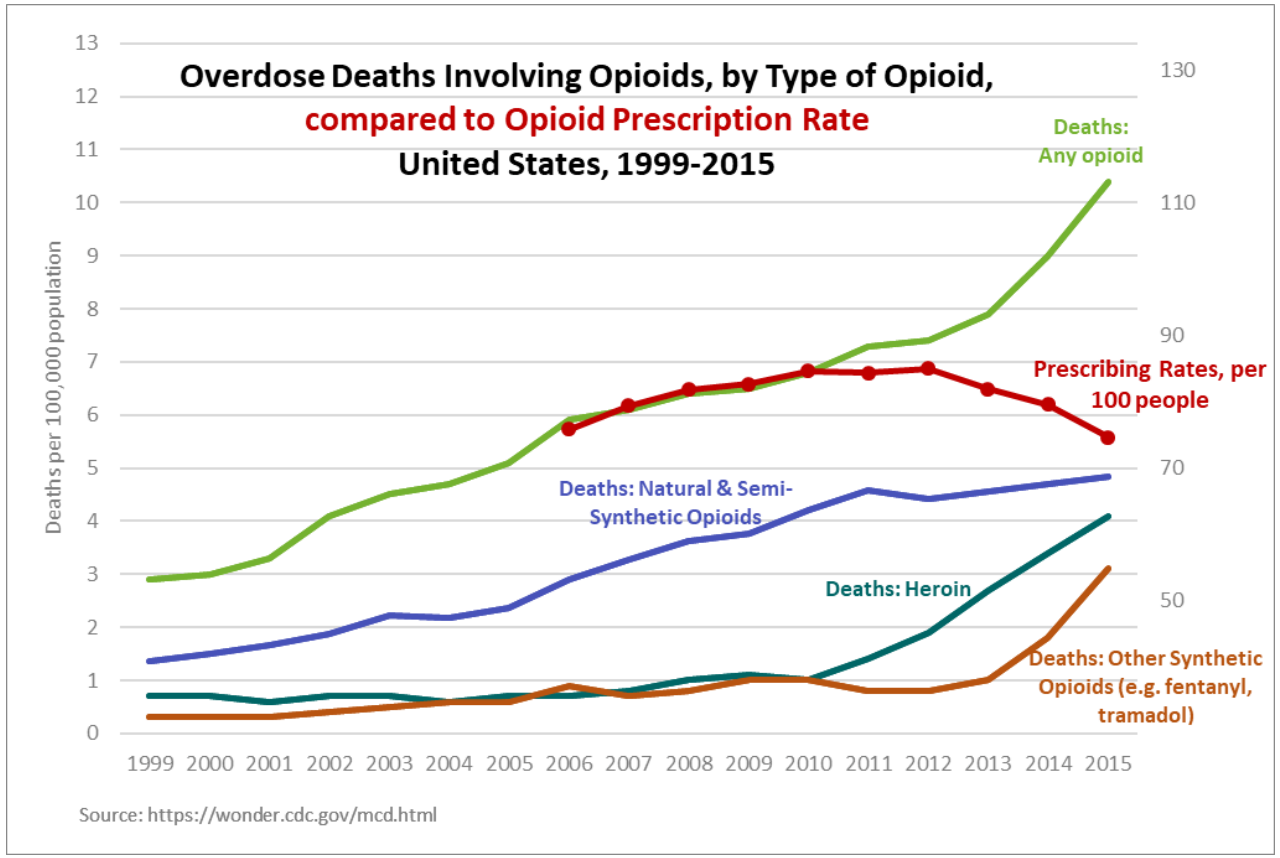
Technology and Opioids

Craig Norquist, FACEP FAMIA
CMIO HonorHealth
Past President AzCEP

Prescriber Response

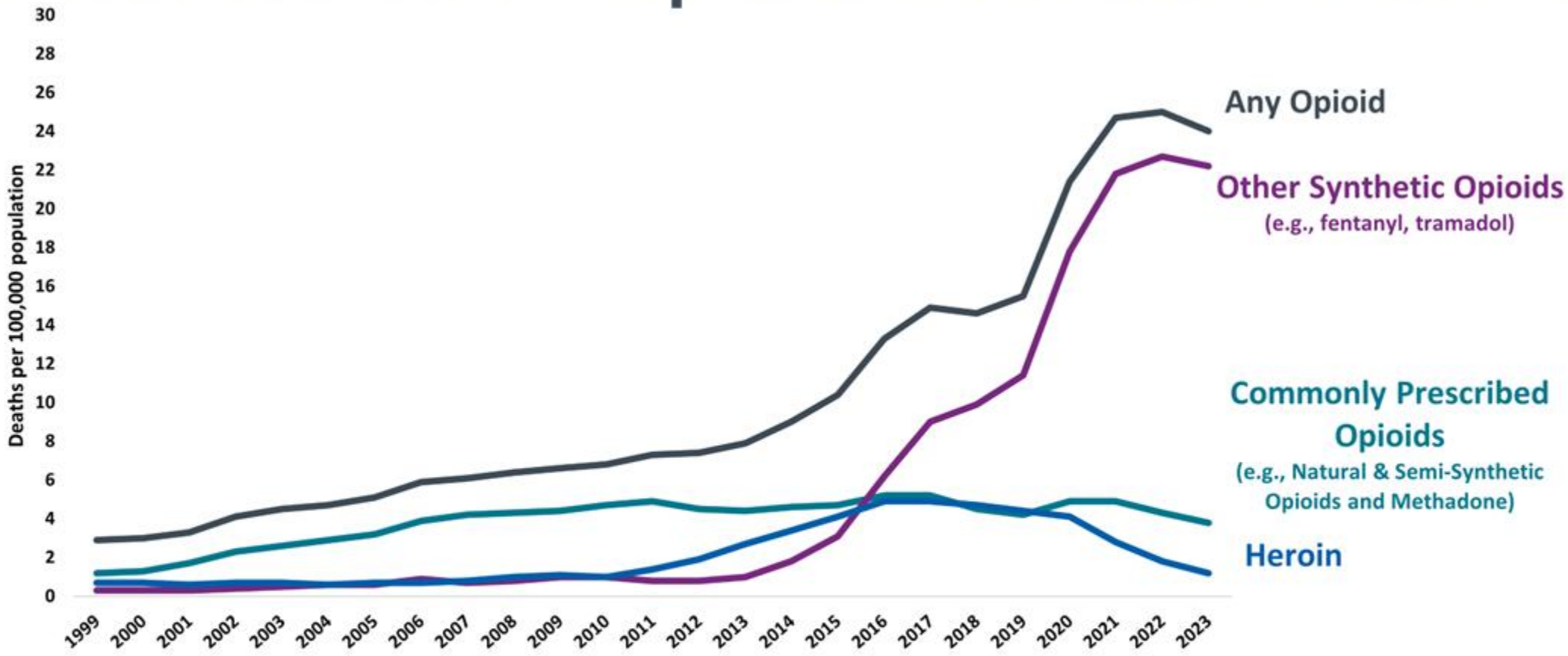


Decrease in prescribing rates

Patients with opioid use disorder turn to illicit use

Overdose deaths continue to increase

Three Waves of Opioid Overdose Deaths



Wave 1: Rise in Prescription Opioid Overdose Deaths Started in the 1990s

Wave 2: Rise in Heroin Overdose Deaths Started in 2010

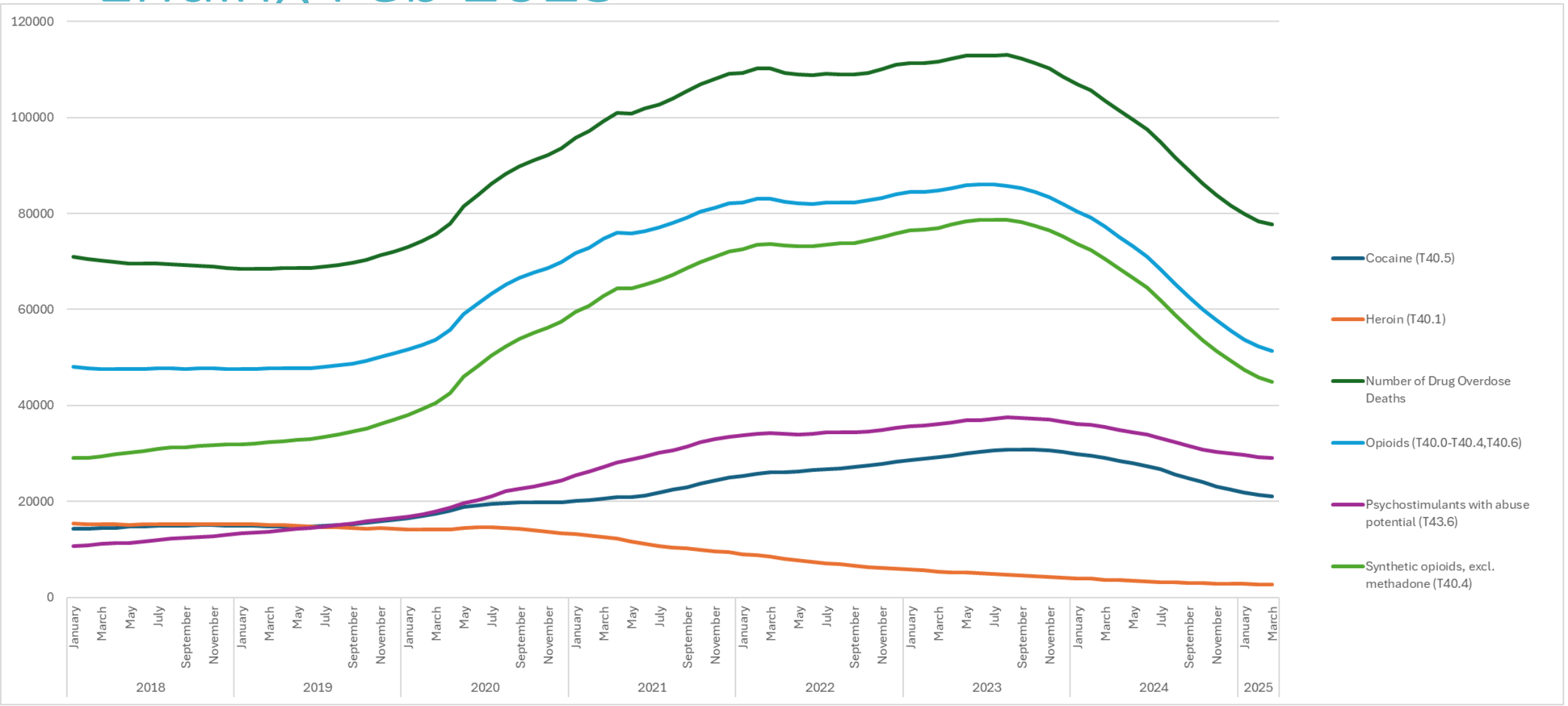
Wave 3: Rise in Synthetic Opioid Overdose Deaths Started in 2013

