



The Opioid Crisis is a Wicked Problem

Jonathan C. Lee, MD

Virginia Chapter Annual Meeting and Clinical Update

March 9, 2019



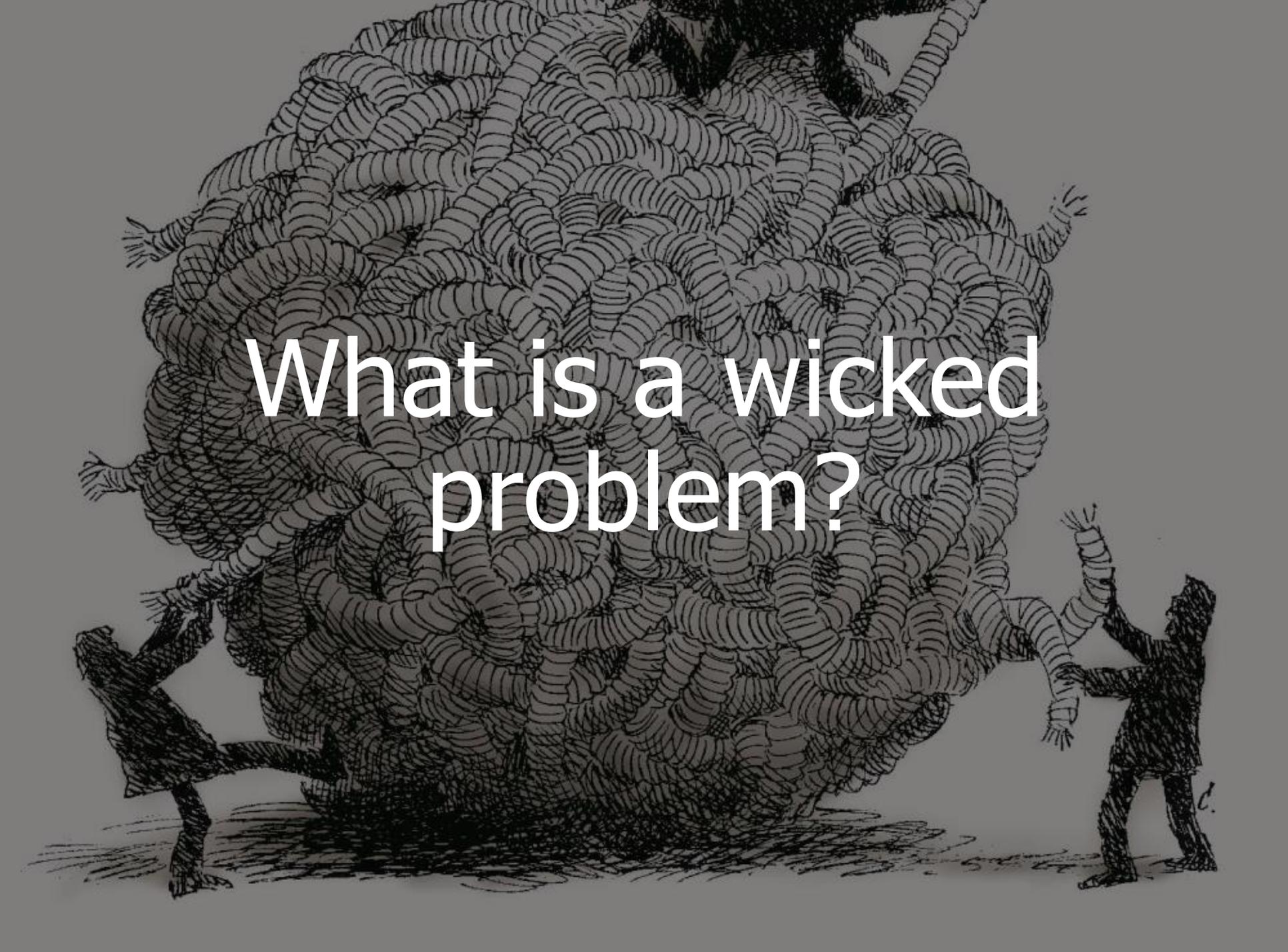


Financial Disclosure

- Jonathan C. Lee is a salaried physician at The Farley Center at Williamsburg Place.
- There is not a conflict of interest relevant to the topics that I will be discussing.



- Define a wicked problem
- Define the opioid crisis
- Review Virginia BOM regulations
- Review Virginia PMP and NarxCare
- Diagnosis and management of addiction
- Discuss strategies to solve the opioid crisis

A black and white illustration of a large, tangled ball of rope. The rope is thick and forms a dense, spherical mass. Several figures, drawn in a sketchy, expressive style, are holding onto the rope. One figure is on the left, another is on the right, and a third is at the top. The figures appear to be struggling or holding onto the rope. The background is plain. The text "What is a wicked problem?" is overlaid in the center of the image.

What is a wicked problem?



Wicked Problem Definition (Olver, 2015)

- Complex systems with components that interact in poorly understood and unpredictable ways
- Interventions into the system produce downstream consequences that cannot be known in advance and cannot be undone
- Changing one element of the system changes the dynamics of the entire system



Opioid Crisis & the 5th “Vital Sign”

- **Myth** that risk of addiction was low when opioids were prescribed for chronic pain based on a one-paragraph letter that was published in the NEJM in 1980
- In 1996, the American Pain Society introduced “pain as the 5th vital sign”
- The Joint Commission on Accreditation of Healthcare Organizations evaluated pain scores



Purdue Pharma: maker of OxyContin

- In 2007, Purdue and 3 executives pleaded guilty to misbranding OxyContin and agreed to pay \$634.5 million to resolve a US Dept. of Justice investigation.
- In 2014, >240 million prescriptions were written for prescription opioids (US Dept. of HHS)
- By 2015, ~92 million people in US were prescribed an opioid (Ann Intern Med, 2017)



Farley
Center

Purdue sold \$1.74 billion of OxyContin in 2017

- In August 2018, New York joined 26 US states and Puerto Rico to sue Purdue Pharma
 - Widespread fraud and deception in the marketing of opioids, and contributing to a nationwide epidemic that has killed thousands.
 - Misleading doctors and patients by overstating the ability of opioids to improve bodily function, while downplaying the risk of addiction.

