

One Pill, One Life: Current Trends in Opioid Use Among Youth

October 23, 2023



University of California Los Angeles
Integrated Substance Abuse Programs

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START CODE

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Indigenous Land Acknowledgement

- We respectfully acknowledge that we live and work in territories where Indigenous nations and Tribal groups are traditional stewards of the land.
- Please join us in supporting efforts to affirm Tribal sovereignty across what is now known as California and in displaying respect, honor and gratitude for all Indigenous people.


Whose land are you on?

Option 1: Text your zip code to 1-855-917-5263

Option 2: Enter your location at <https://native-land.ca>

Option 3: Access Native Land website via QR Code:





What we say and how we say it inspires the hope and belief that recovery is possible for everyone

Affirming, respectful, and culturally-informed language promotes evidence-based care.

PEOPLE FIRST

Language Matters

in treatment, in conversation, in connection.



It's Health Literacy Month!



HEALTH LITERACY MONTH

Building Awareness Through Action

How are you taking action to build awareness about health literacy?

Share the hashtag #healthliteracymonth

healthliteracymonth.org

October
Recognitions

EVERY1 KNOWS SOME1

Domestic Violence Awareness Month

Project

HO[®]

In October, We Also Acknowledge:



**SUBSTANCE MISUSE PREVENTION MONTH AND
YOUTH SUBSTANCE USE PREVENTION MONTH**

Partners in Prevention!

SAMHSA
Substance Abuse and Mental Health
Services Administration



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- ▶ Supported by training grant T32MH073517



Objectives

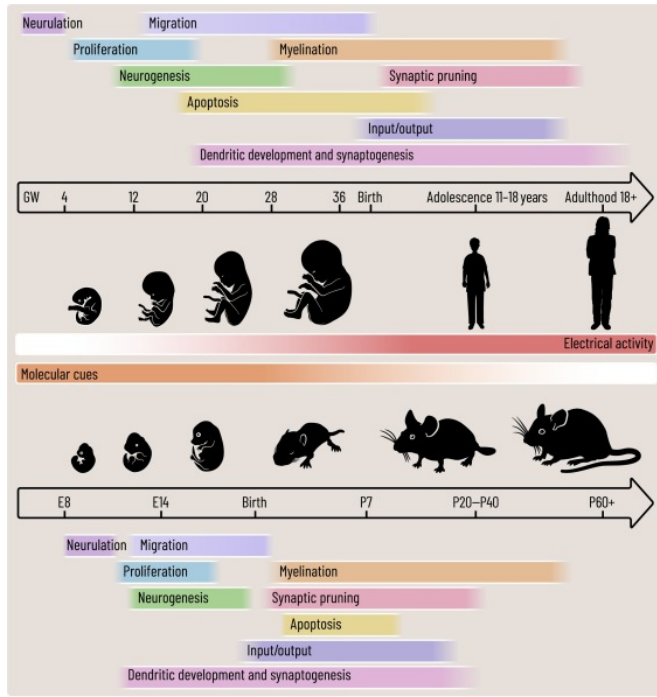
- ▶ Participants will be able to name three features of adolescence that increase substance use risk.
- ▶ Participants will be able to differentiate between the latest trends in opioid use vs. opioid death rates among youth across a spectrum of risk categories.
- ▶ Participants will gain awareness about the role of social media, counterfeit fentanyl pills, and the DEA “one pill can kill” campaign in the current youth opioid epidemic.



Part 1: Adolescence and drug use



Adolescence



Trends In Neurosciences

Chini, Hanganu-Opatz, 2020

- ▶ A transitional phase from childhood to adulthood, characterized by major hormonal, physiological, behavioral and psychological changes.
- ▶ This stage is similar across mammalian species.
- ▶ Not the same as puberty but puberty often considered the onset.

Major changes in brain structure & connectivity

▶ Structural brain changes

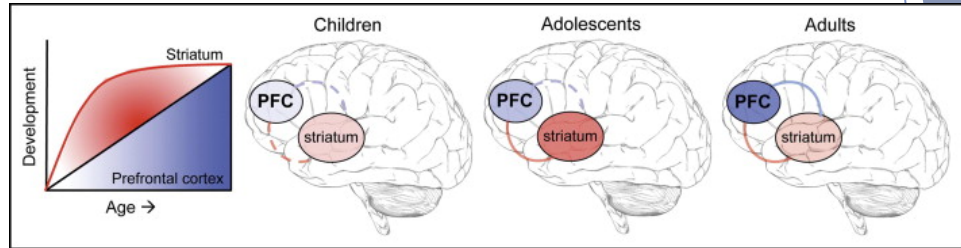
- ▶ Gray matter decreases non-linearly.
- ▶ Synaptic pruning occurs
- ▶ White matter and myelination increase
- ▶ White matter assumes a directional organization.
- ▶ Primitive regions first, more recently evolved (anterior frontal and parietal lobes) last
- ▶ Subcortical regions start maturation around puberty, while cortical regions lag.
- ▶ A period of hyperactivity in the limbic system, only gradually controlled cortically

▶ Cognitive changes:

- ▶ Improved inhibitory control and working memory

▶ Neurochemical maturation:

- ▶ Dopaminergic system increases maximally while GABAergic system continues refinement



Casey & Jones, 2010

Today's adolescence vs. its evolutionary role

- ▶ An adolescent sensitive period: evolved to allow development of risk-taking traits to aid survival
- ▶ Traits like hyperactivity, novelty seeking, and impulsivity were advantageous to early humans
- ▶ Promoted exploration of the environment and acquisition of resources
- ▶ Currently, these traits are associate with SUD
- ▶ Today puberty occurs at increasingly earlier ages, up to 3 years earlier than 100 years ago
- ▶ Early puberty onset associated with earlier initiation and increased frequency (nicotine and alcohol) in adolescents

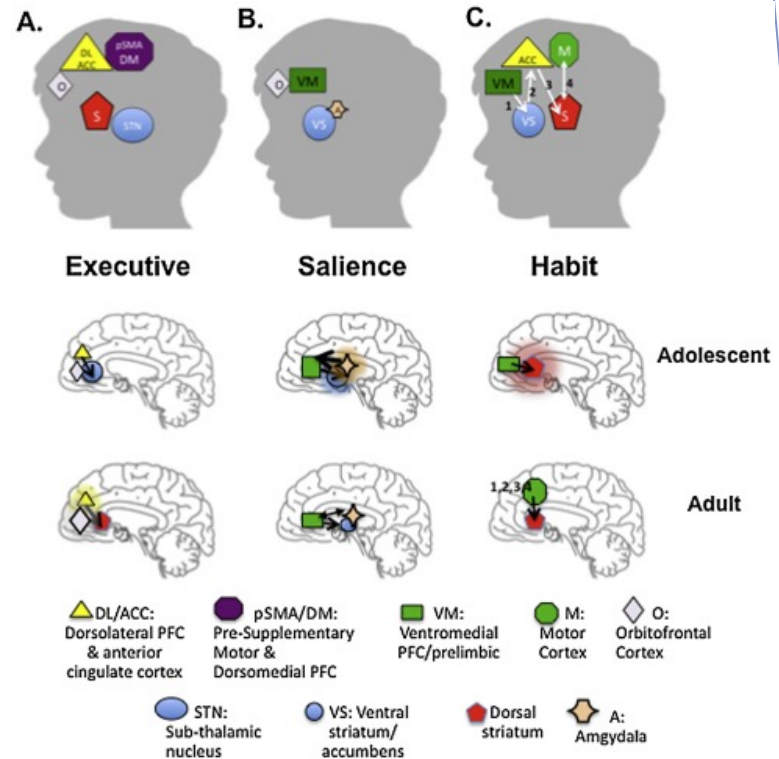
Jordan & Andersen, Developmental Cognitive Neuroscience, 2017,



Neuroscience models of Adolescent Responses to Drugs

Adolescence is characterized by:

1. Early maturation of subcortical reward system: increase incentive salience to reward
2. Poor executive control: lower inhibitory control by PFC
3. More prone to habits vs. goal-directed behavior



Preclinical (rodent) models of Adolescent Responses to Drugs of Abuse

- ▶ Rodent model literature consistently suggests balance of rewarding vs. aversive effects of drugs is tipped toward reward in adolescence.
- ▶ Adolescents are consistently less sensitive to withdrawal effects, which could protect against compulsive drug seeking
- ▶ Pharmacokinetic effects: younger people metabolize drugs differently
- ▶ Unclear if predispositions of adolescence → early drug use or if early drug use → brain disruptions leading to compulsive drug use

Psychosocial predispositions among adolescents and young adults (AYAs)

- ▶ **Brain development → belief system:** adolescents tend to carry beliefs about their own invincibility, also called *optimistic bias*
- ▶ **Adolescents tend to take risks:** with counterfeit pills, it is even harder to evaluate risk. AYAs less likely to question what they are getting.
- ▶ **Adolescents might misinterpret risk:** They may not understand that people can overdose by snorting, smoking or taking oral fentanyl. Risk of addiction may be perceived as low if they don't use IV/needles.
- ▶ **Adolescents have lower experience with drugs:** lower opioid use history with likely lower tolerance.
- ▶ **Adolescents often started with prescription opioids:** could we see a new era? Adolescents starting with fentanyl?