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2024. https://wonder.cdc.gov/.

CDC

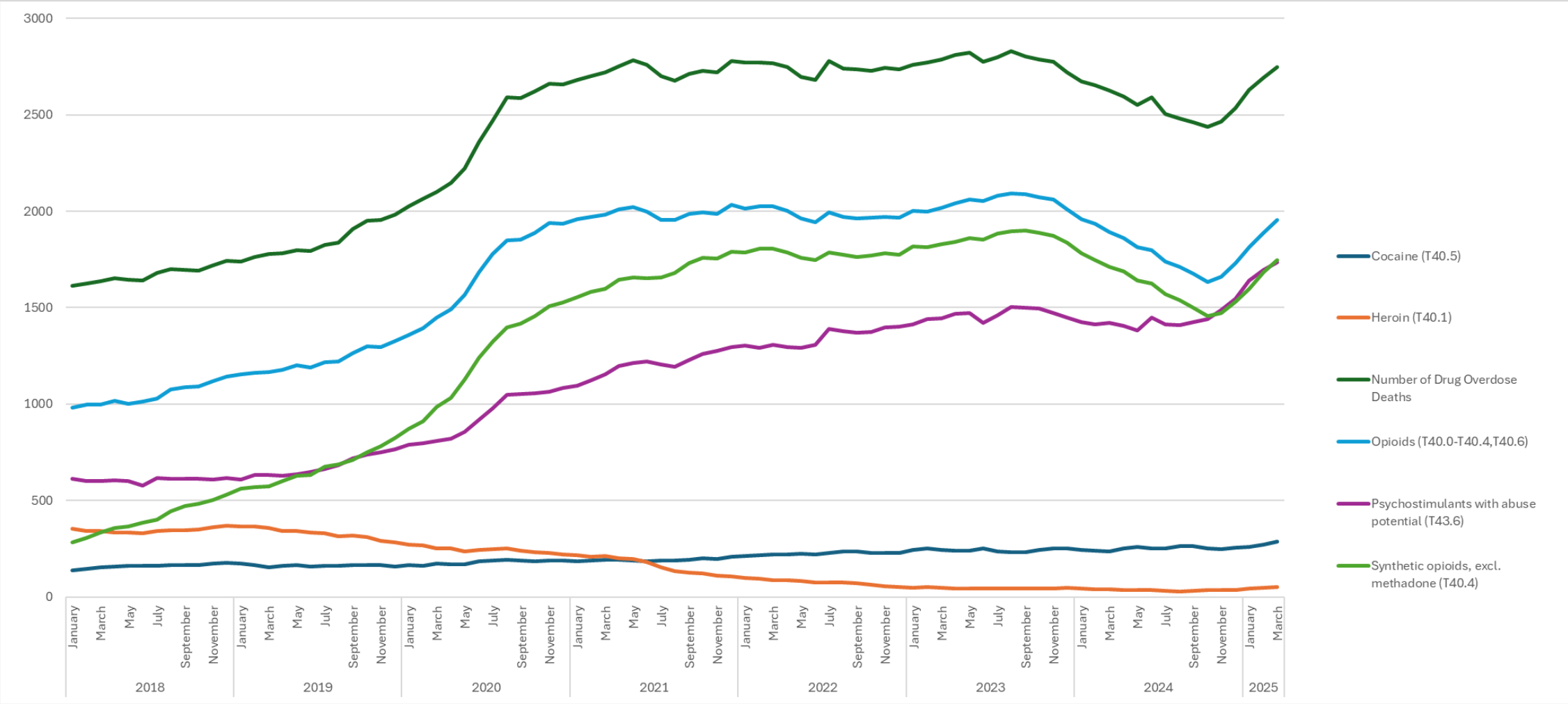
Overdose Trends in United States Ending Feb 2025

https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm



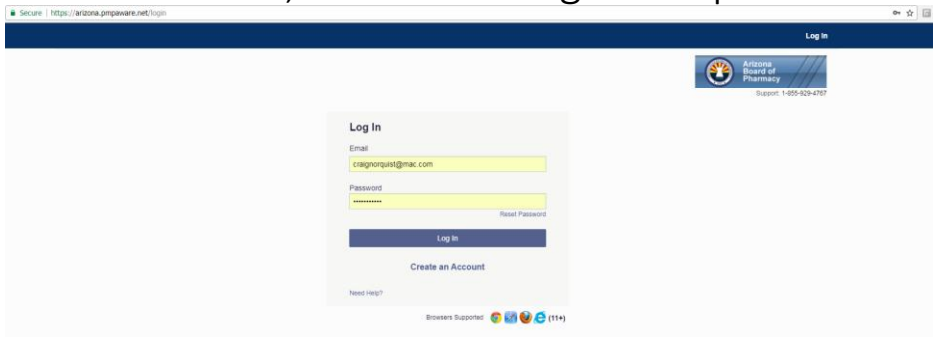
Overdose Trends in Arizona Ending Feb 2025

