Opioid Overdoses, Suicides and Other Related Syndemics

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Disclosures

• No conflicts of interest to declare

The content of this activity may include discussion of off label or investigative drug uses. The faculty is aware that is their responsibility to disclose this information.
The overarching goal of PCSS is to train a diverse range of healthcare professionals in the safe and effective prescribing of opioid medications for the treatment of pain, as well as the treatment of substance use disorders, particularly opioid use disorders, with medication-assisted treatments.
Educational Objectives

At the conclusion of this activity, participants will be able to:

• Describe the role of suicide in the opioid overdose epidemic;

• Explain the need for uniform case standards and case definitions for classifying drug-related deaths;

• Describe at least 3 other conditions that may interact with opioid use and exert cumulative effects to adversely affect individuals and populations at risk of overdose and/or suicide; and

• Describe how an awareness of "syndemic theory" can be helpful for planning appropriate interventions, advancing health policy and improving health outcomes.
PURPOSE

• To describe the "opioid epidemic" as a complex phenomenon that consists of multiple, related conditions that cluster and interact synergistically to exacerbate health effects, problem severity and disease progression.
I. ROLE OF SUICIDE IN THE OPIOID OVERDOSE EPIDEMIC
April 2017:
• Dr. Maria Oquendo (President of American Psychiatric Association (APA) Congressional briefing re: opioid overdose epidemic and of suicide
• Dr. Oquendo invited by NIDA Director Dr. Nora Volkow to be guest editor Nora’s Blog (Oquendo, 2017)
  - Relationship b/w opioid use disorders (OUD) and suicide is a “hidden tragedy”

April 2018:
• Drs. Oquendo & Volkow published paper in NEJM re: role of suicide in the opioid overdose epidemic.
  - Suicide is a “silent contributor” to opioid overdose deaths
• **Twinning** of the opioid (and other drug) overdose and suicide epidemics

• Not the first or only drug-related “twin epidemics”

• The opioid crisis is a complex phenomenon that consists of multiple, related syndemic conditions in addition to suicide

• Numerous other related conditions may also interact in a multiplicative and/or cumulative manner to adversely impact individuals and populations:
  - Pain disorders
  - Adverse childhood experiences (ACEs)
  - Post-traumatic stress disorders
  - HIV/AIDS
  - Poly-drug use and toxicity
  - Social determinants of health
  - Others

*(Fornili, 2018)*
OVERDOSE DEATHS

- **2017**: 70,237 Drug overdose deaths (14 per 100,000 pop)
  - 47,600 of those involved opioids (67.8%)

- **2016**: 63,632 Drug overdose deaths (up 21.4% from 2015)
  - Two-thirds of those involved opioids
  - Largest increase = Illicitly manufactured fentanyl

- **2013-2017**: Drug overdose deaths
  - Increased in 35 of 50 states and DC
  - Significant increases in fentanyl-related deaths in 15 of 20 states studied

- **1999-2017**: 702,568 drug overdose deaths
  - 399,230 of those involved opioids (56.8%)

(Scholl, Seth, Kariisa, Wilson & Baldwin, CDC-MMWR Jan. 4, 2019)
Of drug overdose deaths in US
= Unintentional (accidental)

Of drug overdose deaths in US
= Intentionally self-inflicted
(suicide by drug overdose)

Increase in suicide rates in nearly every state (1999-2016)

Self-inflicted overdoses involving opioids (2005-2014)

Suicide decedents with no known mental health condition

(CDC, 2017; CDC, 2018)
DRUG TREATMENT GAP: NEEDING BUT NOT RECEIVING TREATMENT

- 1 in 10 (10%) Americans who need treatment for illicit substance use receives it
- 9 of 10 (89%) Young adults (18-25 yrs) who need specialty treatment for illicit drugs were untreated in past year
- 3 of 4 (76%) Adults (> 26 yrs) untreated in past year

It’s easier to get high in America than it is to obtain help (Lopez, 2017)

(Park-Lee & Lipari, et al., 2016)
DIFFICULTY OBTAINING HELP FOR DEPRESSION AND OTHER MENTAL ILLNESSES

- 20% Americans who have had a mental health issue
- 4% Americans who have a serious mental illness (SMI)
- HALF Of adults with mental illness do not receive treatment

People with mental illness “have nowhere to go and find little sympathy from those around them… The lucky ones find homes with family. The unlucky ones show up in the morgue”

(Social Solutions, 2018)
Barriers to Receipt of Treatment: What People with OUD and MI have in Common

- Lack of financial resources
- Lack of treatment capacity
- Shortage of treatment professionals
- Failure to recognize need for treatment
- Stigma
- Fear of disclosure
- Racial/ethnic disparities

(Social Solutions, 2018)
Drug Overdoses & Suicide: Study 1  
(Bohnert, Ilgen, Louizon, McCarthy & Katz, 2017)