Early drug initiation

- ▶ Childhood or adolescence drug use has long-lasting impacts on the modulation of desires, emotions, and behaviors as brain develops.
- ▶ Early initiation linked to subsequent problematic use and riskier behaviors like injection drug use, infectious disease, occupational instability, unintended pregnancy, and suicide.
- ▶ Early initiation linked to subsequent risks such as poorer clinical outcomes, emotional distress, and increased tolerance and withdrawal symptoms relative to adult-onset users.
- ▶ Drug use disorders begin in adolescence: SUD symptom onset by 18 years of age in 50% of individuals. By 24 years, symptom onset in 80% of individuals with lifetime history of a drug use disorder

Park, rouhani, s., Beletsky, I., Vincent, I., Saloner, b., & Sherman, s. G. (2020).
Yule, Lyons, Wilens, 2019
Chen C-Y, Storr CL, Anthony JC. *Addictive Behav.* 2009; 34(3): 319- 322.



Progression to Opioid Use Disorder in youth

- ▶ After first use, risk of progression to OUD among adolescents is high
- ▶ First-time opioid prescription in HS → 33% increased risk of opioid misuse after HS.
- ▶ Even occasional (3-9 lifetime uses) nonmedical opioid use, >50% met criteria for a substance use disorder by age 35
- ▶ Hx of opioid misuse: 13 times more likely to initiate heroin use
- ▶ 45% of opioid misuse start at 16-18. 33% start 13-15. 11% start at 10-12.
- ▶ 6-9% develop an opioid use disorder (OUD) often within 6 to 12 months.

Cerda M, 2015

McCabe SE, Veliz PT, Boyd CJ, Schepis TS, McCabe V V., 2019



Risk factors for opioid use disorder: individual

Genetic predisposition: first-degree relative, candidate genes include ORM1 gene encoding for mu-opioid receptor

Sex: females have higher risk of NMPOU. Males higher risk of OUD and death by OD.

Ethnicity: non-Hispanic whites at elevated risk of NMPOU and OUD

Temperament: difficult temperament, disinhibition, aggression, emotional distress

Personality: high novelty seeking, impulsivity, poor inhibition

Comorbid psychiatric disorder: MDD, anxiety disorder, PTSD

Substance use factors: early initiation (<13), other substance use, low risk perception, motivation for use (pain and getting high)

Medical: headaches, fatigue, acute or chronic pain, opioid prescription for pain

Kaminer, Winters, 2020



Risk factors for opioid use disorder: non-individual

Parental: parental substance use, parental psychiatric diagnosis, favorable parental attitude toward drug use, low parental supervision

Family: conflict, dysfunction, discord, parental divorce, negative parent-child relationship

Peer: peers with drug use, peer group delinquent behavior

School: school failure and dropout

Childhood adversity: physical, emotional, sexual abuse, neglect, adverse childhood experiences, including witnessing overdose.

Community: lower SES, greater availability of alcohol, approval of drugs, lower cost

Treatment-Seeking Opioid-Dependent Youth

- ▶ Treatment-seeking opioid-dependent youth, even with short histories of dependence on any type of opioid, present with complex co-occurring treatment issues:
 - ▶ Psychiatric disorders
 - ▶ Sexual behavior related HIV risk
 - ▶ Injection-drug use
 - ▶ Abscesses
 - ▶ Hepatitis-C infection
 - ▶ School drop-out
 - ▶ Legal problems



Comorbid substance use & Coingestion

- Among HS seniors, 70% report co-ingesting another drug while engaging in prescription opioid misuse
- >50% report concurrent use of marijuana or alcohol, and 10% concurrent use of cocaine, tranquilizers, or amphetamines.

Additional substance use and drug abuse stratified by age group for adolescents and young adults who misuse prescription opioids^a.

	Adolescents (n = 1,050)		Young adults (n = 2,207)	
	N	Percent (95% CI)	N	Percent (95% CI)
Tobacco use				
Past month used	583,845	31.2 (28.4–34.1)	3,446,446	63.9 (61.3–66.5)
Ever used	1,006,791	53.8 (50.3–57.3)	4,685,714	86.9 (85.2–88.6)
Never used	863,649	46.2 (42.7–49.7)	705,872	13.1 (11.4–14.8)
Alcohol use				
Past month used	685,825	36.7 (32.9–40.5)	4,173,481	77.4 (75.3–79.5)
Ever used	1,344,868	71.9 (68.7–75.1)	5,201,606	96.5 (95.6–97.4)
Never used	525,571	28.1 (24.9–31.3)	189,980	3.5 (2.6–4.4)
Cannabis use				
Past month used	659,497	35.3 (32.5–38.0)	2,963,319	55.0 (52.4–57.5)
Ever used	1,049,843	56.1 (52.0–60.3)	4,809,436	89.2 (87.9–90.4)
Never used	820,597	43.9 (39.7–48.0)	582,150	10.8 (9.6–12.0)
Cocaine use				
Past month used	53,586	2.9 (1.6–4.1)	396,461	7.4 (5.6–9.1)
Ever used	214,878	11.5 (9.3–13.7)	2,366,733	43.9 (40.8–47.0)
Never used	1,655,561	88.5 (86.3–90.7)	3,024,853	56.1 (53.0–59.2)
Heroin use				
Past month used	— ^c	— ^c	118,289	2.2 (1.5–2.9)
Ever used	— ^c	— ^c	608,090	11.3 (9.2–13.4)
Never used	1,849,545	98.9 (98.3–99.4)	4,783,496	88.7 (86.6–90.8)
Hallucinogen use				
Past month used	99,775	5.3 (3.7–6.9)	497,457	9.2 (7.6–10.9)

Impact of opioid use on rodent brain development



- ▶ Long-term effects seen in rodents:
 - ▶ Sexual maturation and the neuroendocrine system (e.g., reductions in testosterone in males, delayed expression of physical maturation processes in females)
 - ▶ Reproduction (e.g., reduced litter size), alteration of μ receptor expression in future offspring
 - ▶ alterations to the endogenous opioid system in the hypothalamus (e.g., increased μ and κ receptor mRNA expression)

Impact of opioid use on human brain development

Hazardous opioid use:

- ▶ **Cognitive:** Affect the development of working memory
- ▶ **Psychiatric/Psychological:** Enhance the risk of young people's expression of psychiatric disorders (e.g., depression, ADHD, or personality disorders)
- ▶ **Physiological:**
 - ▶ Hormone development
 - ▶ Long-term changes in dopaminergic neurotransmitter systems
- ▶ **Behavioral:** Inhibited capacity to effectively modulate or inhibit behavior.
- ▶ **Structural:** Opioids affect extensive late wave of myelination in humans that takes place in the adolescent and young adult prefrontal cortex (PFC)

Genevieve F Dash, Laura Holt, et al. The Lancet. Child and Adolescent Health. 2022





Electronic nicotine delivery systems and vaping

Effects on the brain



- Increased dopamine and serotonin in nucleus accumbens from preclinical study
- Changes in dopaminergic and serotonergic transporter density
- Alterations to amygdala, prefrontal cortex, ventral tegmental area, and thalamus

