Outbreak of HIV and Hepatitis C Linked to Injection Drug Use in Rural Indiana

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State Epidemiologist

North Carolina State Health Director’s Conference
January 21, 2016
Scott County: ranked 92nd in many health and social indicators among 92 counties, including life expectancy.
Outbreak Notification

• Late 2014: 3 new HIV diagnoses identified in D9
• DIS learned 2 had shared needles → contact tracing
• Identified 8 more new infections in jurisdiction with 5 new HIV infections from 2009-13—traced to Austin
• All cases report injection of the opioid analgesic oxymorphone (Opana® ER and generic ER)
• ISDH HIV/STD Division creates contact maps, determines cluster description and cause
• Rural injection of oral opioid = largest HIV outbreak in Indiana
Drug Use Among HIV+ Cases

- Multigenerational sharing of injection equipment (insulin syringe)
- **Daily injections**: 4-15
- Number of partners: 1-6 per injection event

OPANA® ER – crush-resistant formulation: half-life 7-9 hours

<table>
<thead>
<tr>
<th>Dosage Strength</th>
<th>OPANA® ER with INTAC Tablet Images*</th>
<th>GENERIC oxymorphone ER Global Pharma (Impax) Tablet Images*</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 mg</td>
<td>![40 mg image]</td>
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Case Epidemiology: 1/7/16

- Total cases: 185
- 451 of 514 (88%) of named contacts linked to outbreak located and offered testing
- Contacts remaining to trace: 0
- Positivity rate among tested contacts: 39%
- Average number of unique contacts per case: 8 (range: 0-80)
- HCV co-infection: 171/185 (92%)
HIV Case Demographics

- Median age: 33 years, range 18-60 years
- Male: 57%
- 100% non-Hispanic white
- Risk factors
  - 167 (95%) admitted injecting drugs: oxymorphone, meth, heroin
  - 24 (5.7%) admitted exchanging sex for drugs or money
- Socioeconomic factors
  - High poverty (19.0%) and unemployment (8.9%)
  - Low educational attainment (21.3% do not complete high school)
  - High proportion without health insurance and medical care access
Phylogenetics

• HIV specimens
  – Almost all analyzed specimens map to one cluster
  – Acquired within past six months

• HCV specimens
  – Multiple strains and clusters
  – HCV has been repeatedly introduced over years to decades
  – Many infections are recent, some older
Phylogenetics

Predicted Final Outbreak Size = 185
Observed Final Outbreak Size = 184
Scope of Response

Outbreak

- Community Education
- Syringe Exchange
- One-Stop Shop
- Addiction Treatment
- Media and Messaging
- Medical Care
- Laboratory Testing
- Epidemiology
- Community Capacity Building
Timeline of Interventions

Figure 1. Cumulative HIV infections associated with injection of the prescription opioid Oxymorphone, by date of diagnosis, Southeastern Indiana (n=170)
## Outbreak Interventions

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Intervention</th>
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<tbody>
<tr>
<td>Very few insured/limited access to services</td>
<td>One-stop shop: vaccines, testing, care coord, insurance, transportation</td>
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<tr>
<td>No HIV/HCV care</td>
<td>Assist local MD via IU, federal partners for care, testing, PrEP</td>
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<tr>
<td>Limited HIV awareness</td>
<td>You Are Not Alone campaign, infographics, press briefings, Jeannie White Ginder event at Austin HS</td>
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<tr>
<td>Syringe exchange illegal</td>
<td>Issue executive order and new law</td>
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<tr>
<td>Limited addiction services</td>
<td>Raise MAT awareness, training to prescribe Suboxone®, designate local mental health provider as FQHC, SAMHSA collaboration</td>
</tr>
<tr>
<td>Focus on HIV infection</td>
<td>HCV effort gaining momentum as HIV epidemic better controlled</td>
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</table>
One-Stop Shop
HIV Testing Performed

![Graph showing the number of HIV positive tests and HIV negative tests from November 2014 to July 2015. The graph peaks in April 2015 with 934 positive tests and decreases to 0 in July 2015.](image-url)
Continuum of HIV Care--Austin, Indiana
January 8, 2015

Total diagnosed=185 (185 confirmed). Persons were ineligible if deceased (n=1) or outside of the jurisdiction (n=4); estimates are based on the number of eligible persons (n=180); ** Patients engaged in care if have at least one VL or CD4 *** Percent on ARVs increases to 67% and virally suppressed increases to 53% when denominator changed to number engaged in care. Clinical services were initiated 3/31/15. ART data updated through 1/8/16.
Communications

**HIV FACTS**

**Anyone can get HIV.**

HIV is the virus that causes AIDS. Anyone can get HIV.

