Prescription opioid overdose & misuse in Oregon

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Center for Prevention and Health Promotion
Oregon Health Authority
Governor’s Workgroup on Prescription Drug Misuse
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Acknowledgements

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Objectives

• Describe prescription opioid overdose

• Identify some known and possible risk factors

• Describe what you can expect from prescription drug monitoring

• Describe PDMP next steps and ongoing work
Think about how many Oregonians have medically necessary treatment with controlled substances

- 760,000 live with chronic pain (20% of Oregonians)
- 100,000+ are treated for injury in ED annually
- 213,000 have surgical visits each year (5.5%)
- 8,000 die of cancer
- 20,000 new cases of cancer each year
- Uncounted dental encounters to reduce pain

- 611,000 Oregonians received an opioid prescription from 10/2011 to 3/2012
Patients filling prescriptions from multiple prescribers at multiple pharmacies, OR, 10/2011 - 3/2012

<table>
<thead>
<tr>
<th>Patients*</th>
<th>Providers/Pharmacies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,746</td>
<td>5 - 9 providers and pharmacies</td>
</tr>
<tr>
<td>69</td>
<td>10 - 14 providers and pharmacies</td>
</tr>
<tr>
<td>18</td>
<td>15 or more providers and pharmacies</td>
</tr>
</tbody>
</table>

*A total of 897,815 patients received at least one controlled substance prescription during this timeframe (611,000 were for opioids).*
Overdose death rate by drug type per 100,000 OR, 2000-2011

Note: a person can have more than 1 contributing drug related to their death
Increase in overdose death & hospitalization rate per 100,000 involving selected drugs, OR, 2000 to 2011

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>0.8</td>
<td>3.1</td>
<td>0.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Prescription opioid drugs</td>
<td>1.0</td>
<td>4.6</td>
<td>2.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Methadone</td>
<td>0.5</td>
<td>2.1</td>
<td>0.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>0</td>
<td>0.9</td>
<td>1.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Antiepileptic, sedative-hypnotic, antidepressant</td>
<td>0.8</td>
<td>2.8</td>
<td>5.6</td>
<td>13.1</td>
</tr>
<tr>
<td>Methamphetamines and other psychostimulants</td>
<td>0.5</td>
<td>1.4</td>
<td>0.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Alcohol</td>
<td>0.4</td>
<td>3.0</td>
<td>0.7</td>
<td>1.2</td>
</tr>
</tbody>
</table>
Frequency and percent of unintentional drug overdose deaths from more than one drug, OR, 2007-2011

- 1266 deaths, 62%
- 476 deaths, 24%
- 188 deaths, 9%
- 83 deaths, 4%
- 24 deaths, 1%
- 3 deaths, 0%
Overdose death rate by drug type per 100,000 among females by age group, OR, 2007-2011

Note: a person can have more than 1 contributing drug related to their death

- Heroin
- Prescrip opioids
- Methadone
- Other and unspecified narcotics
- Antiepileptic, sedative-hypnotic, antidepressant, other psychotropic
- Benzodiazepines
- Methamphetamines and other psychostimulants
- Only unspecified drug mentioned
- Alcohol
Overdose death rate by drug type per 100,000 among males by age group, OR, 2007-2011

Note: a person can have more than 1 contributing drug related to their death
## Selected drugs dispensed in Oregon, 10/2011 – 3/2012

<table>
<thead>
<tr>
<th>Drug or drug type</th>
<th>Prescription recipient count in 6 months</th>
<th>Number of prescriptions dispensed to recipient in 6 months</th>
<th>Number of prescriptions dispensed per prescription recipient in 6 months</th>
<th>Number of people receiving prescriptions per 1,000 residents</th>
<th>Number of prescriptions dispensed per 1,000 residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methadone</td>
<td>14,268</td>
<td>64,674</td>
<td>4.5</td>
<td>3.7</td>
<td>16.8</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>213,500</td>
<td>577,689</td>
<td>2.7</td>
<td>55.3</td>
<td>149.8</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>438,275</td>
<td>1,030,866</td>
<td>2.4</td>
<td>113.6</td>
<td>267.2</td>
</tr>
<tr>
<td>All opioids</td>
<td>611,985</td>
<td>1,872,534</td>
<td>3.1</td>
<td>158.6</td>
<td>485.4</td>
</tr>
</tbody>
</table>
METHADONE* by age group, statewide, OR, 10/01/11 to 03/31/12