Effects on the body



- Rapid absorption of nicotine
- High systemic nicotine concentration

Effects on neurocognition and behaviour



- Deficits in inhibitory processing
- Mood disruption and depression symptoms
- Increased risk for ADHD and anxiety

Vaped or edible cannabis

- Inhibited neuronal growth and synapsis formation
- Changes in hippocampal structure
- Altered prefrontal cortex connectivity

- Slower onset of drug effect for edible cannabis resulting in overconsumption

- Deficits in episodic memory, decision making, and processing speed
- Increased risk for schizophrenia and psychosis

Hazardous prescription opioid use

- Altered μ receptor expression*
- Disruptions to development of thalamus, subthalamic nucleus, insula, brainstem, and cerebrospinal fluid*

- Impact on sexual maturation, hormone development, and reproduction*
- Potential impact on future offspring*

- Hypersensitivity to reinforcing effects of opioids*
- Deficits in behavioural inhibition
- Increased risk for depression, ADHD, and personality disorders

Genevieve F Dash, Laura Holt, et al. The Lancet. Child and Adolescent Health. 2022

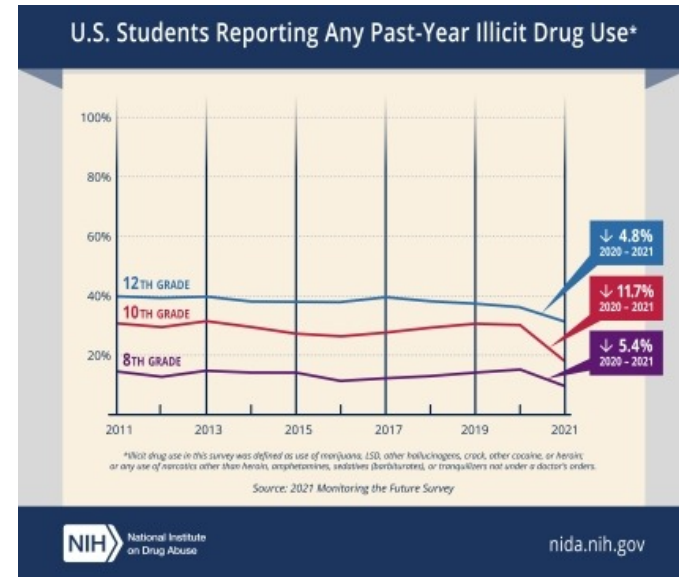


Part 2: Opioid use trends in youth



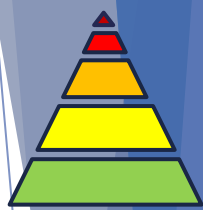
Drug use pre- and post-COVID-19

- ▶ Some data indicate **stable or declining use** of illicit drugs among young people over many years.
- ▶ However, recent dramatic **rise in overdose deaths** among young people.
 - ▶ Largely attributed to illicit fentanyl contaminating the supply of counterfeit pills
- ▶ **Use of opioids other than heroin (Vicodin, OxyContin, Percocet, etc.)** have increased slightly among 12th graders between 2021 and 2022.
- ▶ Rates are now **consistent with the pre-pandemic levels** observed in 2019 and 2020.



NIDA. 2022, December 15. News Release

Opioid Use Iceberg



Overdose Deaths are the Tip of the Iceberg

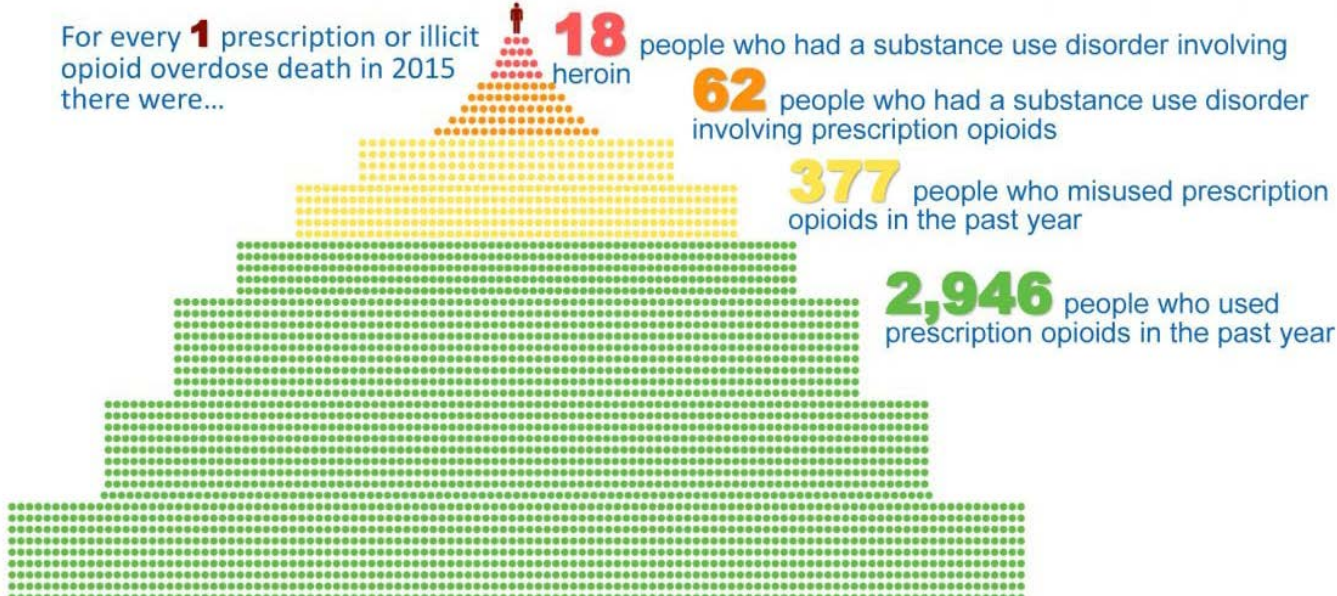
For every **1** prescription or illicit opioid overdose death in 2015 there were...

18 people who had a substance use disorder involving heroin

62 people who had a substance use disorder involving prescription opioids

377 people who misused prescription opioids in the past year

2,946 people who used prescription opioids in the past year

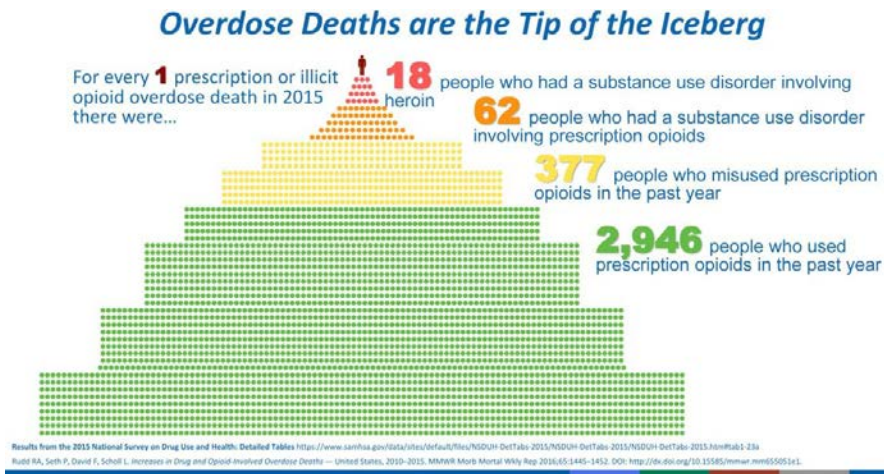
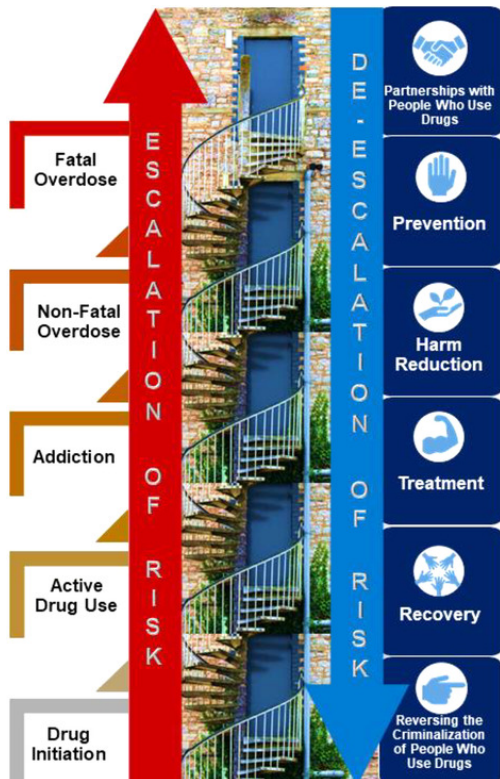


Results from the 2015 National Survey on Drug Use and Health: Detailed Tables <https://www.samhsa.gov/data/sites/default/files/NSDUH-DeTTab-2015/NSDUH-DeTTab-2015/NSDUH-DeTTab-2015.htm#tab1-23a>

Rudd RA, Seth P, Scholl L. *Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015*. MMWR Morb Mortal Wkly Rep 2016;65:1445–1452. DOI: <http://dx.doi.org/10.15585/mmwr.mm650501e1>.