**AIM:** To explore link b/w SUDs and suicide mortality  
- 4.8 million men/women served by Veterans Health Administration

**RESULTS:** Significant association with increased risk of suicide for men and women  
- Relationship b/w suicide & SUDs significantly higher for women ($p < 0.05$)  
- Even stronger when adjusted for co-occurring psychiatric disorders  
  - **Women** with any SUD and OUD – Greatest suicide risk (increased eight-fold; $p < 0.05$);  
  - **Men** more than two-fold

**CONCLUSION:** SUDs are important markers to include in suicide risk assessment, especially for women  
(Oquendo, 2017)
Drug Overdoses & Suicide: Study 2
(Ashrafioun, Bishop, Conner & Pigeon, 2017)

- **AIM:** To examine relationship b/w past-year frequency of Rx opioid misuse and past year suicide planning and suicide attempts

- **RESULTS:** Compared w/ those w/ no Rx opioid misuse
  - Frequency of Rx opioid misuse significantly assoc. with:
    - Suicide Attempts (OR = 6.73)
    - Suicide Planning (OR = 5.49)
    - Suicide Ideation (OR = 4.17)
  - Rx opioids weekly or more = more likely to have planned suicide attempt & have made an attempt ($p < 0.05$)

- **LIMITATION:** Did not control for poorly managed or uncontrolled pain or pain intensity, which are independently associated with suicide.

(Oquendo, 2017)
Drug Overdoses & Suicide: Study 3
(Wilcox, Conner & Caine, 2004)

• **AIM:** Meta-analysis of cohort studies to examine the association b/w alcohol and drug use disorders and completed suicide

• **METHODS:** Calculated standardized mortality ratios for suicide by comparing the risk of death for people with an OUD with the risk of someone from the general population

• **RESULTS:** Risk of suicide death was more than **13-fold**

(Oquendo, 2017)
II. CLASSIFYING DRUG-RELATED DEATHS: UNIFORM CASE STANDARDS & DEFINITIONS
INCONSISTENT CLASSIFICATION OF INTENTIONAL vs UNINTENTIONAL OVERDOSE

- **Difficult** for medical examiners & coroners to distinguish between intentional and unintentional opioid overdose deaths

- Inconsistent use of uniform standards and case definitions for classifying these deaths may affect reliability
  - Incidence data
  - Prevalence data

(Crosby, Ortega & Melanson, 2011; Goldberger, Maxwell, Campbell & Wilford, 2013; Oquendo & Volkow, 2018)
Challenges:
- Accurate determinations of causes of death
- Cross-study comparisons
- Develop appropriate public health responses to reduce morbidity and mortality
  (Crosby, Ortega & Melanson, 2011; Goldberger, Maxwell, Campbell & Wilford, 2013; Oquendo & Volkow, 2018)

Also adds to the anguish experienced by the decedent’s loved ones and interferes with their ability to come to grips with what has happened
(Fornili, 2018)
AIM: To help officials distinguish deaths caused by opioids from deaths in which drugs were detected but not a major cause or contributor of the death.

(Goldberger et al., 2013)
1. **SCENE INVESTIGATION:**
   - Evidence collection and history

2. **TOXICOLOGY TESTING & ANALYSIS:**
   - Standardized detection thresholds
   - Ability to distinguish b/w acute and chronic drug use

*(Goldberger, et al., 2013, pp. 232-235)*
3. **CASE DEFINITIONS:**

- **Drug-caused death:** Exposure of drug alone or in combination with other substances

- **Drug poisoning death:** Death due to acute exposure of drug, alone or in combination with other drugs/substances (Equiv. to layperson’s “drug overdose”)

- **Drug-detected death:** death in which drug is detected, regardless of drug’s role in causing the death

(Goldberger, et al., 2013, pp. 232-235)
Recommendations in 4 Areas:

4. **DETERMINATION & DOCUMENTATION OF CAUSALITY:**

   - Determination of whether the concentration of the drug was fatal, or toxic in combination with other drugs, which together were fatal

(Goldberger, et al., 2013, pp. 232-235)
SUBSETS of “Poisoning” Distinguished by Intent

- **Unintentional Drug Poisoning:**
  - Determination of whether the concentration of the drug was fatal, or toxic in combination with other drugs, which together were fatal (accidental overdose);

- **Intentional Drug Poisoning:**
  - Suicide or attempted suicide

- **Assault:**
  - Injuries intended to injure or kill, including homicidal poisoning

(Goldberger, et al., 2013; Oquendo & Volkow, 2018)
Without a documented history of depression or a suicide note, it is difficult for medical examiners or coroners to know the decedent’s intentions.

