

# Infectious Disease Complications of Injection Drug Use

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# Outline



The syndemic of injection drug use and infectious disease



Surveillance data that provide evidence of the syndemic



Data from rural and urban surveys of people who inject drugs (PWID)



Public health implications

# Outline



The syndemic of injection drug use and infectious disease



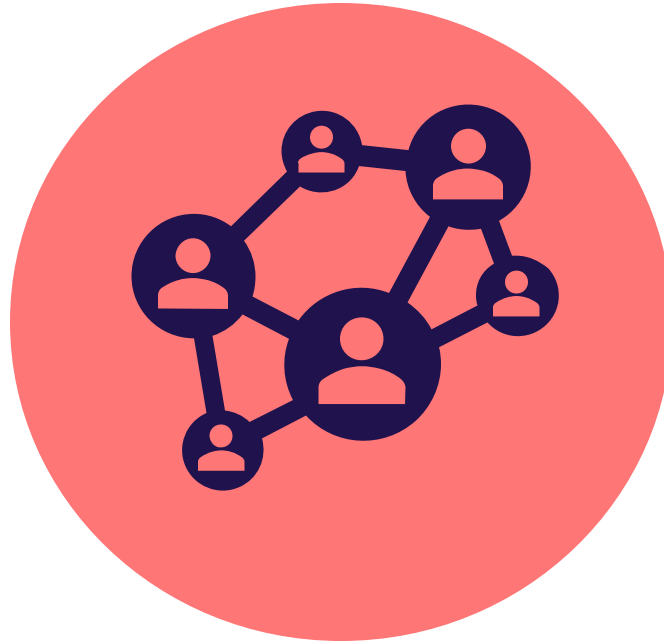
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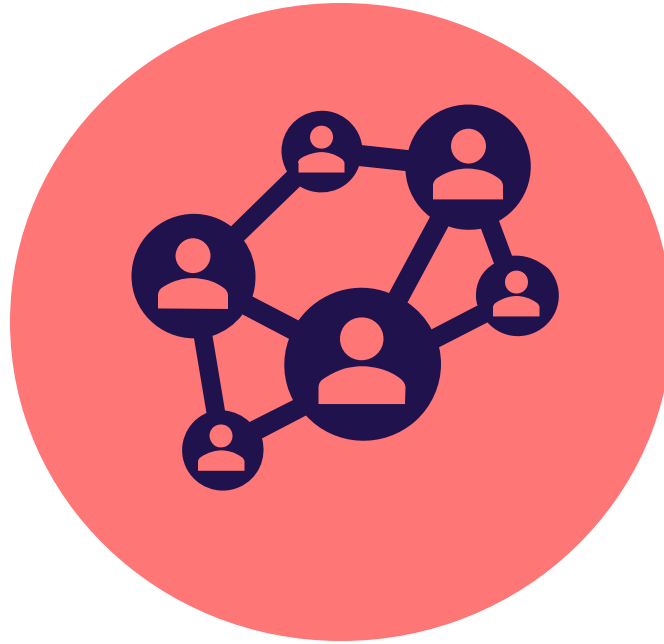


Public health implications



**What is a syndemic ?**

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# **Synergistic Epidemic**

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**Why think syndemically?**

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**Simultaneously considers  
distal and proximal causes  
of health inequities**



**Identifies diverse  
stakeholders and allies**



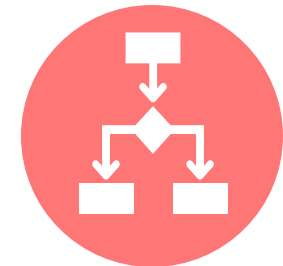
**Promotes effective  
surveillance practices**



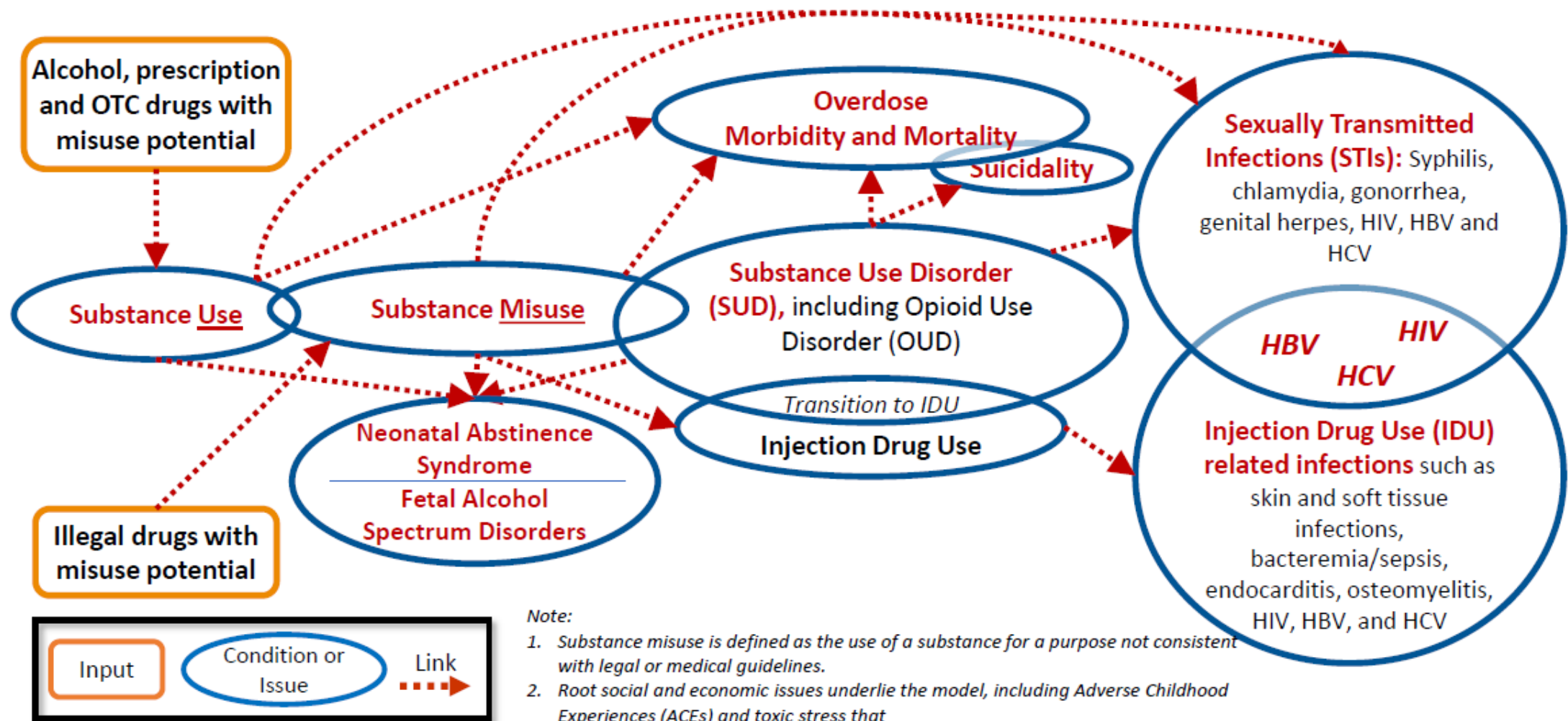
**Establishes appropriate  
metrics/indicators for  
monitoring and  
evaluation**



**Guides interventions  
and policies to  
improve health**



**Stimulates multi-level  
action across systems,  
institutions, and  
structures**



*Note:*

1. Substance misuse is defined as the use of a substance for a purpose not consistent with legal or medical guidelines.
2. Root social and economic issues underlie the model, including Adverse Childhood Experiences (ACEs) and toxic stress that
  - Affect the access to and availability of resources to prevent, respond and recover
  - Influence experience of risk or protective factors, and
  - Shape individual level physical and emotional health, resilience and risk behaviors



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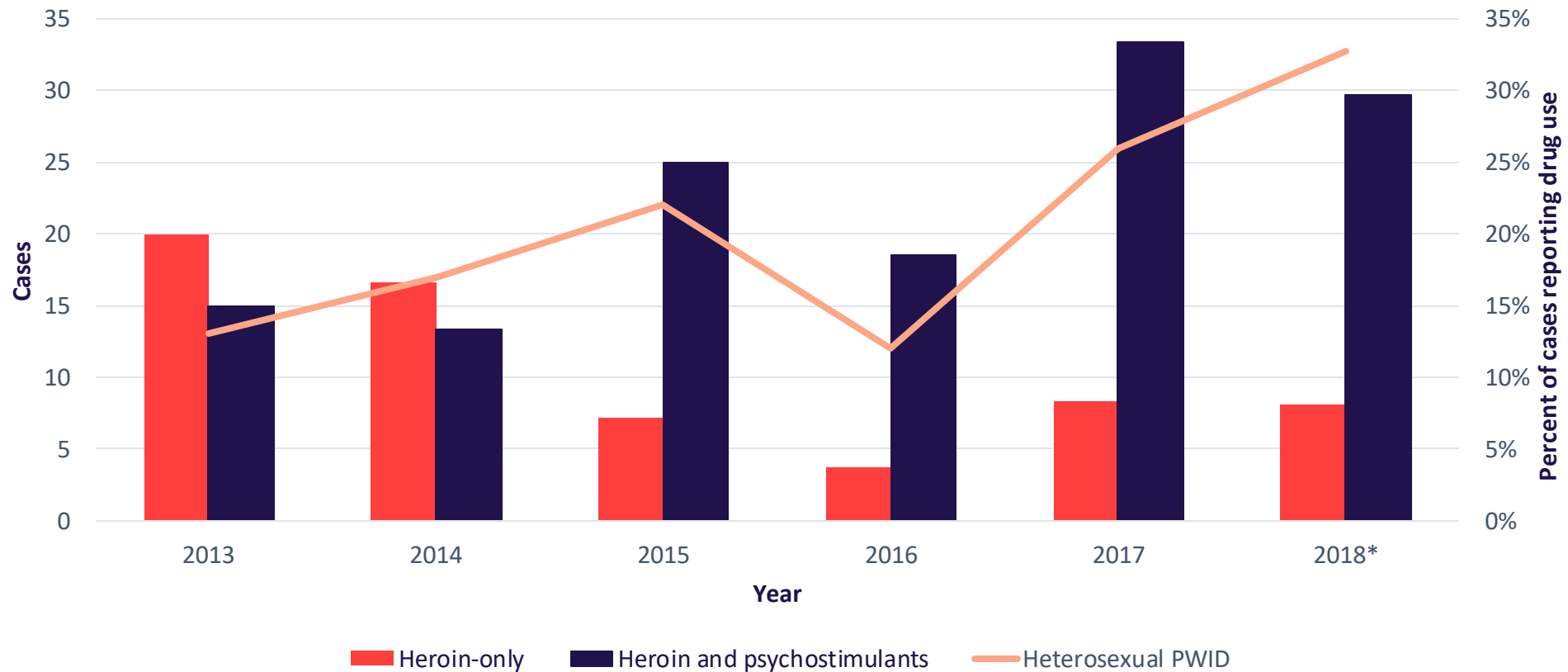


