UNDERSTANDING THE INCREASE IN OPIOID OVERDOSES IN NEW HAMPSHIRE: A RAPID EPIDEMIOLOGIC ASSESSMENT OF PEOPLE WHO USE OPIOIDS AND EMERGENCY PERSONNEL

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I have no conflicts of interest or financial relationships to disclose.
2016: Drug overdose deaths in the United States (US) surpass deaths from motor vehicle accidents.

To inform public health initiatives, knowledge about the experiences and perspectives of those involved in opioid overdose is necessary.

PUBLIC HEALTH ALERT

The US is in the midst of an opioid overdose epidemic. If you or someone you know needs help, effective treatment is available and can save lives.

www.hhs.gov/opioids
OVERDOSE IN NEW HAMPSHIRE

AGE-ADJUSTED OPIOID OVERDOSE DEATH RATES PER 100,000

- National
- NH

<table>
<thead>
<tr>
<th>Year</th>
<th>National</th>
<th>NH</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>11.8</td>
<td>6.8</td>
</tr>
<tr>
<td>2011</td>
<td>15.3</td>
<td>7.3</td>
</tr>
<tr>
<td>2012</td>
<td>13.4</td>
<td>7.4</td>
</tr>
<tr>
<td>2013</td>
<td>15.1</td>
<td>7.9</td>
</tr>
<tr>
<td>2014</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>2015</td>
<td>10.4</td>
<td>34.3</td>
</tr>
<tr>
<td>2016</td>
<td>13.3</td>
<td>39</td>
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STUDY OBJECTIVES

01
Systematically evaluate factors contributing to the opioid-related overdose deaths in NH

02
Examine experiences with overdose among people who use opioids and emergency responders

03
Obtain perspectives on policy-level responses to the opioid crisis in New Hampshire
METHODS:
STUDY DESIGN

• Mixed-methods study

• During a 60-90 minute interview, participants completed:
  • Brief demographic survey
  • Substance use or professional history survey
  • Semi-structured interview

• Study methods approved by the Dartmouth College Committee for the Protection of Human Subjects
PARTICIPANTS AND RECRUITMENT

• Purposive sampling from 6 NH counties

• Final sample recruited October 2016-March 2017:
  • People who use opioids (PWUO; n=76)
  • Emergency personnel (n=36), including:
    • Emergency department (ED) providers (n=18)
    • Emergency medical services (EMS) providers (n=6)
    • Firefighters (n=6)
    • Police officers (n=6)
Transcripts uploaded to Atlas.ti (V. 8.0) and codebooks developed from interview guide (Responder codebook, PWUO codebook).

Five research team members collectively coded two responder and five PWUO transcripts.

New codes inductively identified, discussed by research team, added to codebook.

First-cycle coding completed on remaining transcripts. Team members met weekly to discuss discrepancies and refine the code list as needed.

Subtheme analysis conducted using constant comparison method; Discrepancies resolved by discussion with the research team.
### Participant Characteristics: People Who Use Opioids (PWUO) (N=76)

<table>
<thead>
<tr>
<th></th>
<th>PWUO (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> years <em>m (sd)</em></td>
<td>34.1 (8.3)</td>
</tr>
<tr>
<td><strong>Gender n (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>37 (48.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>39 (51.3%)</td>
</tr>
<tr>
<td><strong>Race and Ethnicity n (%)</strong></td>
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</tr>
<tr>
<td>White</td>
<td>69 (90.8%)</td>
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<tr>
<td>Not Hispanic or Latino</td>
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<tr>
<td><strong>Lifetime opioid use n (%)</strong></td>
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<tr>
<td>Opioid pain relievers</td>
<td>75 (98.7%)</td>
</tr>
<tr>
<td>Heroin</td>
<td>70 (92.1%)</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>64 (84.2%)</td>
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<tr>
<td><strong>Lifetime treatment for opioid use n (%)</strong></td>
<td>69 (90.8%)</td>
</tr>
<tr>
<td><strong>Number of opioid treatment episodes m (sd)</strong></td>
<td>6.1 (7.7)</td>
</tr>
<tr>
<td></td>
<td>Emergency department (n=18)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Age years m (sd)</td>
<td>42.0 (10.1)</td>
</tr>
<tr>
<td>Gender n (%)</td>
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</tr>
<tr>
<td>Male</td>
<td>12 (66.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>6 (33.3%)</td>
</tr>
<tr>
<td>Race and Ethnicity n (%)</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>16 (88.9%)</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>16 (88.9%)</td>
</tr>
<tr>
<td>Years employed m (sd)</td>
<td>7.9 (5.6)</td>
</tr>
</tbody>
</table>

 PARTICIPANT CHARACTERISTICS: EMERGENCY PERSONNEL
• Consensus that illicitly-manufactured fentanyl (IMF) driver of increased overdose rates
  • Also, lack of resources for treatment and harm reduction

• IMF fentanyl described as being:
  • “So much stronger” (more potent)
  • “Hits you a lot quicker” (faster onset of high)
  • “Doesn’t last as long” (shorter duration of high)
  • “Dirt cheap” (cheaper than heroin)
  • “Pretty much what’s available right now” (easier to access than heroin)

