ALARMING INCIDENCE OF HEROIN DEATHS IN CUYAHOGA COUNTY

The Cuyahoga County Medical Examiner’s Office
Toxicology Department
Claire Kaspar & Rindi Norris
Background Information

- Heroin is rarely present in body fluids in detectable quantities (Half-life of only a few minutes)
  - Rapidly breaks down into 6-acetylmorphine (Half-life of ~36 minutes)

- There are 3 main breakdown products of Heroin
  - 6-acetylmorphine (6-AM)
  - Morphine
  - Codeine

- 6-AM is conclusive evidence of Heroin use
  - It is NOT a product of morphine or codeine
Methods

- Data from 2006-2011 was analyzed using a statistical package which is part of the Toxicology Lab’s Pathways Program

- A search for 6-AM was performed
  - Any cases positive for 6-AM were pulled for this study

- This data most likely under-reports the actual number of heroin overdoses
  - Hospital stays – “Opiate” vs. “Heroin” related COD
  - Police Report ≠ COD
    - Independence 2011
  - Inability to confirm 6-AM
## Heroin Deaths in Medical Examiner Jurisdiction Cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Raw #</th>
<th>Heroin deaths/100,000 pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>52</td>
<td>3.98</td>
</tr>
<tr>
<td>2007</td>
<td>46</td>
<td>3.56</td>
</tr>
<tr>
<td>2008</td>
<td>66</td>
<td>5.14</td>
</tr>
<tr>
<td>2009</td>
<td>65</td>
<td>5.10</td>
</tr>
<tr>
<td>2010</td>
<td>90</td>
<td>7.03</td>
</tr>
<tr>
<td>2011</td>
<td>108</td>
<td>8.44</td>
</tr>
<tr>
<td>2012</td>
<td>26 (135)</td>
<td>(10.55)</td>
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</tbody>
</table>

112% Increase since 2006
Demographics: Summary

- White Males
- 20-30 yrs. or 40-60 yrs.
- # of Female users has increased since 2006
City Overview

- Data was organized based on:
  - Decedent’s Residence Address
  - Location of Incident which lead to death

- Data was further analyzed to compare usage of heroin in:
  - The City of Cleveland
  - The Suburbs of Cuyahoga County

- Cases transported to Cuyahoga County from adjacent jurisdictions were excluded from this study
  - Died in local hospital
Distribution of Heroin Deaths
2006 - 2011: Place of Incident

CLEVELAND 235

*Out of County - 11
Distribution of Heroin Deaths
2006 - 2011: Residence Address

*Out of County - 37
Distribution of Heroin Deaths
2011 - Present: Place of Incident

*Out of County - 3
Distribution of Heroin Deaths
2011 - Present: Residence Address

*Out of County - 11
City Summary

- Heroin Deaths have dramatically increased in Cuyahoga County over the past 6 years

- City of Cleveland: **77%**
- Suburbs of Cuyahoga County: **176%**

<table>
<thead>
<tr>
<th>Cities</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td>Cleveland:</td>
<td>[34]</td>
<td>7.69</td>
<td>[29]</td>
<td>6.62</td>
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<td>7.37</td>
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<td>[39]</td>
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<td></td>
<td></td>
<td>[54]</td>
<td>13.61</td>
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<td>Suburbs:</td>
<td>[18]</td>
<td>2.09</td>
<td>[16]</td>
<td>1.87</td>
<td>[32]</td>
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<td>All of Cuyahoga County:</td>
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<td>[105]</td>
<td>8.20</td>
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Special Thanks 😊

- **Dr. Gilson**: Chief Medical Examiner
- **Hugh Shannon**: Administrator
- **Dr. Wyman**: Chief Toxicologist
- **Eric Lavins**: Toxicology Supervisor
- **Bill Alexy**: Information Services
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- **Paula Wallace**: Statistician
- **Toxicology Staff**