Data from rural and urban surveys of people who inject drugs (PWID)

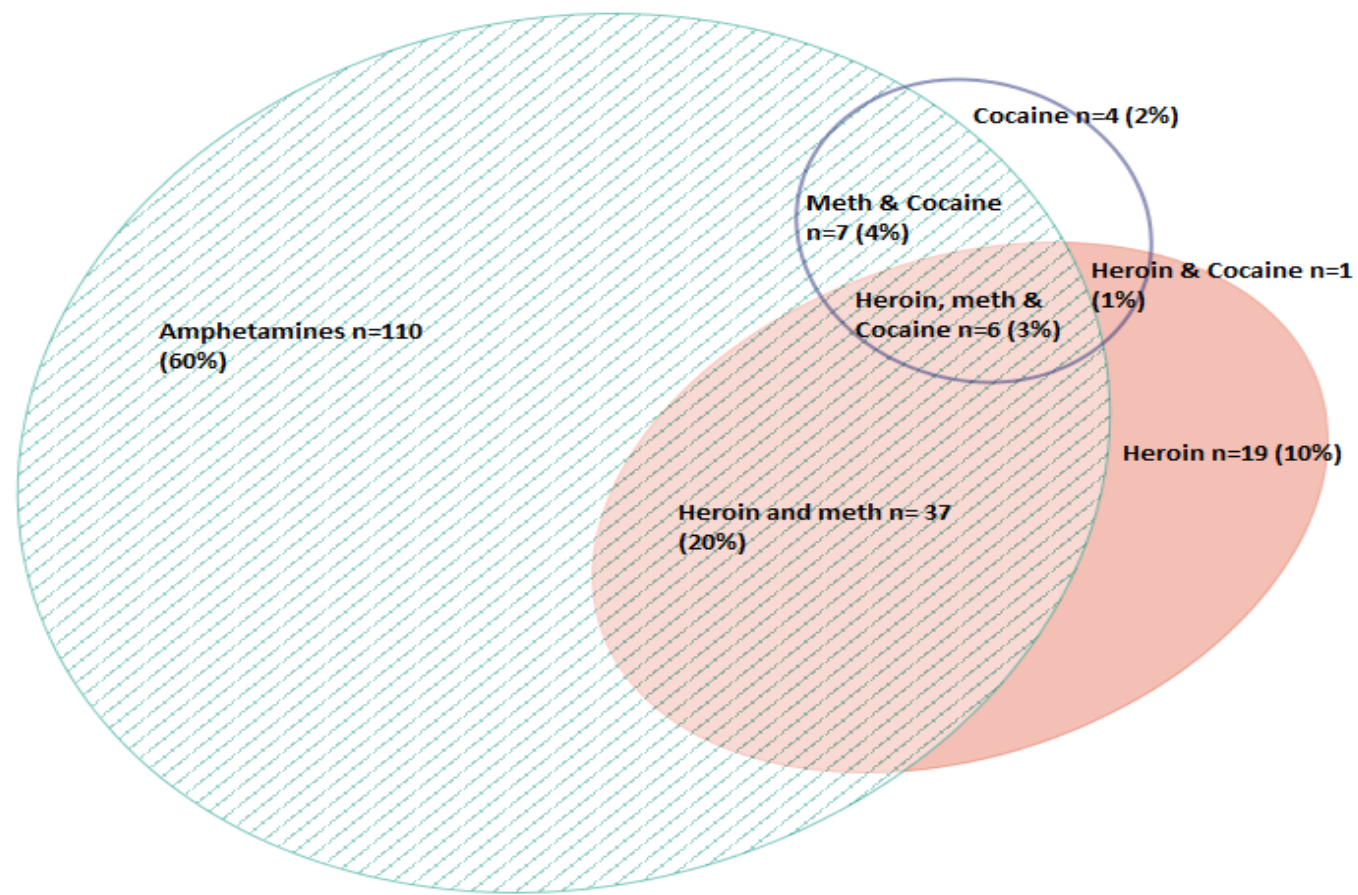


Public health implications

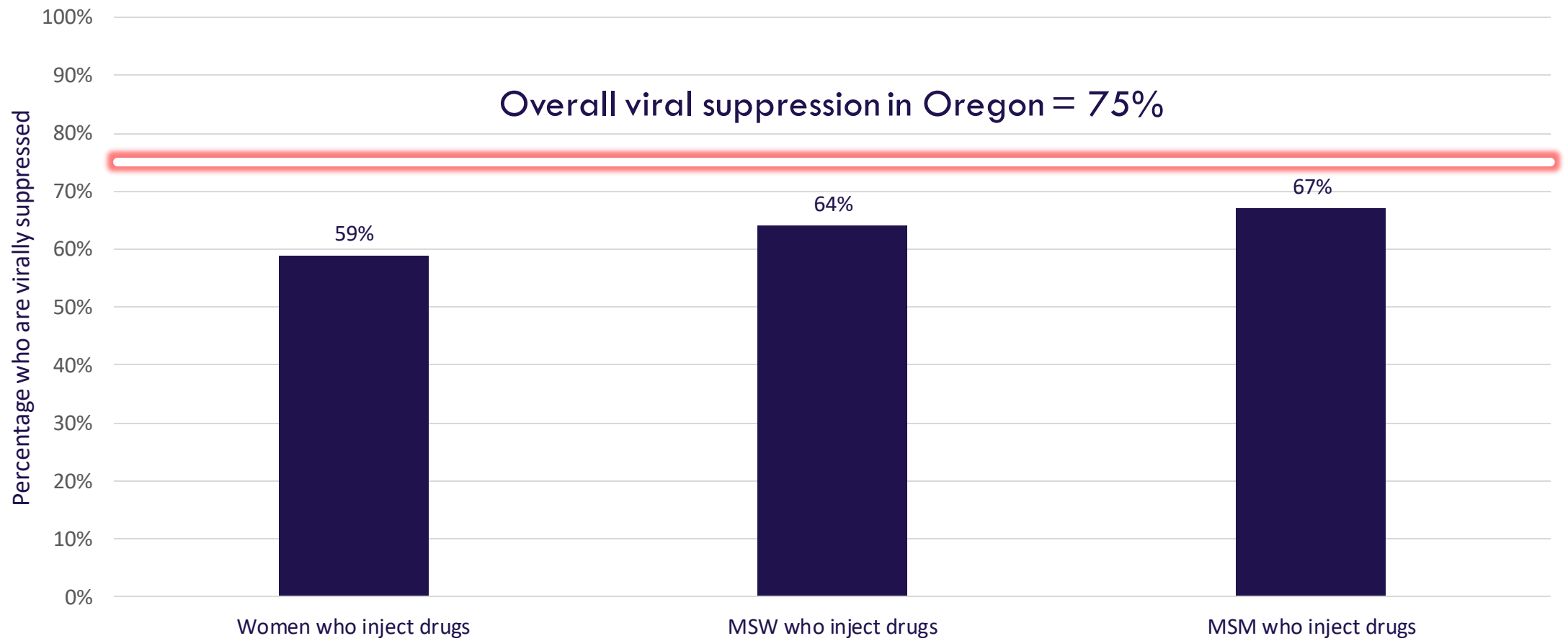
## HIV diagnoses among persons who inject drugs, Oregon 2013–2018, adjusted for reporting delay\*



