

SEX, DRUGS, AND INFECTIOUS DISEASES — THE NEW SYNDemic

While prescription opioid overdose deaths have been declining in Oregon since 2011, deaths due to other drugs, including illicit pills, heroin, methamphetamine and illicit fentanyl have been increasing. Concurrently, Oregon has been experiencing increases in substance use disorder diagnoses (SUD), injection drug use, as well as infectious diseases related to injection drug use. We refer to this as a “syndemic”, meaning two or more epidemics occurring simultaneously that interact and exacerbate the burden of disease.

The roots of the substance use and infectious disease syndemic are complex, involving poverty, homelessness, trauma and toxic stress. The response has been hindered by lack of health care, behavioral health and substance use prevention and treatment resources. This *CD Summary* describes the infectious disease consequences of the syndemic and provides resources for improving patient management.

THE DATA

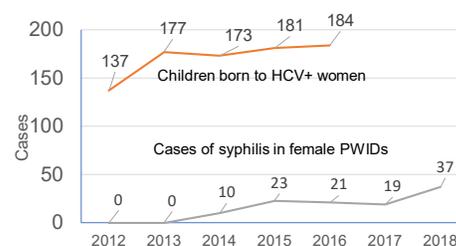
HIV, syphilis, acute hepatitis C (HCV), and group A strep (GAS) are four infectious conditions that in Oregon from 2013 to 2018, showed a marked increase in the number of cases reporting a history of injection drug use (Table 1). While the number of new HIV diagnoses remained flat, the per-

cent occurring in persons who inject drugs (PWID) use tripled. The sharp increase in early syphilis^{††} cases in Oregon has also been fueled by injection drug use, primarily of methamphetamine. Use of methamphetamine and other stimulants is associated with behaviors that increase risk of sexually transmitted infections, including sex with multiple partners, condomless sex, and transactional sex.¹ Although the increase in cases in acute HCV in PWID is less dramatic, injection drug use accounts for most cases in Oregon, and we suspect that many more cases go unreported, given that most patients are asymptomatic. Lastly, despite stable numbers of invasive GAS infections since we implemented surveillance in 2004, we have seen a tripling of cases in the last five years. In 2017, 21.3% of cases reported injection drug use, while 23.9% reported experiencing homelessness, another piece of the syndemic.

IMPACT ON WOMEN AND INFANTS

The substance use syndemic has had a notable impact on women and infants. From 2012 through 2016, the number of HCV-positive women delivering babies increased 34.3%, based

Figure 1. Impact of opioid epidemic and injection drug use on women and infants, Oregon, 2012–2018



on data from Oregon birth certificates[†] (Figure 1). In addition, comparing birth certificates from 2015 with cases of HCV reported in Oregon women from 2001 through 2015,² we identified an additional 113 HCV-positive women who gave birth in 2015 for whom HCV had not been noted on the birth certificate, suggesting significant under-reporting.

The syphilis resurgence likewise has affected women and infants. Of the 133 women with early syphilis in 2018, 37 (28%) reported injection drug use, an increase from 0% in 2013. Prior to 2014, Oregon averaged one congenital syphilis every three years; since 2014 the numbers have been rising, with 10 cases reported in 2018.

[†] The field captures the response as yes, no or unknown, but not the actual laboratory result—so we are unable to determine if the mother is a chronic carrier.

^{††} Defined as primary, secondary, or non-primary, non-secondary early syphilis

Table 1. Trends in infections related to injection drug use, Oregon, 2013–2018

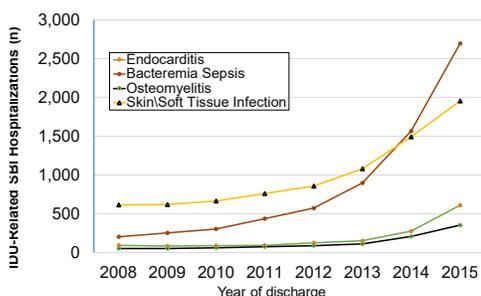
| | 2013 | | 2018 | | Change in number of cases reporting history of injection drug use |
|----------------|-----------------|--------------------------------|-----------------|--------------------------------|---|
| | Number of Cases | % reporting injection drug use | Number of Cases | % reporting injection drug use | |
| HIV | 231 | 5.6% | 235 | 14.0% | 2.5 fold increase |
| Early Syphilis | 408 | 9.1% | 681 | 16.0% | 2.9 fold increase |
| Acute HCV | 14 | 71.4% | 29 | 51.7% | 1.5 fold increase |
| Invasive GAS* | 60 | 15% | 188 | 21.3% | 4.4 fold increase |

*Data available only up to 2017, thus reflecting changes between 2013 and 2017

HOSPITALIZATIONS RELATED TO INJECTION DRUG USE

People who inject drugs commonly develop abscesses, cellulitis and chronic wounds that can lead to severe bacterial infections (SBIs). We analyzed hospital discharge data for patients with both a diagnosis of substance use associated with opiates, cocaine, amphetamines, sedatives, or other drugs **AND** at least one of the following infections: endocarditis, bacteremia/sepsis, osteomyelitis, or skin/soft tissue infections. From 2008 through 2015, these admissions rose five-fold, from 975 cases to 5,257 (Figure 2). Bacteremia/ sepsis and skin/soft tissue infections were the most common, followed by endocarditis and osteomyelitis.

Figure 2. Number of IDU-related SBI hospitalizations, over time by infection type, Oregon, 2008–2015



During this same period, hospital admissions for persons living with HIV/AIDS who were not injecting drugs were stable; however, admissions in persons living with HIV who injected drugs and developed a severe bacterial infection increased from 18 cases in 2008 to 105 cases in 2015.

WHAT YOU CAN DO

While the challenges are daunting, every patient visit is an opportunity to promote health; vaccination and screenings are a good place to start (Table 2). People who inject drugs (PWID) should be vaccinated against hepatitis A and B, as well as tetanus and the 23-valent pneumococcal polysaccharide vaccine. CDC has developed detailed guidelines for [HIV](#), [syphilis](#) and [HCV](#) screening. Following an initial visit, there are no specific screening recommendations for HIV and syphilis among PWID. People who inject methamphetamine are at high risk of HIV and syphilis, so routine screening at regular 3-6-month intervals is appropriate. Patients who inject drugs are candidates for [Pre-Exposure Prophylaxis \(PrEP\)](#) for HIV and a naloxone prescription.

Fortunately, syphilis still responds to penicillin—check out this [pocket guide](#). HIV and HCV treatment are admittedly more complicated, but as of March 1, 2019, there is good news

for patients with HCV. The [Oregon Health Plan](#) expanded coverage of Direct Acting Antiviral medication for hepatitis C treatment, allowing clinicians to treat patients regardless of fibrosis score or history of drug or alcohol use. [OHSU's Hepatitis C and Liver Care Project ECHO clinic](#) is designed to train front-line clinicians to treat Hepatitis C with the Direct Acting Antiviral medications and help keep patients in their medical homes and local communities. Several resources are also available through the AIDS Training and Education Center, such as [this reference guide](#) on HIV Testing, Rapid ART, PEP and PReP; local trainings can be found on its [events page](#).

Stigma is a barrier to health care for people who inject drugs and some patients will delay care, particularly for conditions related to drug use. People use drugs for a multitude of reasons and not everyone is ready to stop. Discussing safer drug use and infection or overdose prevention in a non-judgmental way demonstrates concern for a patient's health, does not encourage drug use, and can provide you with information about ways to help your patient minimize risk for infections and complications of injection drug use. Approaches like the Screening, Brief Intervention and Referral to Treatment (SBIRT), and Drug Abuse Screening Test (DAST-10) can provide you with information and start conversations about substance use. Techniques such as Motivational Interviewing (MI) and harm reduction can help gain understanding, build trust, and establish you as a resource for information and safe care. Information is available on [SBIRT](#), [DAST-10](#), [Motivational Interviewing](#) and [Harm Reduction](#) approaches and [naloxone](#).

Lastly, consider completing the 8-hour training and obtaining a waiver to prescribe buprenorphine, a [Medication-assisted therapy \(MAT\)](#) for opioid addiction. Research shows several positive benefits to MAT, including reduced intravenous drug use, decreased risk of overdose and reduced exposure to infectious diseases, up to 30% reduced mortality, reduced criminal behavior and improved pregnancy outcomes.⁴

Table 2. Preventive-care recommendations for people who inject drugs, adapted from Visconti et al.

| Preventive measure | Recommendation |
|--|--|
| Screening tests | |
| HIV | Initial visit, at least annually but more frequently for those who use methamphetamine |
| Syphilis | Initial visit, at least annually but more frequently for those who use methamphetamine |
| Hepatitis B | Initial visit; vaccinate if not immune or low titers |
| Hepatitis C | Initial visit, at least annually |
| Chlamydia/gonorrhea | Initial visit, at least annually but more frequently for those who use methamphetamine |
| TB | Initial visit, periodic rescreening based on risk |
| Vaccinations | |
| Hepatitis A and B | Vaccinate all PWID for hepatitis A and B |
| Tetanus vaccine | Initial visit then every 10 years |
| Pneumococcal polysaccharide vaccine, 23-valent | Provide once between 19 and 64 years of age for those with concurrent heavy alcohol use, smoking, liver or lung disease, or other qualifying condition |
| Other interventions | |
| Pre-exposure prophylaxis for HIV infection | Daily regimen to prevent HIV infection |
| Naloxone | Prescribe in case of overdose |



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