Trends in Opioid Availability and Abuse

DEA Philadelphia Field Division
April 2018
Mission

- DEA has two distinct authorities:
  - Enforcement
    - Attack supply: To prevent drug abuse, drug-related deaths, and drug-related crime by attacking the supply of illicit narcotics
    - Reduce demand: Reduce demand through education and non-traditional law enforcement partnerships
  - Regulatory
    - Regulation of all facets of production, distribution, and prescribing of controlled substances
Mission

▪ DEA Presence in Pennsylvania (5 offices)
  ▪ Special Agents and Task Force Officers (230)
  ▪ Intelligence Analysts (20)
    ▪ Focused primarily on supporting traditional drug trafficking investigations through data collection and analysis
  ▪ Diversion Investigators (30)
    ▪ Conduct on-site inspections of registrants to ensure compliance in record keeping and controlled substance handling
  ▪ 77,000 total registrants in PA

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DEA Intelligence

- Tactical and Investigative Intelligence
  - Identify targets and co-conspirators
    - Who is doing what, where, and how?
  - Identify methods and patterns of communication
    - Telephones, email, social media, internet, phone Apps
  - Identify connections to regional/national/international sources of supply
DEA Intelligence

- **Strategic Intelligence**
  - Identify patterns and trends regionally, nationally, internationally
  - Analyze key indicators of the above to direct resources and policy
    - LE data (seizures, lab analysis, human sources)
    - Public health data
    - Open Sources
  - Produce reports for dissemination to LE counterparts, public health, policymakers, and public
Partners

- FBI, HSI, ATF
- HIDTA
- Pennsylvania State Police
- Office of Attorney General
- National Guard
- USAO
- District Attorneys
- Single County Authorities
- Phila Dept. of Health
- Coroners/MEs
- Univ. of Pitt/PERU
- PA DHS
- PA DOH
What you already know:

- Pennsylvania is in the midst of a drug abuse and overdose epidemic
- Prescription opioid abuse has fueled heroin abuse
- Abuse of prescription opioids, heroin, and fentanyl has led to the overdose deaths of more than 15,000 Pennsylvanians in the last four years
- Pennsylvania is amongst the states with the highest rates of overdose
Pennsylvania Overdose Death Rates per 100,000 people (by County), 2016
Threats

- **Primary Threat**
  - Mexican Transnational Criminal Organizations
    - Supply all major illicit drugs of abuse to Pennsylvania

- **Secondary Threat**
  - Regional re-suppliers of fentanyl related substances originating in China
Rx Opioids

- Prescription Opioid Availability
  - Overprescribing culture created in 1990-2000's
Number of Oxycodone and Hydrocodone Pills Dispensed per Year in Pennsylvania

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocodone</td>
<td>169,663,016</td>
<td>146,136,154</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>275,608,107</td>
<td>259,593,471</td>
</tr>
</tbody>
</table>
2017

68,000
Prescribers

3.4 Million
Prescriptions for Oxycodone and Hydrocodone

~32 Pills
Per Pennsylvanian

405 Million
Dosage Units

3300
Pharmacies

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Pennsylvania Overdose Deaths with Presence of Oxycodone

- 2014: 17.9%
- 2015: 18.6%
- 2016: 14.6%
- 2017: 8.3%
Rx Opioids

- Progress
  - Decreased availability of prescription opioids
    - PDMP, new prescribing regulations
    - DEA oversight of registrants
    - Prevention Initiatives
  - Decreased number of new Rx opioid abusers (NDTA, 2017)
Pennsylvania’s Prescription Drug Monitoring Program (PDMP)

93,000 USERS REGISTERED
Over the past 12 months, the PDMP registered over 93,000 users.

53,000 SEARCHES PER WEEKDAY
The program’s database has averaged approximately 53,000 searches on a weekday and 9,000 searches on a weekend.

DECREASED DOCTOR SHOPPING
The number of patients who went to 5+ prescribers and 5+ pharmacies in 3 months for Schedule II drugs decreased 86% in the first year.

