The Relationship between Suicide and Opioid Abuse
Presenters

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Opioid misuse and suicide

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Disclosures

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No conflicts of interest to report.
Overview

• Prescription opioid use, misuse, and overdose

• Overdose vs. suicide and their overlap

• Epidemiologic studies assessing association of suicide and opioids

• Opioid tapering and VA’s response to opioids
Prescription opioid use and misuse

119 million used a psychotherapeutic drug – pain medications, stimulants, tranquilizers, sedatives

97.5 million used a prescription opioid

12.5 million misused a prescription opioid

2015
Opioids and life expectancy

<table>
<thead>
<tr>
<th>Drug, Opioid, Alcohol, and Other Poisoning Deaths&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Year 2000</th>
<th>Year 2015</th>
<th>Change in Mortality Rate per 100 000 Population for 2000 vs 2015 (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug poisoning</td>
<td>17 415</td>
<td>52 404</td>
<td>10.1 (10.1 to 10.2)</td>
</tr>
<tr>
<td>Opioid</td>
<td>8 407</td>
<td>33 091</td>
<td>7.4 (7.3 to 7.4)</td>
</tr>
<tr>
<td>Other drug</td>
<td>9 008</td>
<td>19 313</td>
<td>2.7 (2.7 to 2.7)</td>
</tr>
<tr>
<td>Alcohol poisoning</td>
<td>3 27</td>
<td>2 354</td>
<td>0.6 (0.6 to 0.6)</td>
</tr>
<tr>
<td>Other poisoning</td>
<td>2 487</td>
<td>2 809</td>
<td>-0.1 (-0.1 to -0.1)</td>
</tr>
<tr>
<td>All poisonings</td>
<td>20 229</td>
<td>57 567</td>
<td>10.7 (10.6 to 10.7)</td>
</tr>
<tr>
<td>Overall</td>
<td>2 403 351</td>
<td>2 712 630</td>
<td>-135.9 (-135.7 to -136.1)</td>
</tr>
</tbody>
</table>

Mokdad et al., 2018
Opioids and life expectancy

Mokdad et al., 2018
Opioid overdose by opioid type

Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000 - 2016

What about suicide?

**Suicide: A Silent Contributor to Opioid-Overdose Deaths**

Maria A. Oquendo, M.D., Ph.D., and Nora D. Volkow, M.D.

*NEJM 378;17  NEJM.org  April 20, 2018*

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**Self-injury Mortality in the United States in the Early 21st Century**

A Comparison With Proximally Ranked Diseases

Ian R. H. Rockett, PhD, MPH; Christa L. Lilly, PhD; Haomiao Jia, PhD; Gregory L. Larkin, MD, MSPH; Ted R. Miller, PhD; Lewis S. Nelson, MD; Kurt B. Noite, MD; Sandra L. Putnam, PhD; Gordon S. Smith, MD, MPH; Eric D. Caine, MD
National data

• National Violent Death Reporting System
  – Suicide poisonings involving opioids

• National Survey of Drug Use and Health
  – Past year misuse is associated with suicidal ideation
  – Former misuse, persistent misuse, and recent onset misuse is associated with suicidal ideation
  – Frequency of misuse is associated with suicidal ideation, planning, and suicide attempts
  – Reasons for misuse

Ashrafioun et al., 2017; Braden et al., 2017; Ford & Perna. 2015; Kuramoto et al., 2013
Reasons for prescription opioid misuse and suicide ideation (SI)

- **Pain**: aOR = 1.70 (1.41-2.05)
- **Sleep**: aOR = 2.28 (1.66-3.12)
- **Relaxation**: aOR = 2.19 (1.65-2.89)
- **Get High**: aOR = 1.99 (1.58-2.51)
- **Emotions**: aOR = 2.28 (1.58-3.29)

89% reporting no SI reported using opioids as prescribed and 70% reporting SI reported using opioids as prescribed.
Reasons for prescription opioid misuse and suicide planning (SP)

88% reporting no SP reported using opioids as prescribed and 64% reporting SP reported using opioids as prescribed.
Reasons for prescription opioid misuse and suicide attempts (SA)

88% reporting no SA reported using opioids as prescribed and 62% reporting SA reported using opioids as prescribed

- Pain: aOR = 1.71 (1.26-2.34)
- Sleep: aOR = 2.62 (1.61-4.27)
- Relaxation: aOR = 1.53 (1.03-2.27)
- Get High: aOR = 1.80 (1.27-2.54)
- Emotions: aOR = 2.59 (1.49-4.51)
Opioid use disorder and suicide