(Goldberger, et al., 2013; Oquendo & Volkow, 2018; Fornili, 2018)
III. OTHER CONDITIONS THAT MAY INTERACT WITH OPIOID USE AND EXERT CUMULATIVE EFFECTS
1. Opioids, Pain, Suicide & Overdose

  - Over 3,100 patients with pain
  - 2017 – 1 year anniversary of 2016 CDC Opioid Guidelines
  - 40% of those surveyed had **considered suicide** because of poorly controlled pain
  - Suicide rates may have started climbing after release of the CDC Opioid Guidelines (pain meds harder to get)
  - **Opioid overdose-related deaths** may be consequence of undertreatment of both **pain and depression** (Anson, 2018)
2. Social Determinants, the “Epidemic of Despair” and Drug Use

- **Social determinants** – Documented association w/ drug-related mortality (Ronka, et al., 2017)

- **“Epidemic of Despair”** – American phenomenon of reduced life expectancy attributable to:
  - Unemployment
  - Poor finances
  - Lack of education
  - Divorce
  - Depression
  - Loss of social connections
  - Substance use

  (Case & Deaton, 2005a; 2005b; Anson, 2018)
2. Social Determinants, the “Epidemic of Despair” and Drug Use

“Deep-seated social and economic ailments…will never yield to medical remedies” [and] “Naloxone and drug rehab will never treat joblessness, poverty, lack of economic opportunity, and the hopelessness that results. That will require economic, not addiction rehabilitation”

(Blumenthal and Seervai, 2017, para. 14)
2. Social Determinants, the “Epidemic of Despair” and Drug Use

I Work With Suicidal Farmers. It’s Becoming Too Much to Bear.

CDC: ‘Farm stress,’ suicides a rising rural health concern May 14, 2019

Hurricane Katrina struck New Orleans, leaving 1,800 low-income residents dead -- most of them African American -- and thousands more with nothing.
3. Adverse Childhood Experiences (ACE)

- Felitti et al., (1998) study of 13,494 adults enrolled in a west coast HMO

- Seven ACE Categories
  - Psychological abuse
  - Physical abuse
  - Sexual abuse
  - Violence against mother
  - Household members w/ **substance use**
  - Household members **mentally ill or suicidal**
  - Household members ever imprisoned

- 4 or more exposure categories = 4- to 12-fold increase in health risks for:
  - Alcoholism
  - Drug use
  - Depression
  - Suicide attempt
  - Smoking
  - Poor health

**ACEs linked to:**
- **Alcohol/drug use** (Barboza, 2018; Darke, 2013; Stein, 2017)
- **Suicide** (Afifi, et al., 2008; Sachs-Ericsson et al., 2016)
Other Risk Factors and Comorbid Conditions that Cluster and Interact Synergistically

- **Adverse childhood events, pain, and women in SUD treatment** (Zlotnick, Lawental, & Pud, 2017)
- **Heavy alcohol use & suicidal behavior among people who use illicit drugs** (Kennedy et al., 2015)
- **HIV/AIDS and drug addiction** (Fiellin, Green & Heimer, 2008)
- **HIV risk and childhood household dysfunction** (Marshall, Spohr, Taxman, & Walters, 2017)
- **Insomnia, alcohol use disorders, and suicide** (Miller, Donahue, Carey, & Scott-Sheldon, 2017)
- **Posttraumatic stress disorders and prescription OUDs** (Hassan, Foll, Imtiaz, & Rehm, 2017)
- **The opioid epidemic and resurgence of methamphetamine use in rural America** (Gaita, 2017; Schuppe, 2017)
IV. SYNDÆMESIS THEØRY
“Syndemic theory” and the “syndemic model of health” are helpful in understanding the adverse and synergistic effects of distinct diseases and social and environmental factors that interact and co-occur or occur sequentially in a manner that promotes and enhances negative effects of those interactions.

Syndemic Theory

• Syndemic theory can be helpful for describing how certain conditions cluster and interact synergistically to exacerbate health effects, problem severity and disease progression.

• Consideration of syndemic interactions and their cumulative and multiplicative effects are helpful for guiding treatment and prognosis for individuals, and program planning and health policy for population health.

(Singer, Bulled, Ostrach & Mendenhall, 2017)
In Conclusion

• These are multidimensional disorders, with multiple, often overlapping etiologies, so single-minded approaches will be ineffective.

• A heightened awareness of syndemic (harmful) effects and countersyndemic (protective) benefits can lead to appropriate interventions, advance health policy, and improve health outcomes.
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References


References


PCSS Mentoring Program

- PCSS Mentor Program is designed to offer general information to clinicians about evidence-based clinical practices in prescribing medications for opioid addiction.

- PCSS Mentors are a national network of providers with expertise in addictions, pain, evidence-based treatment including medication-assisted treatment.
  
  - 3-tiered approach allows every mentor/mentee relationship to be unique and catered to the specific needs of the mentee.
  
  - No cost.

For more information visit:  
https://pcssNOW.org/mentoring/
Have a clinical question?

Ask a Colleague
A simple and direct way to receive an answer related to medication-assisted treatment. Designed to provide a prompt response to simple practice-related questions.

Ask Now

http://pcss.invisionzone.com/register
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