Understanding Opioid Overdose Reporting in the Hospital ED

September 13, 2018
OVERVIEW

Chinyere Alu, MPH
Division Chief, Patient Safety and Quality
Trends in Opioid Overdose in Illinois, 2013 - 2017

https://idph.illinois.gov/OpioidDataDashboard/

Mortality Trends by Year

ED Visits and Hospitalizations by Cause of Overdose

Source: Illinois Hospital Discharge Data

Source: IDPH, Division of Vital Records
Value of Reporting ED Visits for Opioid Overdose

• ED data = near real time
  – Provides an early warning system on increases in opioid overdoses

• Coordinated action between EDs, health departments, mental health and treatment providers, community-based organizations, and law enforcement can prevent opioid overdose and death.
## Opioid Data Dashboard

<table>
<thead>
<tr>
<th>Cause of Overdose</th>
<th>Heroin</th>
<th>Other Opioids*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>1,129</td>
<td>1,575</td>
<td>2,110</td>
</tr>
<tr>
<td>Non-Fatal</td>
<td>9,114</td>
<td>4,358</td>
<td>13,395</td>
</tr>
</tbody>
</table>

### Non-Fatal Overdose Rate 2017

### Fatal Overdose Rate 2017

### Overdose Counts by ZIP 2017

2017 Mortality data are provisional and are subject to change.

[https://idph.illinois.gov/OpioidDataDashboard/](https://idph.illinois.gov/OpioidDataDashboard/)
Value of Reporting ED Visits for Opioid Overdose

Detecting recent trends in opioid overdose ED visits provides opportunities for action in this fast-moving epidemic.

PERCENT CHANGE
- Decrease
- Increase 1 to 24%
- Increase 25 to 49%
- Increase 50% or more
- Data unavailable

SOURCE: CDC’s Enhanced State Opioid Overdose Surveillance (ESOOS) Program, 16 states reporting percent changes from July 2016 through September 2017.

https://www.cdc.gov/vitalsigns/opioid-overdoses/
Illinois Hospital Opioid Overdose Reporting Requirements

• Report to IDPH within 48 hours after providing treatment for the drug overdose – or at such time the drug overdose is confirmed:
  1. Whether an opioid antagonist was administered; if so, the name of the antagonist
  2. The cause of the overdose, including but not limited to, whether the overdose was caused by a prescription opioid or heroin
  3. The demographic information of the person treated including, but not limited to, the patient’s: Age, Sex, County code, Zip code, Race and Ethnicity using the CDC’s race and ethnicity groups

• The person completing the form shall not disclose the name, address, or any other personal information of the individual experiencing the overdose.

Considerations

• Minimize reporting burden
• Leverage existing infrastructure to the extent possible → Syndromic Surveillance
• Enhance quality of data reporting
• Promote data use
Considerations

- Phased approach to facilitate implementation
  - By August 31, 2018: Register for access to the BioSense Platform
  - By October 31, 2018: Complete an initial validation process
  - By December 31, 2018: Begin sending opioid antagonist administration data to IDPH
SYNDROMIC SURVEILLANCE

Stacey Hoferka, MPH, MSIS
Surveillance and Informatics Epidemiologist
Division of Infectious Diseases
Illinois Syndromic Surveillance

- Syndromic surveillance is...
  - Healthcare encounter data (Emergency department visits, inpatient, urgent care, outpatient)
  - Timely: Near real-time submissions

- Syndromic Surveillance in Illinois is...
  - Emergency Department, Inpatient and urgent care visits
  - Meaningful Use-Federal Incentive Program for providers, began 2012
  - 185 acute care EDs are sending data to IDPH
  - About 15,000 Emergency visits/day
  - Feeds every 15 minutes-many sites near real-time
  - Some sites have a lag in visits-most are received within 48 hours

- System for analysis
  - IDPH sends the data to a CDC—supported system for analysis tools
  - BioSense Platform—hosting platform for receiving and processing HL7 messages, managing the data and all tools associated with analysis (R, SAS, ESSENCE)
  - ESSENCE is a syndromic surveillance tool developed by JHU-Applied Physics Lab
  - ESSENCE is one tool in the BioSense Platform that users are given access to for analysis
  - Historically, the CDC used to support an analytical tool called BioSense, that has been replaced by ESSENCE
How is the data collected?

Public Health Node

Regional HIE

Vendor Hub

Illinois Department of Central Management Services

NSSP National Syndromic Surveillance Program BioSense Platform
What data is in syndromic surveillance?