Figure 4. Suicide Rate Per 100,000 Person-Years Among VHA Users by Receipt of Opioid Use Disorder Diagnosis by Calendar Year
Prescription opioids and suicide

- Opioid dose is associated with increased risk of suicide

<table>
<thead>
<tr>
<th>Prescribed daily opioid dose</th>
<th>Deaths (n)</th>
<th>Person (y)</th>
<th>Rate/100,000 person-years (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide, any mechanism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1716</td>
<td>3,862,873</td>
<td>44.4 (42.3-46.5)</td>
</tr>
<tr>
<td>1 to &lt;20 mg/d*</td>
<td>218</td>
<td>508,852</td>
<td>42.8 (37.3-48.7)</td>
</tr>
<tr>
<td>20 to &lt;50 mg/d*</td>
<td>395</td>
<td>618,533</td>
<td>63.9 (57.7-70.3)</td>
</tr>
<tr>
<td>50 to &lt;100 mg/d*</td>
<td>132</td>
<td>174,839</td>
<td>75.5 (63.2-88.9)</td>
</tr>
<tr>
<td>100+ mg/d</td>
<td>140</td>
<td>133,284</td>
<td>105.0 (88.4-123.1)</td>
</tr>
</tbody>
</table>
Tapering and/or discontinuing opioids

• One study found nearly 60% of veterans discontinued from long-term opioids reported “new onset” suicidal ideation or behaviors

• Strategies to reduce risk
  – Develop a tapering plan
  – Assess for suicide risk
  – Multi-modal treatments; promoting self-management strategies for pain
  – Present non-opioid alternatives for pain management
  – Effective communication

CDC, 2016; Demidenko et al., 2017; Frank et al., 2016; 2018; Management of Opioid Therapy for Chronic Pain Work Group, 2017; Matthais et al., 2018
VA programs to decrease problems

• Education
  – Overdose education and naloxone distribution

• Pain management
  – Expansion of complementary and integrative health approaches

• Risk mitigation
  – STORM

• Addiction treatment
  – Expanded buprenorphine

Gellad et al., 2017
References


Emergency Department Peer Support and Bridge Clinic: Responding to the Opioid Crisis in Kentucky

Katherine Marks, Ph.D.

Kentucky Department for Behavioral Health, Developmental and Intellectual Disabilities
Suicide: Kentucky Rates

Suicide Death Rates

<table>
<thead>
<tr>
<th></th>
<th>Number of Deaths by Suicide</th>
<th>Rate per 100,000 Population</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>776</td>
<td>17.06</td>
<td>16</td>
</tr>
<tr>
<td>Nationally</td>
<td>44,193</td>
<td>13.26</td>
<td></td>
</tr>
</tbody>
</table>

Suicide cost Kentucky a total of $746,659,000 of combined lifetime medical and work loss cost in 2010, or an average of $1,183,295 per suicide death.

IN KENTUCKY, SUICIDE IS THE...

- 2nd leading cause of death for ages 10-34
- 4th leading cause of death for ages 35-44
- 5th leading cause of death for ages 45-54
- 9th leading cause of death for ages 55-64
- 16th leading cause of death for ages 65 & older

More than three times as many people die by suicide in Kentucky annually than by homicide; the total deaths to suicide reflect a total of 15,292 years of potential life lost (YPLL) before age 65.

Suicide is the **11th leading** cause of death overall in Kentucky.

On average, one person dies by suicide approximately **every 11 hours** in the state.

Based on most recent 2015 data from CDC
Opioids: Kentucky Rates

**Overdose Death Rate, 2016**

<table>
<thead>
<tr>
<th></th>
<th>Number of OD Deaths</th>
<th>Rate per 100,000 Population</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>1,419</td>
<td>33.5</td>
<td>5</td>
</tr>
<tr>
<td>Nationally</td>
<td>63,600</td>
<td>19.8</td>
<td></td>
</tr>
</tbody>
</table>

**Decedents by Age**

<table>
<thead>
<tr>
<th>Age Group (Years)</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 25</td>
<td>76</td>
<td>92</td>
</tr>
<tr>
<td>25-34</td>
<td>288</td>
<td>294</td>
</tr>
<tr>
<td>35-44</td>
<td>341</td>
<td>409</td>
</tr>
<tr>
<td>45-54</td>
<td>372</td>
<td>321</td>
</tr>
<tr>
<td>55-64</td>
<td>188</td>
<td>184</td>
</tr>
<tr>
<td>65-74</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>75-84</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Age-adjusted OD death rate in 2016...**

- **Heroin**: 7.6
- **Synthetic opioids**: 11.5
- **Males**: 41.9
- **Females**: 25.1

**OD deaths increased 11.5% 2015 - 2016**

**Opioid-related hospitalizations**

Data Source: Kentucky Injury Prevention and Research Center
Scope of the Problem

More than 41,000 deaths a year in the U.S. result from suicide.