REDUCED PRESCRIPTIONS
The number of youth who received prescriptions for painkillers decreased 30% in the first year.

INTERSTATE COMMUNICATION
The PDMP is currently sharing data with 11 other states and Washington, D.C.
Enforcement Actions

- Owner of 6 Urgent Care centers
- Largest re-distributor of buprenorphine in country
- 3-year investigation
- Medical license suspended
- DEA registration pending revocation
Enforcement Actions

- In response to search warrant at nearby Urgent Care clinics, Doctors Express notified patients of lack of availability of narcotics in the office and “rare” prescribing.
IMPACT
Heroin

- Abundance of Heroin
  - Change in Production/Source
    - Late 2000’s – decrease in cocaine movement by MX TCOs in order to increase heroin trafficking and profit
    - Early 2010’s - Change in heroin production from SA to MX
    - Need to recoup lost revenue from marijuana sales
    - Response to demand in U.S.
Potential Pure Heroin Production in Mexico, 2011-2016

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Heroin

- Who is impacted?
Seized (and analyzed) Drugs by Type, PA, 2000-2017

- **Heroin**: 45.41% (2000), 41.41% (2005), 26.73% (2010), 18.16% (2015), 19.53% (2016), 20.36% (2017)
- **Methamphetamine**: 6.44% (2016), 6.44% (2017)

**Graph Note**: The graph shows the percentage of total seizures by type of drug from 2000 to 2017.
Heroin Seizures by DEA NY, NJ, Philadelphia Divisions, 2015-2017

Sanitized for security

Seized Date

- 2015: 536,387
- 2016: 414,029
- 2017: 395,774
Heroin Types
- Impact on purity and potential for adulteration

Impact on Pennsylvania
- Established heroin user base
- Demand for highly pure product
- Highest purity heroin in the country for 20 years
  - Wholesale purities >90%
  - Retail purities from 50-90%
Oxycodone and Heroin Presence in Pennsylvania Overdose Deaths

- Oxycodone:
  - 2014: 17.9%
  - 2015: 18.6%
  - 2016: 14.6%
  - 2017: 8.3%

- Heroin:
  - 2014: 51.8%
  - 2015: 54.6%
  - 2016: 45.0%
  - 2017: 38.0%
If things weren’t complicated enough....
Fentanyl

- Introduced into illicit U.S. drug supply in 2013-2014 (after previous surge in 2006-2007)
- 30-50x more potent than heroin; 50-100x more potent than morphine
- Who makes it? Where does it come from?
Two primary production areas:
- China supplies precursor chemicals and finished product
- Mexico manufacturing fentanyl in clandestine labs
Entirely synthetic process. No plant materials, farmers, weather, etc.

Why switch from heroin production to fentanyl production?
## It’s all about the Money

<table>
<thead>
<tr>
<th>Drug</th>
<th>Cost per 1 KG to DTO</th>
<th>~ Number of KGs Produced from Original Drug Procurement</th>
<th>Wholesale Price per KG in Philadelphia</th>
<th>Revenue to DTO from 1 KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>$5,000-7,000</td>
<td>1 KG</td>
<td>$65,000</td>
<td>$65,000</td>
</tr>
<tr>
<td></td>
<td>(Purchased from Mexico)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>$3,300-5,000</td>
<td>16-24 KGs</td>
<td>$65,000</td>
<td>$1,040,000 to 1,560,000</td>
</tr>
</tbody>
</table>

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How quickly can things change?
Fentanyl

- Who brings it, how does it get here, how is it packaged, how is it sold?
  - Mexican TCOs – traditional routes and methods
  - Mixed at street/mill level, not wholesale

Wholesale heroin and fentanyl seizure (packaged/marked separately). Tied to CJNG.
Heroin/fentanyl mills and packaging
Fentanyl by Number of Exhibits, PA, 2010
Fentanyl by Number of Exhibits, PA, 2017
Fentanyl