<https://www.reuters.com/article/us-usa-opioids-purduepharma/new-york-sues-oxycotin-maker-purdue-pharma-over-opioids-idUSKBN1KZ1WZ>



Misuse or “Nonmedical Use” of Rx (NIDA, 2016)

- Taking a medication in a manner or dose other than prescribed
- Taking someone else’s prescription
- Taking a medication to feel euphoria
- 4 in 5 new heroin users started out by “misusing” prescription opioids



Farley
Center

Opioid Overdose Epidemic in the US (CDC, 2017)

- From 1999 to 2016, more than 630,000 people died from drug overdoses
- In 2016, drug overdoses killed ~64,000
 - 2/3 of overdose deaths involved opioids
 - 5 times higher than in 1999
- 115 people die every day from opioid OD



Farley
Center

Contribution of Opioid-Involved Poisoning to the Change in Life Expectancy in the US, 2000-2015 (JAMA, 2017)

- Drug poisoning mortality more than doubled in the United States from 2000 to 2015
- Poisoning mortality involving opioids more than tripled
- **Reduced life expectancy** for non-Hispanic white individuals in the United States from 2000 to 2014

Virginia's Opioid Crisis



1 out of 6 high schoolers have misused prescription drugs in their lifetime

1 out of 56 high schoolers have used heroin in their lifetime



Every 12 hours a Virginian dies from an opioid overdose

Every 2 hours a Virginian is arrested for an opioid-related crime



There were **4,076** administrations of Narcan by Emergency Medical Services in 2016

Virginia spends **\$546 million** annually on healthcare related to opioid abuse



Virginia Board of Medicine Regulations on Opioid Prescribing (8/18/18)

William L. Harp, MD
Executive Director
Virginia Board of Medicine
www.dhp.virginia.gov



Farley
Center



History of Opioid Prescribing in the Commonwealth of Virginia

2002– Concern at the Board about overdose deaths

2003--Legislature gave the Board a simple negligence standard for taking action

2003--Legislature establishes the Prescription Monitoring Program

2004--Board adopted the FSMB Model Policy on the Use of Controlled Substances in the Treatment of Pain



Farley
Center

History of Opioid Prescribing in the Commonwealth of Virginia

- In 2006, the BOM and the PMP, with support from the MSV, began presentations around the state on pain management and the proper prescribing of opioids.



History of Opioid Prescribing in the Commonwealth of Virginia

2007--Purdue Pharma paid \$634.5M for "misbranding" with Oxycontin

2007--Prescription Monitoring Program got \$20M

2007--Board of Medicine develops regulations on pain management and prescribing



History of Opioid Prescribing in the Commonwealth of Virginia

2009--Executive Branch requested that the Board withdraw its regulations

Meanwhile, robust enforcement by the Board continued and overdose deaths remained fairly constant

2013--Updated FSMB Model Policy for the Use of Opioid Analgesics in the Treatment of Chronic Pain adopted by the Board



History of Opioid Prescribing in the Commonwealth of Virginia

2014--Governor McAuliffe and Attorney General Herring became concerned about the crisis with prescription drugs and heroin in our communities



2014--Gov. McAuliffe forms the Governor's Task Force on Prescription Drug and Heroin Abuse in September



2015--Gov. McAuliffe receives the Task Force recommendations in October

- In 2016, the General Assembly passed law that authorizes the Board of Medicine to require 2 hours of continuing education on controlled substances each biennium
 - Pain management
 - Responsible prescribing of controlled substances
 - Diagnosis and management of addiction



Farley
Center

VA BOM 2-hours of Type 1 CMEs

<https://www.dhp.virginia.gov/medicine/>

- Board of Medicine Regulations Governing Prescribing Opioids and Buprenorphine
- Board's Frequently Asked Questions on Opioids and Buprenorphine
- Stanford University course on "How to Taper Patients Off of Chronic Opioid Therapy"
- Prescription Monitoring Program 7-minute video on NarxCare

The Farley Center

AT WILLIAMSBURG PLACE

VIRGINIA'S PRESCRIPTION MONITORING PROGRAM

Ralph Orr
Director

Virginia Prescription Monitoring Program

The PMP



- Resource for Prescribers and Pharmacists
- 24/7 Database of Schedule II –V Prescriptions, gabapentin and naloxone
- Every prescriber & pharmacist is authorized when licensed in Virginia
- Real-time: pharmacies & other dispensers report within 24 hours
- PMP **interoperable** with 30 states including MD, NC, WV, KY, TN, DC
- Pro-active report of outlier prescribing & dispensing for investigation
- Pro-active report of doctor shopping behavior to law enforcement

Integrated PMP

- Means that the information can be reached directly from the patient's EMR with a simple click
- For many of us, this was the game changer

A maximized PMP...



Could answer or substantiate the answer to 4 important questions

- Is this patient opioid naïve?
- Is this patient using controlled substances frequently or chronically?
- Is this patient's pattern of controlled substance use concerning?
- Is this patient at risk of overdose and in need of immediate help?

A simple LIST of prescriptions would require analysis to do this & TIME

Enter NarxScores



- 3 scores: narcotic, sedative, stimulant
- 3 digit numbers from 000-999
- Last digit represents the number of current prescriptions
- First two digits result from a multi-dimensional analysis of the Rx data
 - Amount of Medication
 - ✓ Number of Providers
 - ✓ Number of Pharmacies
 - ✓ Concomitant Medications
 - ✓ Overlapping Prescriptions

NarxScores



NarxScores weigh medication used and medication behaviors

- Low Dose + Low Risk Behaviors = Low NarxScore
- Low Dose + Risky Behaviors = Mid-Range NarxScore
- High Dose + Low Risk Behaviors = Mid-Range NarxScore
- High Dose + Risky Behaviors = High NarxScore

Distribution of NarxScores

- 75% <200
- 5% >500
- 1% >650

The Fourth NarxScore



Overdose Risk Score

- 3 digits ranging from 000-999
- Highly correlated with risk of unintentional OD death
- Correlated to >5000 OD deaths

DAVE TESTPATIENT, 118

Narx Report

Resources

Date: 8/29/2018

[Print Report](#) [Download CSV](#)

+ TESTPATIENT, DAVE

- Risk Indicators

NARX SCORES

Narcotic Sedative Stimulant
120 040 000

[Explanation and Guidance](#)

OVERDOSE RISK SCORE

310
 (Range 000-999)

[Explanation and Guidance](#)

ADDITIONAL RISK INDICATORS (1)

! > 100 MME total and 40 MME/day average

[Explanation and Guidance](#)

This NarxCare report is based on search criteria supplied and the data entered by the dispensing pharmacy. For more information about any prescription, please contact the dispensing pharmacy or the prescriber. NarxCare scores and reports are intended to aid, not replace, medical decision making. None of the information presented should be used as sole justification for providing or refusing to provide medications. The information on this report is not warranted as accurate or complete.