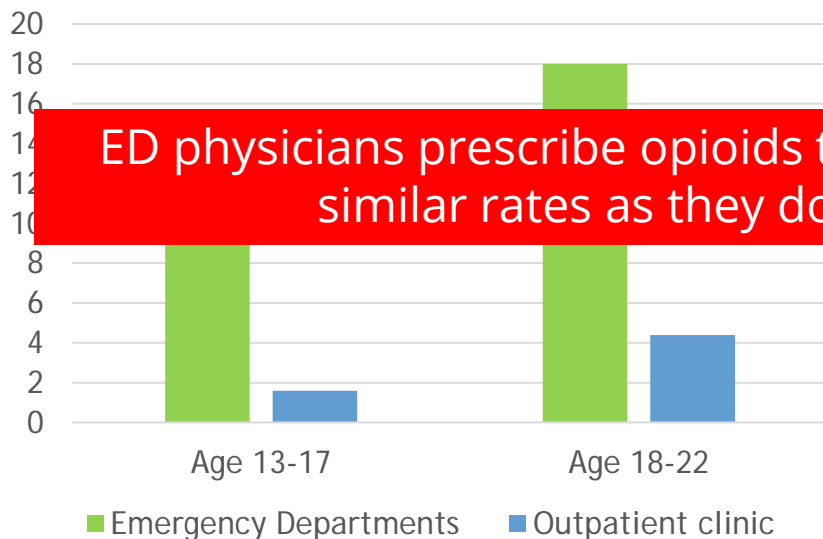
Intervention Framework across Continuum of Overdose Risk





Opioid Prescriptions, Emergency vs. Outpatient

Percent of visits associated with opioid Rx



ED physicians prescribe opioids to adolescents and young adults at similar rates as they do to older patient groups.

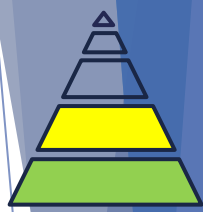
- ▶ Using nationally representative data
- ▶ Of 196 million visits to ED and 801 million visits to outpatient clinics:
 - 52 M associated with opioid prescription
- ▶ 37.3 M (7.5%) associated with young adults 18-22
- ▶ Comparing ED to outpatient clinics
 - 6-fold increase among adolescents
 - 4-fold increase for young adults

Prescription opioid use and misuse

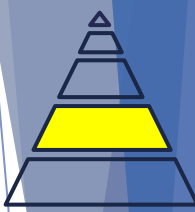
- ▶ A study using NSDUH 2016
- ▶ **Opioid use:** 32.8M used prescription opioids in the past year: 21.0% of adolescents & 32.2% of young adults.
- ▶ **Opioid misuse:** 3.8% (1.9M) adolescents (15-17 yrs.) and 7.8% (5.4M) young adults (18-25 yrs.).
- ▶ Most misused prescription opioids were oxycodone, codeine, hydromorphone, and morphine
- ▶ Most youth obtained opioids for free:
 - ▶ from a friend or relative (33.5%)
 - ▶ from a single prescriber (19.2%)
 - ▶ bought from a dealer or stranger (6.5%)



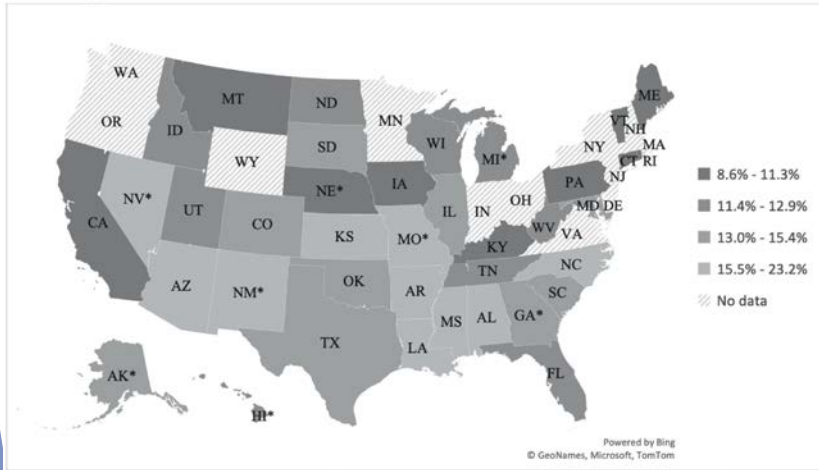
Hudgins JD, 2019, PLOS



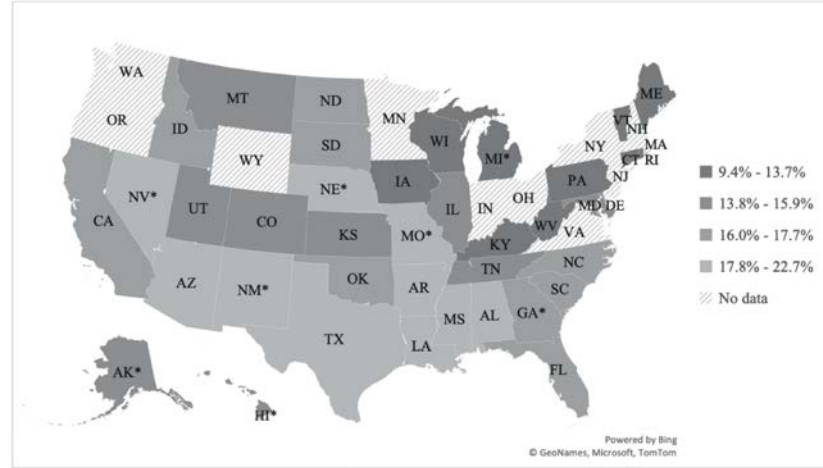
Lifetime Non-medical Prescription Opioid Use



b. Boys



a. Girls



► Prevalence varies widely by state (range of 8.6–23.2%).

Byregowda, 2023

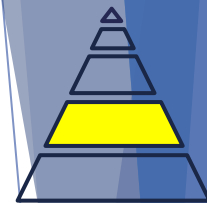
Past 30-day non-medical opioid use

Table 2. Past 30-day non-medical prescription opioid use among high school students who reported any lifetime use in eight states, by sex (N=28,439).

	Girls % (95% CI)	Boys % (95% CI)
AK	33.0 (25.3, 40.7)	40.7 (31.6, 49.9)
GA	48.8 (41.5, 56.1)	51.1 (42.8, 59.4)
HI	45.5 (34.8, 56.3)	50.0 (43.6, 56.3)
MI	40.6 (33.7, 47.5)	42.4 (35.0, 49.7)
MO	37.0 (14.0, 59.9)	45.7 (26.3, 65.1)
NE	37.1 (28.1, 46.1)	44.7 (34.8, 54.5)
NV	44.6 (36.6, 52.5)	45.8 (34.7, 56.9)
NM	50.7 (47.3, 54.1)	52.3 (46.8, 57.7)
Median (Range)	42.6 (33.0–50.7)	45.8 (40.7–52.3)

Note: Chi-square tests did not indicate that sex differences were statistically significant.