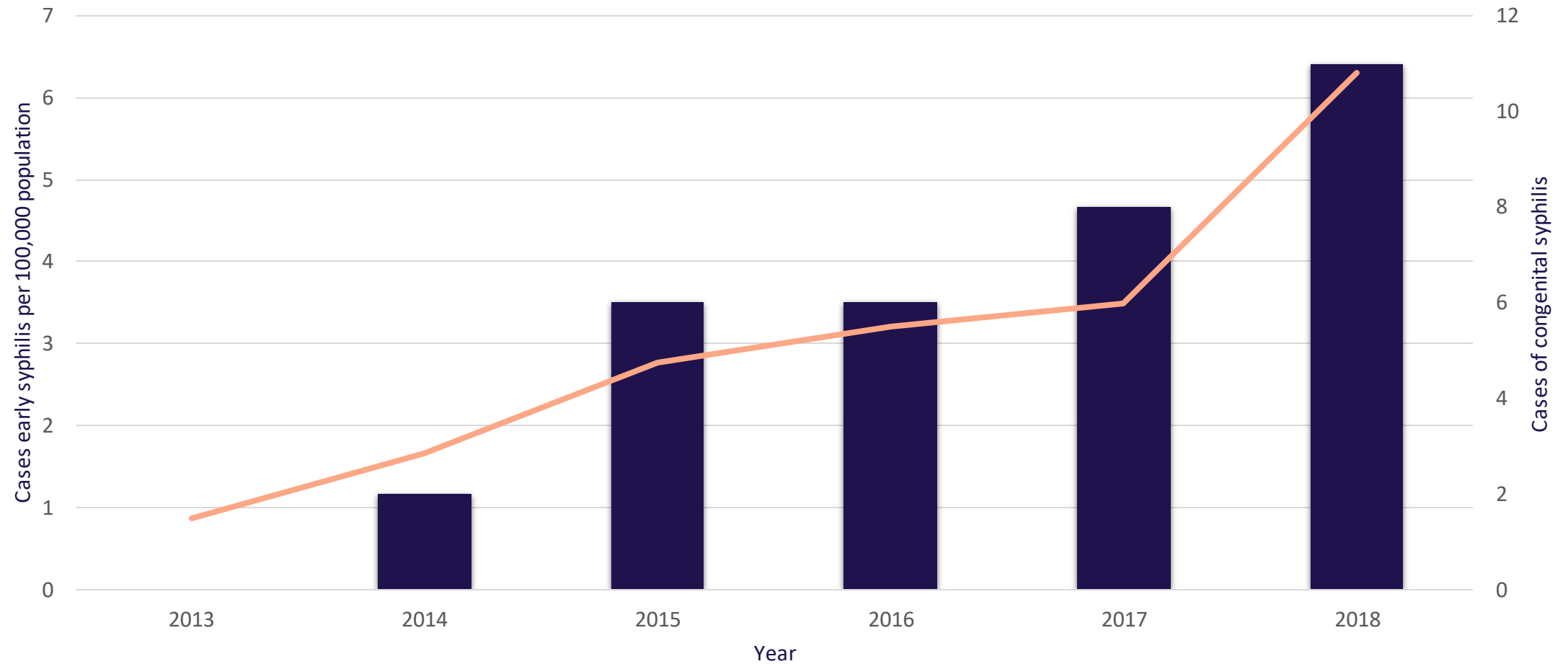
**HIV diagnoses among PWID are increasing in the context of increasing meth + heroin use**



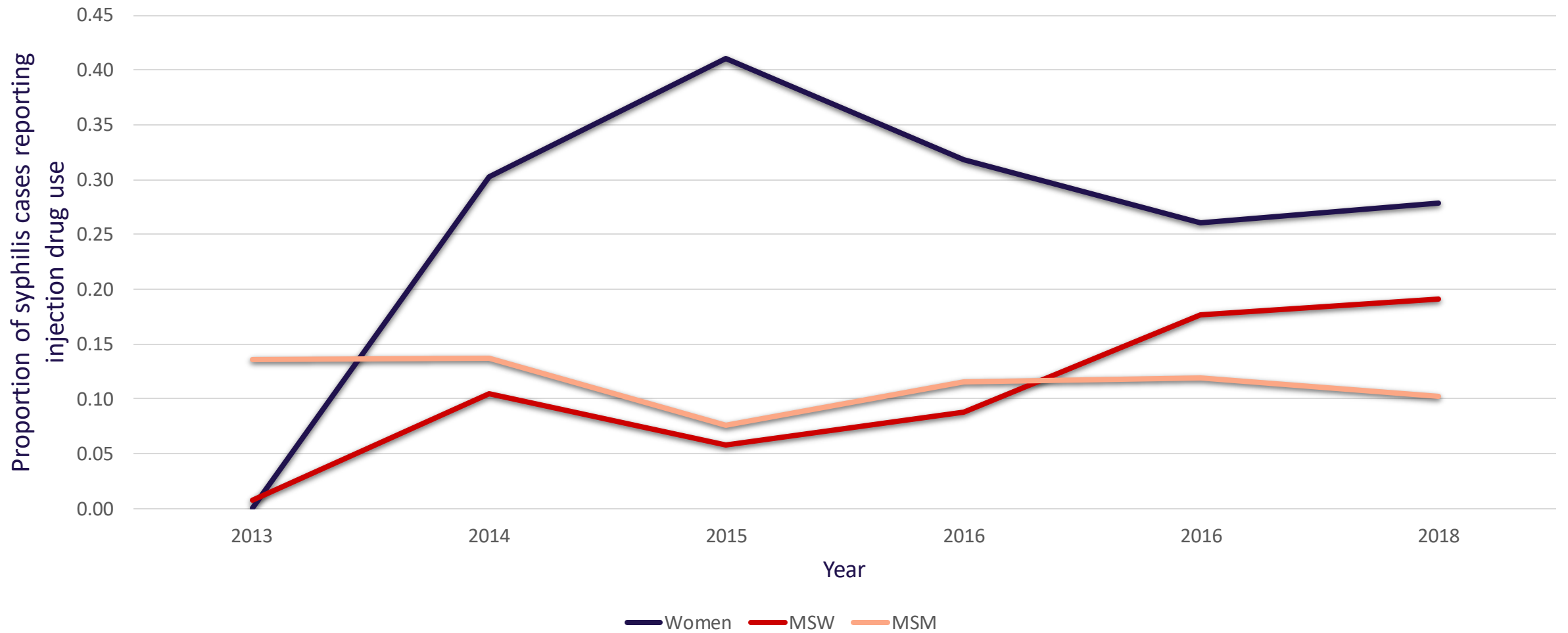
**PWID diagnosed with HIV are most likely to use meth or meth + heroin, 2013-2018**



**People who inject drugs are less likely to be virally suppressed**



**Early syphilis among women has increased 600% with an increase in congenital syphilis**



**More heterosexuals diagnosed with syphilis are reporting injection drug (meth) use**

Characteristic	Did not report transactional sex, %	Reported transactional sex, %	Adjusted RR (95% CI)
Ever used drugs by injection			
No	91.9	43.1	REF
Yes	8.1	56.8	1.94 (1.24, 3.03)
Methamphetamine and opiate use, prior 12 months			
Neither drug	82.1	26.0	REF
Meth only	8.0	29.5	1.02 (0.39, 2.70)
Opiates only	5.8	14.5	1.24 (0.44, 3.50)
Meth and opiates	3.9	30.0	2.41 (1.03, 5.64)

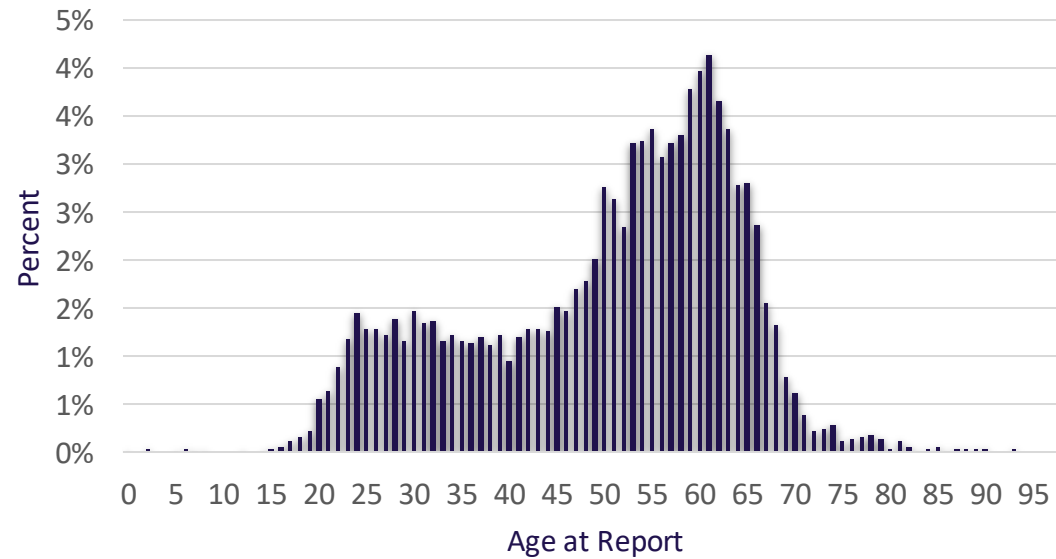
**Injection drug use and meth + opiate use are associated with transactional sex among women in PDX**

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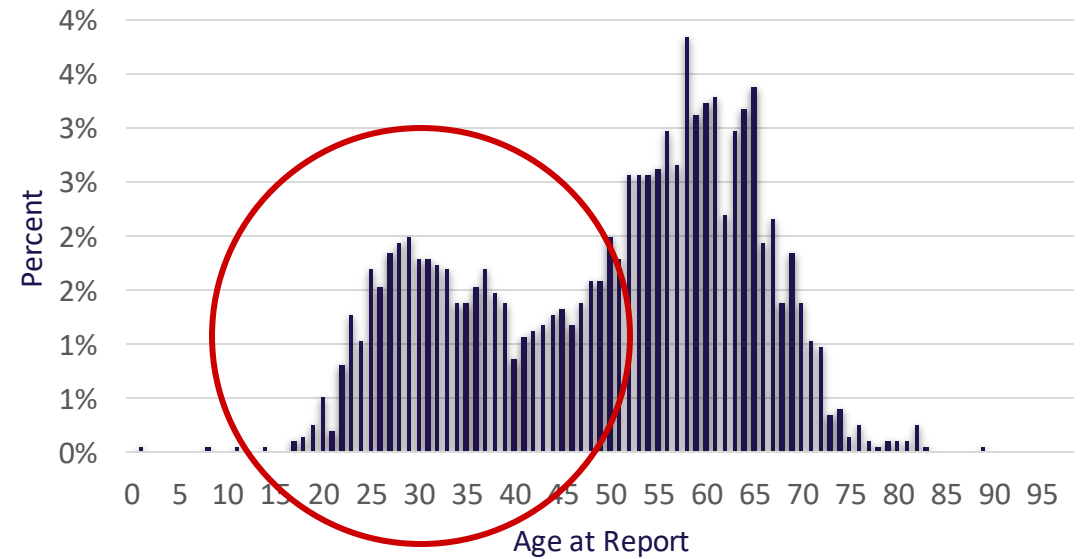
**Injection drug use and meth + opiate use are associated with transactional sex among women in PDX**