• **Meaningful Use Stage 2**
  
  – Demographics (age, sex, race, ethnicity)
  – ZIP code, city
  – Visit Date/Time
  – **Reason for Visit** (Chief complaint, triage note, clinical impression)*
  – **Diagnosis***
  – Disposition
  – Unique patient ID
  – Facility Name and ID
  – Patient Class and Facility/Visit Type

• **Key Content for opioid reporting**
  
  – **Reason for visit**
    
    • Chief complaint- free text or pick list from patient stated complaint
    • Diagnosis- coded either admitting, working or final (billing)
    • Triage Note- clinical notes with details of visits
    • Clinical impression- clinical notes- limited info
Hospitals

• Use case scenarios
  – Trends (Influenza – like illness)
  – Event surveillance (eclipse, marathon, storms, sporting events)
  – Weather-related events
  – Outbreak monitoring (Norovirus, Hepatitis A, Coagulopathy)

• Feedback or follow-up to hospitals
  – Opioid reporting support
  – XDRO notification about infection control (future use)
  – Additional contact with hospitals
    • Investigations of reportable conditions, outbreaks or unusual cluster or exposures
  – Case finding in outbreaks
    • IDPH may contact hospitals for additional information
    • Examples: Legionnaire's Disease, rabies, coagulopathy
    • Administrative code – authority to collect
      • [Website Link]

[Website Link]
RANCH&ActName=Department%20of%20Public%20Health%20Act.%20%28Part%201%29
HOW TO REQUEST USER ACCESS TO BioSense

Jessica Ledesma, M.Ed, MPH
Senior Policy Analyst
Division of Patient Safety and Quality
**Hospital Responsibilities**

**HOW TO REGISTER FOR ACCESS TO THE BIOSENSE PLATFORM**

Access the Syndromic Request Form at [https://redcap.dph.illinois.gov/surveys/?s=Y884WCDC9M](https://redcap.dph.illinois.gov/surveys/?s=Y884WCDC9M)

Select: Hospital

Type in your **Hospital Name** or **Health System** if the USER you assign will be reporting for multiple hospitals within your system.

Indicate for Request Reason

Select: Yes, if you are the PRA
If you are unsure, contact [jessica.ledesma@Illinois.gov](mailto:jessica.ledesma@Illinois.gov) or Michael Orama at [michael.Orama@Illinois.gov](mailto:michael.Orama@Illinois.gov)

Type your **First Name**, **Last Name**
Hospital Responsibilities cont.

[Image of a form]

- **Enter the hospital USER information for the staff that will be responsible for opioid overdose reporting.**
- **Select this option for Opioid reporting.**
- **If you indicated this USER will be reporting for multiple hospitals within a Health System, list the hospitals the USER will reporting for here:**
  - List hospitals that user is responsible for (For mandatory opioid reporting)
  - Expand
  - Submit

**NOTE: THE SYSTEM WILL NOT GENERATE AN AUTOMATIC REPLY EMAIL**

Once requested, an IDPH administrator must create an account for the hospital user(s) in the BioSense Platform. Please allow 5-7 business days to receive an email with your USER login information.
Validation Process by October 31, 2018

• Access to BioSense:
  – Aggregate visit data
  – ESSENCE dashboard –daily trend and tabular count summaries

• Hospital will perform a EMR query opioid overdoses

• Submit to IDPH via REDCap: daily count for Q1 2018

• Hospital and IDPH will compare correlation of data sets

• Where discrepancies are found between syndromic, perform technical review of submission
  – Likely areas to improve case detection
    • More specific keywords in chief complaint
    • Triage note inclusion
    • Diagnosis completion
  – IDPH will work with individual sites as needed
Status of Syndromic Surveillance

Pilot conducted over 18 months
Internal validation is on-going

Hospital Reporting Status (N=187)

- 48 hour diagnosis: 79
- Specific Keyword Text in chief complaint: 22
- Need work: 9
- DG at 1 week: 7
- DG at 1 week + triage note: 6
- System Down: 43
- Triage note: 21

Facility Time Lag for diagnosis reporting

IDPH
Illinois Department of Public Health
Sample Opioid Dashboard in ESSENCE

1. Locate the 'MyESSENCE' tab

2. Select the 'Hospital Opioid OD Report'. There you will see recent opioid overdose visit data as a) daily trend line for visit counts and b) a table of daily Opioid ODs by age and sex.