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Prescription Recipient Count in 6 months</th>
<th>Number of prescriptions dispensed in 6 months</th>
<th>Number of prescriptions dispensed per prescription recipient in 6 months</th>
<th>Number of people receiving prescriptions, per 1,000 residents</th>
<th>Number of prescriptions dispensed per 1,000 residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 14</td>
<td>21</td>
<td>66</td>
<td>3.1</td>
<td>0.0</td>
<td>0.1</td>
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<tr>
<td>15 - 24</td>
<td>153</td>
<td>519</td>
<td>3.4</td>
<td>0.3</td>
<td>1.0</td>
</tr>
<tr>
<td>25 - 34</td>
<td>1,298</td>
<td>5,626</td>
<td>4.3</td>
<td>2.5</td>
<td>10.6</td>
</tr>
<tr>
<td>35 - 44</td>
<td>2,333</td>
<td>10,855</td>
<td>4.7</td>
<td>4.6</td>
<td>21.5</td>
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<tr>
<td>45 - 54</td>
<td>4,086</td>
<td>19,238</td>
<td>4.7</td>
<td>7.6</td>
<td>36.0</td>
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<tr>
<td>55 - 64</td>
<td>4,083</td>
<td>19,200</td>
<td>4.7</td>
<td>8.0</td>
<td>37.4</td>
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<tr>
<td>65 - 74</td>
<td>1,437</td>
<td>6,135</td>
<td>4.3</td>
<td>4.7</td>
<td>20.1</td>
</tr>
<tr>
<td>75 - 84</td>
<td>565</td>
<td>2,052</td>
<td>3.6</td>
<td>3.3</td>
<td>12.1</td>
</tr>
<tr>
<td>85+</td>
<td>292</td>
<td>983</td>
<td>3.4</td>
<td>3.7</td>
<td>12.6</td>
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<tr>
<td>TOTAL</td>
<td>14,268</td>
<td>64,674</td>
<td>4.5</td>
<td>3.7</td>
<td>16.8</td>
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</table>

*Does not include methadone used to treat addiction.
### OXYCODONE by age group, statewide, OR, 10/01/11 to 03/31/12

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Prescription Recipient Count in 6 months</th>
<th>Number of prescriptions dispensed in 6 months</th>
<th>Number of prescriptions dispensed per prescription recipient in 6 months</th>
<th>Number of people receiving prescriptions, per 1,000 residents</th>
<th>Number of prescriptions dispensed per 1,000 residents</th>
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<td>1 - 14</td>
<td>1,656</td>
<td>2,113</td>
<td>1.3</td>
<td>2.3</td>
<td>2.9</td>
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<tr>
<td>15 - 24</td>
<td>20,491</td>
<td>34,323</td>
<td>1.7</td>
<td>40.4</td>
<td>67.7</td>
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<tr>
<td>25 - 34</td>
<td>35,791</td>
<td>83,440</td>
<td>2.3</td>
<td>67.7</td>
<td>157.9</td>
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<tr>
<td>35 - 44</td>
<td>35,349</td>
<td>96,074</td>
<td>2.7</td>
<td>69.9</td>
<td>189.9</td>
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<tr>
<td>45 - 54</td>
<td>42,693</td>
<td>135,457</td>
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<td>79.9</td>
<td>253.4</td>
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<tr>
<td>55 - 64</td>
<td>40,757</td>
<td>127,373</td>
<td>3.1</td>
<td>79.5</td>
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<tr>
<td>65 - 74</td>
<td>22,603</td>
<td>61,982</td>
<td>2.7</td>
<td>74.1</td>
<td>203.3</td>
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<tr>
<td>75 - 84</td>
<td>10,109</td>
<td>26,316</td>
<td>2.6</td>
<td>59.7</td>
<td>155.4</td>
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<tr>
<td>85+</td>
<td>4,051</td>
<td>10,611</td>
<td>2.6</td>
<td>52.0</td>
<td>136.1</td>
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<tr>
<td>TOTAL</td>
<td>213,500</td>
<td>577,689</td>
<td>2.7</td>
<td>55.3</td>
<td>149.8</td>
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HYDROCODONE by age group, statewide, OR, 10/01/11 to 03/31/12