45%
Among lifetime users



2021 National Survey on Drug Use and Health

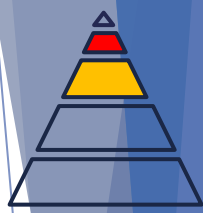
- ▶ **Opioid Use Disorder**
(from any opioids: Heroin, Fentanyl, Prescribed)
- ▶ 259,000 youth aged 12-17, Prevalence=1.0%
- ▶ 438,000 young adults 18-25, Prevalence=1.3%



Opioid use and injection in rural communities

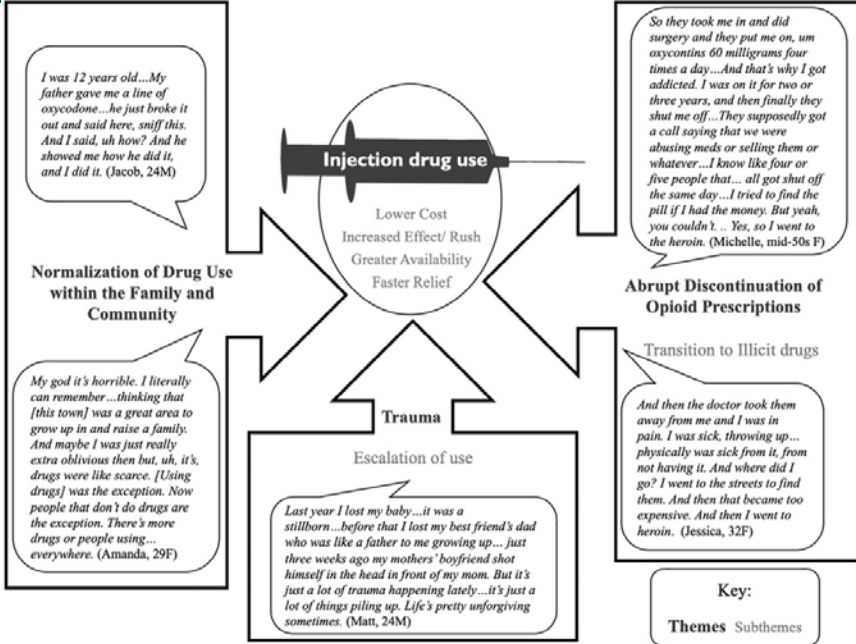
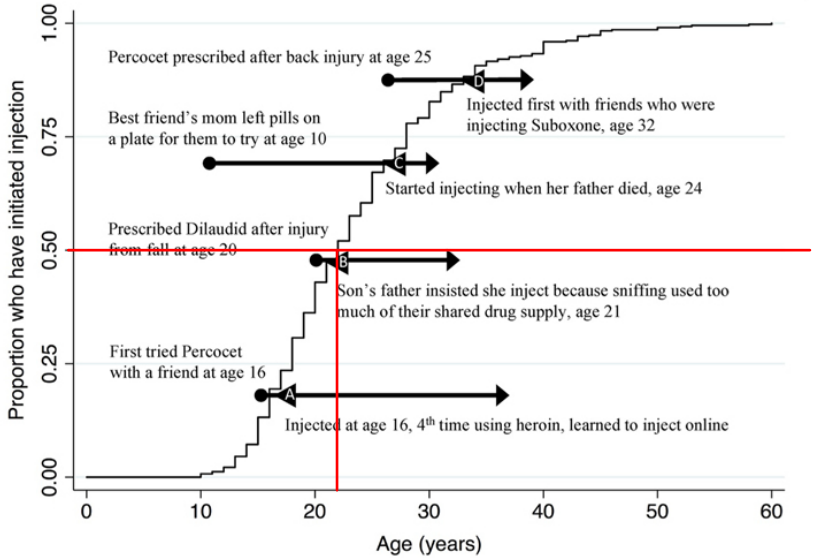
Age at Injection Initiation among 453 patients, rural New England		
	%	N
10-13	4.6	19
14-17	18.9	79
18-25	43.7	182
26-39	26.1	109
40 and older	6.7	28
Currently Injecting (past 30 days)	76.9	453
Currently in MOUD Treatment (past 30 days)	33.8	199

Nolte, 2020





50% of all injection initiations in TAY group < 25yrs



I was 12 years old...My father gave me a line of oxycodone...he just broke it out and said here, sniff this. And I said, uh how? And he showed me how he did it, and I did it. (Jacob, 24M)

So they took me in and did surgery and they put me on, um oxycodone 60 milligrams four times a day...And that's why I got addicted. I was on it for two or three years, and then finally they shut me off...They supposedly got a call saying that we were abusing meds or selling them or whatever...I know like four or five people that... all got shut off the same day...I tried to find the pill if I had the money. But yeah, you couldn't. Yes, so I went to the heroin. (Michelle, mid-50s F)

My god it's horrible. I literally can remember...thinking that [this town] was a great area to grow up in and raise a family. And maybe I was just really extra oblivious then but, uh, it's, drugs were like scarce. [Using drugs] was the exception. Now people that don't do drugs are the exception. There's more drugs or people using... everywhere. (Amanda, 29F)

Last year I lost my baby...it was a stillborn...before that I lost my best friend's dad who was like a father to me growing up... just three weeks ago my mothers' boyfriend shot himself in the head in front of my mom. But it's just a lot of trauma happening lately...it's just a lot of things piling up. Life's pretty unforgiving sometimes. (Matt, 24M)

And then the doctor took them away from me and I was in pain. I was sick, throwing up... physically was sick from it, from not having it. And where did I go? I went to the streets to find them. And then that became too expensive. And then I went to heroin. (Jessica, 32F)

Heroin use

- ▶ Rates of adolescent and young adult heroin use are lower compared to prescription use.
- ▶ In 2021: heroin use among:
 - ▶ Adolescents 12-17 = <0.1%
 - ▶ YA 18-25 = 0.2%
- ▶ According to MTF survey, peak rates of heroin use among 8th, 10th and 12th graders peaked in the late 1990s and early 2000s
- ▶ The lowest rates occurred after 2016, thereafter remaining steadily low.



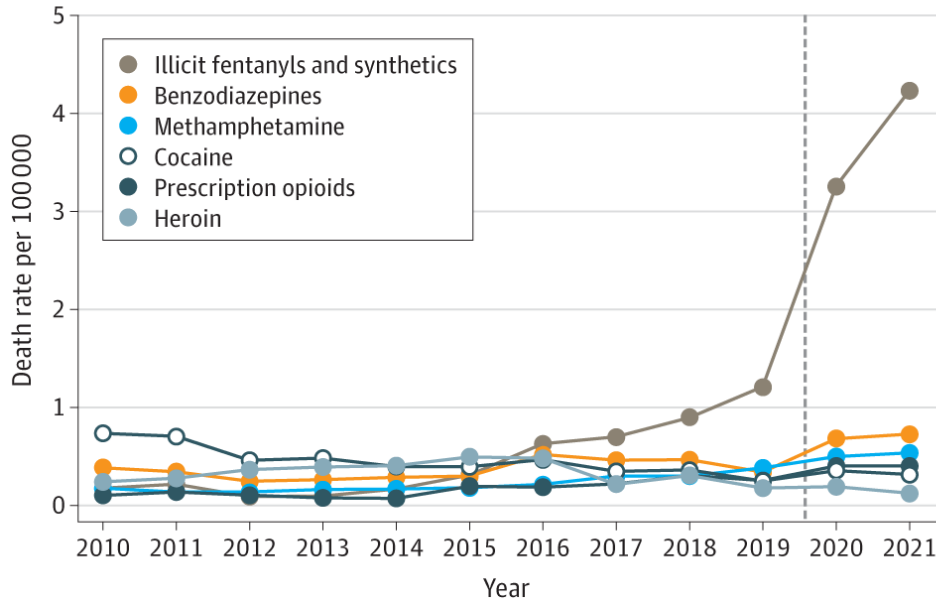
Drug Overdose Deaths Among Adolescents

Dramatic increase in drug overdose deaths among adolescents:

- ▶ 2010: 518 adolescent deaths (2.40 per 100,000 population)
- ▶ 2019: 492 deaths (2.36 per 100 000).
- ▶ 2020: 954 (4.57 per 100 000)
- ▶ 2021: 1146 (5.49 per 100 000).
- ▶ 2019 to 2020, overdose deaths up by 94.03%
- ▶ 2020 to 2021, overdose death up again by 20.05%.