- Graphs

RX GRAPH ?

Narcotic Sedative Stimulant



Summary

Summary

Total Prescriptions: 5
 Total Prescribers: 3
 Total Pharmacies: 2

Narcotics* (excluding buprenorphine):

Current Qty: 0
 Current MME/day: 0.00
 30 Day Avg MME/day: 0.00

Sedatives*

Current Qty: 0
 Current LME/day: 0.00
 30 Day Avg LME/day: 0.00

Buprenorphine*

Current Qty: 0
 Current mg/day: 0.00
 30 Day Avg mg/day: 0.00

Rx Data

PRESCRIPTIONS

Total Prescriptions: 5
 Total Private Pay: 5

Fill Date	ID	Written	Drug	Qty	Days	Prescriber	Rx #	Pharmacy	Refill	Daily Dose *	Pymt Type	PMP
12/12/2016	1	12/12/2016	OXYCODONE HCL 20 MG TABLET	60	30	DA TES	TP000009	Dav(0000)	0	60.00 MME	Private Pay	VA
12/12/2016	1	12/12/2016	OXYCODONE HCL 20 MG TABLET	60	60	EV TES	TP000011	Dav(0000)	0	30.00 MME	Private Pay	VA
12/09/2016	1	12/09/2016	OXYCODONE HCL 20 MG TABLET	60	25	BO TES	TP000002	Bob(1111)	0	72.00 MME	Private Pay	VA
11/09/2016	1	11/09/2016	OXYCODONE HCL 20 MG TABLET	60	30	BO TES	TP000003	Bob(1111)	0	60.00 MME	Private Pay	VA
10/09/2016	1	10/09/2016	OXYCODONE HCL 20 MG TABLET	60	30	BO TES	TP000004	Bob(1111)	0	60.00 MME	Private Pay	VA

*Per CDC guidance, the MME conversion factors prescribed or provided as part of the medication-assisted treatment for opioid use disorder should not be used to benchmark against dosage thresholds meant for opioids prescribed for pain. Buprenorphine products have no agreed upon morphine equivalency, and as partial opioid agonists, are not expected to be associated with overdose risk in the same dose-dependent manner as doses for full agonist opioids. MME = morphine milligram equivalents. LME = Lorazepam milligram equivalents. mg = dose in milligrams.

PROVIDERS

Total Providers: 3

Name	Address	City	State	Zipcode	DEA
TESTPRESCRIBER, BOB	8888 NOWHERE ST	RESTON	VA	20190	XR1111111
TESTPRESCRIBER, DAVE	890 NO PLACE ST	RESTON	VA	20190	XD6666666
TESTPRESCRIBER, EVE	10110 TEST ST	RESTON	VA	20190	XE8888888

PHARMACIES

Total Pharmacies: 2

Name	Address	City	State	Zipcode	DEA
Bob's PHARMACY	1234 NOT-A-REAL-PLACE DR	RESTON	VA	20190	ZB1111111
Dave's PHARMACY CHAIN	7th TEST ST	RESTON	VA	20190	ZD0000000

Controlled substance information. Please review the "Linked Records" section located above to ensure all prescriptions belong to the requested individual.

DAVE TESTPATIENT, 118

Narx Report

Resources

Access to Treatment

Mat Providers

Find the 30 closest MAT providers for this patient. The patient's zip code is pre-populated if available. [View more information about the treatment locator.](#)

Search for providers near:

Zip Code

20189

Submit

Educational Resources

INFORMATIONAL DOCUMENTS

Click the associated link and print. [View more information about resources.](#)

What You Need to Know

PRESCRIPTION OPIOIDS: WHAT YOU NEED TO KNOW

Prescription opioids can be used to help relieve moderate-to-severe pain and are often prescribed for injuries or surgery, or for certain health conditions. These medications can be an important part of treatment that is done with careful care. It is important to work with your health care provider to make sure you are getting the safest, most effective care.

WHAT ARE THE RISKS AND SIDE EFFECTS OF OPIOID USE?

Prescription opioids carry serious risks of addiction and overdose, especially with prolonged use. In certain situations, when used by oneself breathing, can cause sudden death. The use of prescription opioids can have a number of side effects as well, even when taken as directed.

- Dependence, tolerance, and withdrawal
- Risk of overdose and death
- Risk of addiction
- Risk of respiratory depression
- Risk of constipation
- Risk of drowsiness
- Risk of impaired judgment
- Risk of impaired coordination
- Risk of impaired ability to drive or operate machinery
- Risk of impaired ability to work
- Risk of impaired ability to learn
- Risk of impaired ability to remember
- Risk of impaired ability to concentrate
- Risk of impaired ability to think clearly
- Risk of impaired ability to make decisions
- Risk of impaired ability to solve problems
- Risk of impaired ability to handle stress
- Risk of impaired ability to cope with emotions
- Risk of impaired ability to maintain relationships
- Risk of impaired ability to function in society
- Risk of impaired ability to contribute to society
- Risk of impaired ability to live a full and meaningful life

RISKS ARE GREATER WITH:

- Higher doses of opioids
- Longer duration of use
- Combining opioids with alcohol, benzodiazepines, or other sedatives
- Taking opioids with other medications
- Having a history of substance use disorder
- Having a family history of substance use disorder
- Having mental health conditions
- Having a history of trauma
- Having a history of chronic pain
- Having a history of surgery
- Having a history of injury
- Having a history of chronic illness
- Having a history of chronic pain
- Having a history of chronic stress
- Having a history of chronic anxiety
- Having a history of chronic depression
- Having a history of chronic loneliness
- Having a history of chronic isolation
- Having a history of chronic despair
- Having a history of chronic hopelessness
- Having a history of chronic helplessness
- Having a history of chronic powerlessness
- Having a history of chronic meaninglessness
- Having a history of chronic emptiness
- Having a history of chronic numbness
- Having a history of chronic insensitivity
- Having a history of chronic indifference
- Having a history of chronic hostility
- Having a history of chronic aggression
- Having a history of chronic violence
- Having a history of chronic self-harm
- Having a history of chronic suicide
- Having a history of chronic death



Opioids and Chronic Pain

PROMOTING SAFER AND MORE EFFECTIVE PAIN MANAGEMENT

PRESCRIPTION OPIOIDS

Prescription opioids can be used to help relieve moderate-to-severe pain and are often prescribed for injuries or surgery, or for certain health conditions. These medications can be an important part of treatment that is done with careful care. It is important to work with your health care provider to make sure you are getting the safest, most effective care.

