapy for preventing hepatitis C transmission in people who inject drugs. *Cochrane Database Syst Rev.* 2017;9:CD012021.

Fernandes RM, 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.* 2017;17(1):309.

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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.

Syringe Services Programs (SSPs)

- SSPs stop substance use and save lives
 - Most SSPs offer referrals for MOUD
 - New users of SSPs are 5 times more likely to enter drug treatment and 3 times more likely to stop using drugs
 - SSPs prevent overdose deaths by teaching PWID how to prevent overdose and how to recognize, respond to, and reverse a drug overdose by providing training on how to use naloxone
 - Many provide “overdose prevention kits” containing naloxone to PWID

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.

Tobin KE, Sherman SG, Beilenson P, Welsh C, Latkin CA. Evaluation of the Staying Alive programme: Training injection drug users to properly administer naloxone and save lives. *Int J Drug Policy.* 2009;20(2):131-136.

Centers for Disease Control and Prevention. Syringe Services Programs (SSPs) Fact Sheet [Internet]. 2019 [cited 2023 May 22]. Available from: <https://www.cdc.gov/ssp/syringe-services-programs-factsheet.html>



Syringe Services Programs (SSPs)

- SSPs support public safety
 - SSPs may partner with law enforcement to provide naloxone to help respond to overdoses
 - protect first responders and the public by providing safe needle disposal and reducing the presence of discarded needles in the community
 - Studies in Baltimore and New York City have also found no difference in crime rates between areas with and areas without SSPs



Tookes HE, Kral AH, Wenger LD, 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 Alcohol Depend.* 2012;123(1-3):255-259.

de Montigny L, Vernez Moudon A, Leigh B, Kim SY. Assessing a drop box programme: a spatial analysis of discarded needles. *Int J Drug Policy.* 2010; 21(3):208-214. doi:10.1016/j.drugpo.2009.07.003.

Centers for Disease Control and Prevention. Syringe Services Programs (SSPs) Fact Sheet [Internet]. 2019 [cited 2023 May 22]. Available from: <https://www.cdc.gov/ssp/syringe-services-programs-factsheet.html>

Access to MAT/MOUD Among PWID in 23 US Cities (2018)

Medication-assisted treatment (MAT) can lower HIV risk among PWID by reducing injection drug use.



of PWID tried but were unable to get medicine for opioid use treatment

CDC. HIV infection risk, prevention, and testing behaviors among persons who inject drugs—National HIV Behavioral Surveillance: injection drug use – 23 U.S. Cities, 2018. HIV Surveillance Special Report 2020; 24.

National Academies Key Findings

1. OUD is a treatable chronic brain disease.
2. FDA-approved medications to treat OUD are effective and save lives
3. Long-term retention on medications to treat OUD is associated with improved outcomes
4. Lack of availability of behavioral interventions is not a sufficient justification to withhold medications
5. Most people who could benefit from MOUD don't receive it, and access is inequitable across subgroups
6. Medication-based treatment is effective across all treatment settings - Withholding or failing to make available FDA-approved medication in any setting is denying appropriate medical treatment
7. Confronting the major barriers to the use of medications to treat OUD is critical to addressing the opioid crisis

National Academies of Sciences Engineering, Medicine. Medications for Opioid Use Disorder Save Lives. Leshner AI, Mancher M, editors. Washington, DC: The National Academies Press; 2019.



MOUD to Prevent HIV

- Methadone and buprenorphine treatment significantly reduce the use of illicit opioids and HIV transmission risk behaviors (i.e. injection drug use, sharing of injection equipment)
- Treatment with methadone or buprenorphine reduces transmission of HIV infections
- Treatment with methadone or buprenorphine is associated with reduced risk of HIV diagnosis
- Methadone and buprenorphine also improve HIV viral suppression and adherence to antiretroviral therapy.

Gowing, L., M. F. Farrell, R. Bornemann, L. E. Sullivan, and R. Ali. 2011. Oral substitution treatment of injecting opioid users for prevention of HIV infection. *Cochrane Database of Systematic Reviews* 2011(8):CD004145.