https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

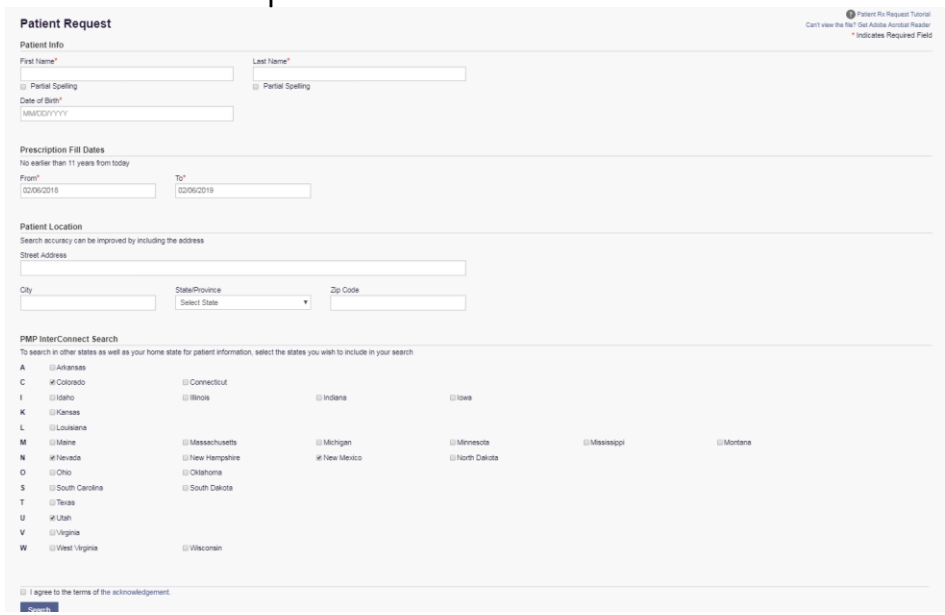


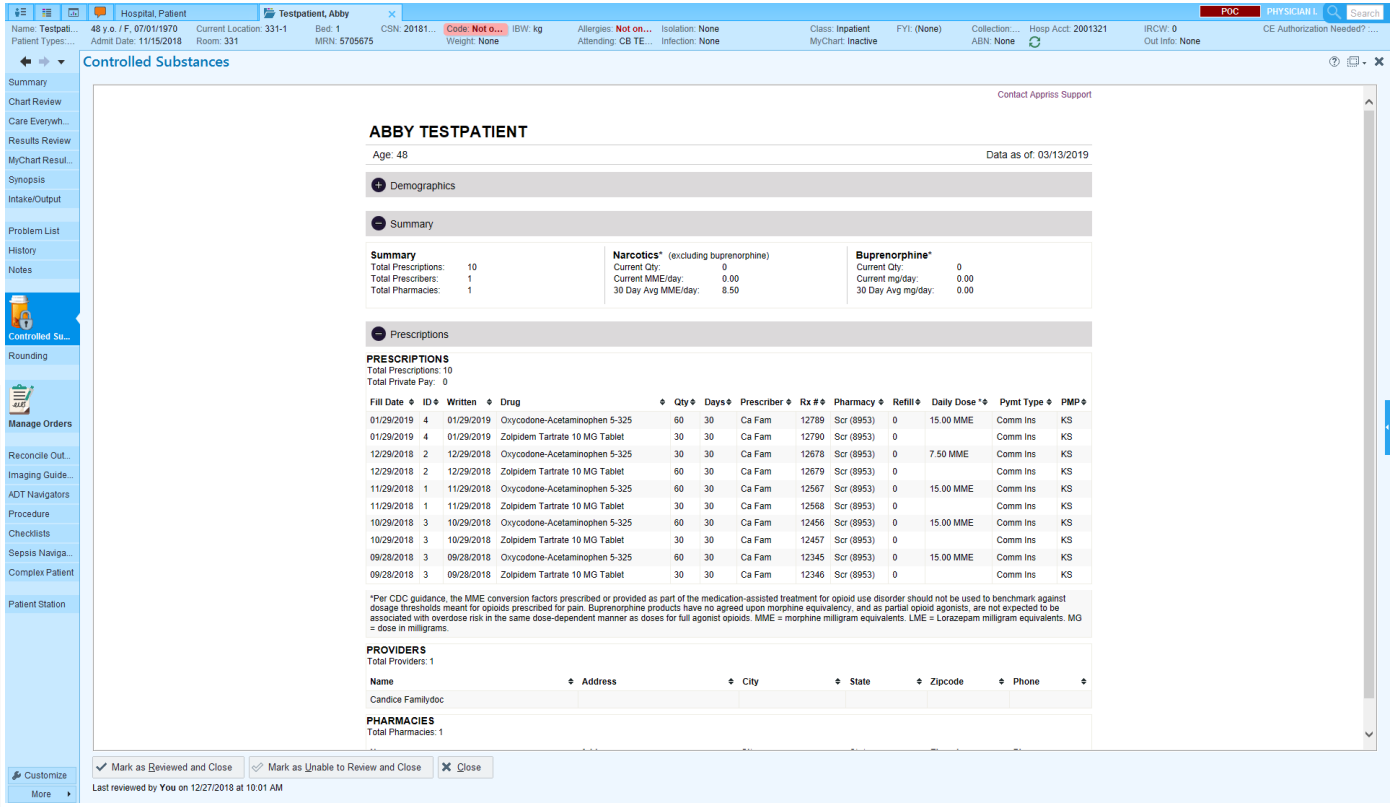
Prescription Drug Monitoring Program (PDMP)

Find website, remember login and password



Enter patient name and birthdate





Summary
Chart Review
Care Everywh...
Results Review
MyChart Resul...
Synopsis
Intake/Output
Problem List
History
Notes
Controlled Su...
Rounding
Manage Orders
Reconcile Out...
Imaging Guide...
ADT Navigators
Procedure
Checklists
Sepsis Naviga...
Complex Patient
Patient Station
Customize

Controlled Substances

Contact Appriss Support

ABBY TESTPATIENT

Age: 48 | Data as of: 03/13/2019

Demographics

Summary

Summary
Total Prescriptions: 10
Total Prescribers: 1
Total Pharmacies: 1

Narcotics* (excluding buprenorphine)
Current Qty: 0
Current MME/day: 0.00
30 Day Avg MME/day: 8.50

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

Prescriptions

PRESCRIPTIONS
Total Prescriptions: 10
Total Private Pay: 0

Fill Date	ID	Written	Drug	Qty	Days	Prescriber	Rx #	Pharmacy	Refill	Daily Dose *	Pymt Type	PMP
01/29/2019	4	01/29/2019	Oxycodone-Acetaminophen 5-325	60	30	Ca Fam	12789	Scr (8953)	0	15.00 MME	Comm Ins	KS
01/29/2019	4	01/29/2019	Zolpidem Tartrate 10 MG Tablet	30	30	Ca Fam	12790	Scr (8953)	0		Comm Ins	KS
12/29/2018	2	12/29/2018	Oxycodone-Acetaminophen 5-325	30	30	Ca Fam	12678	Scr (8953)	0	7.50 MME	Comm Ins	KS
12/29/2018	2	12/29/2018	Zolpidem Tartrate 10 MG Tablet	60	30	Ca Fam	12679	Scr (8953)	0		Comm Ins	KS
11/29/2018	1	11/29/2018	Oxycodone-Acetaminophen 5-325	60	30	Ca Fam	12567	Scr (8953)	0	15.00 MME	Comm Ins	KS
11/29/2018	1	11/29/2018	Zolpidem Tartrate 10 MG Tablet	30	30	Ca Fam	12568	Scr (8953)	0		Comm Ins	KS
10/29/2018	3	10/29/2018	Oxycodone-Acetaminophen 5-325	60	30	Ca Fam	12456	Scr (8953)	0	15.00 MME	Comm Ins	KS
10/29/2018	3	10/29/2018	Zolpidem Tartrate 10 MG Tablet	30	30	Ca Fam	12457	Scr (8953)	0		Comm Ins	KS
09/28/2018	3	09/28/2018	Oxycodone-Acetaminophen 5-325	60	30	Ca Fam	12345	Scr (8953)	0	15.00 MME	Comm Ins	KS
09/28/2018	3	09/28/2018	Zolpidem Tartrate 10 MG Tablet	30	30	Ca Fam	12346	Scr (8953)	0		Comm Ins	KS

*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: 1

Name	Address	City	State	Zipcode	Phone
Candice Familydoc					

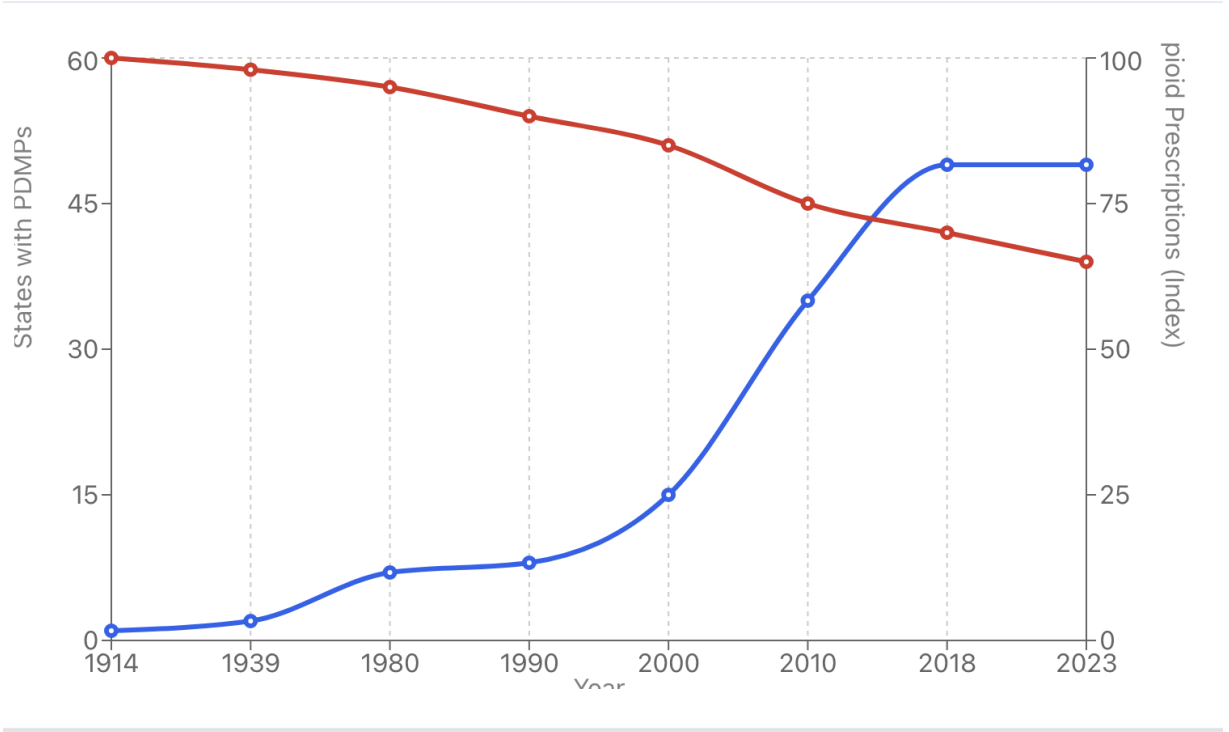
PHARMACIES
Total Pharmacies: 1

Mark as Reviewed and Close | Mark as Unable to Review and Close | Close

- Improved co-prescribing of benzos and opioids
- Decreased doctor shopping
- Empowered prescribers to not prescribe
- All states now have PDMP
  - Missouri was last to launch its program
- Many states share data so you can look up patients who are here temporarily
  - Unfortunately, California has strict data sharing and privacy laws prohibit sharing

