Treating Older Adults with Opioid Use Disorder

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Disclosures

Nothing to disclose
Objectives
Objective 1: Discuss the scope of the problem of opioid use disorder among older adults
Objective 2: Review the Diagnostic Criteria for an Opioid Use Disorder
Objective 3: Discuss how and why opioid use disorder develops
Objective 4: Understand the overlap between opioid use disorder and persistent pain
Objective 5: Review the medications available to treat opioid use disorder
Objective 1: Discuss the scope of the problem of opioid use disorder among older adults
Drug Deaths in America Are Rising Faster Than Ever

By JOSH KATZ  JUNE 8, 2017

New data compiled from hundreds of health agencies reveals the extent of the drug overdose epidemic last year.

AKRON, Ohio — Drug overdose deaths in 2016 most likely exceeded 59,000, the largest annual jump ever recorded in the United States, according to preliminary data compiled by The New York Times.

The death count is the latest consequence of an escalating public health crisis: opioid addiction, now made more deadly by an influx of illicitly manufactured fentanyl and similar drugs. Drug overdoses are now the leading cause of death among Americans under 50.

Although the data is preliminary, the Times’s best estimate is that deaths rose 19 percent over the 52,404 recorded in 2015. And all evidence suggests the problem has continued to worsen in 2017.

Drug overdose deaths, 1980 to 2016

*Estimate based on preliminary data*
Opioid misuse among adults aged 50 and older in 2014 was higher than all years between 2002 and 2011.

The population of older adults who misuse opioids will double from 2004 to 2020 from 1.2% (911,000) to 2.4% (2.7 million).
Why?
In pain
Nearly half of older adults suffer from a chronic pain disorder and the incidence of chronic pain increases with age
2007–2012 rate of opioid analgesic use in the past 30 days was 7.9 percent for those aged 60 and over, compared to 4.7 percent for those aged 20–39

Older adults are prescribed opioids at about twice the rate of younger adults

Frenk et al., 2015
One in three recipients of Medicare Part D received a prescription opioid in 2016

More than 500,000 beneficiaries received high dosages (>120 meq for > 3 mos), with the average dose far exceeding the manufacturer’s recommended amount

US Office of the Inspector General, 2017
SAFETY WARNING:
Side-effects

Sedation
Constipation
Falls
Overdose
Addiction
On an average day in 2011, there were 118 emergency department visits by adults aged 65 or older that involved prescription or nonprescription pain relievers.

From 2005 to 2014, inpatient stays related to opioid use rose **85 percent** for those aged 65 and older. Emergency department visits for this group rose **112.1 percent** during the same period.

In 13 states, the highest rates of opioid related inpatient stays were among patients age 65 and older

Mattson, M et al 2017
Weiss et al., 2017.
AHRQ 2014
Medicare beneficiaries have among the highest and fastest-growing rates of diagnosed opioid use disorder in the country, at more than 6 of every 1,000 beneficiaries.
Veterans aged 50 and older with opioid use disorder are twice as likely to die as younger veterans with the disorder.

Older veterans with opioid use disorder also have higher rates of suicide and violent death compared to their peers without the disorder.
Scope of the Problem: Summary

• Older adults are prescribed opioids at a higher rates than younger adults

• Rates of hospitalization for opioid related causes are increasing dramatically among older adults

• Older adults have among the highest rates of newly diagnosed opioid use disorder

• Opioid use disorder among older adults is deadly
What to do?

1. Recognize
2. Understand
3. Treat
Objective 2: Review the Diagnostic Criteria for an Opioid Use Disorder
Not Just Use
Disordered Use
DSM V
Diagnostic and Statistical Manual of Mental Disorders
DSM V: Substance Use Disorder
11 criteria
DSM V: Substance Use Disorder
Craving / Compulsion
**DSM V: Substance Use Disorder**

- Taking in larger amounts or for longer than intended
- Unsuccessful efforts to cut down
- Spending a lot of time obtaining the substance
- Craving or a strong desire to use the substance
DSM V: Substance Use Disorder

Consequences
Lack of Control
Continued use despite recurring social or interpersonal problems due to use

Important activities given up or reduced

Recurrent use in physically hazardous situations

Persistent / Recurrent physical or psychological difficulties from use

Recurrent use resulting in a failure to fulfill major role obligations
Sadly, Mothman allows another criminal to escape.
DSM V: Substance Use Disorder

- Tolerance*
- Withdrawal*
Substance Use Disorder

- **Mild disorder**
  - 2—3

- **Moderate disorder**
  - 4—5

- **Severe disorder**
  - 6+
Craving
Compulsion
Consequences
Loss of Control
Objective 3: Understand how and why opioid use disorder develops
Dopamine
Desire, Drive, Motivation
Craving
Liking
Dysregulation
BF Skinner
Cocaine Rat – Drug-Free America (YouTube)
How Permanent Was Vietnam Drug Addiction?