• PWUO reported challenges determining safe dose
“You don’t know what you’re getting and it’s scary. It scares me.”
- PWUO

“It’s [increase in overdose rates] because of the fentanyl that’s in the dope. It’s just too powerful. You think you’re buying heroin, but it’s really fentanyl and that stuff is way stronger than heroin.”
- PWUO

CONTRIBUTORS TO OVERDOSE RATES: PEOPLE WHO USE OPIOIDS
“The police department used to test the fingers. They will test in five different spots and get five different concentrations. You and I may use and be fine, but our friend may use from the same batch and overdose and die because it’s a higher concentration.”
- EMS

“It’s changed because you talk about it generically as heroin, but it’s all fentanyl. That’s what’s killing people. Heroin isn’t killing people.”
- Fire
53 (69.7%) of PWUO reported experiencing an overdose when using opioids
- Of those, 62% (33) had received naloxone
- Overdoses not limited to an injection route of administration

PWUO largely agreed that “it’s not so much scary that you OD. It’s more scary to see somebody else OD.”

The experience of receiving naloxone was perceived to be more aversive than the experience of overdosing
"I went out and usually when you go out, it’s nothing. You just kind of go black, it’s like a real warm comfortable bath and you just black out and that’s it.”

- PWUO

"Bang, here’s some Narcan. We’re going to kick all the dope off your receptors instantly instead of gradually letting them fall off. Like being in your mother’s womb and being ripped out of it, and thrown on the table… That’s how bad it hurts.”

- PWUO

EXPERIENCES WITH OVERDOSE: PEOPLE WHO USE OPIOIDS
Emergency personnel expressed confidence in their ability to treat opioid overdoses.

Emergency personnel described the emotional toll of responding to increased overdose calls:
- “We all get a little burned out from it” (Burnout)
- “You feel very helpless” (Helplessness)
- “My kids aren’t safe anymore” (Heightened worry and fear about own family/self)
- “Sometimes you can’t forget. You can’t unsee what you see each day” (Intrusive recollections)

Barriers to treatment referral frustrating
- Also frustration around patients’ unwillingness to engage post-overdose
“I responded to a residence where a 13-year-old girl had found both her parents. She walks out into the living room to ask her mother a question and they’re both unresponsive. To find two in the same house and the circumstances in how it was found, that’s probably going to stick with me for the rest of my life.”

- EMS

“We do it so often and we do it so well. We’re extremely good at doing CPR. We’re extremely good at managing overdoses. It’s almost sadly routine, but it is completely routine.

- Fire
• Consensus on importance of:
  • Increasing access to treatment
  • Providing prevention programs for youth
  • Encouraging prudent prescribing of opioids
  • Improving patient education about opioids
  • Dismantling stigma

“When you know someone who’s willing and able and ready and physically standing there in the halls of a treatment program, and you say ‘Come back in 8 weeks’, that’s crazy. You could be dead tonight. Eight weeks is a fucking long time in the trenches.”

- PWUO
Consensus on importance of:
- Increasing access to treatment
- Providing prevention programs for youth
- Encouraging prudent prescribing of opioids
- Improving patient education about opioids
- Dismantling stigma

“We just need resources. If I have someone who’s willing to seek help, I would move the earth and the moon. Then, oh well, there’s no beds available for three days and they don’t have a primary care doctor who can get medical clearance done.”
- ED provider
PERSPECTIVES ON POLICY-RELATED RESPONSES

- Divergence between PWUO and emergency personnel on views toward expanding access to:
  - Medication for opioid use disorder (MOUD)
  - Naloxone for laypersons
  - Syringe services programs (SSPs)
“I feel like it’s a double-edged sword. You don’t want people using dirty needles and contracting anything, but you are also making it easier for people to use.”
- ED

“There is a side of me that wonders if we’ve become permissive. So Joe knows, ‘Okay, I have [naloxone] here, so I really don’t have to be as safe as I used to be.’”
- EMS

“I personally don’t agree with [MOUD]. I guess I’m old school.”
- Police

SSP, MOUD, AND NALOXONE ACCESS: EMERGENCY PERSONNEL
“People are going to shoot up. When you make things less available, now you’re just forcing people to share needles, now you’re just forcing people to be dirty about it.”

- PWUO

“[MOUD] is a life saver. It saved my life. I just wish more people could do it.

- PWUO

“There should definitely be more and more easy access to [naloxone].”

- PWUO
• Participants all recruited from single state
• Self-selected, volunteer sample
• Unable to validate self-reported data on participant demographics or experiences
CONCLUSIONS

• Consensus regarding role of illicitly manufactured fentanyl on rates of overdose

• Window of opportunity to offer resources post-overdose
  • Exploring experiences can inform development of acceptable interventions and treatment linkage programs

• Providing tailored resources to emergency personnel who respond to and treat overdoses critical
CONCLUSIONS

• Policies targeting innovative prevention, harm reduction, and treatment interventions needed to more effectively address opioid overdose

• Since completion of the study, New Hampshire has:
  • Launched the Doorway Program (2019)
  • Opened >5 syringe services programs
  • Bolstered naloxone distribution efforts
Special thanks to our study participants and community partners, including:
- Groups Inc.
- Habit OpCo
- Safe Station
- Serenity Place

Dartmouth College research team:
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