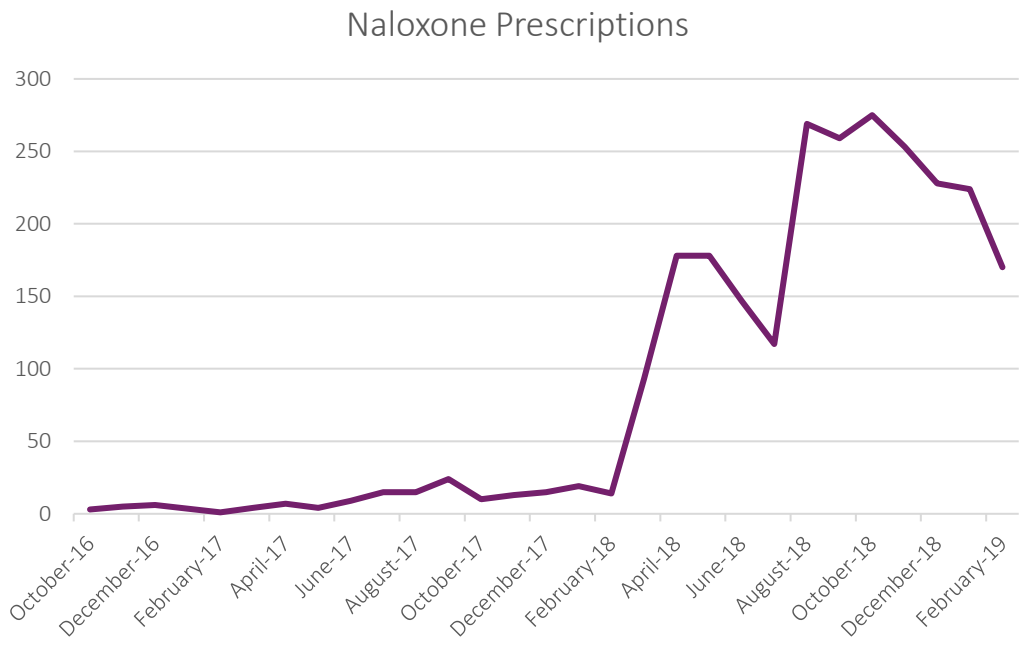
Growth and Impact of PDMPs in the U.S.

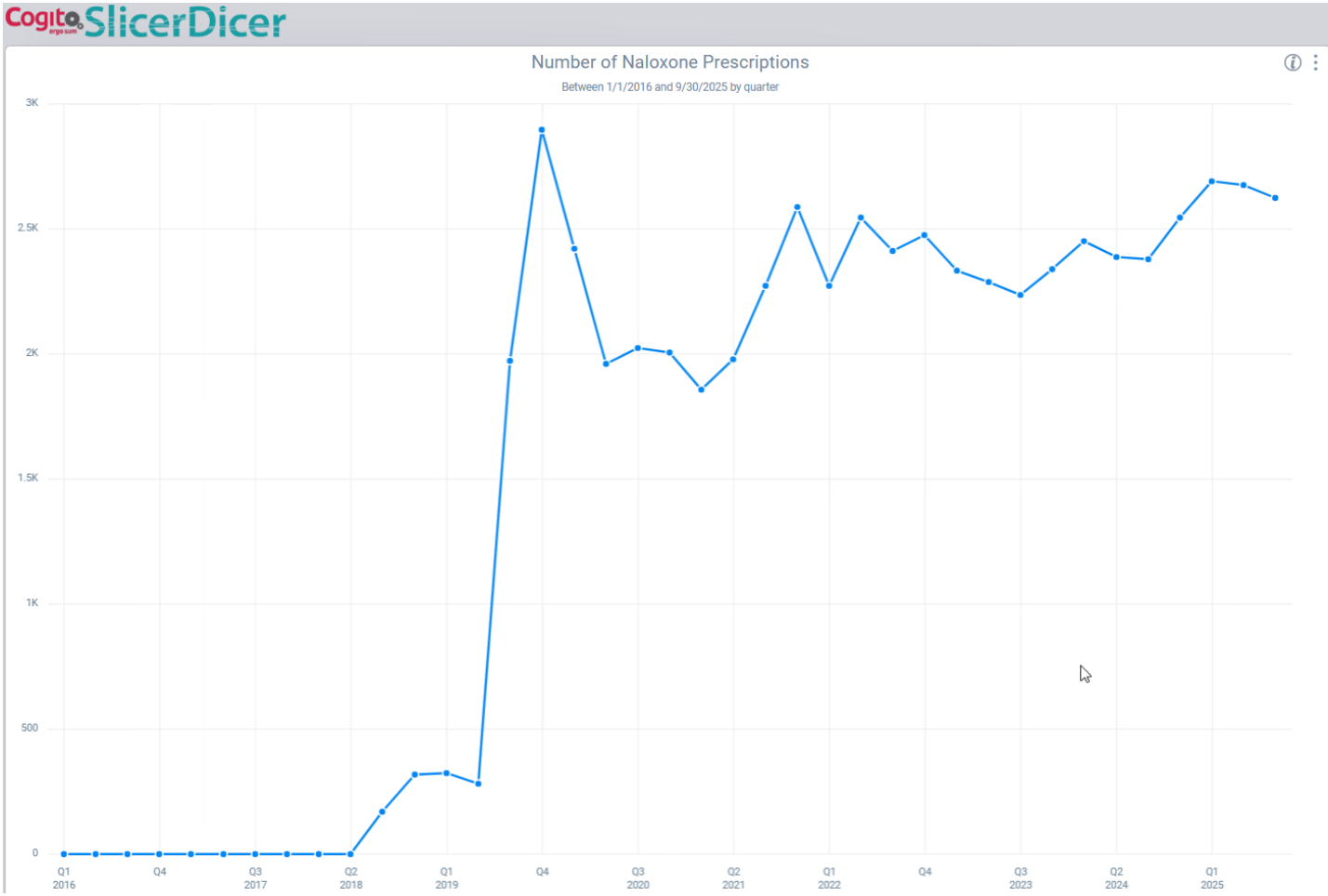
Prescription Drug Monitoring Programs (PDMPs) have expanded from a single paper-based tracking system in 1914 to nearly universal adoption by 2018. Their implementation has been linked to reductions in opioid prescribing, distribution, and overdose deaths—showing the power of data-driven policy in combating the opioid epidemic.



Sources: Holmgren AJ et al., *AJPH* 2020; Sahebi-Fakhrabad A et al., *Healthcare* 2023.
PDMPs are associated with a 10–12% reduction in opioid-related deaths and a 3–4% decrease in distribution per policy implementation.

Naloxone Prescribing





Am J Emerg Med. 2021 Sep:47:154-157. doi: 10.1016/j.ajem.2021.03.056. Epub 2021 Mar 24.

Naloxone prescriptions following emergency department encounters for opioid use disorder, overdose, or withdrawal

Austin S Kilaru [1], Manqing Liu [2], Ravi Gupta [3], Jeanmarie Perrone [4], M Kit Delgado [4], Zachary F Meisel [4], Margaret Lowenstein [5]

Affiliations + expand

PMID: 33812332 PMCID: PMC8608552 DOI: 10.1016/j.ajem.2021.03.056

Abstract

Objective: To determine the rate at which commercially-insured patients fill prescriptions for naloxone after an opioid-related ED encounter as well as patient characteristics associated with obtaining naloxone.

Methods: This is a retrospective cohort study of adult patients discharged from the ED following treatment for an opioid-related condition from 2016 to 2018 using a commercial insurance claims database (Optum Clinformatics® Data Mart). The primary outcome was a pharmacy claim for naloxone in the 30 days following the ED encounter. A multivariable logistic regression model examined the association of patient characteristics with filled naloxone prescriptions, and predictive margins were used to report adjusted probabilities with 95% confidence intervals.

Results: 21,700 patients had opioid-related ED encounters during the study period, of which 1743 (8.0%) had encounters for heroin overdose, 8825 (40.7%) for overdose due to other opioids, 5400 (24.9%) for withdrawal, and 5732 (26.4%) for other opioid use disorder conditions. 230 patients (1.1%) filled a prescription for naloxone within 30 days. Patients with heroin overdose (2.6%; 95%CI 1.7 to 3.4), recent prescriptions for opioid analgesics (1.4%; 95%CI 1.1 to 1.7), recent prescriptions for buprenorphine (1.9%; 95%CI 1.0 to 2.9), and naloxone prescriptions in the prior year (3.3%; 95%CI 1.8 to 4.8) were more likely to obtain naloxone. The rate was significantly higher in 2018 [1.9% (95%CI 1.5 to 2.2)] as compared to 0.4% (95%CI 0.3 to 0.6) in 2016.

Conclusions: Few patients use insurance to obtain naloxone by prescription following opioid-related ED encounters. Clinical and policy interventions should expand distribution of this life-saving medication in the ED.