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Prescription Recipient Count in 6 months</th>
<th>Number of prescriptions dispensed in 6 months</th>
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<th>Number of prescriptions dispensed per 1,000 residents</th>
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</thead>
<tbody>
<tr>
<td>1 - 14</td>
<td>8,442</td>
<td>10,490</td>
<td>1.2</td>
<td>11.8</td>
<td>14.6</td>
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<tr>
<td>15 - 24</td>
<td>47,183</td>
<td>72,590</td>
<td>1.5</td>
<td>93.0</td>
<td>143.1</td>
</tr>
<tr>
<td>25 - 34</td>
<td>68,100</td>
<td>138,192</td>
<td>2.0</td>
<td>128.9</td>
<td>261.6</td>
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<tr>
<td>35 - 44</td>
<td>67,805</td>
<td>159,488</td>
<td>2.4</td>
<td>134.0</td>
<td>315.2</td>
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<tr>
<td>45 - 54</td>
<td>81,033</td>
<td>220,199</td>
<td>2.7</td>
<td>151.6</td>
<td>411.9</td>
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<tr>
<td>55 - 64</td>
<td>80,197</td>
<td>216,647</td>
<td>2.7</td>
<td>156.4</td>
<td>422.5</td>
</tr>
<tr>
<td>65 - 74</td>
<td>48,505</td>
<td>122,290</td>
<td>2.5</td>
<td>159.1</td>
<td>401.0</td>
</tr>
<tr>
<td>75 - 84</td>
<td>25,679</td>
<td>63,739</td>
<td>2.5</td>
<td>151.7</td>
<td>376.4</td>
</tr>
<tr>
<td>85+</td>
<td>11,331</td>
<td>27,231</td>
<td>2.4</td>
<td>145.4</td>
<td>349.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>438,275</td>
<td>1,030,866</td>
<td>2.4</td>
<td>113.6</td>
<td>267.2</td>
</tr>
</tbody>
</table>
Unique recipient count for opioids by age group, statewide, OR, 10/01/11 to 03/31/12

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Prescription Recipient Count in 6 months</th>
<th>Number of prescriptions dispensed in 6 months</th>
<th>Number of prescriptions dispensed per prescription recipient in 6 months</th>
<th>Number of people receiving prescription, per 1,000 residents</th>
<th>Number of prescriptions dispensed per 1,000 residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 14</td>
<td>9,952</td>
<td>12,968</td>
<td>1.3</td>
<td>13.9</td>
<td>18.1</td>
</tr>
<tr>
<td>15 - 24</td>
<td>62,147</td>
<td>109,811</td>
<td>1.8</td>
<td>122.5</td>
<td>216.5</td>
</tr>
<tr>
<td>25 - 34</td>
<td>93,963</td>
<td>239,079</td>
<td>2.5</td>
<td>177.9</td>
<td>452.5</td>
</tr>
<tr>
<td>35 - 44</td>
<td>94,613</td>
<td>291,795</td>
<td>3.1</td>
<td>187.0</td>
<td>576.7</td>
</tr>
<tr>
<td>45 - 54</td>
<td>115,510</td>
<td>425,036</td>
<td>3.7</td>
<td>216.1</td>
<td>795.0</td>
</tr>
<tr>
<td>55 - 64</td>
<td>115,134</td>
<td>419,282</td>
<td>3.6</td>
<td>224.5</td>
<td>817.6</td>
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<tr>
<td>65 - 74</td>
<td>68,201</td>
<td>218,115</td>
<td>3.2</td>
<td>223.7</td>
<td>715.3</td>
</tr>
<tr>
<td>75 - 84</td>
<td>35,583</td>
<td>107,866</td>
<td>3.0</td>
<td>210.1</td>
<td>637.0</td>
</tr>
<tr>
<td>85+</td>
<td>16,882</td>
<td>48,582</td>
<td>2.9</td>
<td>216.6</td>
<td>623.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>611,985</td>
<td>1,872,534</td>
<td>3.1</td>
<td>158.6</td>
<td>485.4</td>
</tr>
</tbody>
</table>