LEE N. ROBINS, PhD
DARLENE H. DAVIS, AB
DAVID N. NURCO, DSW

In 1971, drug use by U.S. servicemen in Vietnam had, by all estimates, reached epidemic proportions. A follow-up study of returning Army enlisted men was carried out in order to facilitate planning of programs for these soldiers and to gain insight concerning the natural history of drug use and abuse when drugs are readily available to young men from all types of social backgrounds. Findings on the permanence of Vietnam drug addiction are presented.

Background

During the summer and fall of 1971, drug use by United States servicemen in Vietnam had, by all estimates, reached epidemic proportions. Starting in June, 1971, the military screened urines of returning servicemen for drugs just prior to their scheduled departure from Vietnam. In September, 1971, the U.S. Department of Defense estimated that 5 percent of all urines of Army servicemen tested indicated drug use in the period immediately preceding, despite common knowledge that such testing would be done and would result, if positive, in a six or seven day delay in departure from Vietnam.

At this time, American troop strength in Vietnam was being reduced rapidly—returning to the United States each month thousands of men, of whom about 40 percent were due for immediate release from military service. The Armed Forces, the Veterans Administration, and civilian drug treatment facilities were concerned that the arrival of these men might tax existing drug treatment programs. There was also concern about how drug use might affect veterans' ability to get and hold jobs, as well as their chances of becoming involved in criminal activities if they continued heroin use in the United States, where the price of heroin was many times its price in Vietnam. If the men designated as “drug positives” at DEROS (Date Eligible for Return from Overseas) were actually heroin addicts and if heroin addiction among these soldiers was as chronic and unresponsive to treatment as it had been found to be in the heroin addicts seen in the U.S. Public Health Hospitals at Lexington and Fort Worth, 1, 2, 3, there was reason for concern.

To evaluate these concerns and to learn how many men
would require treatment, the kinds of treatment and social services they might need, and how to identify which men needed services, the White House Special Action Office for Drug Abuse Prevention (SAODAP) asked the first author to carry out a follow-up study of Army enlisted men who returned from Vietnam to the United States. 4, 5, 6 The second author was the senior assistant on the project, and the third author served as SAODAP’s representative as a consultant to the project and as liaison with the supporting governmental agencies: U.S. Departments of Defense and Labor, the National Institute of Mental Health, and the Veterans Administration.

This study promised not only to answer questions relevant to planning programs for these soldiers, but also to teach us something about the natural history of drug utilization and abuse when drugs were readily available to young men from all over the United States and from all kinds of social backgrounds. The present paper on the permanence of Vietnam drug addiction comes from this larger effort, 8 and is the first paper to go beyond analyses included in the official reports.

The Study

Approximately 13,760 Army enlisted men returned to the United States from Vietnam in September 1971. From this population of returnees, a simple random sample of 470 was selected as the General Sample. Within the population of 13,760, approximately 1,400 had been found to have urines positive for narcotics at time of departure. From this subpopulation who had shown positive urines at departure from Vietnam, a simple random sample of 495 was selected, the Drug Positive sample. 8

* While we believe that simple random samples were achieved of both general population and its subpopulation of men detected as positive at departure, there were some complications in identifying the populations from which to sample. These difficulties and their solutions are described in Appendix A of the Interim Final Report entitled “A Follow-Up of Vietnam Drug Users.” 8 There was an overlap of 22 between the General Sample and the Drug Positive Sample.
D1: Activate the nucleus accumbens, cause us to act responsive to big pleasure surges.