Circumstances Surrounding overdose deaths from all 38 reporting states

65.9%

of drug overdose deaths had at least one potential opportunity for intervention

6.9%
Current treatment for substance use disorder(s)[21]

8.1%
Fatal drug use witnessed

28.7%
Evidence of a mental health diagnosis

42.6%
Potential bystander present[22]

13.5%
Prior overdose

9.0%
Decedent was recently released from institutional setting[23]

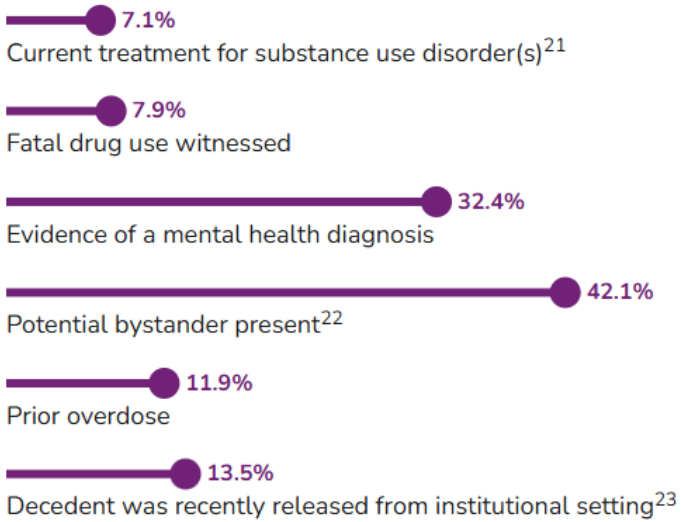
†Circumstance percentages are only among decedents with sufficient information on circumstances surrounding the overdose death.

Centers for Disease Control and Prevention. State Unintentional Drug Overdose Reporting System (SUDORS). Final Data. Atlanta, GA: US Department of Health and Human Services, CDC; August 2025. Access at: https://www.cdc.gov/overdose-prevention/data-research/facts-stats/sudors-dashboard-fatal-overdose-data.html

Circumstances surrounding overdose deaths in Arizona in 2023

69.0%

of drug overdose deaths had at least one potential opportunity for intervention



[†] Circumstance percentages are only among decedents with sufficient information on circumstances surrounding the overdose death.

Centers for Disease Control and Prevention. State Unintentional Drug Overdose Reporting System (SUDORS). Final Data. Atlanta, GA: US Department of Health and Human Services, CDC; August 2025. Access at: https://www.cdc.gov/overdose-prevention/data-research/facts-stats/sudors-dashboard-fatal-overdose-data.html

Impact of Naloxone and Risk Reduction

What were the circumstances[20] surrounding overdose deaths in 2020, *Arizona*?[†]

Arizona | 2020

View data for: Bystanders

Potential bystanders represent people who were physically nearby during or right before an overdose and potentially had an opportunity to prevent or respond to the overdose. Educating potential bystanders, such as family and friends of people who use drugs, on how to respond to an overdose (e.g., by administering naloxone) could prevent deaths.

62.3%
Potential bystander present[22]

Among deaths with a potential bystander present:

76.2%
Bystander provided no overdose response

Among deaths with no bystander response, reasons for nonresponse included:

55.2%
Bystander was spatially separated from decedent

23.8%
Bystander was unaware decedent was using substances

12.3%
Bystander did not recognize abnormalities

10.6%
Bystander did not recognize abnormalities as an overdose

4.3%
Bystander was using substances or alcohol

7.1%
It was a public space and strangers did not intervene

What were the circumstances[20] surrounding overdose deaths in 2023, *Arizona*?[†]

Arizona | 2023

View data for: Bystanders

Potential bystanders represent people who were physically nearby during or right before an overdose and potentially had an opportunity to prevent or respond to the overdose. Educating potential bystanders, such as family and friends of people who use drugs, on how to respond to an overdose (e.g., by administering naloxone) could prevent deaths.

42.1%
Potential bystander present[22]

Among deaths with a potential bystander present:

74.1%
Bystander provided no overdose response

Among deaths with no bystander response, reasons for nonresponse included:

49.3%
Bystander was spatially separated from decedent

34.9%
Bystander was unaware decedent was using substances

10.7%
Bystander did not recognize abnormalities

12.8%
Bystander did not recognize abnormalities as an overdose

5.5%
Bystander was using substances or alcohol

4.6%
It was a public space and strangers did not intervene

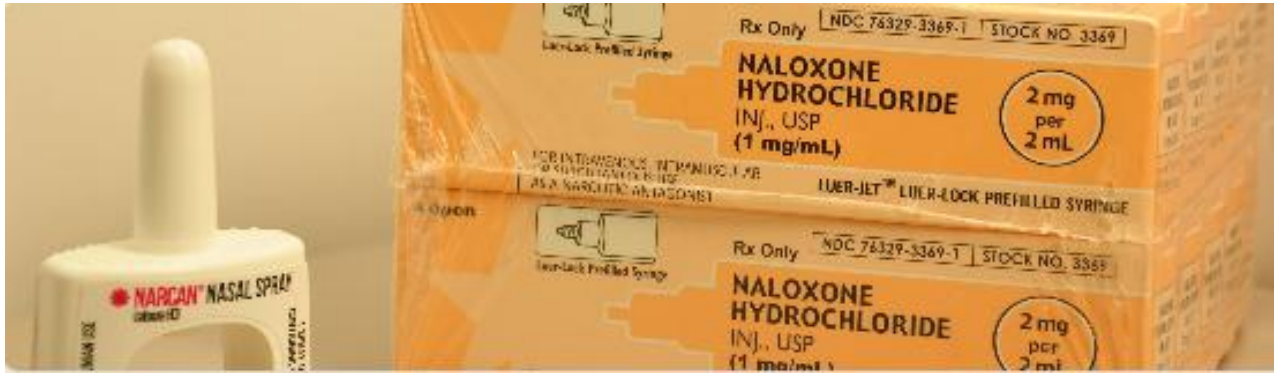
Naloxone Programs

ADHS

- Available at no cost to law enforcement agencies, county health departments, EDs, CBOs such as prevention coalitions, harm reduction organizations, and shelter
- Distribute to over 600 agencies in Arizona
- County naloxone distribution model
- Order directly from azdhs.gov/opioid

Sonoran Prevention Works

- Community based naloxone distribution model
- Provides community education and training on how to administer naloxone including IM formulation
- Contact directly for naloxone and safer use supplies: https://spwaz.org/get-supplies/



Tracking form

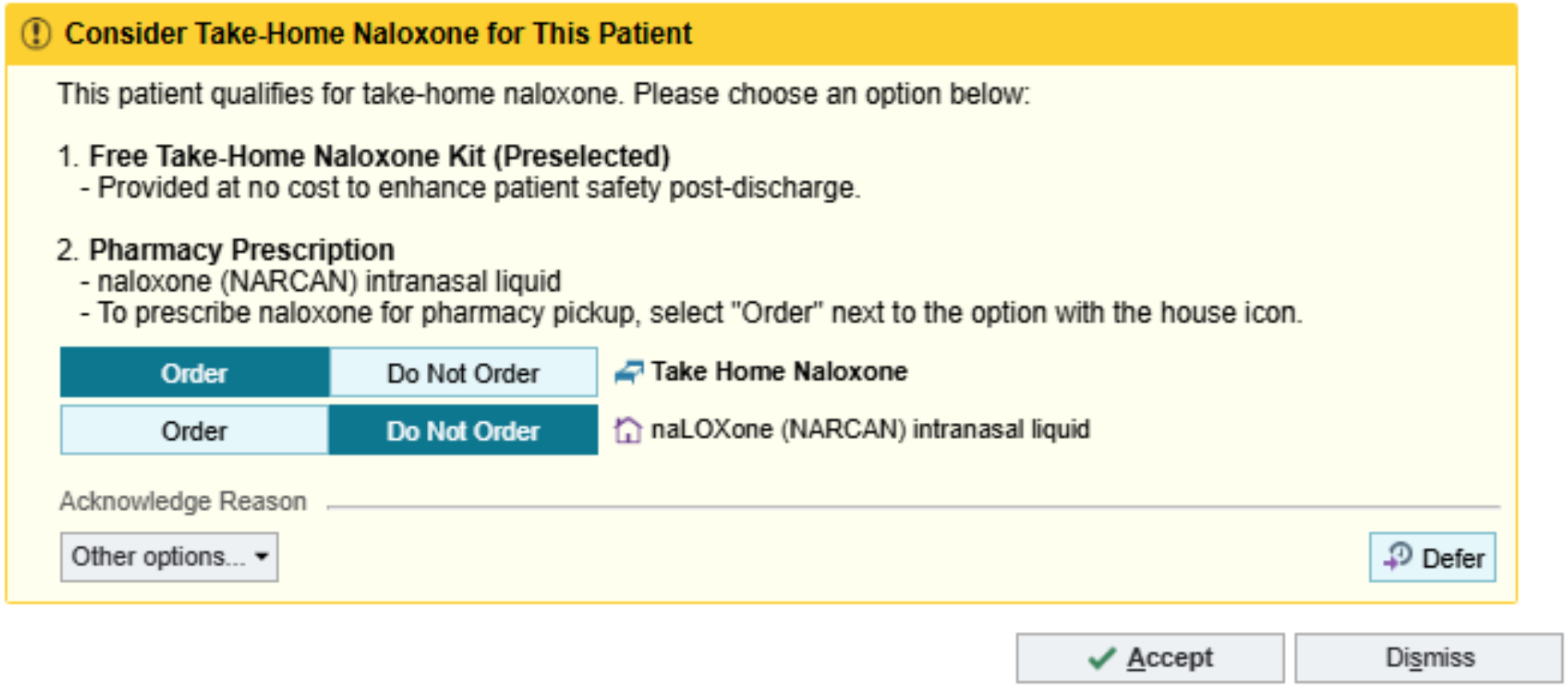
HONORHEALTH

EMERGENCY DEPARTMENT NALOXONE DISTRIBUTION LOG

DATE	#RECEIVED OR ISSUED	PATIENT INFORMATION	LOT# EXP#	PHYSICIAN NAME	INVENTORY BALANCE
3/29/23	Received +30	N/A			30
3/29/23	-1	John Doe Affix patient label	Enter lot and exp date	Dr. Norquist	29

