Corporate Leadership Forum
May Briefing

May 20, 2015
Name Change

- Old: CIDRAP Corporate Leadership Forum
- New: CIDRAP Leadership Forum
Enhancements

- Briefing presentation slides
- Post-briefing summary e-mail
- Recording of presentation
- Regular scheduling of briefings
- Member-only e-mail communication lists
CLF Member-Only Communications

- **Event Invitations:** Receive notice and connection instructions for all member-only events such as Rapid-Response Calls and Briefings.
- **Communiques:** Brief updates on an ad hoc basis directly from Dr. Osterholm.

Infectious Disease Updates

- Daily Headlines
- Influenza Roundup (every 1 to 4 weeks)
- Bioterrorism Roundup (every 1 to 4 weeks)
- Food Safety Roundup (every 1 to 4 weeks)

Email Format

- html
- text

Subscribe
Staffing Changes

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Director, Center for Infectious Disease Research & Policy
Distinguished University Teaching Professor, Division of Environmental Health Sciences, School of Public Health
Professor, Technological Leadership Institute College of Science and Engineering
Adjunct Professor, Medical School
University of Minnesota
• Ebola virus disease
  – WHO meeting
• Avian influenza in USA
  – Midwest
• Middle East respiratory syndrome coronavirus infection (MERS-CoV)
• Chikungunya
• Avian influenza elsewhere, notably Egypt, China
• Other infectious disease issues
  – Listeria, Salmonella Paratyphi, HIV outbreak (Indiana)
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• Other infectious disease issues
  – Listeria, Salmonella Paratyphi, HIV outbreak (Indiana)
### Situation summary
Data published on 19 May 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Data as of</th>
<th>Case definition</th>
<th>Number of cases</th>
<th>Number of deaths</th>
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<td></td>
<td></td>
<td></td>
<td>Cumulative</td>
<td>Cumulative</td>
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<td></td>
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<td>419</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Total</td>
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<td>2407</td>
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<tr>
<td></td>
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<tr>
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<td></td>
<td>Suspected</td>
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<tr>
<td></td>
<td></td>
<td>Total</td>
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<td>4806(^i)</td>
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<td>Total</td>
<td>26 933(^i)</td>
<td>11 120(^i)</td>
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A total of 9 confirmed cases of Ebola virus disease (EVD) was reported in the week to 10 May: the lowest weekly total this year. Guinea reported a total of 7 cases, Sierra Leone reported 2. For the first time since the beginning of the outbreak in Sierra Leone, the country reported zero confirmed cases for more than 2 consecutive days in the week to 10 May. As at 12 May, Sierra Leone has reported 8 consecutive days without a confirmed case. The EVD outbreak in Liberia was declared over on 9 May, after 42 complete days elapsed since the burial of the last confirmed case. The country has now entered a 3-month period of heightened vigilance. WHO will maintain an enhanced presence in the country until the end of 2015, with a particular focus on areas that border Guinea and Sierra Leone.

Of 55 districts in Guinea, Liberia, and Sierra Leone that have reported one or more confirmed cases of EVD since the outbreak began, 43 have not reported a case for over 6 weeks.
Figure 3: Geographical distribution of new and total confirmed cases
Ebola will not go quietly, says WHO official after rise in cases

Thirty-five new cases reported in past week in Guinea and Sierra Leone, four times as many as in previous week

Guinea and Sierra Leone have reported 35 new Ebola cases in the past week, four times as many as the week before, in a reminder that the virus “will not go quietly”, a World Health Organisation official has said.

“It will take an extraordinary effort to finish the job,” the WHO’s special representative for Ebola, Bruce Aylward, told a briefing attended by health ministers.
As Ebola disappears, no useful data seen from vaccine trials: WHO

GENEVA | BY STEPHANIE NEBEHAY

People hold the Liberian flag with a Christian cross on it during an official celebration of the country being declared Ebola-free, in Monrovia, Liberia, May 11, 2015.

REUTERS/JAMES GRIFFIN

With Ebola nearly stamped out in West Africa, vaccine trials will probably fail to provide enough useful data on how well they protect people against the deadly virus, the World Health Organization (WHO) said on Tuesday.