- Dependence, tolerance, and withdrawal
- Risk of overdose and death
- Risk of addiction
- Risk of respiratory depression
- Risk of constipation
- Risk of drowsiness
- Risk of impaired judgment
- Risk of impaired coordination
- Risk of impaired ability to drive or operate machinery
- Risk of impaired ability to work
- Risk of impaired ability to learn
- Risk of impaired ability to remember
- Risk of impaired ability to concentrate
- Risk of impaired ability to think clearly
- Risk of impaired ability to make decisions
- Risk of impaired ability to solve problems
- Risk of impaired ability to handle stress
- Risk of impaired ability to cope with emotions
- Risk of impaired ability to maintain relationships
- Risk of impaired ability to function in society
- Risk of impaired ability to contribute to society
- Risk of impaired ability to live a full and meaningful life



PRESCRIPTION OPIOID OVERDOSE IS



OPIOIDS AND CHRONIC PAIN

Most Americans suffer from chronic pain. In fact, nearly 100 million people in the United States have chronic pain. Chronic pain is a long-term condition that can significantly impact a person's quality of life. It is important to work with your health care provider to make sure you are getting the safest, most effective care.

- Dependence, tolerance, and withdrawal
- Risk of overdose and death
- Risk of addiction
- Risk of respiratory depression
- Risk of constipation
- Risk of drowsiness
- Risk of impaired judgment
- Risk of impaired coordination
- Risk of impaired ability to drive or operate machinery
- Risk of impaired ability to work
- Risk of impaired ability to learn
- Risk of impaired ability to remember
- Risk of impaired ability to concentrate
- Risk of impaired ability to think clearly
- Risk of impaired ability to make decisions
- Risk of impaired ability to solve problems
- Risk of impaired ability to handle stress
- Risk of impaired ability to cope with emotions
- Risk of impaired ability to maintain relationships
- Risk of impaired ability to function in society
- Risk of impaired ability to contribute to society
- Risk of impaired ability to live a full and meaningful life

Pregnancy and Opioids

PREGNANCY AND OPIOID PAIN MEDICATIONS

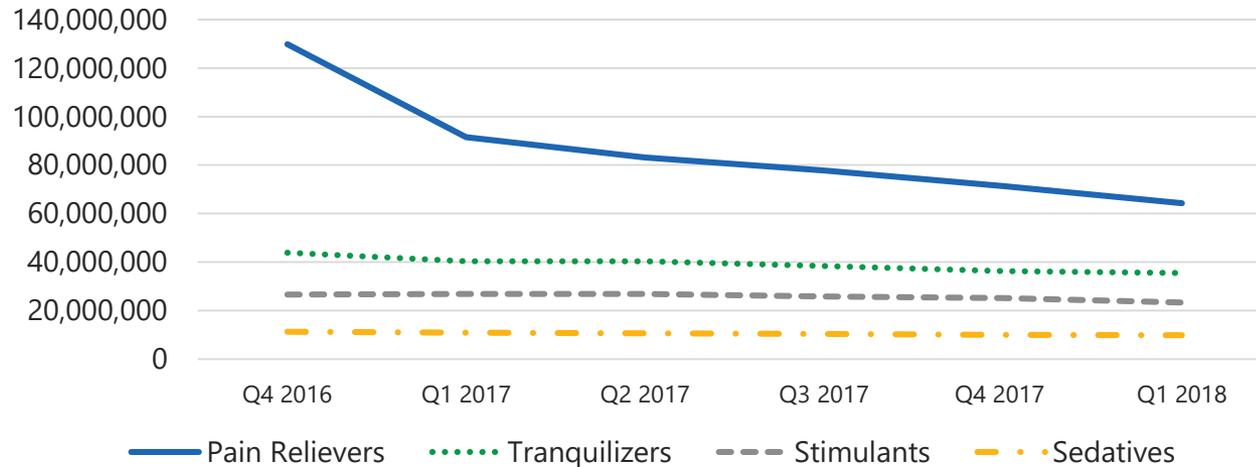
Women who take opioid pain medications should be aware of the possible risks during pregnancy.

- Dependence, tolerance, and withdrawal
- Risk of overdose and death
- Risk of addiction
- Risk of respiratory depression
- Risk of constipation
- Risk of drowsiness
- Risk of impaired judgment
- Risk of impaired coordination
- Risk of impaired ability to drive or operate machinery
- Risk of impaired ability to work
- Risk of impaired ability to learn
- Risk of impaired ability to remember
- Risk of impaired ability to concentrate
- Risk of impaired ability to think clearly
- Risk of impaired ability to make decisions
- Risk of impaired ability to solve problems
- Risk of impaired ability to handle stress
- Risk of impaired ability to cope with emotions
- Risk of impaired ability to maintain relationships
- Risk of impaired ability to function in society
- Risk of impaired ability to contribute to society
- Risk of impaired ability to live a full and meaningful life

ARE OPIOID PAIN MEDICATIONS SAFE FOR WOMEN WHO ARE PREGNANT OR PLANNING TO BECOME PREGNANT?