- Fentanyl purities
  - Nationwide purity of MX produced fentanyl averages 7%
  - 7% pure fentanyl is the equivalent of 300% pure heroin
- Increase in openly acknowledged sales of fentanyl
Fentanyl Seizures by DEA NY, NJ, Philadelphia Divisions, 2015-2017

Seized Date

2015: 67,747
2016: 58,102
2017: 200,359
Is fentanyl replacing heroin?
Fentanyl

- Quantities of fentanyl per seizure have increased dramatically.
- Routine LE seizures of 15+ kilos per incident.
- Seizures of 65-100 kilos
Oxycodone, Heroin, and Fentanyl Presence in Pennsylvania Overdose Deaths

- Oxycodone
- Heroin
- Fentanyl/Acetyl Fentanyl

<table>
<thead>
<tr>
<th>Year</th>
<th>Oxycodone</th>
<th>Heroin</th>
<th>Fentanyl/Acetyl Fentanyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>14.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>30.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>51.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>79.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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What else is fentanyl mixed with?

Is cocaine/fentanyl mixing an increasing trend?
Fentanyl Seizures in NE Region and Philadelphia Overdose Deaths Involving Fentanyl, 2017

- Q1: 30
- Q2: 60
- Q3: 100
- Q4: 0

% of Deaths with Fentanyl
- Q1: 70.65%
- Q2: 63.39%
- Q3: 63.55%
- Q4: 61.33%
Fentanyl Related Substances

- What are they?
- Who brings it, how does it get here, how is it packaged, how is it sold?
  - Chinese chemical companies
  - Darkweb and Clearnet purchases
  - Routed through other countries for anonymity
  - Regional re-distributors filling darkweb orders
  - Attempts to circumvent scheduling/enforcement
Online Sales of Illegal Opioids from China Surge in U.S.

by RON NIXON  JAN. 24, 2018

Fentanyl pills seized in Ohio. Cuyahoga County Medical Examiner's Office.
Fentanyl Related Substances

- Chinese fentanyl labs
  - Why are they producing?
    - Legal until 2016
    - Control of cathinones,
    - Abundance of chemists
  - Darkweb/Clearnet purchasing
- More than 40 fentanyl related substances found by forensic laboratories
<table>
<thead>
<tr>
<th>Fentanyl Related Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ 3-methylfentanyl</td>
</tr>
<tr>
<td>▪ 3-methylthiofentanyl</td>
</tr>
<tr>
<td>▪ 4-methoxy-butyryl fentanyl</td>
</tr>
<tr>
<td>▪ Acetyl norfentanyl</td>
</tr>
<tr>
<td>▪ Acetyl-alpha-methylfentanyl</td>
</tr>
<tr>
<td>▪ Acetylbutyryl fentanyl</td>
</tr>
<tr>
<td>▪ Acryl-alpha-methylfentanyl</td>
</tr>
<tr>
<td>▪ Acrylfentanyl</td>
</tr>
<tr>
<td>▪ Alfentanil</td>
</tr>
<tr>
<td>▪ Alpha-methylfentanyl</td>
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<tr>
<td>▪ Alpha-methylthiofentanyl</td>
</tr>
<tr>
<td>▪ Benzodioxole fentanyl</td>
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<tr>
<td>▪ Benzoylbenzyl fentanyl</td>
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<tr>
<td>▪ Benzylfentanyl</td>
</tr>
<tr>
<td>▪ Beta-hydroxy-3-methylfentanyl</td>
</tr>
<tr>
<td>▪ Beta-hydroxyfentanyl</td>
</tr>
<tr>
<td>▪ Beta-hydroxythiofentanyl</td>
</tr>
<tr>
<td>▪ Butanoyl 4-fluoro fentanyl</td>
</tr>
<tr>
<td>▪ Butyryl fentanyl</td>
</tr>
<tr>
<td>▪ Carfentanil</td>
</tr>
<tr>
<td>▪ Crotonyl fentanyl</td>
</tr>
<tr>
<td>▪ Cyclopentyl fentanyl</td>
</tr>
<tr>
<td>▪ Cyclopropyl fentanyl</td>
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<tr>
<td>▪ Fluorobutyryl fentanyl</td>
</tr>
<tr>
<td>▪ Fluorofentanyl</td>
</tr>
<tr>
<td>▪ Fluoroisobutyryl fentanyl</td>
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<tr>
<td>▪ Furanyl fentanyl</td>
</tr>
<tr>
<td>▪ Isobutryl fentanyl</td>
</tr>
<tr>
<td>▪ Lofentanil</td>
</tr>
<tr>
<td>▪ Methoxyacetyl fentanyl</td>
</tr>
<tr>
<td>▪ N-isobutanoyl 4-fluoro fentanyl</td>
</tr>
<tr>
<td>▪ Ortho-fluorofentanyl</td>
</tr>
<tr>
<td>▪ P-fluorobutyryl fentanyl</td>
</tr>
<tr>
<td>▪ P-fluorofentanyl</td>
</tr>
<tr>
<td>▪ P-fluoroisobutyryl fentanyl</td>
</tr>
<tr>
<td>▪ Phenyl fentanyl</td>
</tr>
<tr>
<td>▪ Remifentanil</td>
</tr>
<tr>
<td>▪ Sufentanil</td>
</tr>
<tr>
<td>▪ Tetrahydrofuran fentanyl</td>
</tr>
<tr>
<td>▪ Thenytfentanyl</td>
</tr>
<tr>
<td>▪ Thiofentanyl</td>
</tr>
<tr>
<td>▪ Thiofuranyl fentanyl</td>
</tr>
</tbody>
</table>

