Trends in Drug Overdose Deaths involving Opioids

Tennessee and the United States 2014 and 2015

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Overview

• Purpose: Compare drug opioid-involved overdose deaths involving opioids in Tennessee and the United States

• Time period: Calendar years 2014 and 2015


• Tennessee data provided to the Centers for Disease Control and Prevention (CDC) by the Tennessee Department of Health.
Definitions

Opioid categories (ICD 10 codes T40.1-T40.4, T40.6)

• **Heroin**, an illicit opioid synthesized from morphine (ICD-10 T40.1)

• **Natural and semisynthetic opioids** (ICD-10 T40.2)
  – Natural opioids: morphine, codeine
  – Semisynthetic opioids: oxycodone, hydrocodone, hydromorphone, oxymorphone

• **Synthetic opioids** (ICD-10 T40.4)
  – Exclude methadone
  – Examples: tramadol and fentanyl

• **Methadone**, a synthetic opioid (ICD-10 T40.3)

*Data note: Overdose deaths can involve more than one opioid so categories of death are not mutually exclusive.*
Trends in drug overdose deaths involving opioids from 2014 to 2015

Tennessee

Death rates involving...

- **Synthetic opioids** increased 91%
  - from 2.1 to 4.0 per 100,000 deaths.
- **Heroin** increased 44%
  - from 2.3 to 3.3 per 100,000 deaths.
- **Natural and semisynthetic opioids** increased 13%
  - from 8.6 to 9.7 per 100,000 deaths.

Tennessee and United States increases in death rates were greatest for heroin and synthetic opioids.

<table>
<thead>
<tr>
<th>% Rate change</th>
<th>Tennessee 2014 to 2015</th>
<th>United States 2014 to 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic</td>
<td>+90.5%</td>
<td>+72.2%</td>
</tr>
<tr>
<td>Heroin</td>
<td>+43.5%</td>
<td>+20.6%</td>
</tr>
<tr>
<td>Natural/semisynthetic</td>
<td>+12.8%</td>
<td>+2.6%</td>
</tr>
<tr>
<td>Methadone</td>
<td>-9.1%</td>
<td>-9.1%</td>
</tr>
</tbody>
</table>

Source: MMWR, Early Release, December 16, 2016, CDC.
Tennessee & United States opioid-involved death rates increased for all categories of opioids but methadone.

Drug overdose deaths involving opioids

- **Natural opioids**
  - Morphine
  - Codeine

- **Semisynthetic opioids**
  - Oxycodone
  - Hydrocodone
  - Hydromorphone
  - Oxymorphone

- **Synthetic opioids**
  - Tramadol
  - Fentanyl
  - Excludes methadone

Tennessee death rates for natural/semisynthetic opioids are more than 2x the U.S.

Source: MMWR, Early Release, December 16, 2016, CDC.
Most Tennessee deaths involve natural and semisynthetic opioids.

Tennessee drug overdose deaths involving opioids

- **Natural or semisynthetic**
  - 554 in 2014
  - 643 in 2015

- **Synthetic**
  - 148 in 2014
  - 251 in 2015

- **Heroin**
  - 132 in 2014
  - 205 in 2015

- **Methadone**
  - 71 in 2014
  - 67 in 2015

**Natural opioids**
- Morphine
- Codeine

**Semisynthetic opioids**
- Oxycodone
- Hydrocodone
- Hydromorphone
- Oxymorphone

**Synthetic opioids**
- Tramadol
- Fentanyl
- Excludes methadone

Source: MMWR, Early Release, December 16, 2016, CDC.