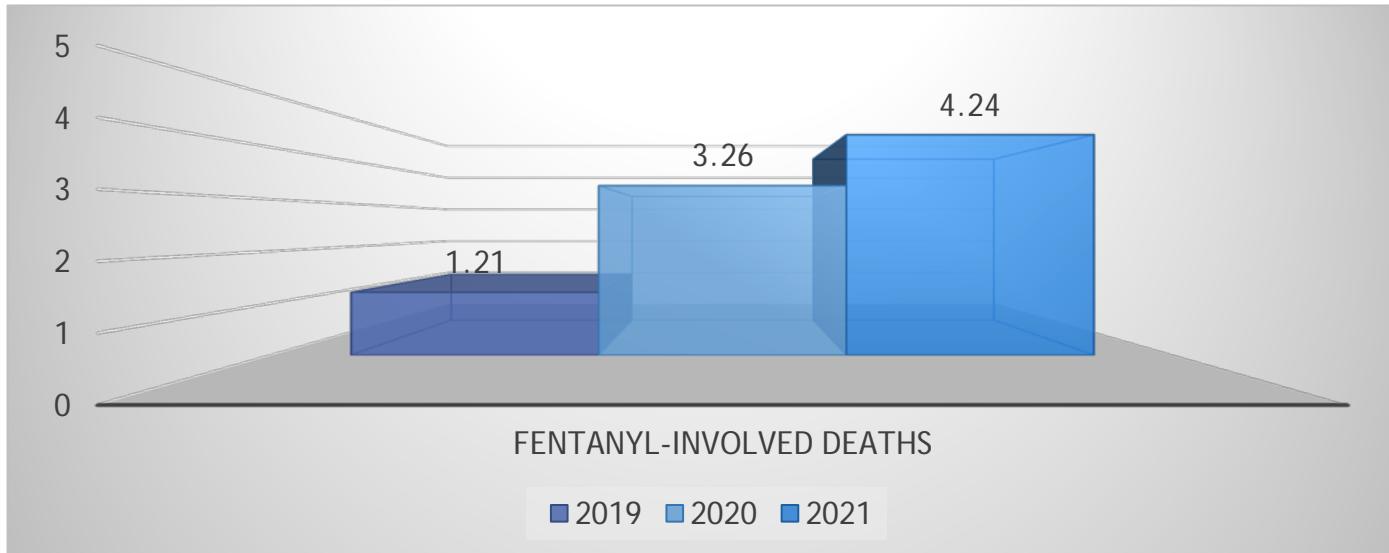
Impact of Fentanyl on adolescent deaths

A Overdose mortality among adolescents by substance type



- ▶ In 2021, fentanyls were identified in 77.14% of adolescent overdose deaths
- ▶ Compared with:
 - ▶ 13.26% for benzodiazepines
 - ▶ 9.77% for methamphetamine
 - ▶ 7.33% for cocaine
 - ▶ 5.76% for prescription opioids, and
 - ▶ 2.27% for heroin.

Fentanyl-involved death rates per 100K adolescents



Friedman J, 2022.

Number of National Drug Overdose Deaths* Involving Select Prescription and Illicit Drugs, Ages 15-24 Years Old

Source: National Center on Health Statistics, CDC WONDER

Opioid use mortality among young people was so severe in 2014 that it contributed to the first decline in US life expectancy in 60 years since 1959.²

Involvement in Deaths	2015	2021	Fold Change
Total Overdose Deaths	4,235	7,426	1.8
Prescription Opioids	886	655	0.7
Prescription Opioids AND fentanyl	171	414	2.4
Primarily fentanyl	999	5,936	5.9
Heroin	1,649	360	0.2

NCHS Data Brief No. 457, December 2022

Reasons for increased Fentanyl fatalities



- ▶ **Potency:** Fentanyl is an exceptionally potent synthetic opioid, estimated to be 50 to 100 times more potent than morphine.
- ▶ **Profitability:** Fentanyl's potency allows drug traffickers to produce a significant amount of doses from a small quantity of the drug. This makes it financially appealing.
- ▶ **Widespread availability**
- ▶ **Proliferation of counterfeit pills:** resembling prescription drugs but containing IMFs or other illicit drugs
- ▶ **Ease of purchasing pills:** through social media and dark web

Insights from CDC's State Unintentional Drug Overdose Reporting System (SUDORS)

- ▶ Drug overdose deaths among persons Aged 10-19 years
- ▶ From 2019 to 2021, monthly overdose deaths increased by 109%, and deaths involving IMFs increased by 182%
- ▶ 90% of overdose deaths involved opioids, 83.9% involved IMFs
- ▶ Only 35% of decedents had documented opioid use history
- ▶ Counterfeit pill evidence was present in 24.5% of overdose deaths

Circumstances in opioid overdose deaths in youth (SUDORS)

- ▶ Among 1,871 overdose deaths in 43 jurisdictions with available data on circumstances:
- ▶ 1,090 (60.4%) occurred at the decedent's home
- ▶ Potential bystanders were present in a majority (66.9%) of deaths
- ▶ Among deaths with potential bystanders present, no bystander response was reported for 849 (67.8%)
- ▶ Unawareness that decedents were using drugs cited in 22.4%.
- ▶ **Naloxone administration was documented in only 563 (30.3%) deaths.**



Methods of use resulting in deadly overdose

- ▶ Deaths had documentation of:
- ▶ ingestion (23.8%)
- ▶ smoking (23.5%)
- ▶ snorting (23.0%)
- ▶ injection (7.8%) (only among older adolescents).

The New York Times

Fentanyl Tainted Pills Bought on Social Media Cause Youth Drug Deaths to Soar

Teenagers and young adults are turning to Snapchat, Tik Tok and other social media apps to find Percocet, Xanax and other pills.



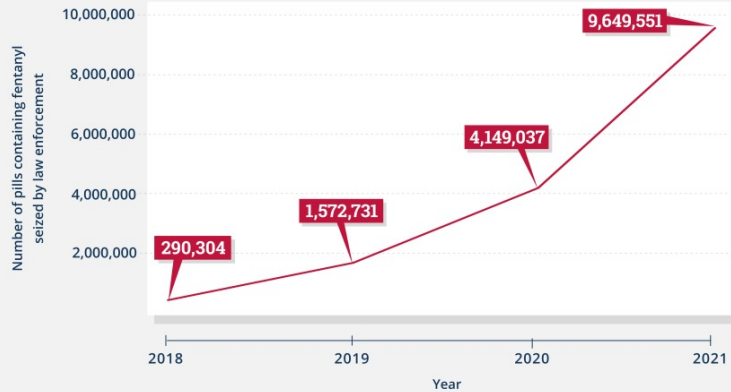
May 19, 2022



University of California Los Angeles
Integrated Substance Abuse Programs

Fentapills

Number of Pills Containing Fentanyl Seized by Law Enforcement in the United States, 2018 – 2021



Estimates based on data reported by the Office of National Drug Control Policy's High Intensity Drug Trafficking Areas program

Reference: JJ Palamar, et al. *Drug and Alcohol Dependence*. DOI: 10.1016/j.drugalcdep.2022.109398 (2022)

- ▶ According to DEA:
- ▶ These pills are largely made by two Mexican drug cartels:
- ▶ The Sinaloa Cartel and the Jalisco (CJNG) Cartel
- ▶ Made to look identical to real prescription medications, including OxyContin®, Percocet®, and Xanax®
- ▶ In 2021, DEA has seized >20.4 million fake prescription pills

In September 2021,
DEA launched the [One Pill Can Kill Public Awareness Campaign](#)
to educate Americans about the dangers of fake pills.

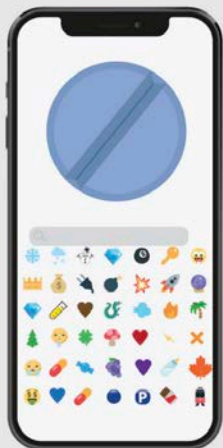




Rainbow fentanyl

“Rainbow fentanyl—fentanyl pills and powder that come in a variety of bright colors, shapes, and sizes—is a ***deliberate effort by drug traffickers to drive addiction amongst kids and young adults,***” said DEA Administrator Anne Milgram.