D2: Slow down decision making, allow the frontal cortex to step in. Responsive to smaller pleasures.
Objective 4: Discuss the overlap between opioid use disorder and pain
Decreased:
DA receptors
Opioid receptors
GABA receptors
Serotonin receptors
Increased:
Dynorphin
Corticotropin Releasing Factor
Norepinephrine
Epinephrine
Incentive Salience → Binge Intoxication → Preoccupation Anticipation

Prefrontal Cortex → Basal Ganglia → Extended Amygdala

Executive Function Deficits → Negative Affect Withdrawal → Reward Deficit Stress Surfeit

Koob, 2015
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By JOSH KATTZ  JUNE 5, 2017

New data compiled from hundreds of health agencies reveals the extent of the drug overdose epidemic last year.

AKRON, Ohio — Drug overdose deaths in 2016 most likely exceeded 50,000, the largest annual jump ever recorded in the United States, according to preliminary data compiled by The New York Times.

The death count is the latest consequence of an escalating public health crisis: opioid addiction, now made more deadly by an influx of illicitly manufactured fentanyl and similar drugs. Drug overdoses are now the leading cause of death among Americans under 50.

Although the data is preliminary, the Times’s best estimate is that deaths rose 10 percent over the 52,404 recorded in 2015. And all evidence suggests the problem has continued to worsen in 2017.
### Table 1. 12 Recommendations From the Centers for Disease Control and Prevention For Prescribing Opioids for Chronic Pain

<table>
<thead>
<tr>
<th>Recommendation</th>
</tr>
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<tbody>
<tr>
<td>1. Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.</td>
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<td>2. Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider if the therapy will be discontinued if benefits do not outweigh risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.</td>
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<td>3. Before starting—and periodically during—opioid therapy, clinicians should discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy.</td>
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<td>4. When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long acting (ER/LA) opioids.</td>
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<td>5. When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should monitor for evidence of potential benefits and risks when increasing dosage to 50 morphine milligram equivalents (MME) per day, and should avoid increasing dosage to 90 MME or more per day or carefully justify a decision to initiate dosage to 90 MME or more per day.</td>
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<td>6. Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than 7 days will rarely be needed.</td>
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<td>7. Clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued opioid therapy with patients every 3 months or more frequently if benefits do not outweigh harms of continued opioid therapy. Clinicians should optimize therapies and work with patients to taper opioids to lower dosages or to taper and discontinue opioids.</td>
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<td>8. Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk factors for opioid-related harms. Clinicians should incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages (≥50 MME/day), or concurrent benzodiazepine use are present.</td>
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<td>9. Clinicians should review the patient’s history of controlled substance prescriptions using state prescription drug monitoring program (PDMP) data to determine whether the patient is receiving opioid dosages or dangerous combinations that put him or her at high risk for overdose. Clinicians should review PDMP data when starting opioid therapy for chronic pain and periodically during opioid therapy for chronic pain, ranging from every prescription to every 2 months.</td>
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<td>10. When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription and illicit drugs.</td>
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<td>11. Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.</td>
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<tr>
<td>12. Clinicians should offer or arrange evidence-based treatment (usually medication-assisted treatment with buprenorphine or methadone in combination with behavioral therapy) for patients with opioid use disorder.</td>
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Drugs involved in U.S. overdose deaths, 2000 to 2016

- 20,100 Fentanyl and fentanyl analogues
- 15,400 Heroin
- 14,400 Prescription opioids
- 10,600 Cocaine
- 7,660 Methamphetamine
- 3,280 Methadone

5,000 deaths per year
Objective 3: Understand medications available to treat opioid use disorders
Opioid Agonists:
Methadone and Buprenorphine
Methadone

Full agonist at the opioid receptor

Half life greater than 24 hours

Opioid treatment program only
Mortality Risk during and after methadone treatment

Mortality rates/1000 person years (95% CI)

Buprenorphine

Partial agonist at the opioid receptor

Prescribers must have a DATA waiver

Patients limits (30/100/275)
Imperfect Fit –
Limited Euphoric
Opioid Effect

Courtesy of NAABT, Inc. (naabt.org)
The Buprenorphine Effect

SAMHSA chart shows how buprenorphine works to ease withdrawal while producing less euphoric opioid effects.
Mortality Risk during and after buprenorphine treatment

Mortality rates/1000 person years (95% CI)