Example

Using Technology to Make it Easier



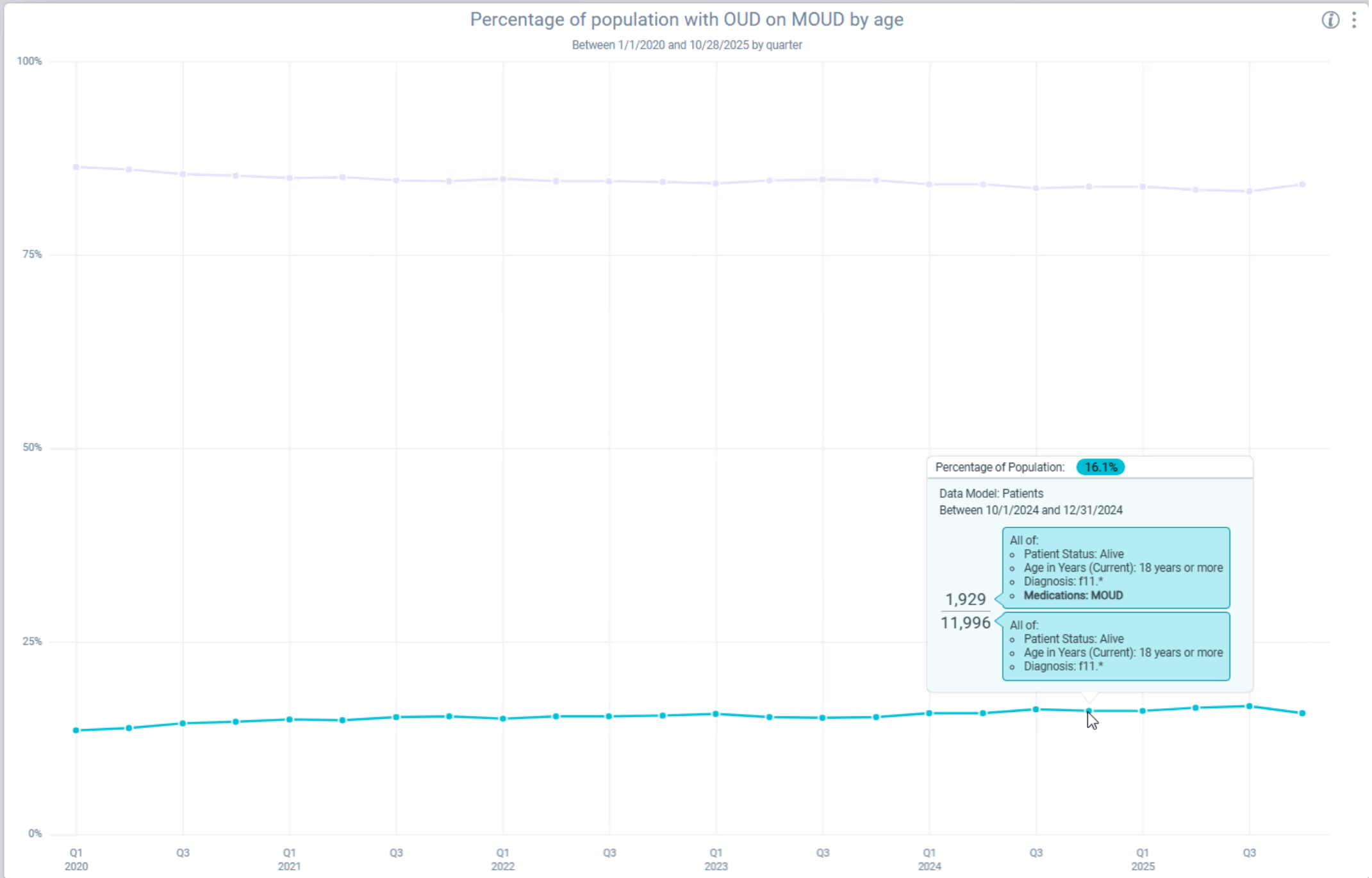
Medications for Opioid Use Disorder

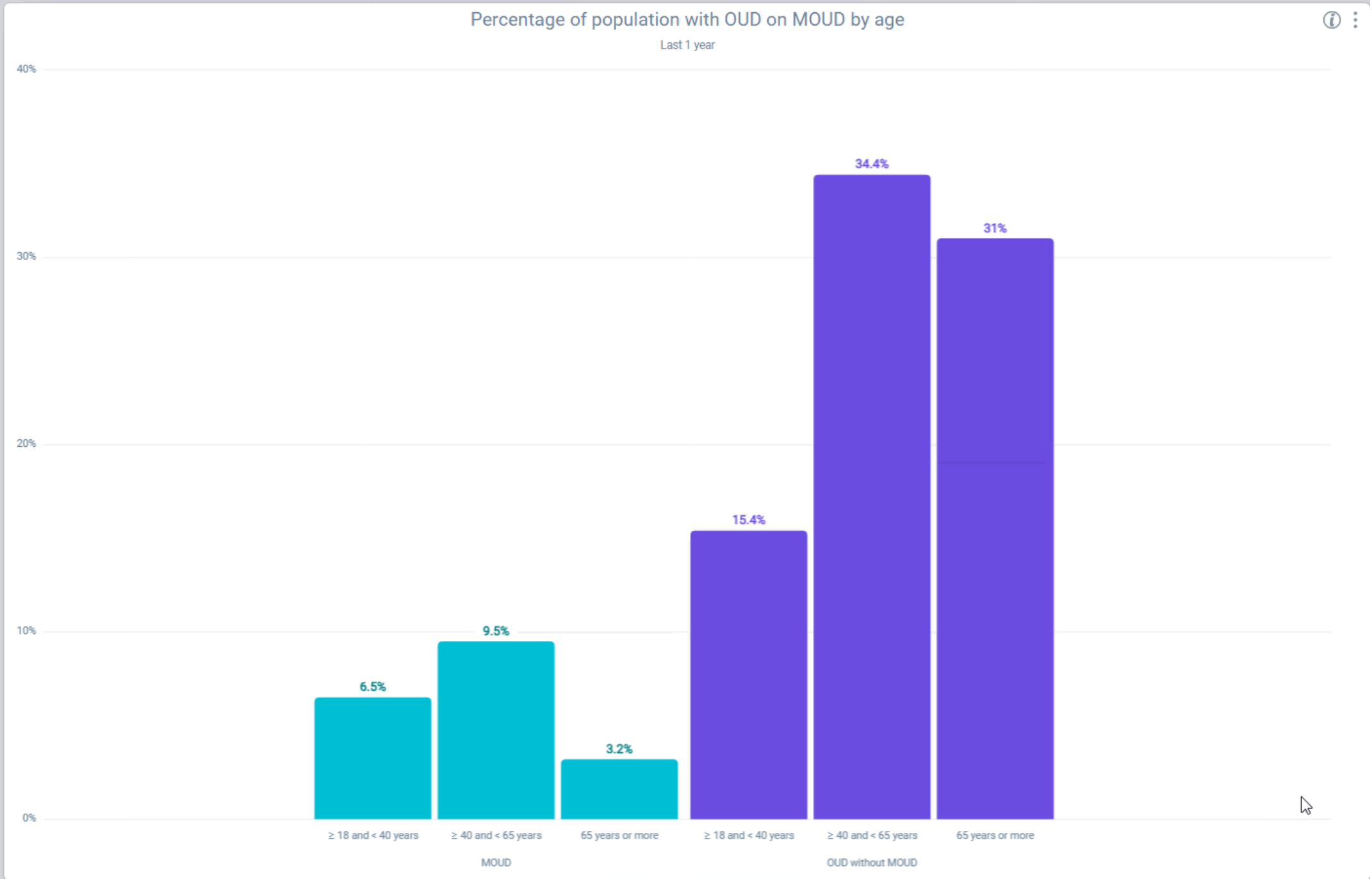
Proven to be save and effective

Underutilized

Waiver removed in 2021 but still not taken up by prescribers

Cogito SlicerDicer




Percentage of population with OUD on MOUD by age
Last 1 year
40%
30%
20%
10%
0%
6.5%
9.5%
3.2%
15.4%
34.4%
31%
≥ 18 and < 40 years
≥ 40 and < 65 years
65 years or more
≥ 18 and < 40 years
≥ 40 and < 65 years
65 years or more
MOUD
OUD without MOUD