Liberia was declared free from Ebola by the government and the WHO on Saturday after 42 days without a new case of the virus, which killed more than 4,700 people there during a year-long epidemic.
Recommendations for Accelerating the Development of Ebola Vaccines

REPORT & ANALYSIS
Appendix C: Optimal and Minimal Criteria for Ebola Vaccines* Used in Epidemic or Endemic Settings

This endeavor serves as an initial approach in formulating an abbreviated target product profile (TPP) for Ebola vaccines that addresses vaccine use in controlling the current West Africa outbreak or future outbreaks (ie, reactive use) and vaccine use prophylactically in non-outbreak settings to prevent endemic infections or future outbreaks. While TPPs traditionally have been used in industry or as part of the regulatory process, this section highlights concepts to help drive discussions about optimal and minimal vaccine characteristics and production capabilities, which ultimately can be used to generate products that will maximise EVD prevention and control. This document is intended to be dynamic and will be revised and refined as more information becomes available and additional input is sought and obtained.

*This assumes vaccine candidates already have met regulatory requirements for phase 1 clinical trials.

<table>
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<tr>
<th>CRITERIA</th>
<th>PREVENTION OF EVD IN THE CURRENT OR FUTURE EPIDEMICS (REACTIVE USE)*</th>
<th>PROTECTION AGAINST ENDEMIC EVD (PROPHYLACTIC USE)</th>
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<tr>
<td></td>
<td>Optimal</td>
<td>Minimal</td>
</tr>
<tr>
<td>Criteria Applicable to Characteristics of Ebola Vaccines</td>
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<td></td>
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<td>Indication for Use</td>
<td>For active immunization of at-risk persons residing in the area of the current epidemic or in a future outbreak area; to be used in conjunction with other control measures to curtail or end an outbreak.</td>
<td>For active immunization of at-risk persons residing in the area of the current epidemic or in a future outbreak area; to be used in conjunction with other control measures to curtail or end an outbreak.</td>
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<tr>
<td>Target population</td>
<td>The vaccine can be administered to all age-groups and populations, including special populations (immunocompromised persons, pregnant women, persons with underlying chronic disease, and malnourished persons)\textsuperscript{b,c}</td>
<td>The vaccine can be administered to healthy older adolescents and non-pregnant adults\textsuperscript{d}</td>
</tr>
</tbody>
</table>
• Ebola virus disease
  – WHO meeting
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Since December 2014, the United States Department of Agriculture has confirmed several cases of highly pathogenic avian influenza (HPAI) H5 in the Pacific, Central, and Mississippi flyways (or migratory bird paths). The disease has been found in wild birds, as well as in a few backyard and commercial poultry flocks. The Centers for Disease Control and Prevention (CDC) considers the risk to people from these HPAI H5 infections to be low. No human cases of these HPAI H5 viruses have been detected in the United States, Canada, or internationally.

Update on Avian Influenza Findings
Poultry Findings Confirmed by USDA's National Veterinary Services Laboratories

<table>
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<th>170</th>
<th>38,250,073</th>
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</thead>
<tbody>
<tr>
<td>Detections Reported</td>
<td>Birds Affected</td>
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</tbody>
</table>

12/19/14
First Detection Reported

5/18/15
Last Detection Reported
Iowa reports 4 more avian flu outbreaks

Iowa reported four more avian flu outbreaks today, two on turkey farms and two in backyard poultry flocks, but no new outbreaks were reported in hard-hit Minnesota or other neighboring states.

Meanwhile, a new study from the University of Minnesota estimated that the H5N2 avian flu virus has already done about $310 million worth of damage to the state's economy, while an Iowa company said it is nearly ready to start testing an H5N2 vaccine for poultry.

Two Iowa counties affected
The Iowa Department of Agriculture and Land Stewardship (IDALS) said the four new outbreaks involve an H5 virus, with confirmation of H5N2 awaited. Confirmatory testing is done by the US Department of Agriculture's (USDA's) National Veterinary Services Laboratory in Ames, Iowa.

The two affected turkey farms are in northwestern Iowa's Sac County, which now has five avian flu outbreaks, the IDALS said. Flock size estimates for the two farms were not yet available. Most of the farms hit by H5N2 in Iowa have been layer chicken operation, but a few turkey farms have been affected as well.

The two backyard flocks affected are in Sioux County, raising its avian outbreak count to 14, the agency said. The virus was detected in a flock of 50 ducks as a result of monitoring prompted by another outbreak. The other backyard flock consisted of about 12 chickens, which were tested after they showed signs of illness, the agency said.

The four events raised Iowa's total outbreak count to 56, the IDALS said.
Minnesota reports more H5N2 as fairs plan poultry bans

Minnesota reported today that yet another turkey farm has fallen prey to the H5N2 avian flu virus, as the widespread outbreaks start taking a toll on plans for state and county fairs this summer in the Midwest.

Minnesota officials said the state’s top turkey-raising county and the one hit hardest by the virus, Sandusky, has its 33rd H5N2 outbreak. The size of the flock was not yet determined, the Minnesota Department of Public Safety (DPS) said in a news release.