- Buprenorphine - all cause mortality
- Buprenorphine - overdose risk

Injectable Long Acting Buprenorphine

• Approved November 2016

• 7 days sl buprenorphine then abdominal injection
XR Naltrexone
How It Works

Extended release Naltrexone

Opioids
How To Administer

One 380mg deep muscle injection in the buttock, every 4 weeks

No special waiver or training

Abstinent for 7-14 days
XR Naltrexone: Efficacy

Efficacious compared to placebo

- Comer: 60 U.S heroin users, 8 weeks
- Krupitsky: 250 Russian heroin users, 24 wks

Efficacious compared to buprenorphine

- Tanum: non-inferior compared to buprenorphine 12 wks
- Lee: non-inferior compared to buprenorphine at 24 wks
## Naltrexone ER (Vivitrol®)

<table>
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<tr>
<th>Outcome</th>
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Side effects

- Insomnia
- Nausea
- Vomiting
- Headache
- Depression
- Hepatotoxicity?

- baseline LFTS
- don’t start if LFT > 5x nl
- recheck after 2-3 mos
Naloxone Rescue

46% reduction in community overdose rate in Massachusetts

Walley BMJ 2013
Nonrandomized Intervention Study of Naloxone Coprescription for Primary Care Patients Receiving Long-Term Opioid Therapy for Pain

Phillip O. Coffin, MD, MIA; Emily Behar, MA; Christopher Rowe, MPH; Glenn-Milo Santos, PhD, MPH; Diana Coffa, MD; Matthew Baldwin, MD; and Eric Vittinghoff, PhD

Background: Unintentional overdose involving opioid analgesics is a leading cause of injury-related death in the United States.

Objective: To evaluate the feasibility and effect of implementing naloxone prescription to patients prescribed opioids for chronic pain.

Design: 2-year nonrandomized intervention study.


Participants: 1985 adults receiving long-term opioid therapy for pain.

Intervention: Providers and clinic staff were trained and supported in naloxone prescribing.

Measurements: Outcomes were proportion of patients prescribed naloxone, opioid-related emergency department (ED) visits, and prescribed opioid dose based on chart review.

Results: 38.2% of 1985 patients receiving long-term opioids were prescribed naloxone. Patients prescribed higher doses of opioids and with an opioid-related ED visit in the past 12 months were independently more likely to be prescribed naloxone. Patients who received a naloxone prescription had 47% fewer opioid-related ED visits per month in the 6 months after receipt of the prescription (incidence rate ratio [IRR], 0.53 [95% CI, 0.34 to 0.83]; P = 0.005) and 63% fewer visits after 1 year (IRR, 0.37 [CI, 0.22 to 0.64]; P < 0.001) compared with patients who did not receive naloxone. There was no net change over time in opioid dose among those who received naloxone and those who did not (IRR, 1.03 [CI, 0.91 to 1.27]; P = 0.61).

Limitation: Results are observational and may not be generalizable beyond safety-net settings.

Conclusion: Naloxone can be coprescribed to primary care patients prescribed opioids for pain. When advised to offer naloxone to all patients receiving opioids, providers may prioritize those with established risk factors. Providing naloxone in primary care settings may have ancillary benefits, such as reducing opioid-related adverse events.

Primary Funding Source: National Institutes of Health.
Naloxone Coprescription

46% fewer opioid related ED visits per month first 6 months

63% fewer opioid related ED visits per month after 12 months
Summary

- Opioid use disorder affects older adults and the problem is growing
- Addiction takes advantage of normal brain processes
- Addiction is sensitive to context
- Small successes matter
- Medications that treat opioid addiction are lifesaving and we must use them
Thank You
Questions?


Centers for Disease Control and Prevention, National Center for Injury and Prevention Control, Division of Unintentional Injury Prevention. “Opioid Overdose”


Lee JD et al. Extended-Release Naltrexone to Prevent Opioid Relapse in Criminal Justice Offenders NEJM 2016; 374:1232-1242


Szalavitz, M. Unbroken Brain: A Revolutionary New Way of Understanding Addiction St. Martin's Press (April 5, 2016)

Tanum, L et al. The Effectiveness of injectable extended-release naltrexone vs daily buprenorphine-naloxone for opioid dependence: a randomized clinical non-inferiority trial. JAMA Psychiatry 2017


Walley, AY et al. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis *BMJ* 2013; 346 doi: https://doi.org/10.1136/bmj.f174