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It’s all about the Money

- Approximately 500,000 counterfeit pills can be manufactured from one kilogram of fentanyl (2mgs per pill)
- Retail prices between $10 and $20 per pill
- Potential revenue $5 million on one kilogram
Fentanyl Related Substances

DA: Fentanyl and carfentanil from China seized in Montgomery County drug investigation
Fentanyl Related Substances by Number of Exhibits, PA, 2012
Fentanyl Related Substances by Number of Exhibits, PA, 2017
Fentanyl

- What is being done to address fentanyl production?
  - Political discussions with China
What is being done to address fentanyl production?

- Worldwide scheduling of 4-ANPP (fentanyl precursor)
- Fentanyl lab identification and seizures in Mexico
- Darkweb law enforcement operations
OPERATION BAYONE’T HIJACKED AN ENTIRE DARK WEB TAKEDOWN YET SENDS BLACK MARKETS REELING

Operation Decrypt:
“The dark net is not as anonymous as you think.”
Justice Department reveals charges against Chinese fentanyl distributors
Efforts

- What is DEA doing?
  - Increased scrutiny of DEA registrants, including manufacturers
  - Drug Take Back Initiative
  - Identification and investigation of overseas heroin/fentanyl suppliers
  - Identification and targeting of regional re-suppliers of fentanyl/fentanyl related substances
  - Identification and dismantlement of Mexican fentanyl labs
  - Control of precursor chemicals
  - Coordination with foreign counterparts in dismantling darkweb marketplaces
  - Scheduling of all fentanyl-related substances in late 2017
Efforts

Fentanyl Signature Profiling Program Report

January 2018

This past year, through the Fentanyl Signature Profiling Program (FSPP), in-depth chemical analyses were performed on fentanyl and fentanyl-related exhibits obtained from seizures made throughout the United States. Analytical methodologies developed at the Special Testing and Research Laboratory (SFL1) through Operation Death Dragon, give in-depth reporting on seizures and also link seizures for intelligence purposes. This report details the results and conclusions derived from these analyses which are reported on a quarterly basis. FSPP data is not intended to reflect U.S. market share, but is rather a snapshot of current trends. Data is reported for all seizures examined that were seized within one calendar year of this report.