High-path avian flu hits four Midwestern states

Highly pathogenic avian flu has soared six more hits in the Midwest, including Nebraska’s second big layer chicken farm, South Dakota’s first affected layer farm, and two farms each in Minnesota and Iowa, state officials announced today.

The Minnesota sites are egg-production and turkey farms, while the Iowa outbreaks involve two poultry farms.

Avian influenza strikes again in South Dakota, Iowa

Animal health officials in South Dakota said highly pathogenic H5N2 avian influenza has turned up on two more poultry farms, three weeks after the state’s last outbreaks were reported, and Iowa authorities reported one new suspected outbreak at another egg farm.

The latest outbreaks hit two turkey farms in the Yankton area, the Yankton Daily Press & Dakotan reported yesterday, citing Dustin Oedeoven, DVM, state veterinarian for the South Dakota Animal Industry Board (SDAIB). He said the farms are in Hutchinson and Yankton counties and mark the state’s seventh and eighth recent avian influenza detections.

In foreign avian influenza developments, Nigeria today reported its 15th avian flu outbreak, and foreign media reports say the virus has turned up in Iraq after a nearly 9-year hiatus.

Egg farm hit in Nebraska’s first H5N2 event

Nebraska today joined the list of 25 other states battling the H5N2 avian flu virus, a large layer chicken farm with reported four new avian flu turkey farms.

In eastward jump, H5N8 surfaces in Indiana

The highly pathogenic H5N8 avian flu virus, previously found in the United States only in the West, has been detected in a backyard poultry flock in Indiana, state and federal officials announced today.
Bird flu could cost nearly $1 billion in Minnesota and Iowa

DES MOINES, Iowa (AP) — Bird flu could cost nearly $1 billion in the economies of the two states hardest hit, Minnesota and Iowa, agricultural economists said Monday, and the virus is still spreading.

Iowa, the nation's leading egg producer, has lost about 20 million chickens that lay eggs for food use, more than a third of the total. Minnesota, the top turkey state has lost more than 8 million birds.

So far the U. S. Department of Agriculture has confirmed the bird flu has claimed nearly 37 million birds in 15 states but the number is significantly larger because additional farms in Iowa and Minnesota recently discovered are not yet on the list. The figures include birds killed by the virus as well as those killed to prevent its spread.

On Saturday, Rembrandt Foods announced that chickens at its second farm, an egg facility in Renville, Minnesota, had tested positive for the virus. About 2 million chickens will be euthanized. The company, one of the largest egg producers in the U.S., had to destroy 5.5 million chickens on its Rembrandt, Iowa, farm after the flu turned up there last month.
Avian influenza infections could continue in fall, next spring

Posted May 13, 2015
The highly pathogenic H5 avian influenza viruses now in U.S. poultry flocks could have continued effects during the next year of wild bird migrations.

Nearly 16 million birds were expected to be killed or depopulated so far because of flock infections with an H5N2 influenza virus strain that had spread to at least 13 states as of April 29. Another highly pathogenic avian influenza virus, an H5N8 strain, had spread to a few Western U.S. commercial flocks containing about 250,000 birds.
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Distribution of confirmed cases of MERS-CoV by first available date, and probable place of infection, March 2012 – 13 May 2015

Source: ECDC

*Where the month of onset is unknown, the month of reporting has been used*
Saudi MERS pace quickens with 12 cases in 3 days

Filed Under: MERS-CoV
Robert Roos | News Editor | CIDRAP News | May 11, 2015

After a slow April, the pace of MERS-CoV cases in Saudi Arabia has picked up in the past 3 days, with 3 cases reported May 9 and 9 more today, including 4 that may represent a household cluster.

The three cases announced by the Saudi Ministry of Health (MOH) 2 days ago involved three men, none of them healthcare workers, in three widely separated locations:

- A 61-year-old expatriate in Najran, a southern city, who died of the illness
- A 48-year-old Saudi in the southwestern city of Taif who is in critical condition
- A 75-year-old Saudi in Abqaiq, a town in the Eastern province, who is in stable condition

None of them were reported to have had contact with other MERS-CoV (Middle East respiratory syndrome coronavirus) patients.

The crownlike appearance of MERS-CoV (highly magnified).
Middle East respiratory syndrome coronavirus (MERS-CoV) – United Arab Emirates

Disease outbreak news
18 May 2015

On 13 May 2015, the National IHR Focal Point of the United Arab Emirates (UAE) notified WHO of 1 additional case of Middle East respiratory syndrome coronavirus (MERS-CoV) infection.

