Learning Objective

• Upon completion, participants should be able to explain the rationale for and the details of carrying out HIV, HCV, and STI screening in people who inject drugs.
IDU as a Risk Factor for HIV, HCV, and STIs

- Opioid injection is linked to increasing rates of HCV in non-urban parts of the US and has identified a previously unrecognized population that has an elevated risk of transmitting other blood-borne pathogens, including HIV.
- While unsafe injection practices increase the risk of transmission of these infections, high-risk sex in PWID can also increase the risk of contracting HCV and HIV in addition to other STIs.

Opioid-Use Disorder and Opioid Injection

- In the US, 2.3 million people use opioids or are dependent on them.
- Opioid-overdose deaths have tripled since 2000. In 2014, 61% of all drug-overdose deaths involved opioids (one-half of those were prescription opioids).
- An increasing number of people are transitioning to injection as a mode of opioid delivery.
Opioid-Use Disorder and Opioid Injection in Rural Communities

- In the Appalachian region of the US, admittance of 12- to 29-year-olds to treatment clinics for opioid dependency rose 21% between 2006 and 2012.
- Proportion of admissions related to opioid injection rose 13% ($P < 0.05$, 2006-2012).

Incidence of Acute Hepatitis C Among Persons Aged ≤ 30 years, by Urbanicity and Year (Kentucky, Tennessee, Virginia, West Virginia, 2006-2012)

- HCV cases rose 364% in non-urban areas.
- 73% of these cases reported IDU.

*95% confidence interval*
2015 HIV Outbreak in Scott County, IN

- 190 confirmed cases of HIV centered around Austin, IN
  - 92% (161/175) coinfected with HCV
  - 95% reported IDU
    - Multigenerational sharing of injection equipment
    - 4-15 daily injections
    - 1-6 partners per injection event
- Primarily rural, young (median age: 33, range 18-60), white, and ~43% women

Pontones P. Outbreak of HIV and Hepatitis C Linked to Injection Drug Use in Rural Indiana. ICEID. Atlanta, GA. August 26, 2015; Conrad C, et al. MMWR Morb Mortal Wkly Rep. 2015;64:443-44; Dr. Janowicz, personal communication; ISDH. Health Officials Urge Wider Use of Preventative Medicine as Number of HIV Outbreak Cases Rises by 4. www.in.gov.

Routes of HIV Transmission in Indiana, 2011

- 4% Injection drug users
- 3% Gay or bisexual men who also inject drugs
- 26% Heterosexuals
- 67% Gay or bisexual men

In 2011, 512 new cases of HIV were diagnosed in Indiana

Routes of HIV Transmission in Rural Indiana HIV Outbreak, December 2014 to April 2015

80% Reported injection drug use

17% Injection drug use status unknown

3% No injection drug use

N = 135

In one county, 135 new cases of HIV were confirmed over 5 months


High-Risk Sexual Behavior in PWID

• High-risk sexual behaviors in PWID can increase the chance of contracting STIs
• Individuals diagnosed with syphilis, gonorrhea, or herpes often also have HIV
  – In 2010, 42% of Florida residents who were diagnosed with syphilis were also infected with HIV
  – HIV is more closely linked to gonorrhea than chlamydia
  – Persons infected with HSV-2 have a 3-fold increased risk of contracting HIV

Response to Scott County HIV Outbreak

- Interviews with persons diagnosed with HIV to identify contacts at risk of HIV (sharing of injection equipment, sexual partners) (February 2015)
- CDC involvement (March 2015)
- “You Are Not Alone” public awareness campaign (March 2015)
- “One-Stop Shops” (April 2015)
- Emergency syringe exchange program (April 2015)
- Retesting of high-risk individuals (November 2015)

HIV Clinic

- March 31, 2015: first free HIV clinic staffed by IUSM* ID physicians opens
- Once-weekly clinic: 2-physician model
  - Appointments and walk-ins
- HIV testing, treatment, education, PrEP
- Comprehensive intake forms
- Simple, direct educational materials
- Algorithms for streamlined care
  - Permits all provider levels to treat
- Pharmacy education

*Indiana University School of Medicine, IU Health Physicians
Algorithm for Streamlined Care in Scott County

1. Insurance Enrollment
2. Laboratory Tests
3. Physician Assessment & Counseling

Wild-Type Genotype, Normal Creatinine

HLA-B5701 (-)  ABC/3TC/DTG Daily

HLA-B5701 (+) or Hepatitis B Infected  TDF/FTC + DTG Daily

Return to Clinic in 2 Weeks
Assess Adherence, Side Effects & Barriers

Dr. Janowicz, personal communication.