- Dependence, tolerance, and withdrawal
- Risk of overdose and death
- Risk of addiction
- Risk of respiratory depression
- Risk of constipation
- Risk of drowsiness
- Risk of impaired judgment
- Risk of impaired coordination
- Risk of impaired ability to drive or operate machinery
- Risk of impaired ability to work
- Risk of impaired ability to learn
- Risk of impaired ability to remember
- Risk of impaired ability to concentrate
- Risk of impaired ability to think clearly
- Risk of impaired ability to make decisions
- Risk of impaired ability to solve problems
- Risk of impaired ability to handle stress
- Risk of impaired ability to cope with emotions
- Risk of impaired ability to maintain relationships
- Risk of impaired ability to function in society
- Risk of impaired ability to contribute to society
- Risk of impaired ability to live a full and meaningful life

Doses Dispensed by Drug Type

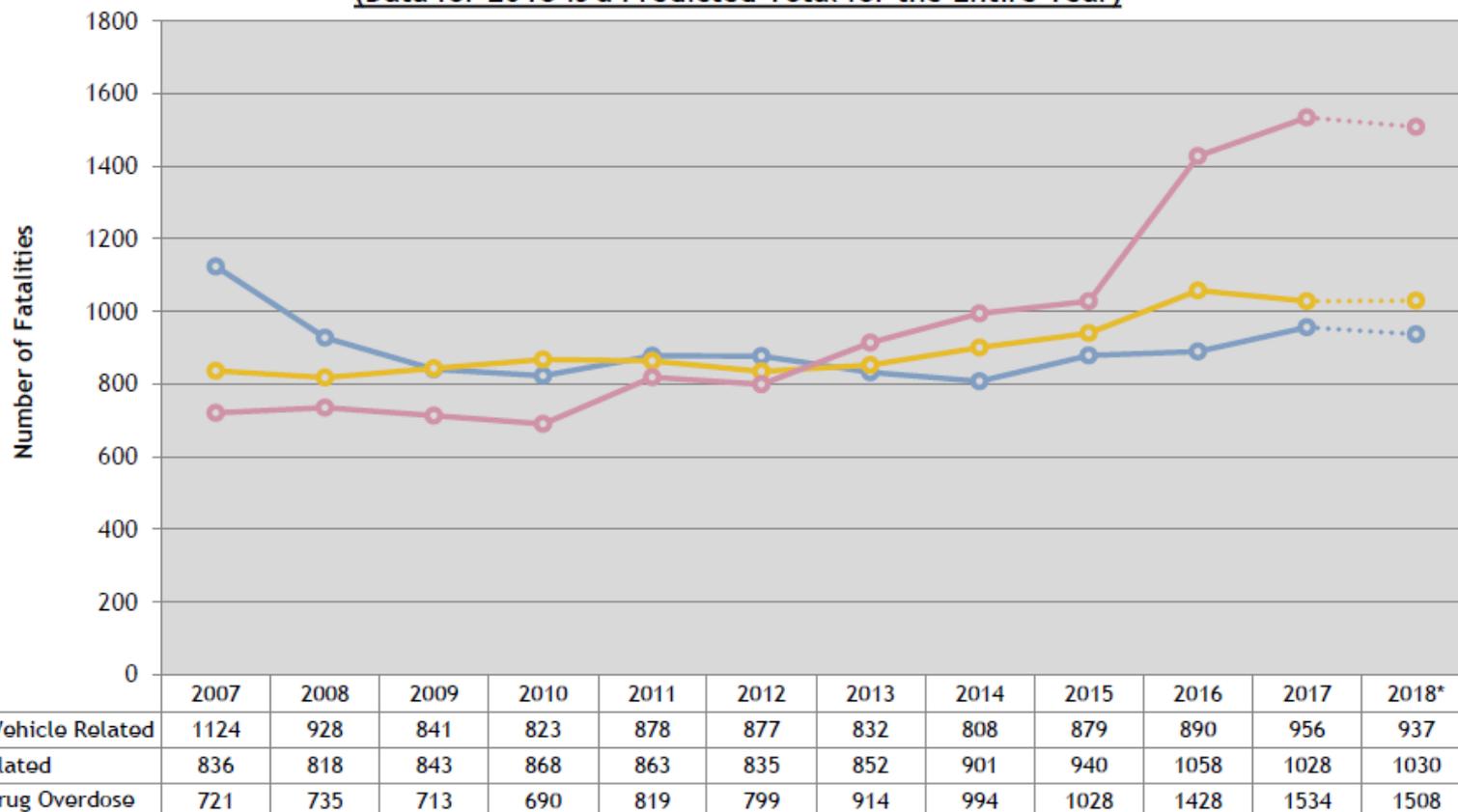


From the fourth quarter of 2016 to the first quarter of 2018 Pain Reliever Doses declined from 129,797,789 to 64,291,723 which represents a 49.53% decline. In that same time period, tranquilizer doses declined by 19.17% and sedatives declined by 12.59%. There was a 12.31% decline between the fourth quarter of 2016 & the first quarter of 2018 for stimulants but there was an increase from the fourth quarter of 2016 to peak in the first quarter of 2017.

TOP 3 METHODS OF UNNATURAL DEATH

The leading methods of unnatural death in Virginia since 2007 have been motor vehicle collisions, gun-related deaths, and fatal drug overdoses (these methods of death include all manners of death: accident, homicide, suicide, and undetermined). In 2013, fatal drug overdose became the leading method of unnatural death in the Commonwealth. This trend has continued to worsen at a greater magnitude due mainly to illicit opioids (heroin, illicit fentanyl, and fentanyl analogs).

Total Number of Motor Vehicle, Gun, and Drug Related Fatalities by Year of Death, 2007-2018
 (Data for 2018 is a Predicted Total for the Entire Year)