Nearly 1 in 12 adults in the U.S. has a substance use disorder.

Rates of suicide in the U.S. are almost four times higher for men than for women.

22% of deaths by suicide in the U.S. involve alcohol intoxication.

Opiates, including heroin and prescription painkillers, are present in 20% of suicide deaths in the U.S.
## Suicide deaths involving substance use

<table>
<thead>
<tr>
<th>Substance</th>
<th>National</th>
<th>Kentucky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>22%</td>
<td>33%</td>
</tr>
<tr>
<td>Heroin &amp; prescription opioids</td>
<td>20%</td>
<td>49%</td>
</tr>
<tr>
<td>Cannabis</td>
<td>10%</td>
<td>-</td>
</tr>
<tr>
<td>Cocaine</td>
<td>4%</td>
<td>-</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>3%</td>
<td>-</td>
</tr>
</tbody>
</table>

NVDRS, 2015
Kentucky’s Opioid Response Effort

Treatment Priorities:

- Increase early identification of intervention need
- Strengthen pathways to treatment
- Improve access to and appropriate utilization of the full continuum of treatment services
- Integrate and coordinate service delivery models
## ED Intervention Model

| **Peer Support**                  | - In the emergency department  
                                  | - Lived experience and in recovery from SUD 
                                  | - Certified and supervised  
                                  | - Regular follow-up after discharge |
|-----------------------------------|-------------------------------------------|
| **Bridge clinic**                 | - In proximity to the emergency department  
                                  | - Ability to initiate MAT  
                                  | - Integration with peer support  
                                  | - Referral to treatment         |
ED Intervention Workflow

1. **Identify and connect**
   - Screen
   - Peer Support

2. **Treat in ED**
   - Assess
   - Medication-assisted treatment
   - Motivational interviewing

3. **Refer and reduce harm**
   - Connect to treatment
   - Naloxone

4. **Follow-up**
   - Peer Support
   - Ongoing treatment
# Preliminary Outcomes

<table>
<thead>
<tr>
<th>Institution</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral health partner</td>
<td>Community Mental Health Center</td>
</tr>
<tr>
<td>Peer Support</td>
<td>4+ (CMHC staff)</td>
</tr>
<tr>
<td>Inpatient MAT inductions</td>
<td>Yes</td>
</tr>
<tr>
<td>Total patients seen (4 month period)</td>
<td>226</td>
</tr>
<tr>
<td>Accepted inpatient or outpatient treatment (1 month period)</td>
<td>10%</td>
</tr>
</tbody>
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Data are preliminary and subject to change
## Preliminary Outcomes

<table>
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<tr>
<th></th>
<th>Hospital 1</th>
<th>Hospital 2</th>
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<tbody>
<tr>
<td><strong>Institution</strong></td>
<td>University</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Behavioral health partner</strong></td>
<td>Community Mental Health Center</td>
<td>Internal</td>
</tr>
<tr>
<td><strong>Peer Support</strong></td>
<td>4+ (CMHC staff)</td>
<td>3 (Contract)</td>
</tr>
<tr>
<td><strong>Inpatient MAT inductions</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Total patients seen (4 month period)</strong></td>
<td>226</td>
<td>42</td>
</tr>
<tr>
<td><strong>Accepted inpatient or outpatient treatment (1 month period)</strong></td>
<td>10%</td>
<td>50%</td>
</tr>
</tbody>
</table>

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## Preliminary Outcomes

<table>
<thead>
<tr>
<th></th>
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<td><strong>Behavioral health partner</strong></td>
<td>Community Mental Health Center</td>
<td>Internal</td>
<td>Internal</td>
</tr>
<tr>
<td><strong>Peer Support</strong></td>
<td>4+ (CMHC staff)</td>
<td>3 (Contract)</td>
<td>1 (Direct hire)</td>
</tr>
<tr>
<td><strong>Inpatient MAT inductions</strong></td>
<td>Yes</td>
<td>Yes</td>
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<td>-</td>
</tr>
</tbody>
</table>

Data are preliminary and subject to change
Thank you

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Question and Answer
Thank you!

Please fill out our brief evaluation:
https://www.surveymonkey.com/r/TZH5DWY