Austin One-Stop Shop

- HIV and HCV testing
- Vital records
- Drivers license/state identification
- Insurance enrollment
- Immunizations
- Rehabilitation, mental health services
- Care coordination
- Department of Workforce Development
- Needle exchange program

Dr. Janowicz, personal communication.
SEP

- Emergency SEP implemented on April 6, 2015
- Scott County Health Department
- On-site and mobile unit
- 197 individuals participating
- Unique ID cards, weekly exchange
- ~ 48,000 needles dispensed

SEP (cont.)

- Injection-related risk behaviors declined significantly following implementation of the program

<table>
<thead>
<tr>
<th></th>
<th>First Visit</th>
<th>Most Recent Visit</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing syringes to inject, n (%)</td>
<td>34 (34%)</td>
<td>5 (5%)</td>
<td>0.04</td>
</tr>
<tr>
<td>Median frequency of syringe reuse, n (IQR)</td>
<td>4 (2-15)</td>
<td>1 (1-1)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Median syringes returned, n (IQR)</td>
<td>0 (0-1)</td>
<td>47 (27-80)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Median syringes given, n (IQR)</td>
<td>35 (21-56)</td>
<td>42 (30-70)</td>
<td>0.004</td>
</tr>
<tr>
<td>Sharing syringes to divide drugs, n (%)</td>
<td>38 (38%)</td>
<td>10 (10%)</td>
<td>0.17</td>
</tr>
<tr>
<td>Sharing other injection equipment, n (%)</td>
<td>44 (44%)</td>
<td>11 (11%)</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Themes in HIV Care

- Wide range of knowledge bases
- Necessary to address stigma, myths
- Assurance of privacy
- Emphasis on long-term care: prognosis AND adherence
- “Welcoming, non-judgmental, respectful environment” for one and all

Dr. Janowicz, personal communication.

Continuum of Care, August 17, 2015

- Eligible*: 100% (N = 169)
- Engaged in Care**: 81% (N = 141)
- Care Coordination: 74% (N = 125)
- Prescribed ARVs***: 54% (N = 92)
- Virally Suppressed***: 25% (N = 43)

*Total diagnosed = 175 (175 confirmed). Persons were ineligible if deceased (n = 1) or outside of the jurisdiction (n = 5); estimates are based on the number of eligible persons (n = 169)

**Patients engaged in care if have at least one VL or CD4

***Percent on ARVs increases to 65% and virally suppressed increases to 30% when denominator changed to number engaged in care. Clinical services were initiated 3/31/15, ART data updated through 8/17/15.

Pontones, P. Outbreak of HIV and Hepatitis C Linked to Injection Drug Use in Rural Indiana. ICEID. Atlanta, GA. August 26, 2015.
Next Steps and Lessons Learned
“Seek, Test, Treat, and Retain”

- Maximize prevention efforts early
- Continued surveillance testing, awareness
- Engagement and retention in care
- Treatment as prevention (HIV, HCV, STIs)
- Behavioral and mental health rehabilitation
- Sustainability planning

Preventing Another HIV Outbreak

What are we up against in rural areas?
- High rate of opioid addiction and IDU
- Concomitant high rates of HCV due to the sharing of injection equipment
- Limited health resources, high rates of poverty and unemployment
- Stigma
- "Anything bad that can happen has already happened. So why stop now?"

NIDA. Seek, Test, Treat, Retain. http://www.drugabuse.gov;

County Health Rankings. www.countyhealthrankings.org;
Screening for HIV, HCV, and STIs

- HIV testing as routine preventive care helps diagnose individuals and link them to care early in their infection
- Screening protocols for HCV and STIs can identify individuals who have a high-risk of HIV transmission

Screening for HIV

- HIV screening can identify individuals early in their infection and get them linked to ART quickly
  - 91.5% of all HIV transmissions in the US can be traced to individuals who did not know their HIV status or who were HIV-positive but not receiving medical care
- The CDC recommends that individuals at high risk of HIV be tested at least annually for HIV
  - PWID
  - Persons who exchange sex for money or drugs

CDC. STDs and HIV-CDC Fact Sheet. www.cdc.org;
General HIV Screening Recommendations

- **USPSTF**
  - All patients aged 15 to 65 years
  - Younger adolescents and adults at increased risk
  - All pregnant women
- **CDC**
  - All patients aged 13 to 64 years
  - All patients seeking treatment for TB
  - All patients seeking treatment for STIs (at every visit)
  - All pregnant women