Emoji Drug Code DECODED

~~ONE PILL CAN KILL~~

Do you know the meaning behind certain emojis? Emojis were originally designed to represent an emotion, event, or activity, but have recently taken on a language of their own. Criminal organizations, including drug traffickers, have noticed and are using emojis to buy and sell counterfeit pills and other illicit drugs on social media and through e-commerce. This reference guide is intended to give parents, caregivers and influencers a better sense of how this language is being used in conjunction with illegal drugs. It is important to not, this list is not all-inclusive and the images contained below are a representative sample. Emojis, on their own, should not be indicative of illegal activity, but coupled with a change in behavior; change in appearance; or significant loss/increase in income should be a reason to start an important conversation. We understand initiating those conversations can be difficult so we have resources available at DEA.gov/onepill.

Popular Emoji Drug Codes

Oxycodone



Xanax®



Percocet®



Adderall®



Other Emoji Drug Codes

<p>Cocaine</p>		<p>Meth</p>	
<p>Heroin</p>		<p>Marijuana</p>	
<p>MDMA and Mollies</p>		<p>Cough Syrup</p>	
<p>Drug Dealer Advertising that they Sell/Dealer</p>		<p>High Potency</p>	
<p>Universal for Drugs</p>		<p>Mushrooms</p>	
		<p>Large Batch/Amount</p>	

Combination Emoji Drug Codes

= Package Arrived
 = Mobile / Delivery

100 pk = 100pk = 100 pills



Advise youth and parents

- Have a conversation with youth
- Explain what fentanyl is
- No pill bought on social media is safe.
- Do not take pills given by friends.

ONE PILL CAN KILL Drug Enforcement Administration
WHAT EVERY PARENT AND CAREGIVER NEEDS TO KNOW ABOUT FAKE PILLS

How would my child get fentanyl?

- Drug traffickers are using social media to advertise drugs and conduct sales. If you have a smartphone and a social media account, then a drug trafficker can find you. This also means they are finding your kids who have social media accounts.
- To learn about emoji codes used on social media, visit [Emoji Drug Code Decoded on www.dea.gov/onepill](https://www.dea.gov/onepill).

PERCOCET® & OXYCODONE


XANAX®


ADDERALL®

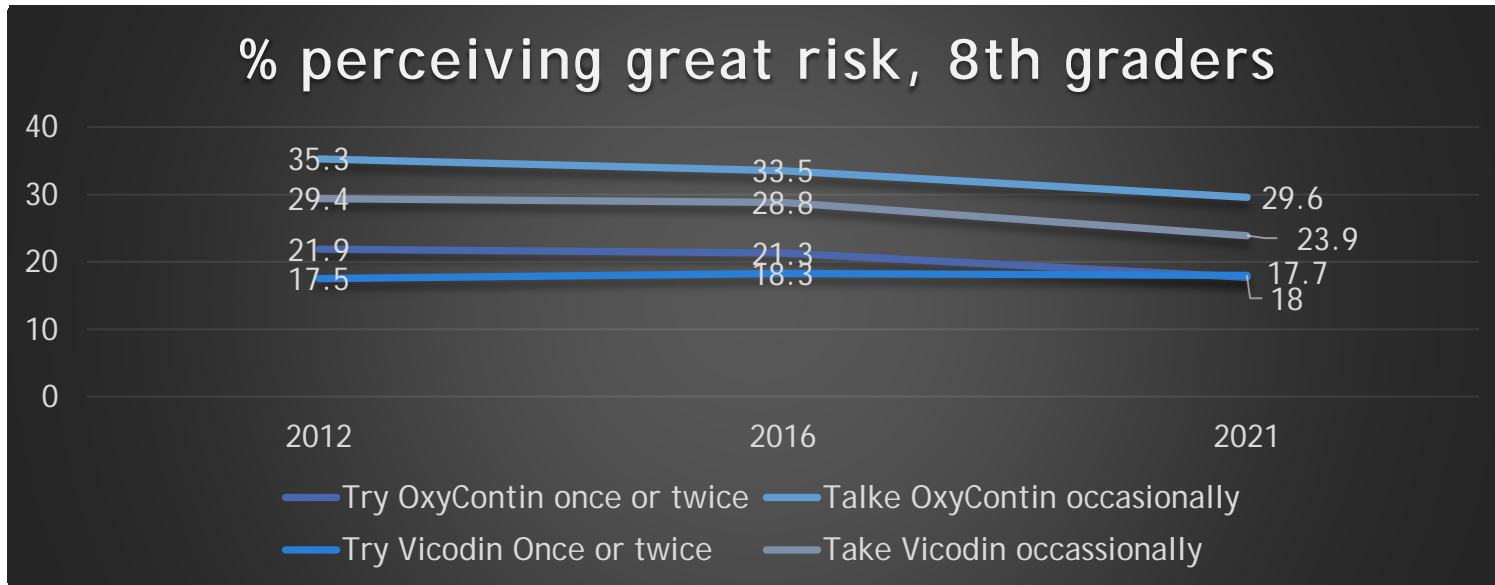

Why you should be concerned.

- The drug landscape is dramatically different from when you grew up, or even from just a few years ago.
- All parents and caregivers need to be educated on current drug threats to be able to have informed talks with their kids.

Tips for Parents and Caregivers

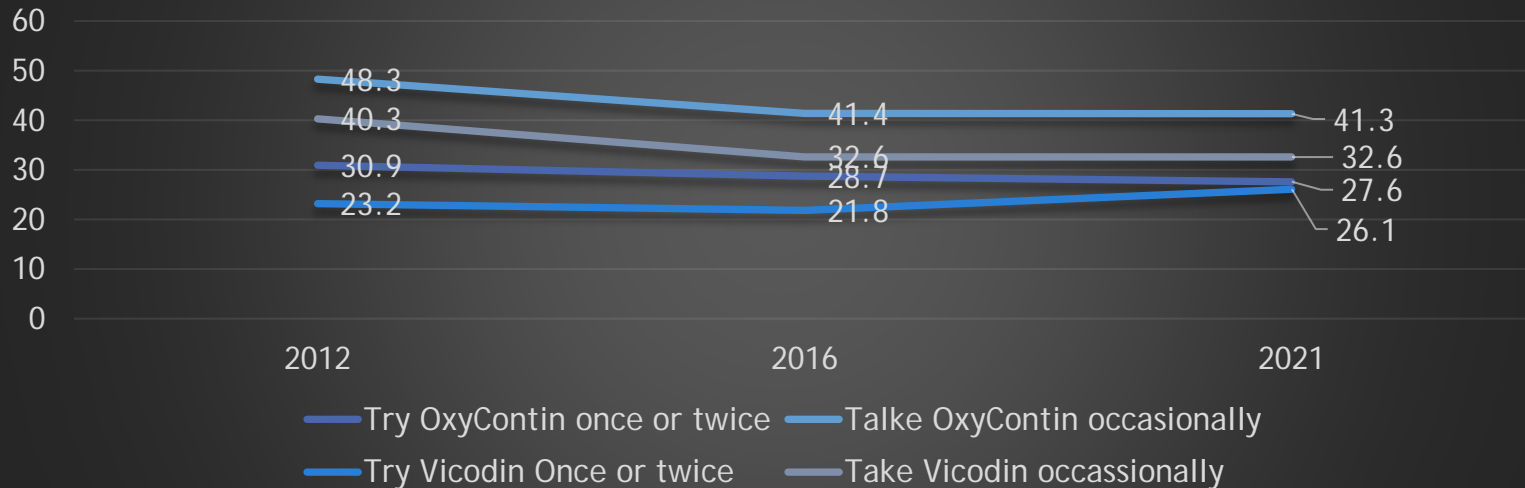
- Encourage open and honest communication
- Explain what fentanyl is and why it is so dangerous
- Stress not to take any pills that were not prescribed to you from a doctor
- No pill purchased on social media is safe
- Make sure they know fentanyl has been found in most illegal drugs
- Create an "exit plan" to help your child know what to do if they're pressured to take a pill or use drugs
- For more tips on how to talk to your child about drugs, read Chapter 4 of Growing Up Drug Free: A Parent's Guide to Substance Use Prevention at www.getsmartaboutdrugs.com/publications