**HIV is the virus that causes AIDS.**

People infected with HIV can live a long and healthy life. However, HIV cannot be cured or prevented by vaccines.

**How you CAN get HIV.**

- Sex without a condom with someone who has HIV
- Using a shared needle or syringe
- Sharing toothbrushes, razors, or other objects

**How you CAN NOT get HIV.**

- Avoid sexual contact with someone who has HIV
- Use a clean, new condom each time you have sex
- Do not share needles or syringes

**Find out if you have HIV.**

- People with HIV may not look sick
- Many people do not know they have HIV
- The only way to know if you have HIV is to get an HIV test
- If you have HIV, there are things you can do to keep getting it
- Talk to your doctor

**PrEP (Pre Exposure Prophylaxis).**

- What is PrEP?
  - PrEP means taking medicine to lower your chances of getting HIV. You can only take PrEP if you do not have HIV.
- Who may need PrEP?
  - You are in a relationship with someone who has HIV
  - You inject drugs
  - You do not use condoms all the time and you have sex with someone who may have HIV
- PrEP may be good for you if:
  - You should talk to your doctor
  - Get regular checkups
  - Get HIV tests
  - Use HIV medicine as directed

**Protect yourself from HIV.**

- If you have sex, use a condom
- If you share needles or syringes, use new ones each time
- Condoms work very well to prevent HIV
- You have to use them the right way, every time you have sex
- Use new needles
- Do not share your medication

**Where can you get PrEP?**

- You can talk to a doctor at the Austin Betterment Center Health Clinic (At Foundations Family Medicine)
- Open every Tuesday 10 a.m. - 4 p.m.
- For more information or to schedule a visit during another time, call 812-794-8100

For more information, please call Indiana State Health Department's HIV Hotline at 1-866-588-4948.
Communications

HELP PREVENT HIV
DON’T SHARE THESE.
DON’T ABUSE THESE.

Any drug can be abused. If you or a friend are abusing drugs, get help. Never share needles. It increases your risk of getting HIV.

HIV Services Hotline 1-866-588-4948
Addiction Hotline 1-800-662-HELP(4357)
www.StateHealth.IN.gov

YOU ARE NOT ALONE
Indiana State Department of Health

Campaign materials originally developed by the New York State Department of Health, 2010
Mother of Ryan White teen HIV patient, speaks in Austin, Ind.

Karma Dickerson, @WHAS11Karma  12:06 a.m. EDT May 13, 2015

AUSTIN, Ind. (WHAS11) – As Southern Indiana battles and unprecedented HIV outbreak, the mother of a teen who became famous for his fight for equal treatment of those living with HIV and AIDS.

(Photo: WHAS)
Scott County HD SEP

- Community Outreach Center and mobile unit
- Donations accepted for needles, supplies--no state or federal funds
- ID cards issued
- One-for-one plus model
- Partnership for disposal
- Connection to other services
Syringe Exchange Program

Cumulative Total Needles Dispensed and Collected - Austin, Indiana, April and May 2015

169 persons among estimated 500 PWID
Indiana Syringe Exchange Law

- Local health officer declares to county/municipality:
  - Epidemic of hepatitis C or HIV;
  - Primary mode of transmission is IV drug use;
  - Syringe exchange is medically appropriate as part of the comprehensive public health response.
- The executive/legislative body of county/municipality:
  - Conducts a public hearing
  - Votes to adopt the declaration of the local health officer
- The county/municipality notifies the ISDH Commissioner and:
  - Requests the Commissioner to declare a public health emergency
  - Other measures to address the epidemic have not worked
- Commissioner must approve or deny within 10 days from submission
  - Can request additional information extending the deadline for an additional 10 days
County Data Profiles

• Created in May to assist local health departments in recognizing HIV and HCV outbreaks
• Posted on ISDH website http://www.in.gov/isdh/26680.htm
• Includes:
  – number and incidence of HIV, HCV, STDs, drug overdoses and deaths
  – county and state data comparison
  – information on key state and local resources/contacts
Hepatitis C

• Indicator of unsafe injection practice and HIV risk
• Testing and linkage-to-care project
  – Received $200,000 from viral hepatitis prevention grant
  – Identify at-risk counties
  – Provide testing kits to community health centers
  – Link to care through local physicians and Project ECHO