Screening for HCV

- Screening for HCV in PWID can help:
  - HCV-positive patients get connected to treatment sooner
  - Identify/educate those using unsafe injection practices to prevent the transmission of HIV
- Reducing HCV prevalence below a threshold of 30% could significantly lower HIV risk and serve as a target for further HIV prevention measures
Screening for HCV

- Barriers to screening:
  - The majority (70%-80%) of acute HCV infections are asymptomatic; liver disease can take ~20 years to develop
  - HCV diagnosis is a 2-step process

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Recommended Testing Sequence for Identifying Current HCV Infection

1. **Nonreactive**
   - HCV Antibody: Nonreactive
     - Not Detected: HCV RNA
       - Detected: Current HCV Infection
         - Link to Care
       - Not Detected: Additional Testing as Appropriate†
         - STOP*  
2. **Reactive**
   - HCV Antibody: Reactive
     - Detected: Link to Care
     - Not Detected: Additional Testing as Appropriate†
       - STOP*

*For persons who might have been exposed to HCV within the past 6 months, testing for HCV RNA or follow-up testing for HCV antibody is recommended. For persons who are immunocompromised, testing for HCV RNA can be considered.
†To differentiate past, resolved HCV infection from biologic false positivity for HCV antibody, testing with another HCV antibody assay can be considered. Repeat HCV RNA testing if the person tested is suspected to have had HCV exposure within the past 6 months or has clinical evidence of HCV disease, or if there is concern regarding the handling or storage of the test specimen.


Screening for STIs

- STI screening can identify individuals who are more likely to contract HIV through unsafe sexual activities or through inflammation caused by STIs
- USPSTF recommendations for STI screening vary by age, sex, and risk category
  - More frequent STI screening may be recommended for individuals at high risk

<table>
<thead>
<tr>
<th>STI</th>
<th>Sexually Active Nonpregnant Women</th>
<th>Pregnant Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>Screen women &lt; 25 years, others at increased risk</td>
<td>Screen women &lt; 25 years, others at increased risk</td>
<td>No STI screening recommended for men who are not at increased risk</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Screen women &lt; 25 years, others at increased risk</td>
<td>Screen women &lt; 25 years, others at increased risk</td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td>Screen women at increased risk</td>
<td>Screen all</td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>Screen women at increased risk</td>
<td>Screen all</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Do not screen general population</td>
<td>Screen all</td>
<td></td>
</tr>
<tr>
<td>HCV</td>
<td>Do not screen general population</td>
<td>No specific recommendation</td>
<td></td>
</tr>
<tr>
<td>HSV</td>
<td>Do not screen</td>
<td>Do not screen</td>
<td></td>
</tr>
<tr>
<td>HPV</td>
<td>Insufficient evidence to use as primary screen for cervical cancer</td>
<td>No specific recommendation</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

• Opioid injection is linked to increasing rates of HCV in rural parts of the US and puts PWID at an increased risk of contracting HIV
• Rural communities with high rates of HCV and opioid addiction and lacking resources are especially vulnerable to an HIV outbreak
• HCV and STI screening can identify individuals who have a high risk of transmitting HIV
• Routine HIV screening can identify individuals early in their infection and link them to ART quickly

Question and Answer Session

• Questions fielded by Dr. Miles and Dr. Janowicz during the live Webinar
  – Where can I find the most up-to-date information on opioid addiction in the United States?
  – What were the most common misconceptions people had in Scott County about HIV?
  – Did you have any challenges within the medical community in Indiana in terms of either HIV stigma and/or the implementation of the SEP?
  – Do you think there are going to be changes to the prescribing guidelines for opioids in the near future?
Contact Information

Call toll-free 866 858 7434
E-mail info@med-iq.com

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Abbreviations/Acronyms

3TC = lamivudine
ABC = abacavir
ART = antiretroviral treatment
ARV = antiretroviral
CDC = Centers for Disease Control
DTG = dolutegravir
FTC = emtricitabine
HCV = hepatitis C infection
HIV = human immunodeficiency virus
HPV = human papilloma virus
HSV2 = herpes simplex virus 2
ID = infectious disease
IDU = injection drug use/user
IQR = interquartile range
PrEP = pre-exposure prophylaxis
PWID = people who inject drugs
RNA = ribonucleic acid
SEP = syringe exchange program
STI = sexually transmitted infection
TB = tuberculosis
TDF = tenofovir
US = United States
USPSTF = United States Preventive Services Task Force
VL = viral load