NEJM Catalyst | Innovations in Care Delivery

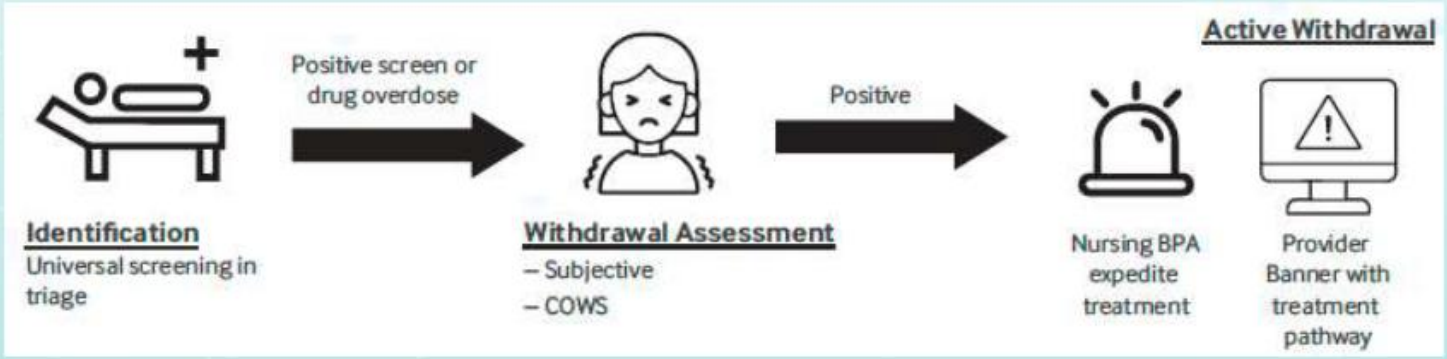
CASE STUDY

Redesign of Opioid Use Disorder Screening and Treatment in the ED

Margaret Lowenstein, MD, MPhil, MSHP, Rachel McFadden, RN, Dina Abdel-Rahman, Jeanmarie Perrone, MD, Zachary F. Meisel, MD, MPH, MSHP, Nicole O'Donnell, Christian Wood, Gabrielle Solomon, Rinad Beidas, PhD, M. Kit Delgado, MD, MS

Vol. 3 No. 1 | January 2022

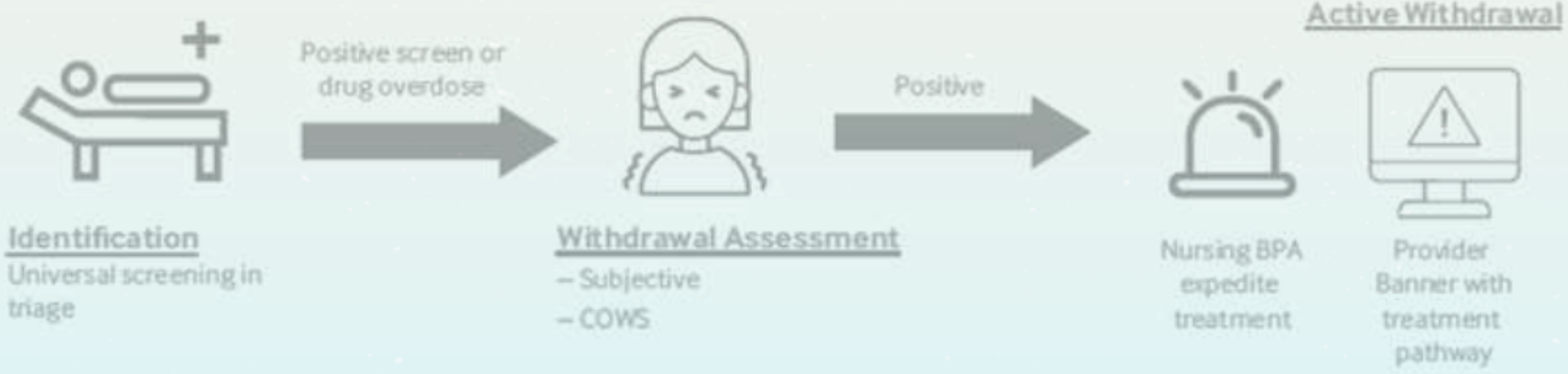
Screening + Treatment



BPA = Best Practice Alert **COWS** = Clinical Opiate Withdrawal Scale **PRS** = Peer Recovery Specialist

ED Screening Workflow

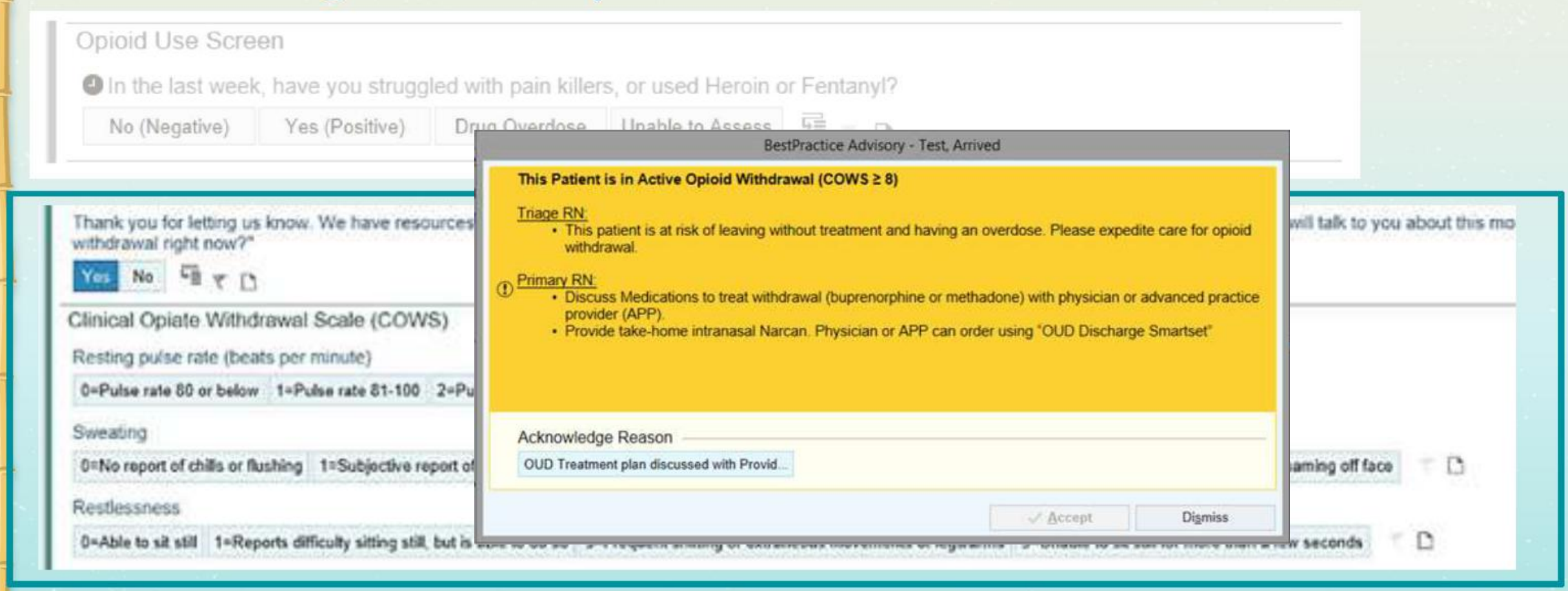
Screening + Treatment



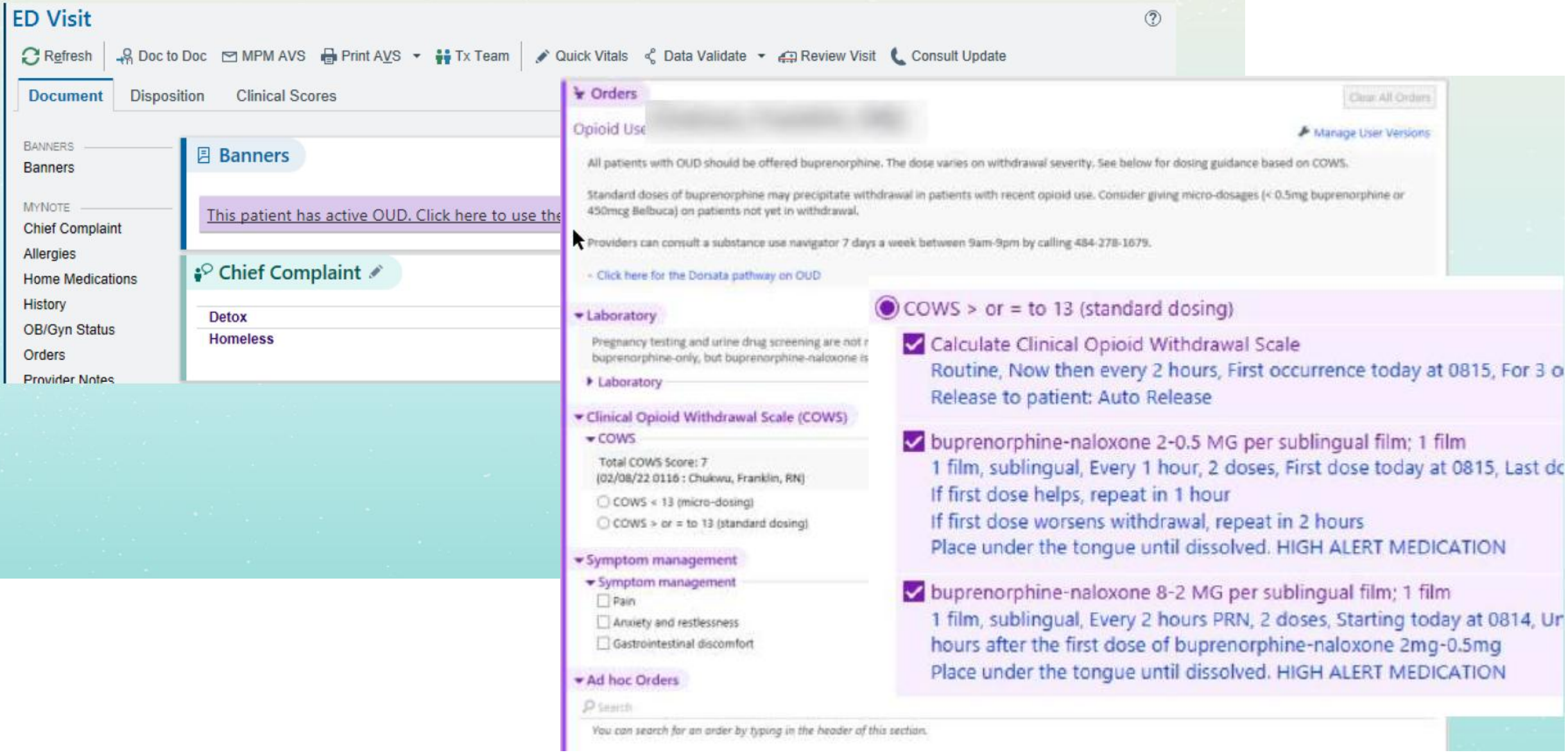
Discharge

BPA = Best Practice Alert **COWS** = Clinical Opiate Withdrawal Scale **PRS** = Peer Recovery Specialist

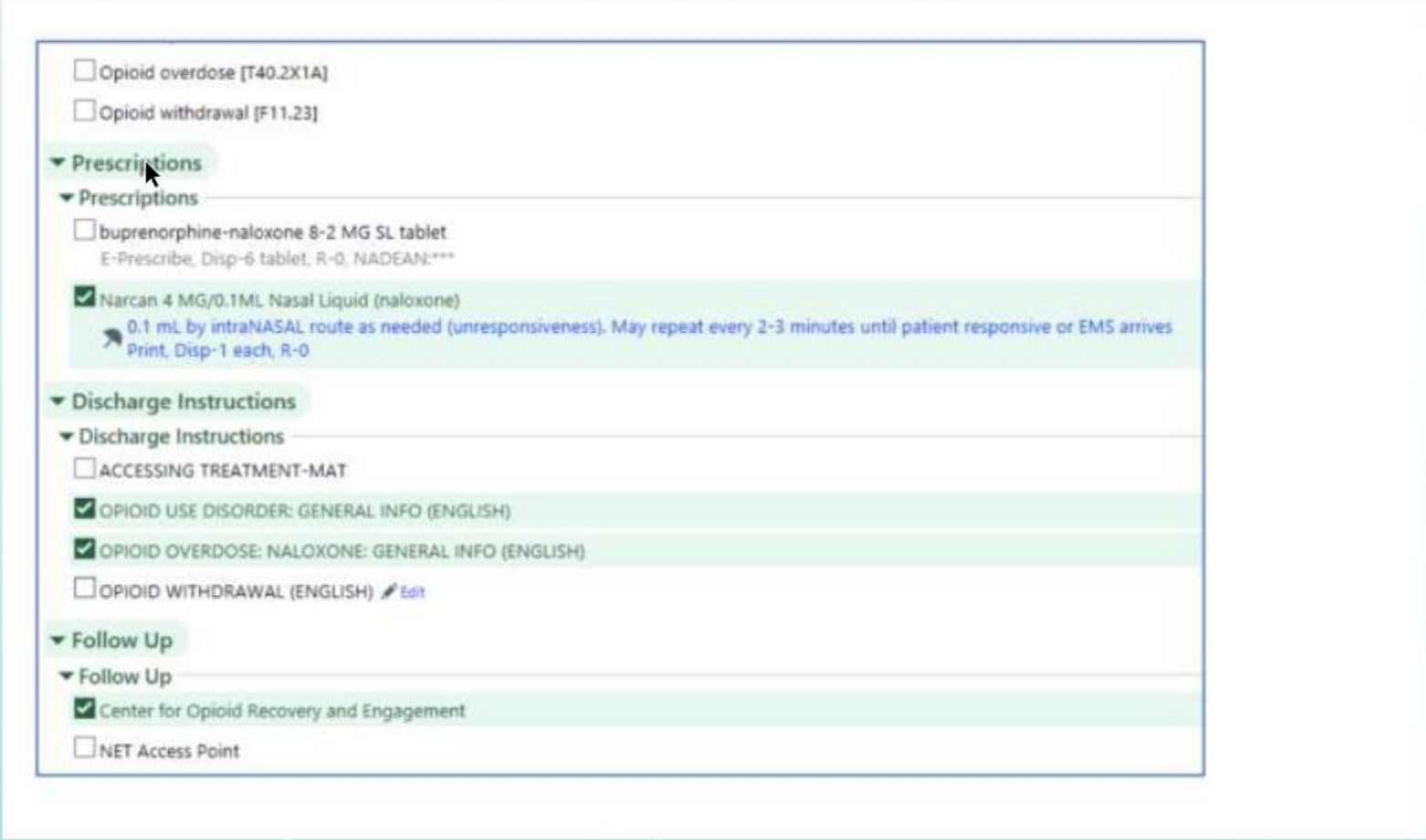
Nursing Prompts



Provider Prompts



Provider – OUD Discharge Smartset



Low Dose Overlapping Initiation with Bup

Table 1.

Buprenorphine low dose overlap initiation (LDOI) schedule

Day	Daily buprenorphine dosing sublingual (mg)	Number of tablet(s) per dose*	Total Daily Dose of buprenorphine (mg)	Pre-existing Opioid Agonist (e.g. fentanyl infusion)
1	0.5 mg QD	One-quarter tab	0.5 mg	Continue
2	0.5 mg BID	One-quarter tab	1 mg	Continue
3	1 mg BID	One-half tab	2 mg	Continue
4	2 mg BID	1 tab	4 mg	Continue
5	4 mg BID	1 tab	8 mg	Continue
6	4 mg TID	1 tab	12 mg	Continue
7+	8 mg BID	2 tabs[+]	16 mg	Stop/Taper

QD = every day, BID = twice daily, TID = three times daily

** buprenorphine tablets available in 2 mg or 4 mg dosage*

[+] dose may be further increased based on individual patient circumstances

Orders

Clear All Orders

Adult Buprenorphine Micro Dosing IP

Manage User Versions | Remove Order Sets

The following criteria must be met prior to ordering bupre
- Upstate Inpatient Addiction Consult Team or Medical/ a recommendation to utilize this therapy
- For patients prescribed > 50 Morphine Milligram Equi buprenorphine micro-induction

Nursing

Interventions

- Drugs Of Abuse, Urine
  Tier 1 (all credentialed providers), ONCE, today at 1607, For 1 oc
- Precaution: Fall - Moderate Risk (John Hopkins Score 6-
  Routine, CONTINUOUS, Starting today at 1607, Until Wed 7/2, Fo
  Patients will be assessed for fall risk on admission to unit, every
- Notify Provider
  Routine, UNTIL DISCONTINUED, Starting today at 1607, Until We
  If withdrawal symptoms occur as evidenced by signs and sympto
  Per provider discretion, opioid withdrawal may be treated with s
- Notify Addiction/Tox Team - Missed Dose(s)
  Routine, UNTIL DISCONTINUED, Starting today at 1607, Until We
  If the patient misses a dose of buprenorphine. If the patient mis
  Addiction/Tox Team.
- Notify Addiction/Tox Team - Induction Day 7
  Routine, UNTIL DISCONTINUED, Starting today at 1607, Until We
  On buprenorphine induction Day 7, notify Addiction/Tox team to

Consults

Consults

- Consult to Addiction Medicine Inpatient

buprenorphine (SUBUTEX) sublingual tablet

Accept

buprenorphine (SUBUTEX) sublingual split tablet 0.5 mg — Remove
0.5 mg, Sublingual, Daily Standard, First dose tomorrow at 0900, For 1 day
Day 1 (continue giving full opioid agonist). MDD 0.5 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual split tablet 0.5 mg — Remove
0.5 mg, Sublingual, 2 Times Daily, First dose on Wed 6/4 at 0900, For 1 day
Day 2 (continue giving full opioid agonist). MDD 1 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual split tablet 1 mg — Remove
1 mg, Sublingual, 2 Times Daily, First dose on Thu 6/5 at 0900, For 1 day
Day 3 (continue giving full opioid agonist). MDD 2 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual tablet 2 mg — Remove
2 mg, Sublingual, 2 Times Daily, First dose on Fri 6/6 at 0900, For 1 day
Day 4 (continue giving full opioid agonist). MDD 4 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual tablet 4 mg — Remove
4 mg, Sublingual, 2 Times Daily, First dose on Sat 6/7 at 0900, For 1 day
Day 5 (continue giving full opioid agonist). MDD 8 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual tablet 4 mg — Remove
4 mg, Sublingual, