OPIOID CRISIS UPDATE

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Three Phase Evolution of the Crisis
- Opioid Pain Relievers (~1990s-2000s)
- Heroin (~2010-2014)
- Fentanyl/ Fentanyl Analogues (~2014- )
Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000 - 2016

- Any Opioid
- Other Synthetic Opioids (e.g., fentanyl, tramadol)
- Heroin
- Natural & Semi-Synthetic Opioids (e.g., oxycodone, hydrocodone)
- Methadone

OPIOID CRISIS EVOLUTION

- Opioid Pain Reliever Phase
  - Liberalization of prescribing
  - Diversion of drugs/“Pill mills”
  - Rising mortality
Some states have more opioid prescriptions per person than others.

Number of opioid prescriptions per 100 people

- Yellow: 52-71
- Orange: 72-82.1
- Purple: 82.2-95
- Dark Purple: 96-143

SOURCE: IMS, National Prescription Audit (NPA™), 2012.
OPIOID CRISIS EVOLUTION

- Opioid Pain Reliever Phase
  - Regulation of prescribing
  - Drug monitoring programs
  - Abuse deterrent opioid formulations
OPR = Opiate Pain Reliever
EPIDEMICS OF UNINTENTIONAL DRUG OVERDOSES IN OHIO, 1979-2011\(^1,2,3\)

Prescription drugs are causing a larger overdose epidemic than illicit drugs ever have.

Heroin Phase

- Restrictions on access to opioid pain relievers (OPR)
- Transition from OPR to heroin
  - Both are narcotics- similar actions
- Increasing mortality
Schedule 1 drug

- High potential for abuse
- No current medical use
- Lack of accepted safety for use
Comparing Opioid Overdose Deaths and Heroin Deaths in Cuyahoga County, 2007-2013

Source: Cuyahoga County Medical Examiner’s Office April 22, 2014
Heroin and OPR Deaths, United States, 2000-2013

The graph shows the number of deaths per 100,000 population due to opioid analgesics and heroin from 2000 to 2013. The number of deaths due to opioid analgesics increased steadily from 2000 to 2013, peaking around 2010 and then stabilizing. The number of deaths due to heroin increased more gradually, peaking around 2013.
Fentanyl Phase

- In 2014 law enforcement agencies noted increase in fentanyl seizures
- Fentanyl began to be seen in mixtures with heroin and cocaine
- Dramatically increasing mortality
US Opioid Overdose Deaths

A 46% Increase from 2015-2016. Largely due to fentanyl, and fentanyl-laced heroin.
Along with the rise in fentanyl deaths rises were also seen in heroin mortality and cocaine mortality.

Impact of mixtures vs. individual drugs.
OPIOID CRISIS EVOLUTION

- Fentanyl/Fentanyl Analogue Phase
  - Designer drugs - rationale
  - Role of the internet and international supply
  - Continued escalating mortality
Fentanyl Analogue Scheduling

• Core Structure Scheduling
  • In December 2017, the DEA announced its intent to implement core structure scheduling.
  • Scheduling based on the key elements of fentanyl structure whether substituted to whatever extent

**WHAT WE KNOW**

### Fentanyl Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Date 1st Encountered</th>
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<tbody>
<tr>
<td>Acetylfentanyl</td>
<td>2/10/16</td>
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<tr>
<td>Furanylfentanyl</td>
<td>3/7/16</td>
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<tr>
<td>Butyrylfentanyl</td>
<td>3/23/16</td>
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<tr>
<td>Beta-Hydroxythiofentanyl</td>
<td>3/23/16</td>
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<tr>
<td>U-47700</td>
<td>5/9/16</td>
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<tr>
<td>4-ANPP</td>
<td>8/2/16</td>
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<tr>
<td>Para-Fluorofentanyl</td>
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<tr>
<td>Meta-Flurorfentanyl</td>
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<tr>
<td>Carfentanil</td>
<td>September 2016</td>
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<tr>
<td>Valeryl Fentanyl</td>
<td>10/25/16</td>
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<tr>
<td>Acrylfentanyl</td>
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<tr>
<td>para-Chloroisobutyryl Fentanyl</td>
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<tr>
<td>Isobutyryl Fentanyl</td>
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<td>Methoxyacetylfentanyl</td>
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<td>U-51754</td>
<td>6/22/2017</td>
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</tbody>
</table>

**Source:** Cuyahoga County Medical Examiner’s Office revised 9-15-17
Mortality into 2018 has plateaued and appears to be decreasing slightly
Impact of scheduling of analogues?
Alternate drugs (methamphetamine)
Challenges
- Instrumentation
- Personnel
- Funding

FENTANYL/FENTANYL ANALOGUES
Total POE Express Mail Drug Seizures:
Oct 2017 - Feb 2018 (CBP)