• Project ECHO
  – Health care providers participate in consultation group with ID physicians, gastroenterologists
  – Current partnership with Baylor University
  – Development of Indiana Project ECHO underway with IU School of Medicine
Moving Forward

- Naloxone distribution: first and lay responders
- Decrease opioid over-prescribing, increase addiction treatment services, including MAT
- Medication-assisted treatment (MAT)
  - Multiple options (e.g., buprenorphine, methadone, naltrexone)
  - Highly effective, especially in combination with other interventions
  - Reduces HIV and HCV infections
  - Improves adherence to ART
  - Cultural/ community/ education barriers
Moving Forward

• Prevent those exposed from becoming infected
  – Systematic retesting and education of high-risk persons
  – Repeatedly refer high-risk persons to SEP and HIV pre-exposure prophylaxis (PrEP)

• PrEP
  – Daily oral medication
  – Can reduce the risk of HIV infection by up to 74% in PWID
  – Target populations
    • HIV-negative PWID
    • Commercial sex workers (both genders)
    • Persons with HIV-infected sex partner
  – Need willing providers to prescribe
Moving Forward

• Expand HIV/HCV testing efforts to detect early signals
  – Routine HIV testing at “sensitive” venues (e.g., jails, addiction service facilities, EDs)
  – Active outreach testing to at-risk population (e.g., PWID)
• Conduct studies to gather additional risk factor data
  – Qualitative study (interviews, focus groups) completed
  – Quantitative study (case-control) launched January 20
• Evaluate SEP
• Build sustainability and develop long-term solutions to improve public health infrastructure and socioeconomic disparities
  – IU NIDA grant to support additional health care providers
  – Collaboration with BC Centre of Excellence
Health Impact Pyramid

CDC Health Impact Pyramid
Factors that Affect Health

- Eating healthy, Physical Education Classes
- Rx for high blood pressure, diabetes medications
- Smoking Cessation treatments
- Tobacco taxes, Health Laws
- Poverty, education

- Changing the Context
  To make individuals' default decisions healthy

- Long-lasting
  Protective Interventions

- Counseling & Education

- Clinical Interventions

Smallest Impact

Largest Impact
Ingredients of an Outbreak

- Poor public health infrastructure
- Increased IDU
- Large needle sharing network
- Multiple injections per day
- Introduction of highly infectious HIV+ person into network
Why Austin?

Expanding epidemic of injection drug use heralded by dramatic increase in acute HCV infections

Suryaprasad Clin Infect Dis; 2014, 59(10):1411-1419
Just Austin?

Expanding epidemic of injection drug use heralded by dramatic increase in acute HCV infections

FIGURE 1. Incidence of acute hepatitis C among persons aged ≤30 years, by urbanicity and year — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012

Lessons Learned

1. Expect the unexpected
   – Outbreak potential for HIV is high in communities where HCV prevalence is high among persons who inject drugs
   – Encourage health care providers to promptly report new HIV and HCV cases
   – Become familiar with local data so any increases are easily identified before an outbreak occurs
   – Look for clusters of HIV and HCV
Lessons Learned

2. Prepare in advance

– Identify community partners and leadership for assistance, services, and potential response
– Increase HIV/HCV testing in high-risk communities
– Consider PrEP among high-risk individuals in these communities
– Increase awareness/availability of addiction recovery services and MAT
– SEPs must be part of comprehensive response and embraced by the community
Lessons Learned

3. Be ready to escalate response
   – Activate incident command
   – Identify mission, goals, indicators of success
   – Keep everyone informed
   – Involve local agencies from beginning
   – Monitor resources carefully
   – Plan de-escalation and long-term sustainability at the same time
Conclusion from Austin

- Expanding epidemic of injection drug use
- New and growing group of U.S. residents highly vulnerable to HIV and HCV infection
- Effective prevention requires a combination of services with effective wrap-around
  - Perfect should not be the enemy of “good enough”
- Urgent need to understand
  - What was unique (or not) here?
  - Where could it be happening now or in the future?
Acknowledgements

- Centers for Disease Control and Prevention (CDC)
  - Division of HIV/AIDS Prevention (DHAP)
  - Division of Viral Hepatitis (DVH)
  - Division of STD Prevention
  - Epidemic Intelligence Service (EIS) Program Office
  - Laboratory
- Scott County Health Department
- Clark County Health Department
- Disease Intervention Specialists (EMAC states)
- Indiana University School of Medicine, Division of Infectious Diseases
- Foundations Family Medicine
- Indiana Department of Mental Health and Addiction
- Indiana State Department of Health (ISDH)
Thank You!

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