Monitoring the future



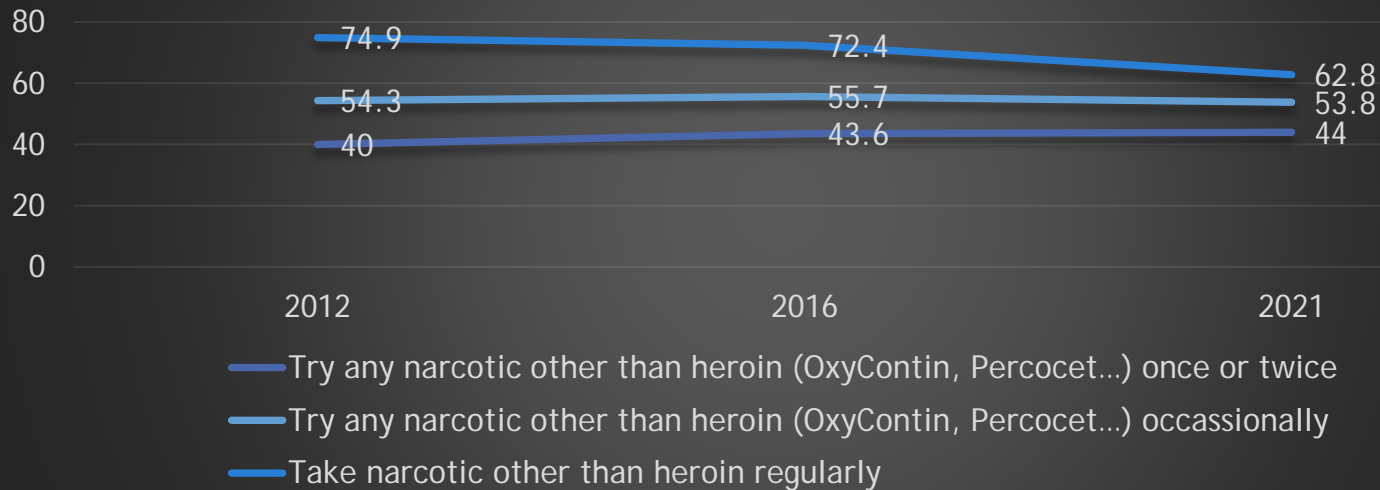
Monitoring the future

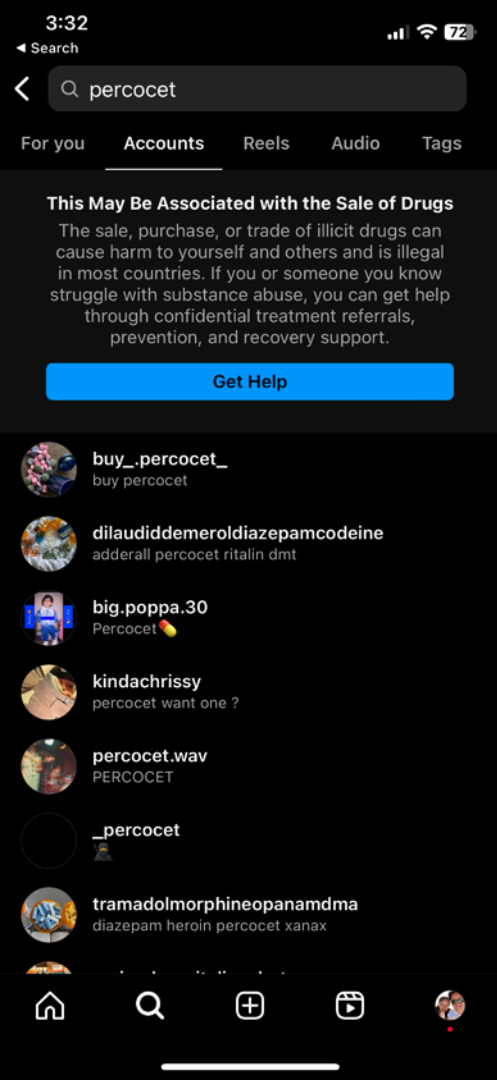
% perceiving great risk, 10th graders



Monitoring the future

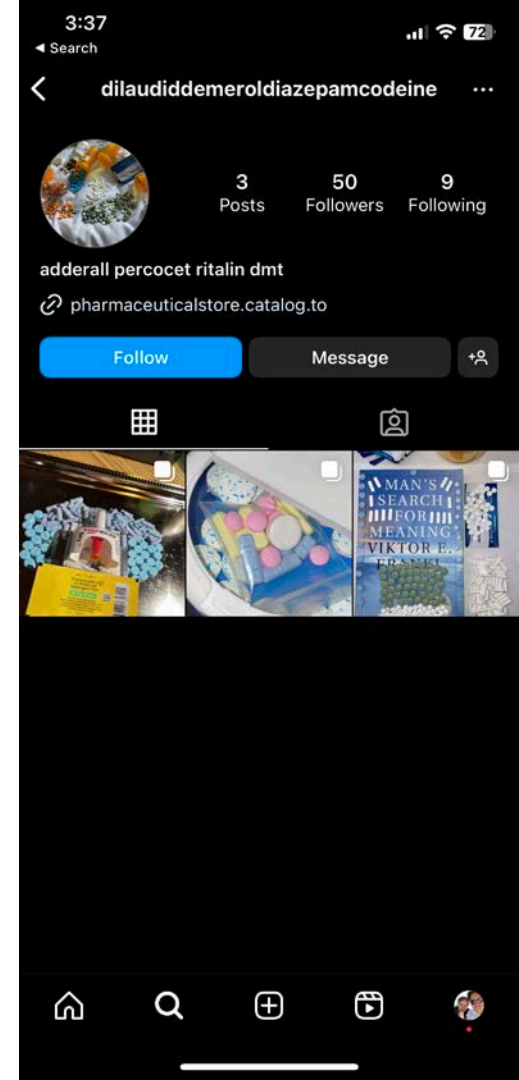
% perceiving great risk, 12th graders





2023 Social Media

- ▶ Educate young people:
- ▶ Pills purchased via social media, given to someone by a friend, or obtained from an unknown source may contain deadly fentanyl.



As individuals mature between 13 and 21 years,
the likelihood of lifetime substance use disorder drops
4–5% for each year
that initiation of substance use is delayed

Grant, 1998

Clinical Scenario



- ▶ Liz, 16-year-old female without past medical problems presenting for declining school performance and frequent fatigue.
- ▶ Formerly excellent student and active in extracurriculars.
- ▶ Started dance classes at 13, was taking advanced classes until one month ago due knee pain.
- ▶ Was asked to take time off to rest to prevent overuse injury.
- ▶ Isolating herself, irritable, had many friends but lately only prefers Anna as a friend.
- ▶ Extreme sleepiness, nodding off during morning wake-up.
- ▶ Liz quiet during the interview with her mother.

Clinical Scenario

- ▶ Mother steps out for confidential interview with Liz. Liz feels more comfortable speaking to you alone.
- ▶ Liz is sad about persistent knee pain.
- ▶ Friend Anna used Percocet for an ankle injury, bought on Snapchat.
- ▶ Liz started buying Percocet through Anna's contact. Initially ingested, then crushed and snorted them.
- ▶ Last week, Liz shared one pill with her boyfriend during a party.
- ▶ Percocet significantly improved Liz's pain.
- ▶ However, Liz also agrees that Percocet causes her to be very tired.
- ▶ Liz agrees to involve her mother in the discussion.



What are key interventions in this case?

Educate Liz and her mother about fentanyl.

Discuss Fentanyl potency, involvement in overdose deaths

Include information about the "One Pill Can Kill" campaign.

Discuss the risk of buying fake pills in social media.

Screen for other substance use disorders with validated tools.

Prescribe naloxone and education about overdose.

Address pain management: physical therapy, non-opioid analgesics

Address emotional wellbeing: referral to mental health professional

What are key interventions in this case?

Use motivational interviewing and brief interventions

Align with patient goals: dance and pain control

Praise open communication

Discuss harm reduction, limit coingestion with alcohol, limit legal risk.

Discuss and consider MOUD

Schedule close follow up & Determine need for referral to substance use treatment

Assess Liz's understanding of risk (optimistic bias or risk minimization)

Discuss disposal of current medications

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