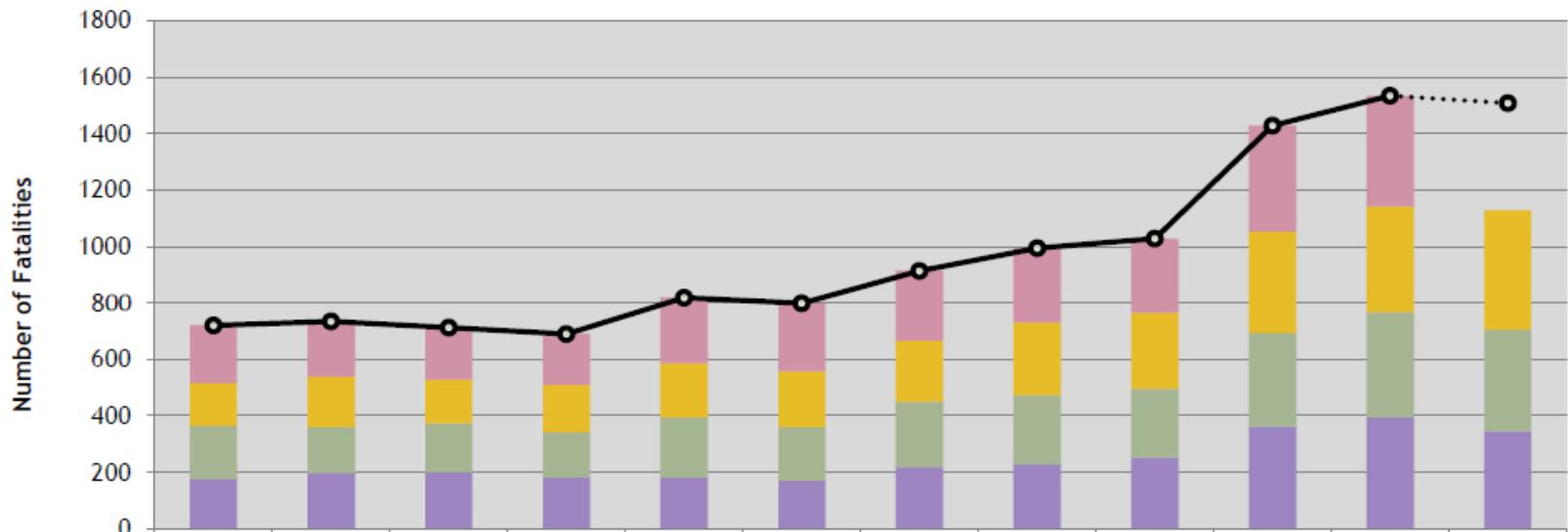


* Top 3 methods of death (motor vehicles, guns, and drugs) include all manners of death (accident, homicide, suicide, and undetermined)

ALL DRUGS

The total number of fatal drug overdoses statewide has increased each year. In 2013, fatal drug overdose became the number one method of unnatural death in the Commonwealth, surpassing both motor vehicle-related fatalities and gun-related fatalities. In 2014, fatal drug overdose became the leading cause of accidental death in Virginia. The number of all fatal overdoses in 2016 compared to 2015 increased by 38.9%---a record setting statistic. In 2017 compared to 2016, fatal overdoses increased 7.4%.

Total Number of Fatal Drug Overdoses by Quarter and Year of Death, 2007-2018
 ('Total Fatalities' for 2018 is a Predicted Total for the Entire Year)

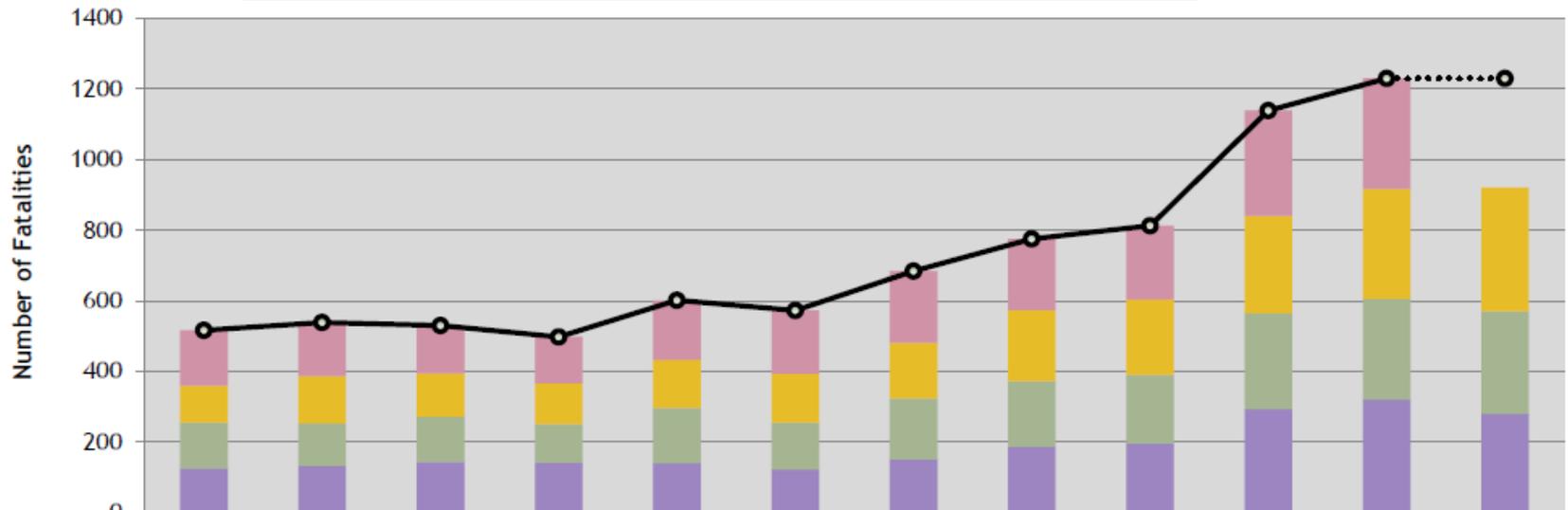


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Q4	205	195	183	179	232	240	248	263	262	375	392	
Q3	152	180	157	170	191	199	217	257	270	359	375	422
Q2	188	162	172	159	215	190	230	246	243	332	371	360
Q1	176	198	201	182	181	170	219	228	253	362	396	346
Total Fatalities	721	735	713	690	819	799	914	994	1028	1428	1534	1508

ALL OPIOIDS

From 2007-2015, opioids (fentanyl, heroin, U-47700, and/or one or more prescription opioids) made up approximately 75% of all fatal drug overdoses annually in Virginia. However, this percentage is increasing each year due to the significant increase in fatal fentanyl and/or heroin overdoses which began in late 2013 and early 2014. Fatal opioid overdoses increased by 8.0% in 2017 when compared to 2016.

Total Number of Fatal Opioid Overdoses by Quarter and Year of Death, 2007-2018
 ('Total Fatalities' for 2018 is a Predicted Total for the Entire Year)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Q4	156	151	136	131	168	179	202	201	208	298	312	
Q3	104	134	122	116	136	137	158	202	213	275	312	351
Q2	130	120	128	109	156	134	173	185	195	272	284	290
Q1	126	133	144	142	141	122	151	187	196	293	321	280
Total Fatalities	516	538	530	498	601	572	684	775	812	1138	1229	1229

¹ 'All Opioids' include all versions of fentanyl, heroin, prescription opioids, U-47700, and opioids unspecified

