Unintentional Drug Overdose Data Review

Public Health - Dayton & Montgomery County
Epidemiology Section

May 2016
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Introduction

Unintentional drug overdose deaths in the United States reached record numbers in 2014. According to the Centers for Disease Control and Prevention (CDC), nearly half a million people died from drug overdoses from 2000 to 2014. More than 60% of these deaths involved an opioid. It is estimated that 79 Americans die every day from an opioid overdose.

The state of Ohio is also struggling to combat an escalating drug overdose death epidemic. In 2014, Ohio had the 5th highest drug overdose death rate in the nation (24.6 per 100,000), a statistically significant increase from the year prior. At the county-level, drug overdose deaths in Montgomery County contributed to the steady rise in overdose deaths in Ohio. With 953 deaths from 2009 to 2014, the County has the second highest drug overdose rate in the state (31.1 per 100,000).

In an effort to understand the current drug epidemic, this report was created to summarize drug related data that is collected by several different organizations into one formal data report. This report contains drug related criminal justice data, inpatient and emergency department accidental overdose records, drug overdose responses by City of Dayton first responders, and unintentional drug overdose death reports.

The information presented in this report can be used to inform the general public, organizations, as well the leadership within the County as to the severity of the drug overdose problem. Additionally, this report is available to provide data needed for the development of new programs, inform policy decisions, or apply for grants pertaining to this epidemic.
Terminology

Benzodiazepine
Psychoactive drug that proves useful in the treatment of anxiety, insomnia, agitation, seizures, and muscle spasms. The potential of a fatal overdose increases when these drugs are taken in combination with other central nervous system depressants such as ethanol and opioids. Common benzodiazepines are Alprazolam (Xanax), Diazepam (Valium), and Clonazepam (Klonopin).

Drug mention
A specific drug is found in the bodily system of decedent, not that the drug was necessarily the sole cause of death. The presence of more than one drug can result in more than one mention.

Educational attainment
The highest degree of education an individual has completed.

Epidemic
A widespread occurrence of a disease in a community at a particular time

Heroin
An opioid drug synthesized from morphine. It usually appears as a white or brown powder or a black sticky substance and can be injected, smoked, or inhaled by snorting or sniffing.

ICD code
A classification code used to classify mortality data from death certificates and morbidity data from inpatient and outpatient records, physician offices, and most National Center for Health Statistics (NCHS) surveys.

Illicit fentanyl
A synthetic opiate that is similar to, but more powerful, than morphine. It is made illegally and mixed with (or substituted for) heroin. This amplifies its potency and potential dangers.

Jail booking
After an arrest, a criminal suspect is taken into police custody and processed. The process of being booked usually includes recording personal information, taking fingerprints and photographs, and collecting any personal property.

Naloxone (Narcan®)
An “Opioid Antagonist” It blocks or reverses the effects of opioid medications used to treat a narcotic overdose in an emergency.

Narcotic
A drug or substance that affects mood or behavior, dulls senses, relieves pain, and causes sleepiness. It is often used to refer to any illegal drug, especially one that is addictive.

Opiate
A medication or illegal drug derived from opium or mimics the effect of an opiate (synthetic opiate). A sedative that depresses activity of the central nervous system, reduces pain, and causes sleepiness.

Overdose (accidental/unintentional)
A toxic amount of a drug or combination of drugs overwhelms the body.

Prescription Opioids
Medications prescribed by a physician used to relieve pain by reducing the intensity of pain signals read by the brain. Medications that fall in this class include: hydrocodone, oxycodone, morphine, and codeine.
Abbreviations

**WSU CITAR**
Wright State University’s Center for Interventions, Treatment, and Addictions Research

**ED**
Emergency Department

**ICD**
International Classification of Diseases
Drug Related Jail Bookings

Over the past 3 years (2013-2015), there was an average of 5,150 jail bookings per year for drug related offenses.

Source: Justice Web
Males are much more likely than women to be arrested for a drug related offense (69% vs. 31%).

More Whites were arrested for drug related charges than Blacks (70% vs. 29%).
Density* of Drug Bookings by Home Location
Montgomery County, OH 2013-2015

Density calculations performed by ArcGIS 10.3.1

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<td>Union Police</td>
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<td>2</td>
<td>11</td>
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<td>United States Military (USM)</td>
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<td>6</td>
<td>22</td>
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<td><strong>TOTAL</strong></td>
<td><strong>4,951</strong></td>
<td><strong>5,382</strong></td>
<td><strong>5,118</strong></td>
<td><strong>15,451</strong></td>
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</table>

Source: Justice Web
Visits to the emergency department (ED) for accidental poisoning by heroin were higher than inpatient stays.

In 2015, the number of ED visits for heroin overdoses was more than 6 times higher than in 2012.