3. Time range can be changed by selecting the 'gear' icon.

Addition query training is available on the IDPH website.
OPIOID ANTAGONIST REPORTING
By December 31, 2018

Dejan Jovanov
Discharge Data Manager/Systems Architect
Division of Patient Safety and Quality
Opioid Antagonist Administration Reporting

• Report Daily
  – Simple report from pharmacy data
  – With the data for the last 48 hours
  – Any opioid antagonist (most common: Naloxone)

• Create the file
  – Include all required elements
  – Column names in the first row
  – Use the naming convention
  – Pipe or comma delimited file
  – Use . CSV extension

• Transfer this report to IDPH
  – Using already existing SFTP connection (Syndromic surveillance, Immunizations and Electronic Lab reporting)
    
    URL: moveit.illinois.gov
    IP Address: 163.191.60.21 port 22
    Directory for Uploads: /Distribution/DPH/SS-HL7/

Naming convention for report files: NPI_YYYYMMDD.csv
Example:
Facility with NPI number: 123456789
File production date of: 2017/12/12 (i.e., December 12, 2017)
The File Name would be: 123456789_20171212.csv
# Opioid Antagonist Administration Reporting

- **Required elements**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility ID</td>
<td>Same Facility ID your hospital is using in MSH4.2 for SS HL7 messages</td>
</tr>
<tr>
<td>Patient ID</td>
<td>The same Patient unique ID you are using in PID3.1 for SS HL7 Message</td>
</tr>
<tr>
<td>Date</td>
<td>Date and time when the opioid antagonist was administered.</td>
</tr>
<tr>
<td>Medication Name</td>
<td>Name of the opioid antagonist</td>
</tr>
<tr>
<td>Medication code</td>
<td>RxNorm or other code system</td>
</tr>
<tr>
<td>Dose</td>
<td>Milligrams</td>
</tr>
<tr>
<td>VisitID</td>
<td>The same visit ID you are using in PV1.19 for SS HL7 message</td>
</tr>
</tbody>
</table>
Opioid Antagonist Administration Reporting

- File example

<table>
<thead>
<tr>
<th>FacilityID</th>
<th>PatientID</th>
<th>Date</th>
<th>MedName</th>
<th>MedCode</th>
<th>Dose</th>
<th>VisitID</th>
</tr>
</thead>
<tbody>
<tr>
<td>123456789</td>
<td>203568</td>
<td>12/10/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>203568</td>
<td>12/10/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>365980</td>
<td>12/10/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>1023568</td>
<td>12/11/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>456986</td>
<td>12/11/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>635412</td>
<td>12/11/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
<tr>
<td>123456789</td>
<td>220154</td>
<td>12/11/2017</td>
<td>Naloxone</td>
<td>HC1</td>
<td>548146900</td>
<td>2MG/2ML</td>
</tr>
</tbody>
</table>
Opioid Antagonist Administration Reporting

• **File examples**
  
  – Each antagonist administered should be a separate line entry

  ![File examples](123456789_20171212.csv - Notepad)

    FacilityID|PatientID|Date|MedName|MedCode|Dose|VisitID
    123456789|203568|12/10/2017 0:41|Naloxone HC1|548146900|2MG/2ML|11332373
    123456789|203568|12/10/2017 1:08|Naloxone HC1|548146900|2MG/2ML|11332373
    123456789|365980|12/10/2017 9:08|Naloxone HC1|548146900|2MG/2ML|11332385
    123456789|1023568|12/11/2017 10:08|Naloxone HC1|548146900|2MG/2ML|11332392
    123456789|456986|12/11/2017 11:23|Naloxone HC1|548146900|2MG/2ML|11356432
    123456789|635412|12/11/2017 14:08|Naloxone HC1|548146900|2MG/2ML|235698625
    123456789|220154|12/11/2017 15:08|Naloxone HC1|548146900|2MG/2ML|235418964

  – If no data for the last 48 hour just send us blank file with column names

    ![File examples](123456789_20171212.csv - Notepad)

    FacilityID|PatientID|Date|MedName|MedCode|Dose|VisitID
RESOURCES
Resources

• Syndromic surveillance and 48-hour opioid overdose reporting webpage (this page will be updated continuously)

http://dph.illinois.gov/data-statistics/syndromic-surveillance

• Direct questions to Division of Patient Safety and Quality: dph.dpsq@Illinois.gov
Questions