MacArthur, G. J., S. Minozzi, N. Martin, P. Vickerman, S. Deren, J. Bruneau, L. Degenhardt, and M. Hickman. 2012. Opiate substitution treatment and HIV transmission in people who inject drugs: Systematic review and meta-analysis. *BMJ* 345:e5945.

Woody, G. E., D. Bruce, P. T. Korthuis, S. Chhatre, S. Poole, M. Hillhouse, P. Jacobs, J. Sorensen, A. J. Saxon, D. Metzger, and W. Ling. 2014. HIV risk reduction with buprenorphine-naloxone or methadone: Findings from a randomized trial. *Journal of Acquired Immune Deficiency Syndromes* 66(3):288–293.



Naloxone Saves Lives

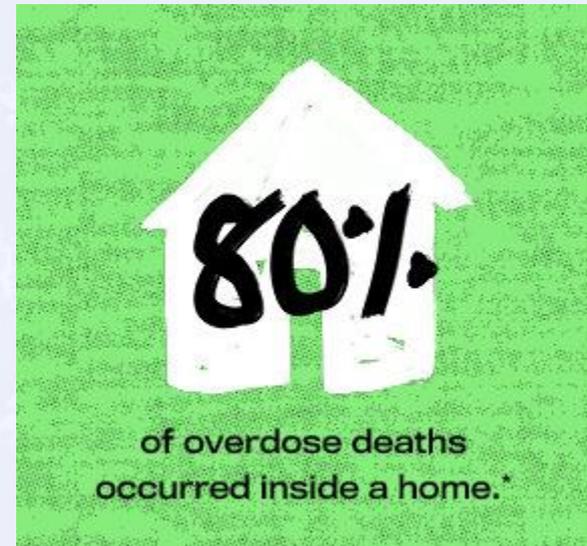
- Naloxone quickly reverses an overdose by blocking the effects of opioids.
 - Can restore normal breathing within 2 to 3 minutes in a person whose breath has slowed, or even stopped, as a result of opioid overdose.
 - Naloxone won't harm someone if they're overdosing on drugs other than opioids – when in doubt, use naloxone!
- Available in 3 formulations
 - Nasal spray, injection, and auto-injection
 - Can be dispensed to *anyone* and training on administration can be provided in just a few minutes

Centers for Disease Control and Prevention. Lifesaving Naloxone [Internet]. 2023 [cited 2023 May 22]. Available from: <https://www.cdc.gov/stopoverdose/naloxone/index.html>



Naloxone Saves Lives

- Nearly 50,000 people died from an opioid-involved overdose in 2019
 - Estimates between 30-40% someone else is present
 - That's 15,000 to 20,000 potentially preventable overdose deaths in a single year



* Based on CDC Vital Signs report.

Centers for Disease Control and Prevention. Lifesaving Naloxone [Internet]. 2023 [cited 2023 May 22]. Available from: <https://www.cdc.gov/stopoverdose/naloxone/index.html>

Know the Signs of Overdose

- Small, constricted “pinpoint pupils”
- Falling asleep or losing consciousness
- Slow, weak, or no breathing
- Choking or gurgling sounds
- Limp body
- Cold and/or clammy skin
- Discolored skin (especially in lips and nails)

Centers for Disease Control and Prevention. Lifesaving Naloxone [Internet]. 2023 [cited 2023 May 22]. Available from: <https://www.cdc.gov/stopoverdose/naloxone/index.html>

Prevention Challenges

- Access to SSPs
- Prescription opioid and heroin crisis disproportionately affecting nonurban areas which may have limited services for HIV prevention and treatment and substance use disorder treatment
- PWID may also engage in risky sexual behaviors, such as having sex without protection, having sex with multiple partners, or trading sex for money or drugs
- PWID face stigma and discrimination
- PWID may not have access to substance use disorder treatment, including MOUD
- PWID are also at risk for getting other sexually transmitted infections, blood-borne diseases, and bacterial infections

Centers for Disease Control and Prevention. HIV Among People Who Inject Drugs [Internet]. 2022 [cited 2023 May 23]. Available from: <https://www.cdc.gov/hiv/group/hiv-idu.html>



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