Addiction, overdose, and suicide:
We can do more to prevent
deaths from drug self-intoxication (DDSI)

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This webinar does not review off-label medication
prescribing.

Increased death rates

- Opioid overdose deaths: ↑ 200% since 2000
- Heroin deaths more than tripled since 2010
- Benzodiazepine overdose deaths quadrupled 1996-2010
- Suicides: ↑ 30% since 2000

CDC MMWR January 1, 2016 / 64(50);1378-82.
CDC MMWR May 20, 2016/65(19);503.
Rx opioid misuse is associated with increased suicidal ideation

Past-year Rx opioid misusers self-report significantly higher rates of past-year suicidal ideation in a national cross-sectional database

(AOR = 1.56; 95% CI=1.11, 2.19, NSDUH 2012)


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Rx opioid misuse and suicide

Sixty-five percent of 184,136 calls to Poison Control Centers (2006-2013) for any prescription opioid misuse documented suicidal intent

75% of Rx opioid deaths were suicides
86% of Rx opioid deaths age 60+ were suicides


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Suicide attempts during opioid therapy for CNCP

N= 1,514 patients in POINT study
44% men
Average: age 58
pain duration 10 years
continuous opioid therapy 4 years
oral morphine equivalent 75 mg/day

Suicide ideation during opioid therapy for CNCP

Suicidal ideation onset following pain: 36.5%
Suicide planning past 12 months: 6.5%
plan by overdose (any) M 21% W 60%
plan by Rx opioid M 10.5% W 22.9%
plan by heroin M 5.2% W 0


Suicide attempts during opioid therapy for CNCP

Lifetime suicide attempt: 20.3%
Suicide attempt onset following pain: 16.4%
Suicide attempt past 12 months: 2.5%
No significant gender differences
Poor pain coping adds risk for moving from ideation to suicide attempt


Method: suicide plan vs. attempt in CNCP (%)

<table>
<thead>
<tr>
<th>Method</th>
<th>MEN PLAN</th>
<th>MEN ATTEMPT</th>
<th>WOMEN PLAN</th>
<th>WOMEN ATTEMPT</th>
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</thead>
<tbody>
<tr>
<td>Any overdose</td>
<td>21</td>
<td>52.7</td>
<td>60</td>
<td>72</td>
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<tr>
<td>Rx opioid</td>
<td>10.5</td>
<td>20.3</td>
<td>22.9</td>
<td>11.9</td>
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<tr>
<td>Heroin overdose</td>
<td>5.2</td>
<td>2.7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Conclusions

1. Suicide risk is significant among those prescribed opioid therapy for CNCP
2. Suicide risk is increased among those misusing Rx opioids
3. Suicide is known to be significant among heroin use disorder, with estimates 5-10% of deaths e.g., Darke S et al., 2015 Psychiatry Res. Jun 30;227(1-3):166-70

Suicide or unintended? Rx opioid

Case 1

58 yo DWM on chronic opioid therapy for back and neck pain is found dead in bed after not responding to girlfriend's calls. By the bedside is a half-full container of Rx opioids and an empty whiskey bottle. There is no suicide note. His girlfriend reports that early evening the day prior she had phone contact and he complained of intensified pain and was worried he would not sleep, but otherwise sounded like his usual self.

Suicide or unintended? Rx opioid

Case 1

He was not observed to be depressed and had medically retired 6 months ago from his long career in sales. His PHQ-9 scores in clinic were routinely 3-4, noting some difficulty with insomnia, fatigue, and impaired concentration.

Item 9 was always zero (denied thoughts of death or self-harm).
Suicide or unintended? Heroin

Case 2

27 yo SWM with IV heroin use disorder, co-occurring major depressive disorder, childhood physical abuse/neglect and chronic unemployment is seen at the ER for “transient” suicidal ideation that resolves with treatment of acute opioid withdrawal syndrome. He has been unable to stabilize with buprenorphine/naloxone treatment and has no transportation for a methadone maintenance clinic located 50 miles away.

Suicide or unintended? Heroin

Case 2

One week after ER discharge he is found dead in a parking lot having injected heroin whose source was traced to a fentanyl-adulterated supply. There is no suicide note, and an unused naloxone rescue kit is found on his person.

Medical Examiner

Insufficient information in either case for ME to designate a suicide despite the possibility in both cases.

Would most likely be labeled, “accident” or unintentional overdose.
Medical Examiner

Most drug-intoxication deaths are classified as such.

In case 2, fentanyl adulteration is a distraction regarding why death occurred and biases toward classification as an “accidental” overdose.

Stigma

Although case 2 has prominent suicide risk factors, this case is less likely to have a suicide consideration than case 1.

PHQ-9 good screen for depression, not suicide risk

Item 9 positive:
- meaningful predictor of suicide attempt or death in next 2 years
- greater chance with more severe response

Item 9 negative:
- 39% of 30-day suicide attempts
- 36% of 30-day suicides

### Suicide undercounting in overdose deaths

Drug-intoxication suicides seem most prone to misclassification by medical examiners and coroners in two injury manner-of-death categories:

- undetermined intent (relative)
- accident (absolute)


### Death from drug self-intoxication (DDSI)

- Describes apparent premorbid behavior rather than decedent intent
- Could be added as a sub-category to existing manner-of-death categories, and made substance-specific for surveillance


### Death from drug self-intoxication (DDSI)

- **Case 1**: overdose/poisoning
  - Undetermined cause
  - DDSI (alcohol, oxycodone)

- **Case 2**: overdose/poisoning
  - Unintentional
  - DDSI (heroin, fentanyl)

Death from drug self-intoxication (DDSI)

Improve surveillance, research, and prevention efforts for suicide and other self-directed injury

Death from drug self-intoxication (DDSI)

Circumvent problems of misclassification and mischaracterization related to (sometimes) competing functions of the epidemiologic and medicolegal paradigms

Death from drug self-intoxication (DDSI)

Eliminate apathy generated by the term “accidental overdose” and emphasize need for treatment in high-risk groups
Figure. Percentage of nonhomicide drug-intoxication deaths classified as suicides in quartiles by state and region, United States, 2008-2010

DDSI applied to the data


Overdose death rates

Designed by L. Rasen, B. de Rouvray & F. Chung. SOURCE: GECICK
Clinical reconceptualization

True accidental opioid overdose categories:

1. Pediatric exposure
2. Person prescribed without proper informed consent and education about opioid risks

Prevention:
- safe storage/disposal
- comprehensive education/informed consent

Agency in risk behavior

Clinical reconceptualization

Substance users and pain patients on opioid therapy are known to:

- underestimate and minimize overdose risks
- articulate suicide risks if questioned in a structured way

Prevention strategies

1. overdose/suicide risk training for clinicians
2. overdose/suicide risk education for patients/families/public
3. structured suicide screening at evaluation, and longitudinally

Prevention strategies

4. elicit common overdose/suicide risk cognitions, develop safety planning around these
5. research/surveillance of risk cognitions, especially non-fatal overdose or suicide attempt

References