Oregon’s Syndemic: Substance Use, Overdose, STIs, associated conditions and IDU-related infections
Framework and Response Models
Oregon HIV, Hepatitis and Opioid Prevention and Engagement (OR-HOPE) Study

• **Aim 1:** Conduct community assessments in two high-risk rural Oregon counties to inform development of a community-based program to increase HIV/HCV testing among PWUDs and linkage to accessible treatment services.

• **Aim 2:** Develop and evaluate feasibility of a rural community-based service plan comprising (1) Peer Care Coordinators for HIV/HCV testing and linkage to HIV, HCV, and OUD services and (2) telehealth support of rural primary care providers for office-based treatment of HIV, HCV, and OUD.
Aim 3: Refine and evaluate the impact of rural PCCs and telehealth provider support on rural PWID’s HIV testing rates, engagement in appropriate HIV, HCV, and OUD treatment.

- Peer care coordinator intervention to enroll 800 PWID in 8 rural counties
- Use State Medicaid and epi data used to assess HIV/HCV testing & treatment and OUD treatment, compared with matched controls
What is a Syndemic?

• Population-level cluster of health conditions or issues
• Syndemic ≠ co-morbidity
• Each condition or issue has its own epidemiologic trajectory
• Conditions or Issues interact at the level of
  • Cause
  • Consequence, or
  • Needed response
• The burden from the interaction is greater than the sum
Syndemic Approaches and Responses

• Align with Health Equity and Social Determinants of Health

More information on SDOH

• Recognize the realities that social inequalities, environments and political climates affect people’s vulnerability to and capacity for effectively dealing with health conditions and issues.

Source: Beyond Health Care: The role of SDH in Promoting Health and Health Equity

Source: Oregon Health Authority
Using a Syndemic Lens

• Identifies diverse stakeholders and allies

• Aids effective
  • Policy analysis and planning
  • Program planning and evaluation
  • Surveillance and monitoring of epidemiologic and programmatic indicators

• Leverages action across systems and social determinant levels to address conditions and issues, including root causes to improve health and address health disparities
Oregon’s Syndemic: Substance Use, Overdose, STIs, associated conditions and IDU-related infections

Substance Use Disorder (SUD), including Opioid Use Disorder (OUD)

Transition to IDU related infections such as skin and soft tissue infections, bacteremia/sepsis, endocarditis, osteomyelitis, HIV, HBV, and HCV

Alcohol, prescription and OTC drugs with misuse potential

Illegal drugs with misuse potential

Substance Misuse

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

Supported by grant number UG3DA044831 (PI: P. Todd Korthuis, MD MPH) from the National Institute on Drug Abuse
Contact judith.m.leahy@state.or.us for model questions
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- Alcohol, prescription and OTC drugs with misuse potential
- Illegal drugs with misuse potential

Substance Misuse

- Substance Use Disorder (SUD), including Opioid Use Disorder (OUD)
- Overdose Morbidity and Mortality

Sexually Transmitted Infections (STIs): Syphilis, chlamydia, gonorrhea, genital herpes, HIV, HBV and HCV

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Injection Drug Use (IDU) related infections such as skin and soft tissue infections, bacteremia/sepsis, endocarditis, osteomyelitis, HIV, HBV, and HCV

Sexually Transmitted Infections (STIs): Syphilis, chlamydia, gonorrhea, genital herpes, HIV, HBV and HCV

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Alcohol, prescription and OTC drugs with misuse potential

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Alcohol, prescription and OTC drugs with misuse potential

Substance Use

Substance Misuse

Illegal drugs with misuse potential

Neonatal Abstinence Syndrome (opioids)
Fetal Alcohol Spectrum Disorders

Overdose
Morbidity and Mortality

Suicidality

Substance Use Disorder (SUD), including Opioid Use Disorder (OUD)

Transition to IDU

Injection Drug Use

Sexually Transmitted Infections (STIs): Syphilis, chlamydia, gonorrhea, genital herpes, HIV, HBV and HCV

HBV
HIV
HCV

Injection Drug Use (IDU) related infections such as skin and soft tissue infections, bacteremia/sepsis, endocarditis, osteomyelitis, HIV, HBV, and HCV

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An Integrated Community Response

- Comprehensive – NOT disease or issue specific
- Cross-sector and public/private partnerships
- Based on key or core strategies
- Uses systems based thinking and evidence-based and evidence-informed approaches

Meikirch Model of Health

Health Impact Pyramid

More information on the Health Impact Pyramid

More information on the Meikirch Model of Health
Levels of Community Response and Approaches to address the Syndemic: Substance Use, Overdose, associated conditions and IDU-related infections

Key Strategies
1. Reduce stigma
2. Improve community infrastructure
3. Collaborate across sectors
4. Use evidence and data to make decisions
5. Increase protective factors
6. Reduce risk factors and support harm reduction

Focus on immediate, individual-level approaches
Focus on long-term community-level approaches

Prevent acute life-threatening outcomes
- Overdose (OD) and Suicide
- IDU-related infections: skin and soft tissue infections, sepsis, endocarditis
- Exposure of unborn infants to drugs, alcohol, syphilis, hepatitis B, hepatitis C and HIV
- Naloxone
- Drug checking
- Sterile syringes
- HAV/HBV Vaccine
- Safe injection supplies
- Condoms and HIV nPEP
- OD and suicide survivor response

Diagnose and treat conditions and infections
- Substance Use Disorders (SUD)
- Alcohol Use Disorders (AUD)
- Hepatitis C, HIV and syphilis
- IDU-related infections
- Integrated screenings in primary care
- Integrated, peer-based rapid HIV, HCV and syphilis screening and linkage to care
- MAT, HIV PrEP, hepatitis C, HIV and STI treatment in primary care
- Primary Care Provider SUD/AUD, Buprenorphine, HIV and HCV training, mentoring and support network
- Reduce stigma, change social norms and strengthen social supports

Policy, environment and social determinants
- Community safety and resilience
- Laws and policies protect health
- Insurance coverage and parity for OTP, SUD and mental health

Acronyms
- ACEs = Adverse Childhood Experiences
- AUD = Alcohol Use Disorder
- HAV = Hepatitis A Virus
- HBV = Hepatitis B Virus
- HIV nPEP = HIV Non-medical Post Exposure Prophylaxis
- HIV PrEP = HIV Pre-Exposure Prophylaxis
- IDU = Injection Drug Use
- MAT = Medication Assisted Treatment
- OD = Overdose
- OTP = Opioid Treatment Program
- PDMP = Prescription Drug Use Monitoring Program
- STI = Sexually Transmitted Infection
- SUD = Substance Use Disorder

Model adapted from the Association of State and Territorial Health Officers (ASTHO) Opioid Framework, a combination of the Health Impact Pyramid, the Social Determinants of Health and the Meikirch Model of Health.

Contact judith.m.leahy@state.or.us questions. Supported by NIDA grant number UG3DA044831 (PI: P. Todd Korthuis, MD MPH).
Using the Syndemic and Community Response Models

• Increased communication and collaboration across programs, sections and divisions

• Public Health Modernization efforts

• Integrated information for local planning and response efforts
Rates of Chronic HCV cases in persons < 30, Oregon, 2012-2016

- 53% increase in cases under 30 years of age statewide

N=520 cases statewide

N=813 cases statewide
Data slides just in case
Rates of new HIV diagnoses in Oregon 2012-2016

- 18% drop in cases statewide between 2012 and 2016

- N=270 cases statewide
- N=221 cases statewide
Rates of syphilis, Oregon, 2012-2016

- 32% increase statewide, from 310 cases to 408 cases

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Proportion of cases reporting injection drug use, Oregon, 2012-2016

* 84% of cases with missing data
Inpatient admissions for severe bacterial infections among PWIDS, Oregon, 2008-2015

- Number of cases rose from 975 in 2008 to 5,257 in 2015
Rate of women who are HCV+, as reported on birth certificate (per 1,000 live births), Oregon 2012-2016

Highest risk of HCV in mothers:
- American Indian
- less than a high school education
- Medicaid
- lack of prenatal care
- history of alcohol and tobacco use during pregnancy

Study matching birth certificates with Oregon HCV surveillance database identified additional 113 women who were HCV+ and gave birth in 2015

- 34% increase between 2012 and 2016
Rates of Neonatal Abstinence Syndrome (NAS) per 1,000 live births, Oregon, 2012-2016

- 37% increase in rates between 2012 and 2016