Details of the case are as follows:

A 29-year-old, non-national male from Abu Dhabi tested positive for MERS-CoV on 12 May. The patient works as a truck driver and frequently transports camels from Oman to UAE. He travelled to Ibrī city, Oman on 6 May and transported camels to Abu Dhabi on 9 May. As part of the national policy of testing all imported camels for MERS-CoV, on 9 May, laboratory examinations were carried out on the camels that the truck driver was transporting. The animals tested positive for MERS-CoV on 10 May. This triggered an investigation of the truck driver, which started on the same day. Following hospital admission, the patient tested positive for MERS-CoV on 12 May. He was asymptomatic at the time of laboratory testing. The patient has no comorbidities and no history of exposure to other known risk actors in the 14 days prior to detection. Currently, he is asymptomatic in a negative pressure room on a ward.

Contact tracing of household contacts and healthcare contacts is ongoing for the case. The National IHR Focal Point of the United Arab Emirates informed the National IHR Focal Point of Oman to undertake the necessary investigation back in Oman.

Globally, WHO has been notified of 1118 laboratory-confirmed cases of infection with MERS-CoV, including at least 423 related deaths.
MERS

- More data gaps than knowledge
  - Transmission
  - Prevention
  - Treatment
- Similar to SARS but different
- Air travel has changed significantly
• Ebola virus disease
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### Number of Reported Cases of Chikungunya Fever in the Americas, by Country or Territory

#### 2013-2014

**Cumulative cases**

(Updated 15 May 2015)

<table>
<thead>
<tr>
<th>Country/Territory</th>
<th>Week</th>
<th>Autochthonous transmission cases</th>
<th>Imported cases</th>
<th>Incidence Rate</th>
<th>Deaths</th>
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<td>Suspected</td>
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<tr>
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</tr>
<tr>
<td>Virgin Islands (UK)</td>
<td>Week 47</td>
<td>347</td>
<td>47</td>
<td>1,231.3</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Virgin Islands (US)</td>
<td>Week 53</td>
<td>1,321</td>
<td>276</td>
<td>521.0</td>
<td>2</td>
<td>105</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>17,839</td>
<td>4,350</td>
<td>305.8</td>
<td>3</td>
<td>7,276</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>1,140,034</td>
<td>24,375</td>
<td>2,538</td>
<td>117.6</td>
<td>964,341</td>
</tr>
</tbody>
</table>
• Ebola virus disease
  – WHO meeting
• Avian influenza in USA
  – Midwest
• Middle East respiratory syndrome coronavirus infection (MERS-CoV)
• Chikungunya
• Avian influenza elsewhere, notably Egypt, China
• Other infectious disease issues
  – Listeria, Salmonella Paratyphi, HIV outbreak (Indiana)
DISTRIBUTION OF H5N1 CASES BY GOVERNORATE OF RESIDENCE, EGYPT, 2014-2015 (UP TO 30 APRIL)

<table>
<thead>
<tr>
<th>Month</th>
<th>Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>November</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>December</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>January</td>
<td>45</td>
<td>16</td>
</tr>
<tr>
<td>February</td>
<td>50</td>
<td>13</td>
</tr>
<tr>
<td>March</td>
<td>32</td>
<td>5</td>
</tr>
<tr>
<td>April</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Influenza at the human-animal interface

Summary and assessment as of 1 May 2015

Human infection with avian influenza A(H5) viruses

From 2003 through 1 May 2015, 840 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 447 have died.¹

Since the last WHO Influenza update on 31 March 2015, 14 new laboratory-confirmed human cases of avian influenza A(H5N1) virus infection, including one fatal case, were reported to WHO from Egypt (13) and China (one).
Figure 1: Epidemiological curve of avian influenza A(H5N1) cases in humans by reporting country and month of onset.

Number of Confirmed Human H5N1 Cases
by month of onset as of 2015-05-04

- Azerbaijan (8)
- Bangladesh (7)
- Djibouti (1)
- Cambodia (56)
- Canada (1)
- China (52)
- Iraq (3)
- Laos (2)
- Egypt (342)
- Myanmar (1)
- Pakistan (3)
- Thailand (25)
- Turkey (12)
- Viet Nam (127)
Figure 2: Epidemiological curve of avian influenza A(H7N9) cases in humans by week of onset.
• Ebola virus disease
  – WHO meeting
• Avian influenza in USA
  – Midwest
• Middle East respiratory syndrome coronavirus infection (MERS-CoV)
• Chikungunya
• Avian influenza elsewhere, notably Egypt, China
• Other infectious disease issues
  – Listeria, Salmonella Paratyphi, HIV outbreak (Indiana)
Arizona, New Mexico report Salmonella cases tied to raw tuna

Authorities in Arizona and New Mexico are investigating a total of 15 *Salmonella Paratyphi* infections that are suspected of being caused by eating raw fish, and similar cases are under investigation in other states, according to state and local health agencies.