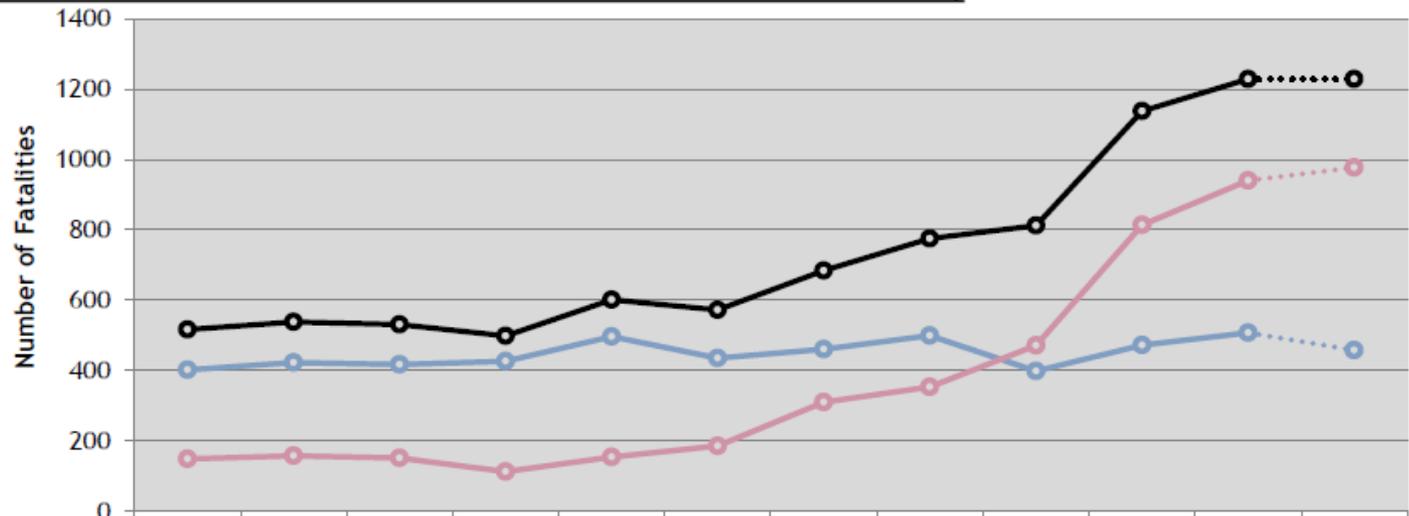
² 'Opioids Unspecified' are a small category of deaths in which the determination of heroin and/or one or more prescription opioids cannot be made due to specific circumstances of the death. Most commonly, these circumstances are a result of death several days after an overdose, in which the OCME cannot test for toxicology because the substances have been metabolized out of the decedent's system.

³ Fatal opioid numbers have changed slightly from past reports due to the removal of fentanyl from the category of prescription opioids, as well as the addition of buprenorphine, levorphanol, meperidine, pentazocine, propoxyphene, and tapentadol added to the list of prescription opioids.

OPIOIDS- A DIFFERENT PERSPECTIVE

Prescription opioids are a group of drugs that are commercially made by pharmaceutical companies in certified laboratories that act upon the opioid receptors in the brain. Historically, fentanyl has been one of these drugs. However, in late 2013, early 2014, illicitly made fentanyl began showing up in Virginia and by 2016, most fatal fentanyl overdoses were of illicit production of the drug. Separating fentanyl from the grouping of prescription opioids for this reason demonstrates a slight decrease in fatal prescription opioid overdoses in 2015 and a dramatic increase in the number of fatal fentanyl and/or heroin overdoses. This has caused the significant rise in all fatal opioid overdoses in the Commonwealth since 2012.

Total Number of Prescription Opioid (Excluding Fentanyl), Fentanyl and/or Heroin, and All Opioid Overdoses by Year of Death, 2007-2018
 ('Total Fatalities' for 2018 is a Predicted Total for the Entire Year)



All Opioids	516	538	530	498	601	572	684	775	812	1138	1229	1229
Prescription Opioids (excluding fentanyl)	401	422	417	426	496	435	460	499	398	472	507	457
Fentanyl and/or Heroin	148	157	150	112	153	185	309	353	471	814	940	977

¹ 'All Opioids' include all versions of fentanyl, heroin, prescription opioids, and opioids unspecified

² Illicit and pharmaceutically produced fatal fentanyl overdoses are represented in this analysis. This includes all different types of fentanyl analogs (acetyl fentanyl, furanyl fentanyl, etc.)

³ 'Prescription Opioids (excluding fentanyl)' calculates all deaths in which one or more prescription opioids caused or contributed to death, but excludes fentanyl from the required list of prescription opioid drugs used to calculate the numbers. However, given that some of these deaths have multiple drugs on board, some deaths may have fentanyl in addition to other prescriptions opioids, and are therefore counted in the total number. Analysis must be done this way because by excluding all deaths in which fentanyl caused or contributed to death, the calculation would also exclude other prescription opioid deaths (oxycodone, methadone, etc.) from the analysis and would thereby undercount the actual number of fatalities due to these true prescription opioids.



Farley
Center

Addiction (NIDA)

- Addiction occurs when a person cannot control the impulse to use drugs even when there are negative consequences
- Behavioral changes are accompanied by changes in brain functioning, especially in the brain's natural inhibition and reward centers



American Society of Addiction Medicine Definition of Addiction (2011)

- **Primary, chronic disease of brain:** reward, motivation, memory and related circuitry
- **Dysfunction** in these circuits leads to characteristic **biological, psychological, social** and **spiritual** manifestations
- Individual pathologically pursues **reward** and/or relief by **substance use** and/or other behaviors



ASAM Definition of Addiction (2011)

- Inability to consistently **abstain**
- Impairment in behavioral **control**
- **Craving**
- Diminished **insight** in significant problems with behavior and relationships
- Dysfunctional **emotional** response
- Cycles of **relapse** and **remission**
- **Progressive** in nature



- Can result in **DISABILITY** and/or **DEATH**
- Treatment and/or engagement in **RECOVERY** activities can **PREVENT** disability and/or premature death
- Full definition available at www.asam.org



Substance Use Disorders

(Diagnostic and Statistical Manual of Mental Disorders)

	DSM-IV Abuse ^a		DSM-IV Dependence ^b		DSM-5 Substance Use Disorders ^c	
Hazardous use	X	} ≥1 criterion	-	} ≥3 criteria	X	} ≥2 criteria
Social/interpersonal problems related to use	X		-		X	
Neglected major roles to use	X		-		X	
Legal problems	X		-		-	
Withdrawal ^d	-		X		X	
Tolerance	-		X		X	
Used larger amounts/longer	-		X		X	
Repeated attempts to quit/control use	-		X		X	
Much time spent using	-		X		X	
Physical/psychological problems related to use	-		X		X	
Activities given up to use	-		X		X	
Craving	-		-		X	

^a One or more abuse criteria within a 12-month period *and* no dependence diagnosis; applicable to all substances except nicotine, for which DSM-IV abuse criteria were not given.