Opioids include: Hydrocodone, Oxycodone, Morphine, Methadone, Fentanyl, and Hydromorphone.
Factors among decedents in methadone overdose, OR, N=56

- 41% had prescriptions - 30% did not
- Misuse or abuse contributed to death in 77%
- Hx of substance abuse in 75%
- Hx of substance abuse treatment in 21%
- Hx of mental illness in 52%
Opioid overdose: factors among decedents

Washington:
• Medicaid population at high risk - 5.7 times higher risk of death*

Utah:
• 40% of decedents had Hx of substance abuse;
• 49% diagnosed with mental illness**


Data recap

• Over 600k Oregonians were prescribed opioids last year
• 53% of drug overdoses in Oregon associated with prescription opioids
• Over 40% of deceased have multiple drugs on board
• Patients with hx of substance abuse hx and/or mental illness have greatly increased risk for overdose
• Medicaid population over represented in overdose data
• About 30% of all drug-related deaths associated with methadone
• Misuse, abuse, and potentiating effects contribute to deaths
Prevention and countermeasures

- Mandatory provider education on opioid use for pain
- Practice guidelines for dosing and patient management
- Single copy, serialized paper prescription forms
- E-prescribing
- Lock-in programs in Medicaid
- Naloxone programs
- Drug courts
- Drug Take Back events
- Prescription Drug Monitoring Programs
- Addiction treatment
- Pain management specialty clinics
- LEA efforts to combat drug crime
Purposes of prescription monitoring

• Support access to legitimate medical use of controlled substances
• Identify and deter or prevent drug misuse, abuse and diversion
• Facilitate and encourage the identification, intervention and treatment of persons addicted to prescription drugs
• Inform public health initiatives through use of aggregated data.
• Educate individuals about PDMPs and the use, misuse, abuse and diversion of and addiction to prescription drugs

Source: National Alliance for Model State Drug Laws
Other potential benefits...

• Improve health outcomes by reducing overdose rates
• Improve pain management
• Increase public awareness of prescription drug abuse problem
• Reduce hospital emergency room visits attributed to prescription drug overdose and misuse
• Reduce drug diversion
• Reduce patient data shopping
• Reduce financial losses to health care providers, hospitals and pharmacies due to lost time and productivity
• Reduce costs due to lost productivity to employers, employee lost wages, drug rehabilitation expenses
Web based system launched in September 2011
Collects data from pharmacies
Users have passed an authentication process and are allowed to access to patient data
Program evaluation – Result: Overall positive - program shows promise

Providers who “strongly agreed” or “agreed” that it would:

• likely improve management of patient prescriptions for controlled substances - 92%

• likely engender interest for most providers and pharmacists for registering as users - 92%

• likely increase communication between providers – 80%

• likely have an impact – 82%
Result: Most registered users indicated that the program had been “very helpful” in:

• helping to monitor patients’ controlled substances prescriptions (65%), and

• helping to control “doctor shopping” (64%).
Result: Top reasons for using the system

1. Assess controlled substance use for patients who might be over using (71% of pharmacists and 86% of providers).

2. Assess controlled substance use of new patients (59% of pharmacists and 72% of providers).
Result: Actions taken after using system

- Spoken with a patient about controlled substance use - 78%
- Confirmed patient not misusing prescriptions – 68%
- Confirmed patient was doctor shopping – 59%
- Reduced or eliminated prescriptions for a patient – 59%
- Contacted other providers or pharmacies – 49%
Result: Increased communication

About 2 in 3 system users reported communicating more as a result of using the system with...