Men were more likely to visit the hospital (ED or inpatient) for a heroin overdose than women.

The percent of female heroin overdose related hospital visits increased 21% from 2012 to 2015.
The rate of hospital visits was greatest among 25 to 34 year olds for all years.
In 2014, the number of ED visits and inpatient stays for accidental poisoning for other opiates and related narcotics were almost equal (57 vs. 54).

But in 2015, there were more than 2.5 times more ED visits than inpatient stays.

In 2012 and 2013, a higher percentage of hospital visits (inpatient and ED) for accidental poisonings by other opiates and related narcotics was by females, but in 2014 and 2015, a higher percentage was by males.
Rate of Other Opiates and Related Narcotics
Accidental Poisoning Hospital Visits
Patient’s Home Location
Montgomery County, 2015

Rate per 100,000 people
0.0 - 3.3
3.4 - 9.6
9.7 - 22.4
22.5 - 32.6
32.7 - 45.6

Sources: Esri, HERE, DeLorme, TomTom, Intermap, i-cubed, IBCAO, GEBCO, USGS, FAO, NPS, NRCan, GEON, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
Dayton Police and Fire Department Drug Overdose Response

Narcan Uses by the Dayton Police Department in 2015

<table>
<thead>
<tr>
<th>Number of Uses</th>
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<td>Recovery</td>
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<tr>
<td>Successful</td>
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<tr>
<td>Unsuccessful</td>
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<td>Sex</td>
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<td>Male</td>
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<tr>
<td>Female</td>
<td>56</td>
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<td>Race</td>
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</tr>
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<td>Black</td>
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<td>Age Range</td>
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<td>25 - 34</td>
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<td>35 - 44</td>
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<td>45 - 54</td>
<td>22</td>
</tr>
<tr>
<td>55 - 64</td>
<td>5</td>
</tr>
<tr>
<td>65+</td>
<td>0</td>
</tr>
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</table>

Youngest Age: 18 years
Oldest Age: 64 years
Average Age: 34.7 years

95% of overdose victims that were administered Narcan were successfully revived.
From 2012 to 2015, the number of both solo and dual assist police calls for service in which the call type was an overdose increased 350% within the city of Dayton.

Overall, the number of times police and/or fire responded to an overdose within the city of Dayton increased 57% from 2012 to 2015.
Montgomery County has the 2nd highest unintentional drug overdose death rate in Ohio.

1. Brown County - 35.8
2. Montgomery County - 31.1
2. Adams County - 31.0
4. Jefferson County - 30.2
5. Scioto County - 29.4
Unintentional drug overdose deaths have increased 104% since 2010.

Source: Poisoning Death Review, WSU CITAR
In 2015, heroin was the most frequently mentioned drug and were found in 45% of the 259 overdose deaths. This is a slight decrease from the percent of mentions in 2014 (48%) and a 22% decrease from 2013.

In 2014, the most frequently mentioned type of drug was benzodiazepines.

From 2013 to 2014, the percent of overdose deaths with mentions of illicit fentanyl increased 355%. In 2014 and 2015, 41% of overdose toxicology reports mentioned illicit fentanyl.
Unintentional drug overdose deaths - Demographics

Unintentional drug overdose deaths in Montgomery County, OH by sex, 2015

Unintentional drug overdose deaths in Montgomery County, OH by race, 2015

Source: Poisoning Death Review, WSU CITAR
Unintentional drug overdose deaths in Montgomery County, OH by educational attainment, 2015

- High School: 67.2%
- HS graduate: 26.3%
- College graduate: 5.8%
- Post-graduate: 0.8%
- Unknown: 5.8%

Source: Poisoning Death Review, WSU CITAR

Unintentional drug overdose deaths in Montgomery County, OH by age group, 2015

- <15 yrs: 0%
- 15-24 yrs: 7.3%
- 25-34 yrs: 26.3%
- 35-44 yrs: 29.0%
- 45-54 yrs: 22.0%
- 55-64 yrs: 13.9%
- 65-74 yrs: 1.5%
- 75+ yrs: 0%

Source: Poisoning Death Review, WSU CITAR
The majority of unintentional drug overdose fatalities in 2015 were male (68%), White (86%), have at least a high school diploma (67%), 35 to 44 years of age (29%), and are single (51%).
Rate of Unintentional Drug Overdose Deaths in Montgomery County, 2010-2014

Rate per 10,000 people

- 0.1 - 1.1
- 1.2 - 2.1
- 2.2 - 3.1
- 3.2 - 4.6
- 4.7 - 9.9

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment-P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Unintentional Overdose Deaths involving Heroin
Montgomery County, Ohio

2007

2008

2009

2010
Unintentional Overdose Deaths involving Heroin
Montgomery County, Ohio

2011

2012

2013

2014
Sources and Additional Resources