For this reporting period, 386 fentanyl and...
Schedules of Controlled Substances: Temporary Placement of Fentanyl-Related Substances in Schedule I

A Rule by the Drug Enforcement Administration on 02/06/2018

AGENCY:
Drug Enforcement Administration, Department of Justice.

ACTION:
Temporary amendment; temporary scheduling order.

SUMMARY:
The Administrator of the Drug Enforcement Administration is issuing this temporary scheduling order to schedule fentanyl-related substances that are not currently listed in any schedule of the Controlled Substances Act (CSA) and their isomers, esters, ethers, salts and salts of isomers, esters, and ethers in schedule I. This action is based on a finding by the Administrator that the placement of these synthetic opioids in schedule I is necessary to avoid an imminent hazard to the public safety. As a result of this order, the regulatory controls and administrative, civil, and criminal sanctions applicable to schedule I controlled substances will be imposed on persons who handle (manufacture, distribute, reverse distribute, import, export, engage in research, conduct instructional activities or chemical analysis, or possess), or propose to handle fentanyl-related substances.
Resources

- Overdose Free PA ([www.overdosefreepa.pitt.edu](http://www.overdosefreepa.pitt.edu))
- PA Prescription Drug Monitoring Program ([www.doh.pa.gov/PDMP](http://www.doh.pa.gov/PDMP))
- Overdose Information Network (ODIN)
- DEA Lab and Seizure Data
# View Overdose Death Data

## Select Counties

<table>
<thead>
<tr>
<th>Adams</th>
<th>Allegheny</th>
<th>Armstrong</th>
<th>Beaver</th>
<th>Berks</th>
<th>Butler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre</td>
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<td>Clinton</td>
<td>Crawford</td>
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<td>Indiana</td>
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<td>Lackawanna</td>
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<td>Lawrence</td>
<td>Luzerne</td>
<td>Lycoming</td>
<td>Mercer</td>
<td>Monroe</td>
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<td>Somerset</td>
<td>Susquehanna</td>
<td>Union</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>York</td>
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</tr>
</tbody>
</table>

[Load Data]
Allegheny County

Allegheny County data is updated on a bi-weekly basis as cases are completed by the Medical Examiner’s Office. This database reflects records from 2008-current.

If you have questions about Allegheny County’s data, please contact:

Dr. Karl Williams MD, MPH, Medical Examiner, 1520 Penn Avenue
Pittsburgh, PA 15222, Phone: (412) 350-4800, Fax: (412) 350-4899

3,588 reported overdose deaths in Allegheny County.
Allegheny County Count by Zip Code (All Years Available (2008 - 2017))

Fatal Overdoses By Incident Zip Code

Fatal Overdoses by Incident Zip Code

Fatal Overdoses by Resident Zip Code

In the event that there are three or less data points for each subset, the analysis subset is masked.
WHAT IS ODIN?

A statewide criminal justice application developed in coordination with the Pennsylvania State Police and the Liberty Mid-Atlantic (formerly Philadelphia/Camden) HIDTA that:

- Tracks overdoses, naloxone administration, and identifiable drug markings
- Is accessible through the JNET portal
- Provides real-time information and intelligence on drug markings and those trafficking narcotics
- Enables the sharing of overdose and naloxone administration information with state and local policy and decision makers in treatment, prevention, education, and law enforcement in order to assist in creating effective treatment and prevention strategies

ODIN's centralized location for overdoses and naloxone administrations:

- Allows for agency specific record keeping
- Detects clusters
- Provides data sharing
- Encourages collaboration among public health and public safety
- Provides statistical data/reports

ODIN's centralized location for identifiable drug markings:

- Provides real-time identification of the most lethal substances and packaging
- Encourages collaboration among law enforcement officers and agencies
- Assists in advancing and connecting criminal investigations
- Helps identify suppliers through investigative keywords and phone numbers
- Provides search capabilities and reports on identifiable markings
Questions?
Laura Hendrick
Field Intelligence Manager
DEA Philadelphia Field Division
Laura.A.Hendrick@usdoj.gov
215-861-3258