• Clinicians and staff inside my practice (64%)
• Providers who write prescriptions (67%)
• Pharmacists (63%)
• Patients (79%)
Result: Suggestions

Important themes for registered providers:

• Allow for support staff to have access to the program (#1 theme)
• Encourage wider participation
• Make login and overall interface easier to use and more responsive (faster)
• Improve technical issues related to registering
• Allow for information to be more up-to-date
Ongoing work aimed at prevention

1. Enroll 100% of top 2,000 prescribers.

Percentage of CS II-IV prescriptions written by prescriber cohort, OR, 1/2012 to 9/2012, n = 49,330

- 21% of prescriptions are written by the remaining 45,330...
- 19% of prescriptions are written by the top 2,001 through 4,000...
- 2,000 prescribers write 60% of the prescriptions
2. Engage local public health officials in efforts to increase use of prescribing guidelines & practice improvements

Heroin Use
- Use for Various Reasons (Including Self-Treatment of Pain)

Use of Diverted Opiates
- Self-Use of Diverted Opiates
  - From individual Rx's via family/friends, street purchase
  - From theft and/or subsequent sale

Use of Prescribed Opiates
- Unstable treatment and/or Unclear or Poor Benefit (pt OR provider perspective) for Less-Established Pain Indications
- Stable Treatment with Good Benefit (pt AND provider perspective)

Patient Evaluation Model (includes Substance Abuse Eval)

Desired Outcome: Decreased Rx Use
- Poor Benefit of Rx
- Self-Use of Diverted Rx Opiates

Stable Treatment with Good Benefit

Harm Reduction Services
- OD Prevention Education
- A&D Referral
- Naloxone

Behavioral Health Services
- A&D: Maintenance, Drug-Free, etc.
- Mental Health
- Supportive Services
- CAM Services
- Physical Therapy, Exercise/Movement

Desired Health Outcomes
- Decreased addiction
- Improved Pain Management
- Better Physical Functioning
- Better Social Functioning
- Decreased Overdoses (fatal and non-fatal)
- Continued or Improved Connection to Health Care Delivery System

Cross-over between Rx Drugs and Heroin

Current Heroin Use

Potentially Increased Heroin Use

Referral to...

Source: Multnomah County Health Department
### 3. Disseminate toolkit resources

#### Prescription controlled substance toolkit

**Health System Level Interventions**

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Links</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>. Integrate PDMP patient data reviews when prescribing a new controlled substance, for early refill requests, and as part of pain management routines; enroll providers and develop system use protocols.</td>
<td><strong>Oregon Prescription Drug Monitoring Program</strong>&lt;br&gt;&lt;br&gt;<a href="http://www.orpdmp.com/">http://www.orpdmp.com/</a></td>
<td>Joranson et al., 2002&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;GAO 2002&lt;sup&gt;2&lt;/sup&gt;&lt;br&gt;Brushwood 2003&lt;sup&gt;3&lt;/sup&gt;&lt;br&gt;Manchikanti 2007&lt;sup&gt;4&lt;/sup&gt;&lt;br&gt;MITRE 2012&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>. Integrate mental health and substance abuse screening into the health care standard of care for all ages; refer to behavioral health services and detoxification centers.</td>
<td><strong>Screening, brief intervention, and referral to treatment</strong>&lt;br&gt;&lt;br&gt;<a href="http://www.sbirtoregon.org/">http://www.sbirtoregon.org/</a></td>
<td>Grattan et al., 2012&lt;sup&gt;6&lt;/sup&gt;&lt;br&gt;Nease and Maloin 2003&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td>. Lock at-risk patients into one prescriber and one dispenser.</td>
<td><strong>SAMHSA TIP 54: Managing Chronic Pain in Adults With or in Recovery From Substance Use Disorder</strong>&lt;br&gt;&lt;br&gt;<a href="http://store.samhsa.gov/product/TIP-54-Managing-Chronic-Pain-in-Adults-With-or-in-Recovery-From-Substance-Use-Disorders/SMA12-">http://store.samhsa.gov/product/TIP-54-Managing-Chronic-Pain-in-Adults-With-or-in-Recovery-From-Substance-Use-Disorders/SMA12-</a></td>
<td>Cantrill et al., 2012&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
4. Develop and disseminate a tool on use of PDMP report w/ patients.

5. Engage county substance abuse prevention specialists to disseminate public information.

6. Develop and test social norm change messages.

7. Maintain data workgroup activities.

8. Continue evaluation activities aimed at measuring community health outcomes.
Questions

Contact:

Dagan.Wright@state.or.us
Lisa.M.Millet@state.or.us
Todd.Beran@state.or.us