^b Three or more dependence criteria within a 12-month period.

^c Two or more substance use disorder criteria within a 12-month period.

^d Withdrawal not included for cannabis, inhalant, and hallucinogen disorders in DSM-IV. Cannabis withdrawal added in DSM-5.



Diagnosing SUD in DSM-5

- 11 criteria
- Criterion eliminated: recurrent legal problems
- Criterion added: **craving** or strong desire to use
- Severity
 - Mild: 2-3 symptoms
 - Moderate: 4-5 symptoms
 - Severe: 6 or more symptoms



- Identify (Screening)
- Intervene (Brief Intervention)
- Evaluate (Referral)
- Detoxification (if indicated)
- Treatment
- Continuing Care
- Monitoring and Accountability

- Lifestyle modifications
- Monitoring (UDS, blood sugars, fluid status)
- Psychosocial treatments
- Medications
- Relapse prevention
- Mutual help groups



What about Narcotics Anonymous?

- Paucity of attention to Narcotics Anonymous in current public, professional, and policy responses to rising opioid addiction (White, Galanter et al., 2016)
- Since the 1950s, NA has provided mutual support for members with opioid/drug addiction
- 12-step facilitation is effective, accessible, and enhances cognitive and behavioral changes necessary for recovery (NIDA, 2012)



Farley
Center

America's 8-Step Program for Opioid Addiction (The New York Times, 9/30/17)

1. Save lives
2. Treat, don't arrest
3. Fund treatment
4. Combat stigma
5. Enforce mental health parity
6. Teach pain management
7. Start young with prevention
8. Support medication-assisted treatment (MAT)



Farley Center Medication-Assisted Treatment (MAT)

FDA Approved Medications for Opioid Use Disorder

- Naltrexone (opioid antagonist)
- Buprenorphine (partial opioid agonist)
- Methadone (full opioid agonist)



Farley
Center

President's Commission on Combating Drug Addiction and Opioid Crisis (Christie et al., 11/1/17)

- Invest in programs that achieve quantifiable goals
- Accountability by Office of National Drug Control Policy
- Streamline funding to states by using block grants
- Establish drug courts in all 93 federal judicial districts
- Naloxone for first responders
- Training healthcare providers
- Penalize insurers for not covering addiction treatment
- Remove questions about pain in hospital performance satisfaction surveys by the CMS



Farley
Center

Ten Steps the Federal Government Should Take Now to Reverse the Opioid Addiction Epidemic (JAMA, 2017)

Preventing Opioid Addiction and Overdoses

1. Improve surveillance of possible opioid addiction
2. Improve reporting of and respond to opioid-related overdoses and fatalities
3. Promote more cautious prescribing for acute pain
4. Change labeling for chronic pain and greatly restrict or eliminate marketing of opioids for chronic pain
5. Increase insurance coverage of and access to non-opioid and non-pharmacological management of pain



Farley
Center

Ten Steps the Federal Government Should Take Now to Reverse the Opioid Addiction Epidemic (JAMA, 2017)

Treatment and Harm Reduction for Current Users

6. Interrupt supply of heroin and illicit synthetic opioids and improve coordination between legal and public health
7. Identify possible opioid addiction early and link individuals to treatment
8. Expand low-threshold access to MAT
9. Implement harm reduction for current users with access to clean syringes and naloxone
10. Remove ultra-high-dosage-unit opioid analgesics from the market



Farley
Center

Funding to Fight Opioid Crisis (The Hill, 9/19/18)

Dept. of HHS awarded >\$1 billion in grants

- \$930 million to support states' treatment and prevention services
- \$352 million to community health centers to increase access to services for SUD and mental health
- \$194 million to conduct research



Farley
Center

Artificial Intelligence Scans Twitter for Signs of
Opioid Abuse (Scientific American, 10/30/17)

- Geotagged tweets using drug handles
 - Dummies (fentanyl)
 - Captain Cody (Robitussin with codeine)
- Pinpoint clusters of opioid problems more quickly than National Survey on Drug Usage and Health
- Social media can be a reliable source of epidemiological data regarding substance use



Farley
Center

Innovative engagement strategies

- Community care coordinators
- Telephonic recovery coaching
- Digital apps on smart devices

Patient Engagement is Key

- Attract patients to care
- Develop trust
- Form partnerships
- Support long-term recovery



“We must stop treating addiction as a moral failing, and start seeing it for what it is: a chronic disease that must be treated with urgency and compassion.”

Vivek H. Murthy, MD, MBA
19th Surgeon General of the US





- Center for Disease Control. (2016). Wide-ranging online data for epidemiologic research (WONDER). Atlanta, GA: CDC, National Center for Health Statistics 2016.
- Chang AK, Bijur PE, Esses D, Barnaby DP, Baer J. Effect of a Single Dose of Oral Opioid and Nonopioid Analgesics on Acute Extremity Pain in the Emergency Department: A Randomized Clinical Trial. *JAMA* 2017;318(17):1661-67.
- Christie, C., Baker, C., Cooper, R., et al. (2017, November 1). The President's Commission on Combating Drug Addiction and the Opioid Crisis.
- Dowell D, Arias E, Kochanek K, Anderson R, Guy GP, Losby JL, Baldwin G. Contribution of Opioid-Involved Poisoning to the Change in Life Expectancy in the United States, 2000-2015. *JAMA*. 2017;318(11):1065–1067.
- Han B, Compton WM, Blanco C, Crane E, Lee J, Jones CM. Prescription opioid use, misuse, and use disorders in U.S. adults: 2015 National Survey on Drug Use and Health. *Ann Intern Med*. 2017;167(5):293-301.
- NIDA. (2012). 12-step facilitation therapy (Alcohol, stimulants, opiates). In Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition).
- Kolodny A, Frieden TR. Ten Steps the Federal Government Should Take Now to Reverse the Opioid Addiction Epidemic. *JAMA*. 2017;318(16):1537-1538.
- White, W., Galanter, M., Humphreys, K. & Kelly, J. (2016). The paucity of attention to Narcotics Anonymous in current public, professional, and policy responses to rising opioid addiction. Posted at www.williamwhitepapers.com