In Phoenix, the Maricopa County Health Department said on May 15 it was investigating nine cases of a rare strain of *Salmonella Paratyphi* associated with raw minced or ground tuna in sushi. The patients, three of whom were hospitalized, fell ill between Apr 3 and 16.

Bob England, MD, director of the health department, said the cases are linked to multiple restaurants, suggesting that the tuna was contaminated before it reached the restaurants.

In New Mexico, six *Salmonella Paratyphi* infections are suspected of being caused by eating raw fish, the New Mexico Department of Health (NMDH) reported in a May 15 announcement.

The agency said the six confirmed cases had onsets between Apr 4 and May 1, and one patient was hospitalized. Five of the six people reported eating sushi containing raw fish; an investigation into the source of the cases is ongoing.

**Federal officials investigating**

"Federal agencies including the CDC [Centers for Disease Control and Prevention] and other states are also involved in the investigation following additional illnesses associated with the same *Salmonella Paratyphi* strain in their respective jurisdictions," the NMDH said.

Likewise, the Maricopa County statement said "several other states" are investigating *Salmonella Paratyphi* cases linked to raw ground tuna.
Food Outbreak Scan for May 14, 2015
Swimming-related norovirus; Gecko-linked Salmonella outbreak; Blue Bell Listeria steps

Blue Bell agrees to steps for resuming sales after *Listeria* outbreak
Today the head of Blue Bell Creameries and officials in Texas and Oklahoma signed voluntary agreements outlining steps the company will take to bring its products back to market after a listeriosis outbreak sickened at least 10 people in four states, killing 3, the company said in a press release.

The company had shuttered plants in Broken Arrow, Okla., and Brenham, Tex., in April after *Listeria* was found in products from those facilities. The agreements are with the Texas Department of State Health Services (DSHS) and the Oklahoma Department of Agriculture, Food and Forestry.

Actions that Blue Bell must take include rigorous cleaning and sanitizing, revised testing protocols, revised production procedures, and upgraded employee training. The agreements also call for a trial production period before ice cream is made available to the public.

*Listeria*-specific steps include conducting root cause analyses, retaining an independent microbiology expert to establish and review controls, notifying Texas and Oklahoma agencies promptly of any *Listeria monocytogenes* detections, detailing *Listeria* response steps, and instituting a "test and hold" program to ensure safety before products are shipped or sold.

May 14 Blue Bell press release
May 14 Texas DSHS press release
Outbreak of Recent HIV and HCV Infections among Persons Who Inject Drugs

This is an official
CDC HEALTH ADVISORY

Distributed via the CDC Health Alert Network
April 24, 2015, 11:00 ET (11:00 AM ET)
CDCHAN-00377

Summary

The Indiana State Department of Health (ISDH) and the Centers for Disease Control and Prevention (CDC) are investigating a large outbreak of recent human immunodeficiency virus (HIV) infections among persons who inject drugs (PWID). Many of the HIV-infected individuals in this outbreak are co-infected with hepatitis C virus (HCV). The purpose of this HAN Advisory is to alert public health departments and healthcare providers of the possibility of HIV outbreaks among PWID and to provide guidance to assist in the identification and prevention of such outbreaks.

Background

From November 2014 to January 2015, ISDH identified 11 new HIV infections in a rural southeastern county where fewer than 5 infections have been identified annually in the past. As of April 21, 2015, an ongoing investigation by ISDH with assistance from CDC has identified 135 persons with newly diagnosed HIV infections in a community of 4,200 people; 84% were also HCV infected. Among 112 persons interviewed thus far, 108 (96%) injected drugs, all reported dissolving and injecting tablets of the prescription-type opioid oxymorphone (OXYANA® ER) using shared drug preparation and injection equipment.¹

This HIV outbreak was first recognized by a local disease intervention specialist. In late 2014, interviews conducted with three persons newly diagnosed with HIV infections in three separate venues (i.e., an outpatient clinic, a drug rehabilitation program, during a hospitalization) indicated that two of these persons had recently injected drugs and had numerous syringe-sharing and sexual partners. Contact tracing identified eight additional HIV infections leading to the current outbreak investigation, which has demonstrated that HIV had spread recently and rapidly through the local network of PWID. Without an attentive health department, active case finding, and additional testing provided as part of this investigation, this cluster may not have been identified.