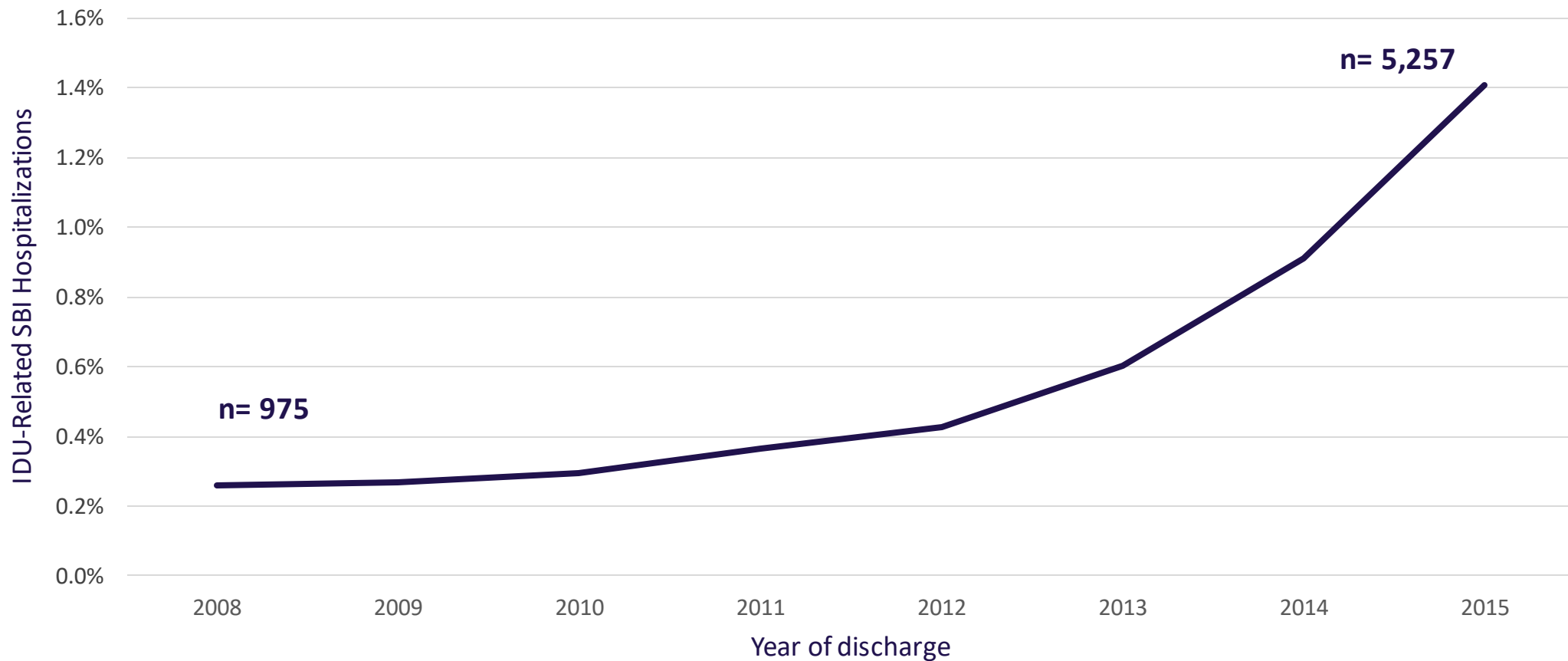
**2015 age distribution of newly reported Oregon chronic HCV cases, n=5,993**



**2018 age distribution of newly reported Oregon chronic HCV cases, n=1,946 (as of 5/1/2018)**

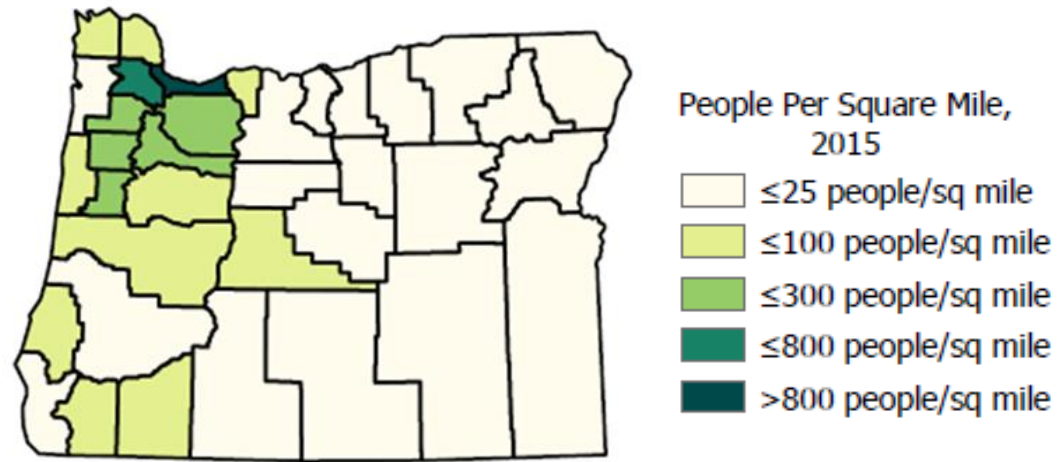


**There is now a more pronounced bimodal distribution of chronic HCV infection**

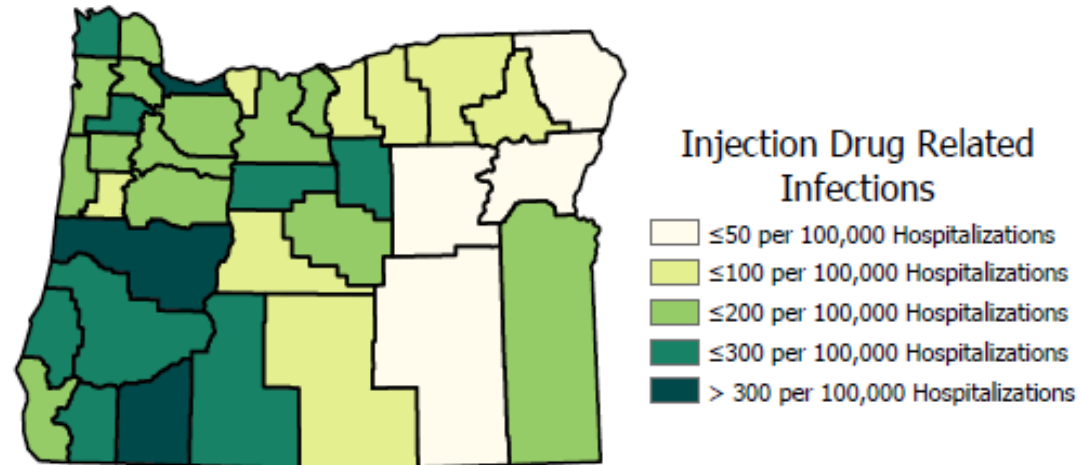


**SBI hospitalizations related to injection drug use account for an increasing proportion of all hospitalizations over time**

## Oregon Population Density, by County



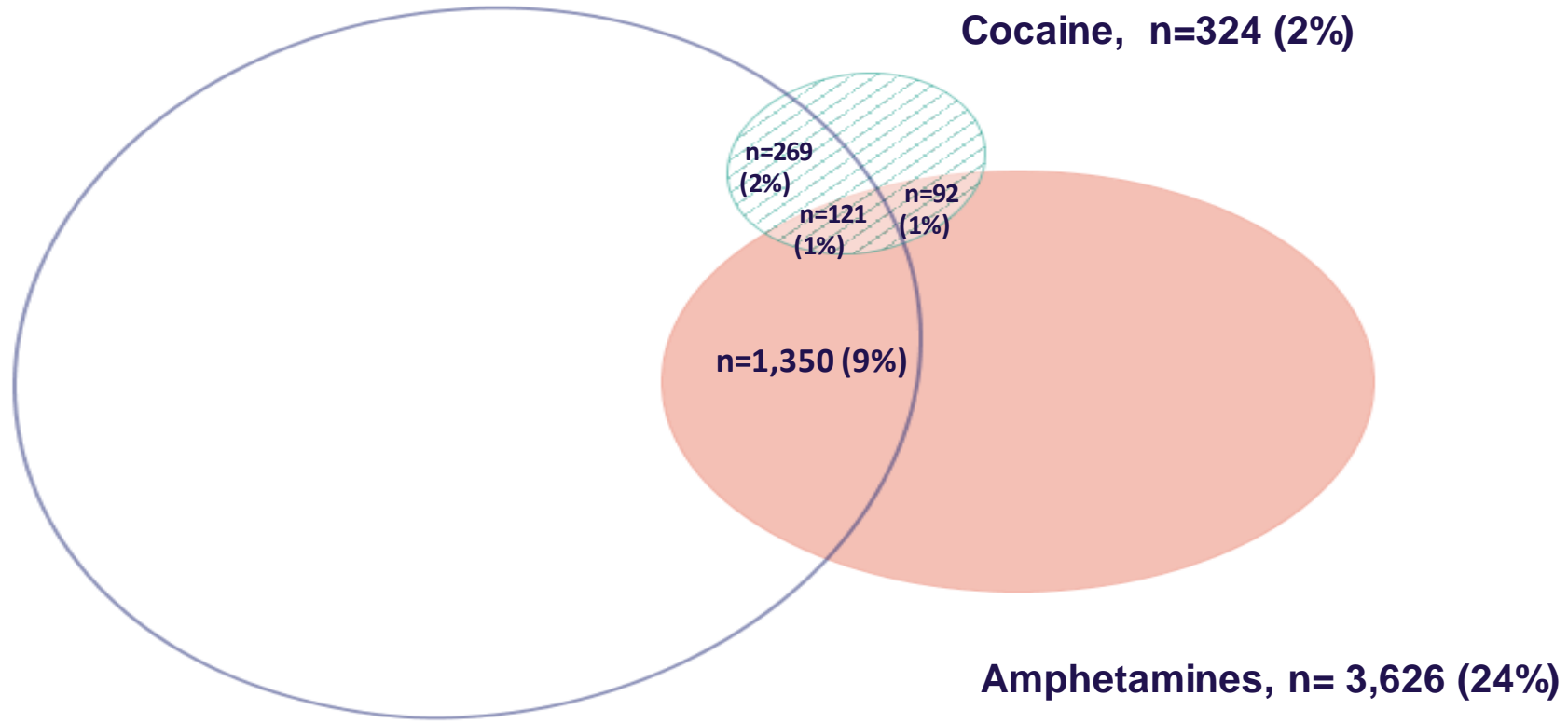
## High rates of IDU-related SBI hospitalizations in rural, low population density Counties.



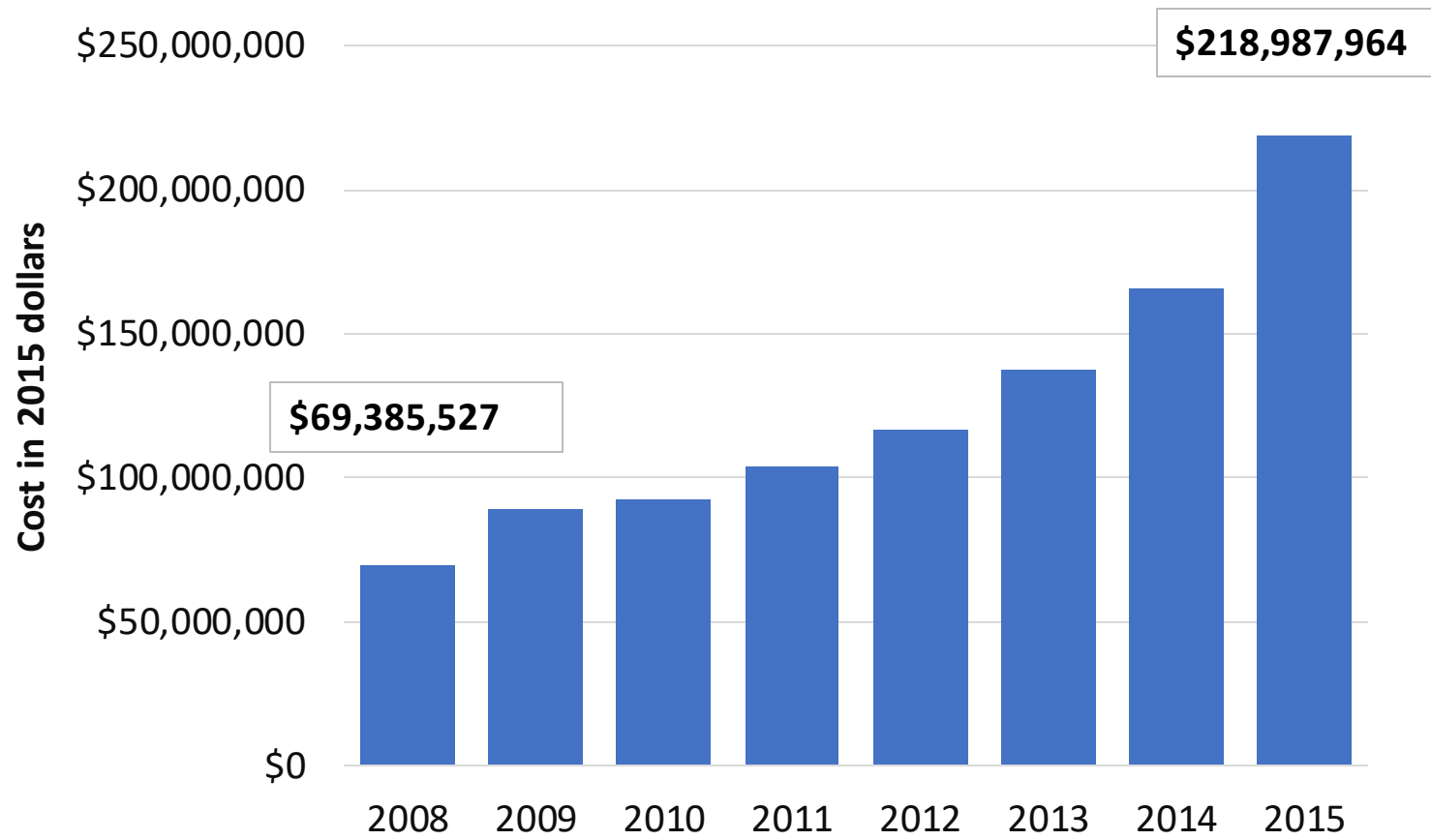
**Rural counties experience high rates of SBI hospitalizations related to injection drug use**

Opioids, n= 9,417 (62%)

Cocaine, n=324 (2%)



**Opioids account for the largest proportion of SBI hospitalizations related to injection drug use**



\*Adjusted for charge-to-cost and inflation (2015 USD)

**The cost of SBI hospitalizations related to injection drug use exceeded \$200 million in 2015**

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Public health implications

# NHBS

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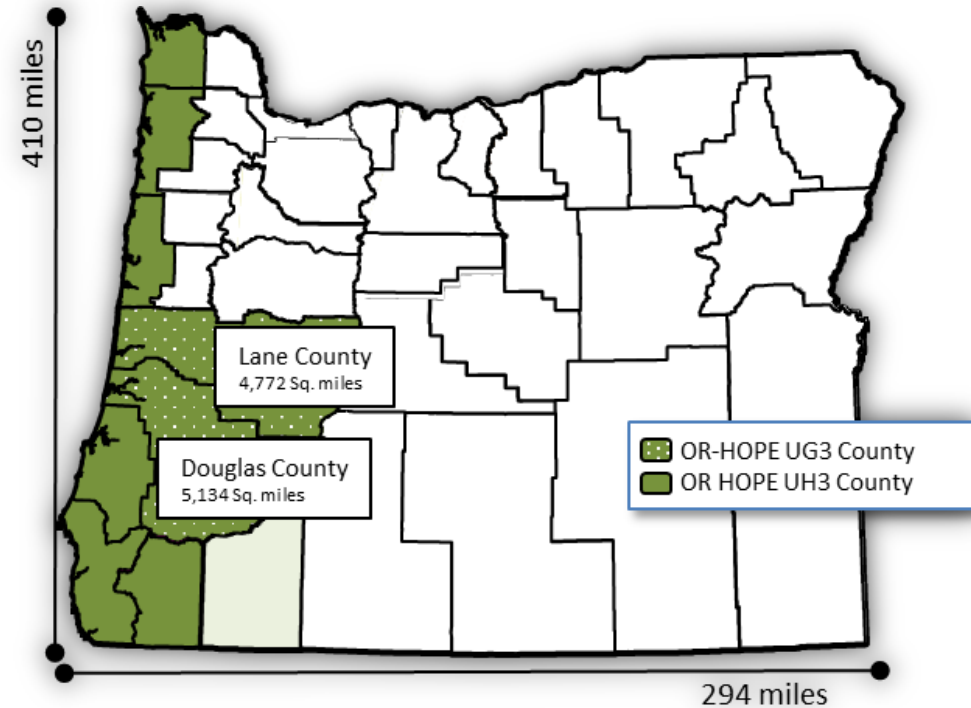


- National HIV Behavioral Surveillance i.e., “Chime In”
- Purpose: Monitor HIV risk behaviors and prevention service use in the Portland metropolitan area
- Key populations
  - High risk heterosexuals
  - Men who have sex with men
  - People who inject drugs

# OR-HOPE

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- ❑ Oregon HIV/Hepatitis and Opioid Prevention and Engagement
- ❑ Purpose: Assess opioid use disorder, HCV/HIV transmission and treatment access in rural Oregon and pilot appropriate interventions



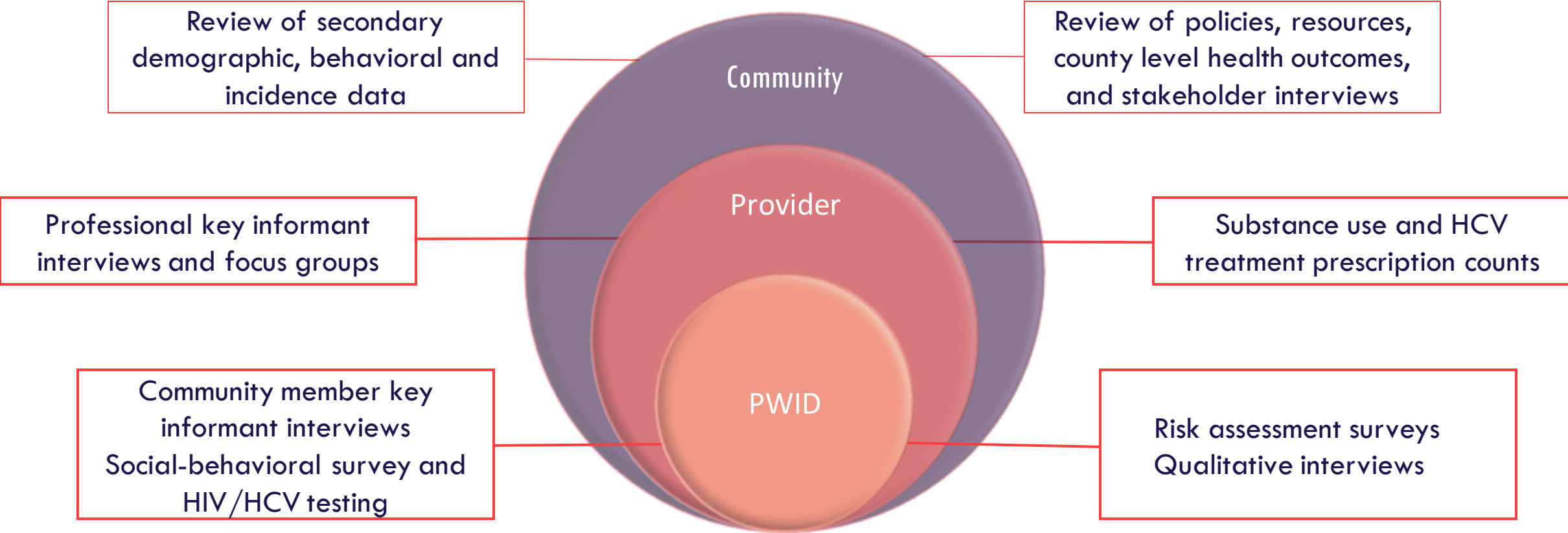


# Data Collection

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## NHBS

## OR-HOPE



# PWID Survey Recruitment

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## NHBS

- Respondent driven sampling

## Eligibility

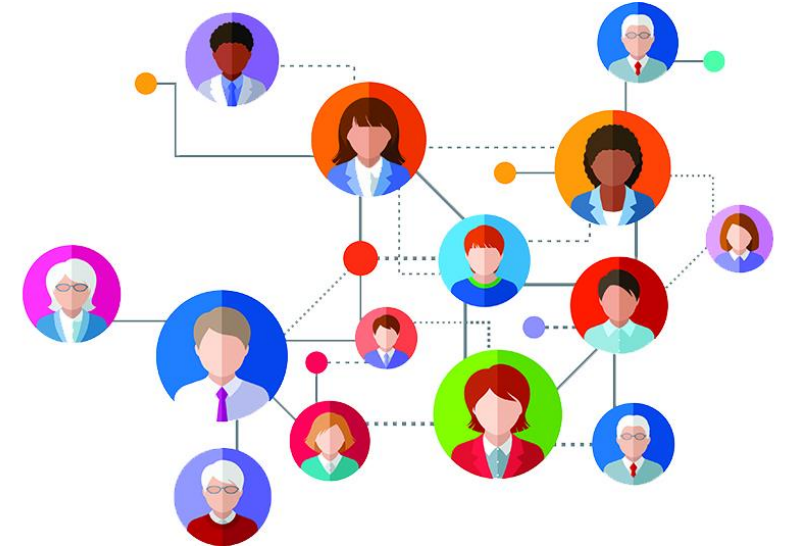
- Live in sampling area
- $\geq 18$  years old
- English or Spanish speaking
- Injection drug use in past 12 months

## OR-HOPE

- Respondent driven sampling

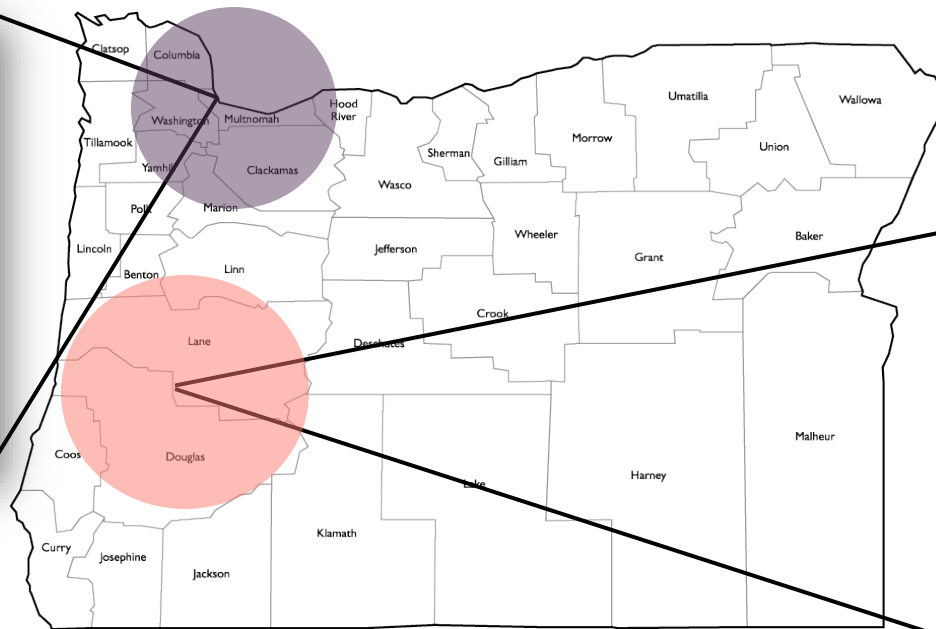
## Eligibility

- Live in sampling area
- $\geq 18$  years old
- English speaking
- Injection drug use in past OR recreational prescription opioid non-injection drugs use in the past 30 days



# Sampling Areas

## NHBS



## OR-HOPE



# Key Findings

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“

”

...people usually hang out with people that look like them... street families form and connect with other street families.

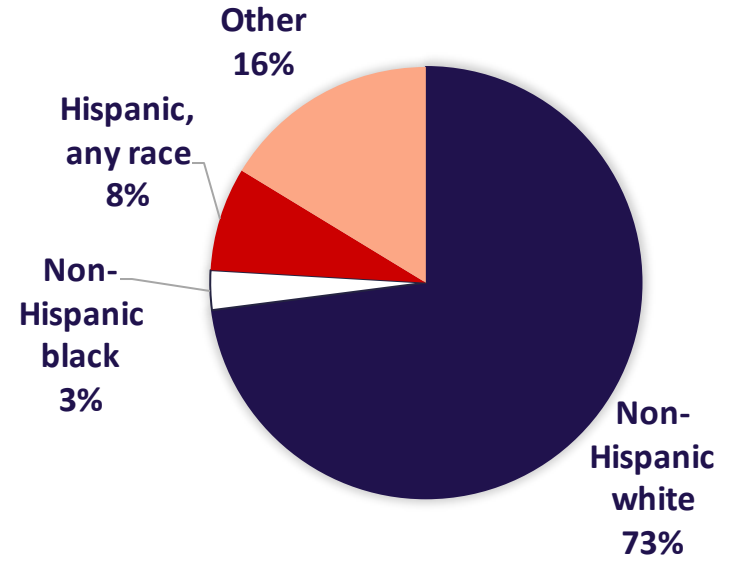
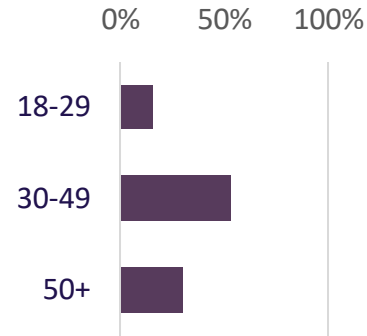
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**- NHBS Participant**



**60% Male**

### Age

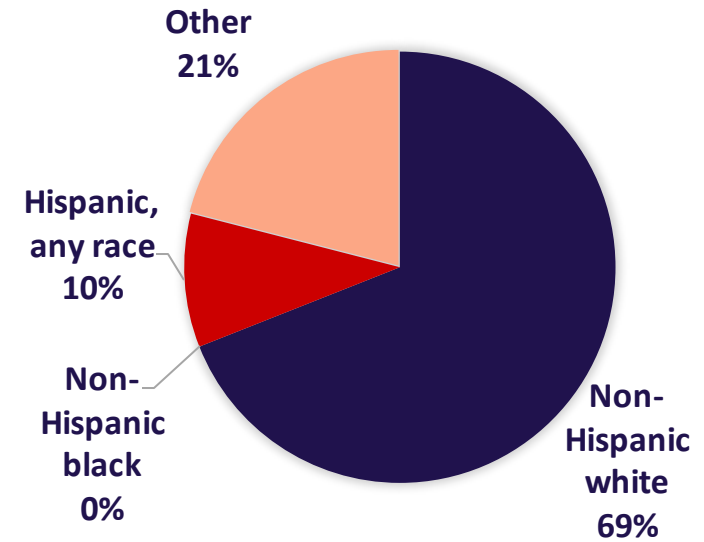
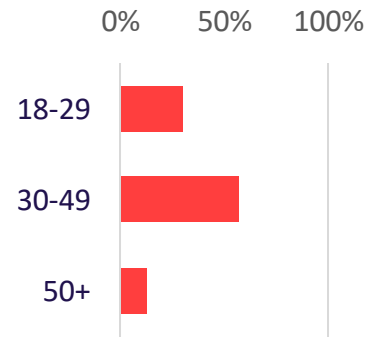


**NHBS**



**56% Male**

### Age



**OR-HOPE**

“

If I was in a place, it would be so much easier for me. I probably wouldn't use meth or heroin anymore. I would just take my medicine and go home, but I don't have a home.

---

”

**OR-HOPE Participant**

# Risk Factors

NHBS

**76%**

Experienced homelessness in past year

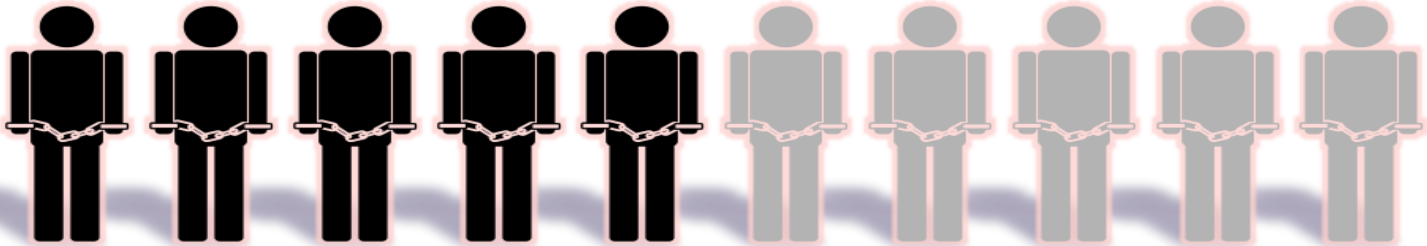


OR-HOPE

**70%**

Experienced homelessness in past year

**50%**  
Arrested in past 6 months



**52%**  
Arrested in past 6 months



“

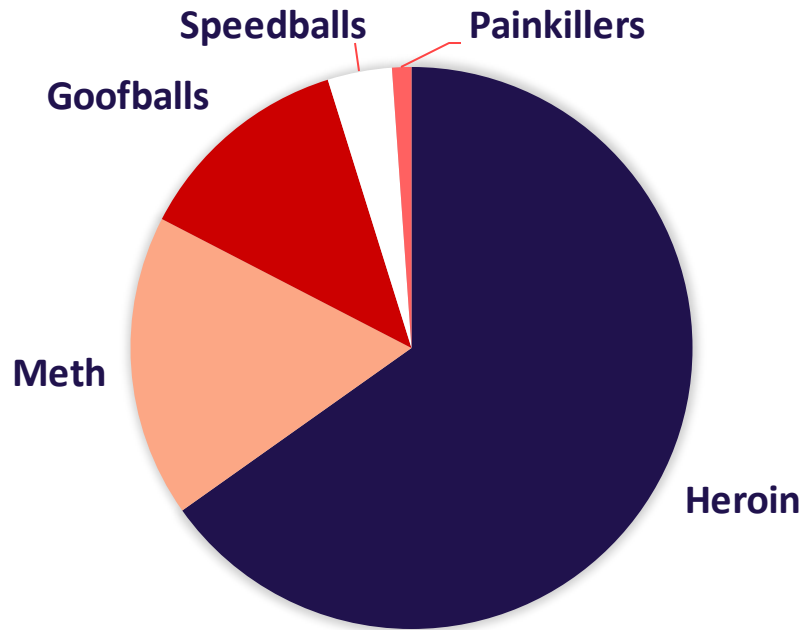
I'd rather do heroin, but meth is so much cheaper and easier to get.

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”

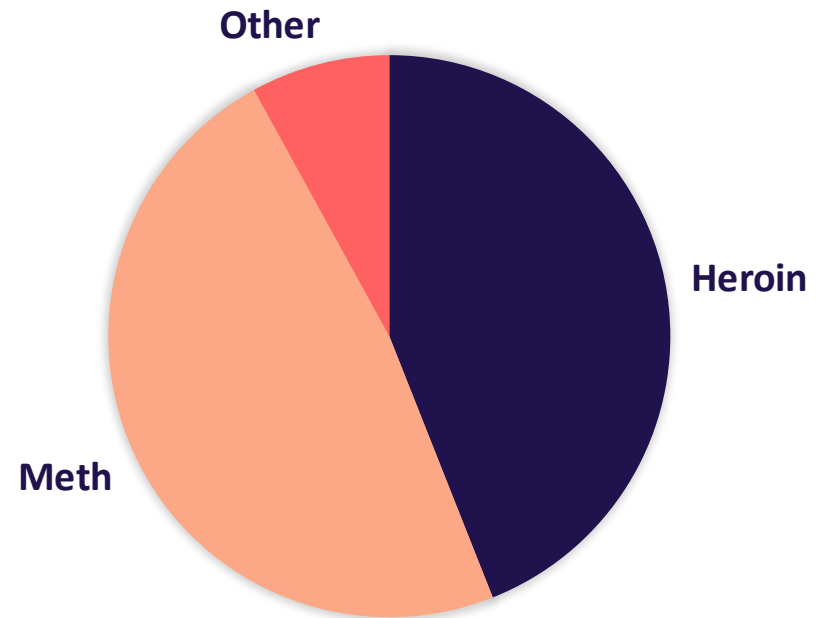
**OR-HOPE Participant**

# NHBS



\*Past 12 months

# OR-HOPE



\*Past 30 days

## Injection Drug of Choice

“

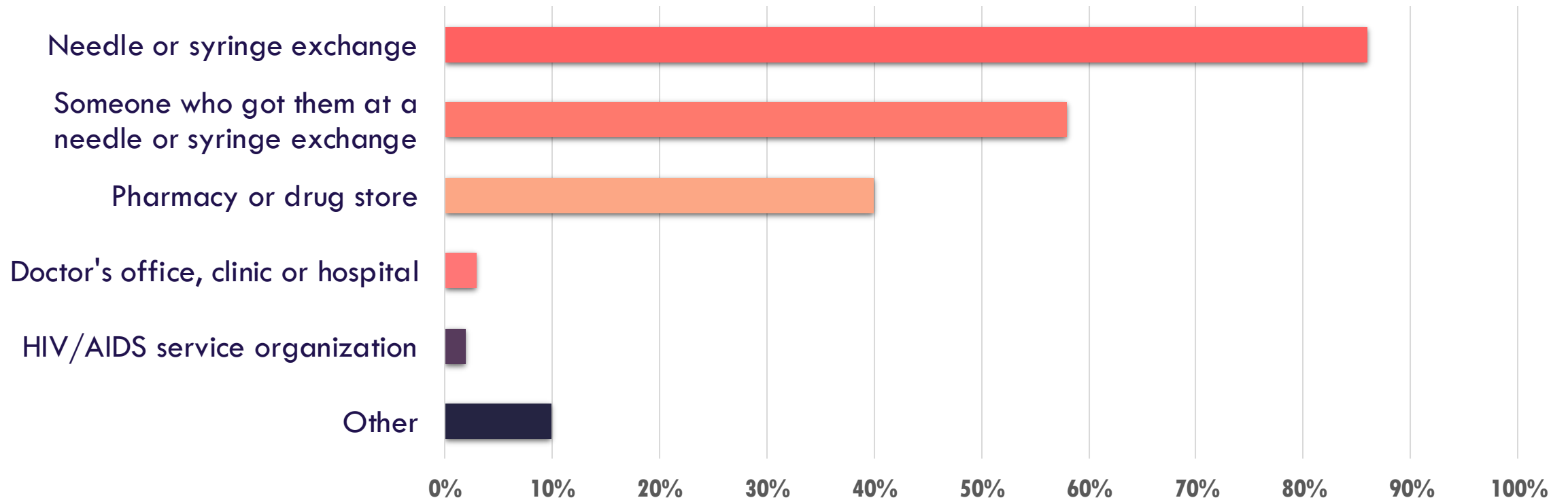
I would be afraid that family would see my car parked out front, or I would run into somebody with a bag in my hand. I take a huge risk by going into Walmart and asking for [sterile needles], too.

---

”

**OR-HOPE Participant**

## Sources of sterile needles



**Acquisition of sterile needles**

<b>Shared equipment with others</b>	<b>73%</b>
<b>Used cooker/cotton/water after someone</b>	<b>67%</b>
<b>Gave needle to someone after using</b>	<b>52%</b>
<b>Used needle after someone else</b>	<b>42%</b>
<b>Used drugs divided by a used needle</b>	<b>37%</b>
<b>Had multiple sharing partners in past year</b>	<b>68%</b>



## **Injection drug sharing behaviors - NHBS**

# Overdose

# NHBS

**26%**

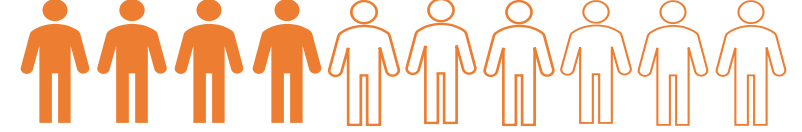
Experienced an overdose



# OR-HOPE

**41%**

Experienced an overdose



# NHBS

**26%**

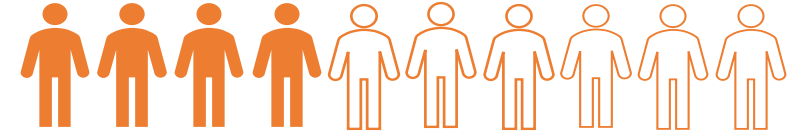
Experienced an overdose



# OR-HOPE

**41%**

Experienced an overdose



**74%**

Witnessed an overdose



**73%**

Witnessed an overdose

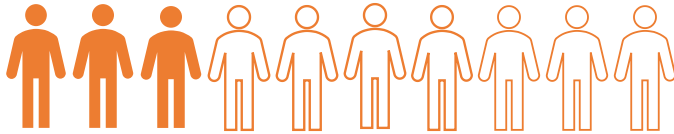




# NHBS

**26%**

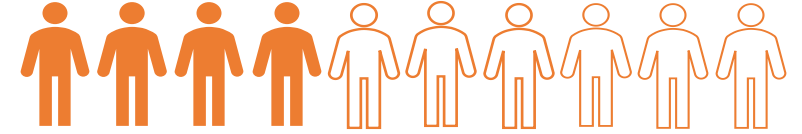
Experienced an overdose



# OR-HOPE

**41%**

Experienced an overdose



**74%**

Witnessed an overdose



**73%**

Witnessed an overdose



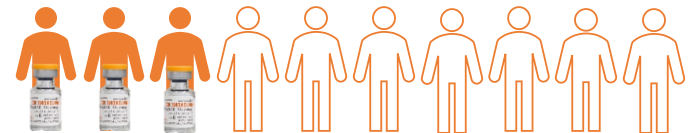
**59%**

Currently own naloxone



**27%**

Currently have naloxone



“

I wish that there were more doctors around here who did the methadone or Suboxone programs and stuff. There are hardly any here in town, and there are waiting lists and it's hard to get in. It's really hard to wait

---

”

**OR-HOPE Participant**

“

[They need help] filling out applications, people shut down because they feel too overwhelmed

---

”

**NHBS Participant**

NHBS

OR-HOPE



**Substance Use Treatment**

“

People call the cops when someone is in their car for too long, even if they're a non-user.

---

”

**NHBS Participant**

# IDU-related Stigma

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Fear of being judged about injection drug use prevented:



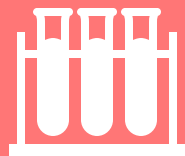
29% from accessing an emergency room



15% from accessing *Methadone* or *suboxone* treatment

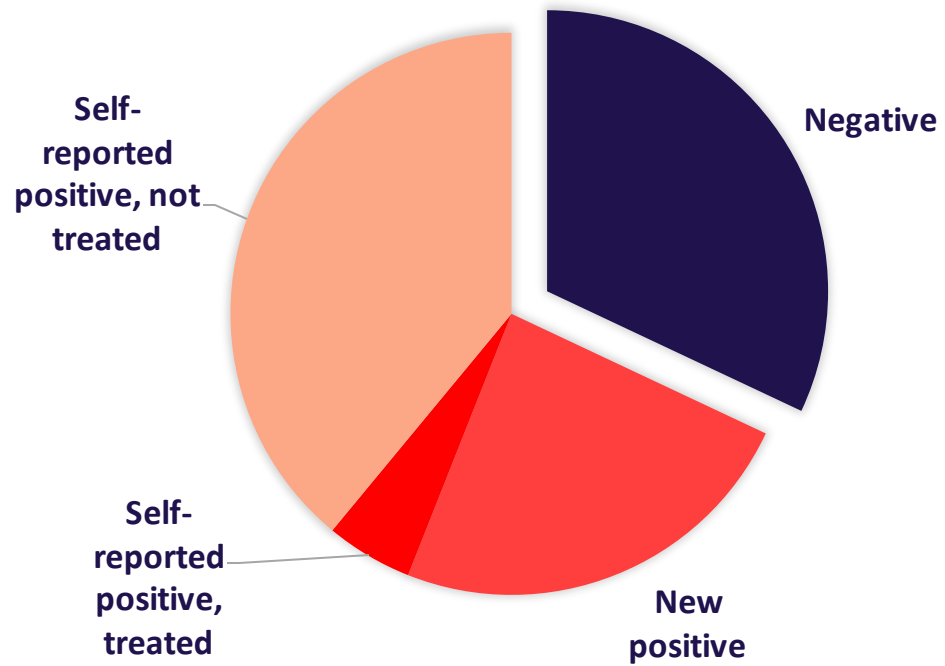


13% from accessing a wound clinic

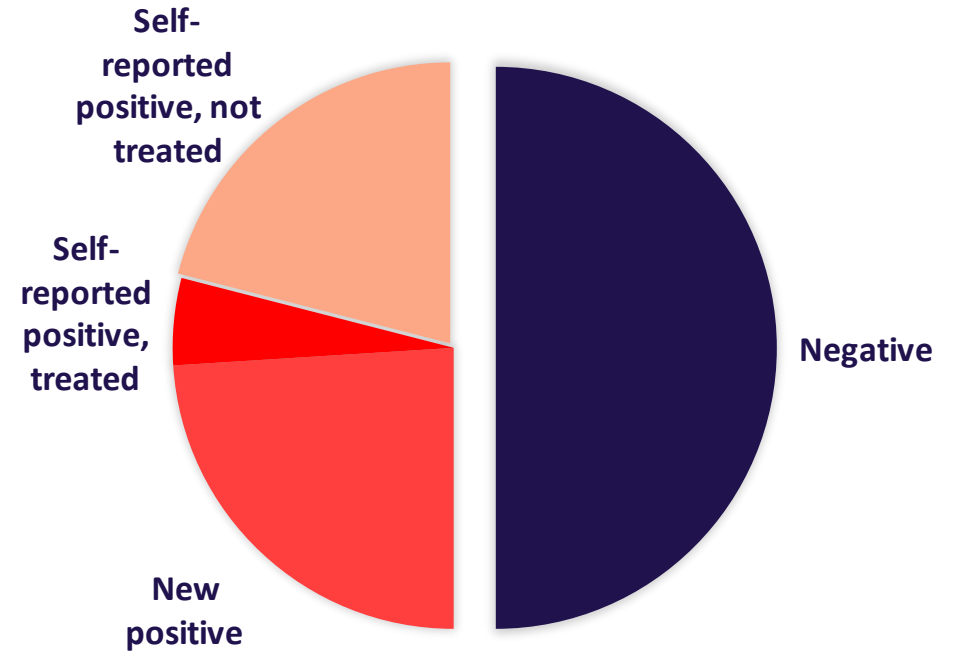


12% from accessing HIV/STI testing

# NHBS

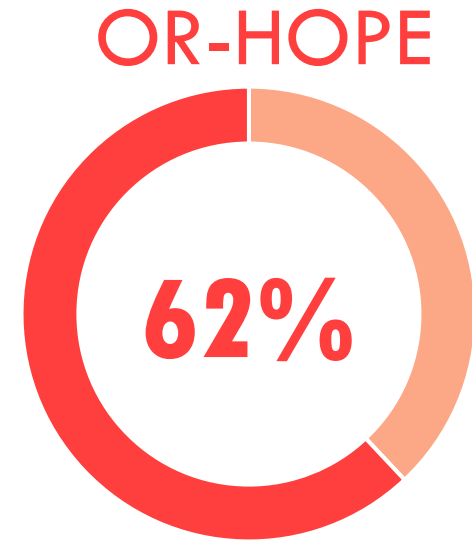
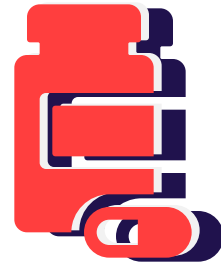
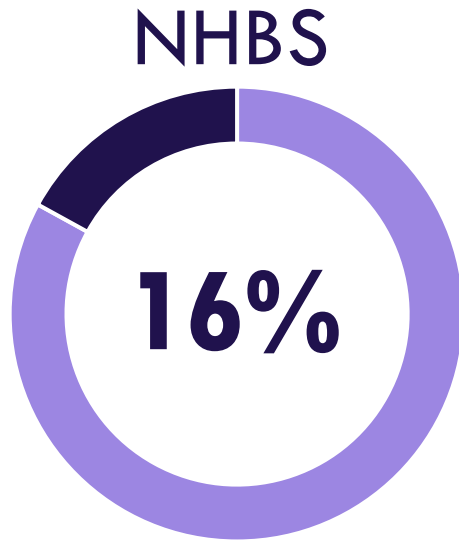


# OR-HOPE



# Hepatitis C

Among those who were not living with HIV and had received an HIV test



Had heard of PrEP

**PrEP Awareness**



# Summary of findings

- **PWID are predominately (not exclusively) White, middle-aged, men**
- **PWID are likely to experience homelessness and interact with the criminal justice system**
- **Many PWID inject both heroin and meth, but meth may be more common in rural OR**
- **PWID are acquiring sterile needles, but barriers to safe injection behaviors remain**

# Summary of findings - continued

- **Most PWID have experienced or witnessed an overdose, but far fewer carry Naloxone, especially in rural areas**
- **PWID are interested in treatment, but many get turned away, even in the Portland metropolitan area**
- **Hepatitis C is common among PWID, but many do not know they are infected and most do not receive treatment**
- **PrEP awareness among PWID varies greatly**

# Putting it Together

- **Injection drug use contributes to recent increases in HIV, syphilis, and HCV in Oregon**
- **Serious bacterial infections attributable to injection drug use are increasing**
- **While PWID access SSPs and clearly put harm reduction practices into action, barriers to diagnosis and treatment of infectious disease complications of injection drug use are formidable**
- **However, access to MOUD and knowledgeable, compassionate providers is severely limited**

# Public health strategies to support drug user health

- **Expansion of HCV, HIV, STI screening among PWID**
  - **Opt-out, panel-based testing for people who use drugs**
  - **Drug treatment programs and correctional facilities**
- **Continue to expand syringe services**
  - **Population-specific exchanges**
  - **Rural areas**
- **Integrate medical and behavioral health into syringe exchange**
  - **Or, (better yet) integrate syringe exchange into medical and behavioral healthcare settings**

# Public health strategies to support drug user health

- **Expand access to curative therapies**
  - **Medicaid will now cover HCV treatment regardless of fibrosis status**
  - **Target discrete subgroups (i.e., micro-elimination)**
- **Educate health care providers to provide comprehensive and effective care for PWID including:**
  - **HCV screening and treatment**
  - **MOUD and referrals to other substance use treatment**
  - **Mental health care**
  - **Discussions around risk reduction (e.g., safe injection and PrEP)**
- **Recruit and nurture providers who want to serve PWID**

# How can we empower people who inject drugs?

- **Increase access to naloxone**
- **Support peer-to-peer harm reduction that is already at work in the community**
  - **Peer-to-peer naloxone distribution**
  - **Peer-to-peer syringe/works distribution and exchange**
  - **Hub and spoke models**
- **Peer-based interventions to improve access to screening, HCV treatment, HIV treatment, substance use treatment, PrEP**
  - **No wrong door to access treatment**