Health Conditions Associated with Injection Drug Use in Allegheny County
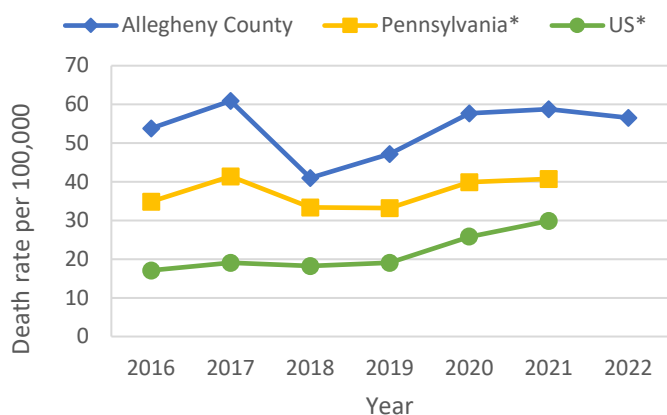
Overview

The opioid epidemic is associated with an increase in fatal overdoses and infections associated with unsterile injection practices. This brief was developed to inform health care providers, policy makers, organizations caring for people who inject drugs, and other public health professionals on the syndemic of health conditions associated with injection drug use (IDU), including overdose, hepatitis C, HIV, and serious bacterial infections.

Recent Fatal Overdose Trends

Between 2016 and 2022, there was an 18% increase in emergency department visits for overdose in Allegheny County (Data Source: EpiCenter). Fatal overdoses did not increase during that time, but the rate of overdose deaths from any drug in Allegheny County was consistently higher than the rate for Pennsylvania and the US.

Figure 1. Age-adjusted overdose death rate per 100,000 population by year and select populations, 2016 –2022
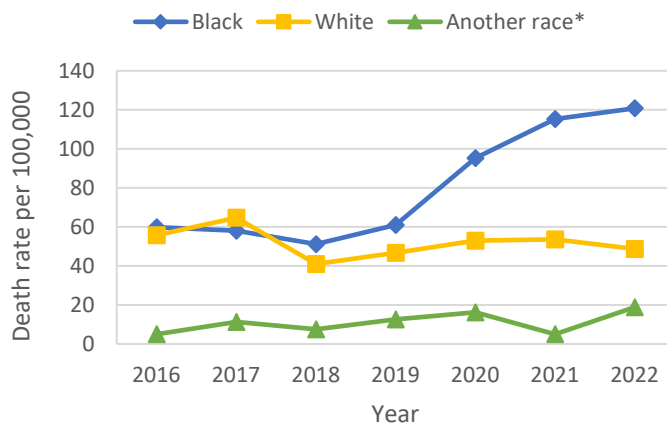

*Data not yet available for 2022.

Data Sources: Allegheny County Office of Medical Examiner (ACOME), deaths occurring in Allegheny County; CDC Wonder (PA and US), deaths by place of residence

Black residents are disproportionately affected by overdose deaths. Since 2016, the rate of overdose death in Black residents has more than doubled from 59.8 to 120.8 per 100,000, but the rate in White residents has decreased from 55.8 to 48.7 per 100,000.

Figure 2. Age-adjusted overdose death rate per 100,000 population by year and race, Allegheny County, 2016 – 2022
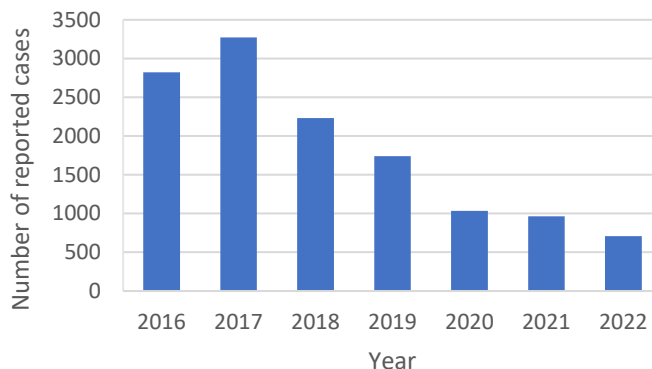

*Includes persons who identify as Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, or another race.

Data Source: ACOME (deaths occurring in Allegheny)

Viral Infections Associated with Injection Drug Use

The Hepatitis C virus (HCV) is spread through contact with blood from an infected individual. Most new infections of HCV are associated with sharing equipment used to prepare and inject drugs. While some individuals infected with HCV may experience short term illness, many experience a long term, chronic infection that can result in serious health problems like liver cancer. There is no vaccine to prevent HCV infection; however, curative treatment is available.
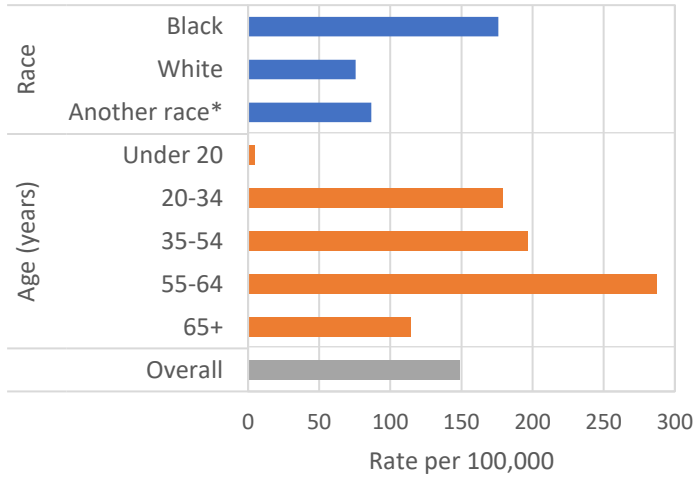
Figure 3. Newly reported HCV cases by year, Allegheny County, 2016 – 2022

Data Source: Pennsylvania National Electronic Disease Surveillance System (PA NEDSS)

Black residents and those aged 55 to 64 years had the highest rates of newly reported HCV infections in 2016 to 2022.

Figure 4. Average annual rate of HCV cases per 100,000 by age group and race, Allegheny County, 2016 – 2022
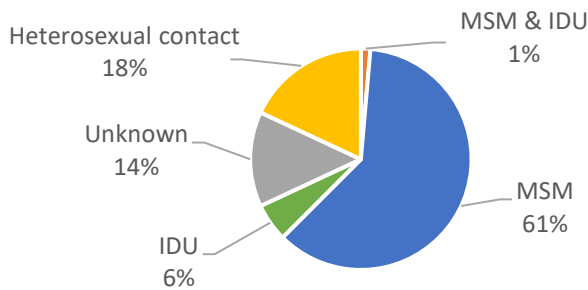

*Includes persons who identify as Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, or another race.

Data Source: PA NEDSS

People who inject drugs are also at high risk for infection from HIV, another virus which can be transmitted through blood. In 2022, there were 72 newly diagnosed cases of HIV, of which 5 (7%) were related to IDU. Male-to-male (MSM) sexual contact was related to 45 (62%) of cases.

Figure 5. Percentage of newly diagnosed HIV cases by risk factor, Allegheny County, 2022
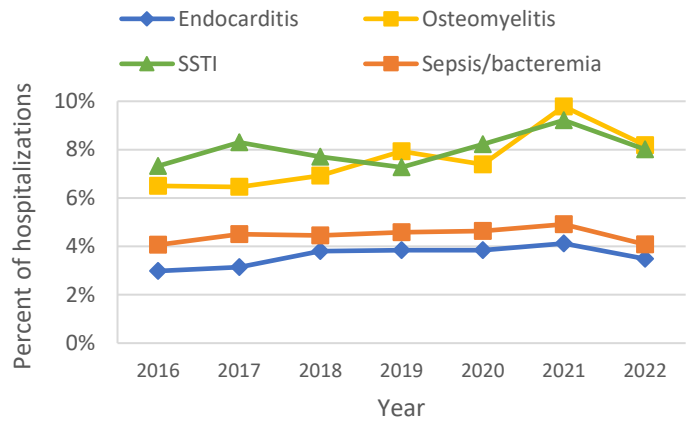

Data Source: PA NEDSS

Bacterial Infections Associated with Injection Drug Use

People who inject drugs are at higher risk of experiencing heart infections (endocarditis), bone infections (osteomyelitis), blood infections (sepsis/bacteremia), and skin or soft tissue infections (SSTI). Of the 135,939 adult (18+) hospitalizations with a serious bacterial infection (SBI) in 2016-2022, 5% (n=6,532) were related to IDU.

From 2016 through 2022, the percentage of hospitalizations with osteomyelitis and SSTI associated with IDU increased, but the percentage of hospitalizations with endocarditis and sepsis/bacteremia associated with IDU did not change significantly. Nearly 1 in 4 (24%; n=1575) of the 6,532 IDU-related hospitalizations with an SBI involved multiple bacterial infections.

Figure 6. Percentage of SBI hospitalizations (18+) that are IDU-related by infection type and year, Allegheny County, 2016 – 2022

Note: A single hospitalization may include multiple infections.

Data Source: PA Health Care Cost Containment Council (PHC4)

Of the 6,532 bacterial infection hospitalizations associated with injection drug use in 2016-2022 for adults 18+, patients were more likely to be male (55%), White (77%), and aged 30-39 years (26%). About 67% of patients were between the ages of 30 and 59 years. HCV infection was involved in 30% of SBI hospitalizations associated with IDU.

The rate of hospitalization for IDU-related SBIs varied by infection type and patient race. About 77% (n=5,022) of adult patients hospitalized with an IDU-related SBI were White, but Black residents were about twice as likely to be hospitalized for IDU-related endocarditis and osteomyelitis.

Table 1. Number and cumulative rate of IDU-related hospitalizations (18+) with an SBI by type and race, Allegheny County, 2016 – 2022

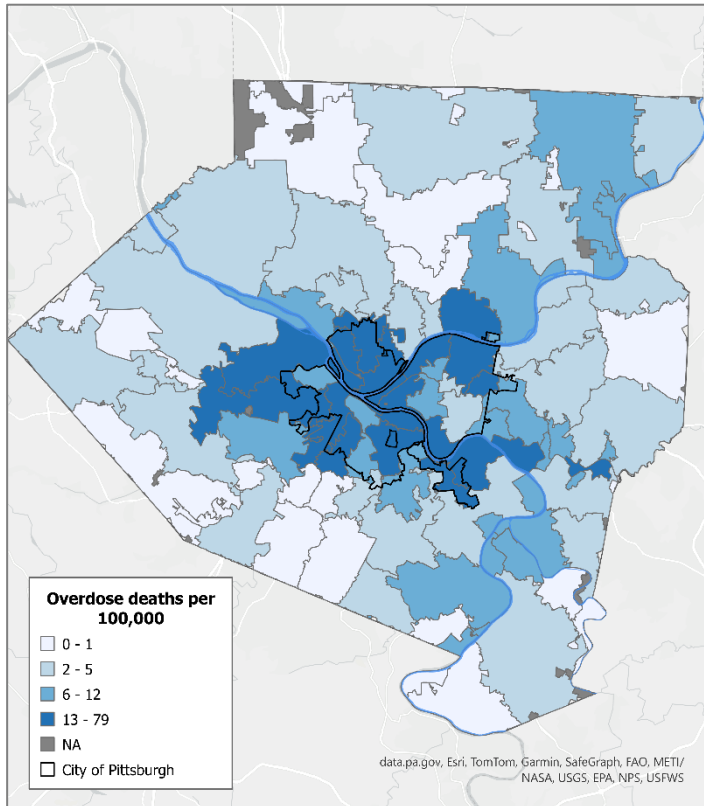|	N (Rate per 100,000)	
	Black	White
SSTI	527 (345.8)	2699 (280.3)
Sepsis/bacteremia	574 (376.6)	2244 (233.1)
Endocarditis	330 (216.5)	984 (102.2)
Osteomyelitis	187 (122.7)	603 (62.6)

Note: A single hospitalization may include multiple infections.

Data Source: PHC4

Drug User Health Conditions by ZIP Code

Health conditions associated with injection drug use (IDU) often affect the same communities and geographic areas in Allegheny County. The ZIP codes with the highest rates of overdose, HCV infection, and bacterial infections related to IDU tend to overlap.

Figure 7. Annual average overdose death rate per 100,000 by ZIP code of occurrence, Allegheny County, 2016 – 2022
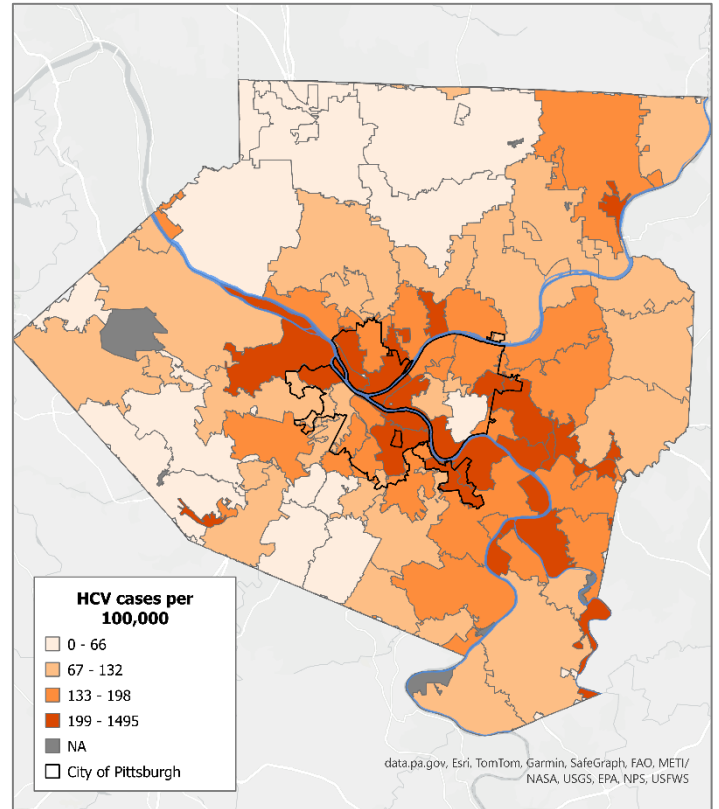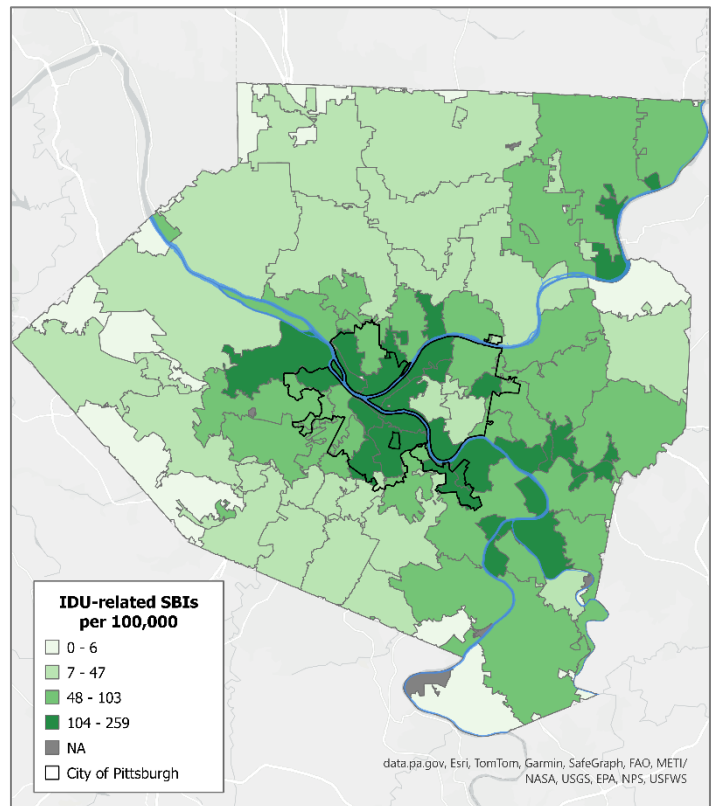

Data Source: ACOME

Technical notes

- ZIP codes were divided into quartiles.
- NA = data not available
- HCV = hepatitis C virus
- IDU-related serious bacterial infections (SBIs) include endocarditis, osteomyelitis, sepsis/bacteremia, and skin and soft tissue infection (SSTI).

Figure 8. Annual average HCV case rate per 100,000 by ZIP code of residence, Allegheny County, 2016 – 2022

Data Source: PA NEDSS

Figure 9. Annual average rate of IDU-related SBI hospitalizations per 100,000 by ZIP code of residence, adults 18+, Allegheny County, 2016 – 2022

Data Source: PHC4

Public Health Actions

Opioid overdoses and infections associated with unsterile injection practices are serious health issues that affect many Allegheny County residents. These health conditions are preventable. We can reduce the risk of these conditions and deaths by utilizing evidence-based harm reduction strategies, including:

- timely and low-barrier access to overdose reversal medication (Narcan)
- linkage to medication for opioid use disorder
- access to drug test strips to detect the presence of fentanyl
- sterile injection equipment and smoking supplies, and
- comprehensive healthcare services for both physical and substance use related concerns in stigma-free environments.

Harm reduction strategies for people who inject drugs, including cleaning skin before injecting, using sterile injection equipment for every injection, avoiding injecting drugs alone, and having overdose reversal medications available when injecting drugs reduce the chances that a person will experience overdose or develop an IDU-associated infection.

Resources

ACHD Overdose Prevention Program: Learn more about what ACHD is doing to address the opioid epidemic, view more data on opioid overdose, and find harm reduction resources.

Harm Reduction Allegheny: Learn about harm reduction; find naloxone distribution centers; and locate mental health, syringe exchange, Medication for Opioid Use Disorder (MOUD), housing, recovery support, and other services.

Hep C Free Allegheny: Get connected to resources for hepatitis C education, prevention, testing, and treatment. Educational resources and trainings for healthcare providers on hepatitis C screening, treatment, and disease management are also available.

Prevention Point Pittsburgh: Access safer smoking, snorting, and injection supplies to reduce the spread of HIV, hepatitis C and other infections; fentanyl test strips; and harm reduction support and overdose prevention resources.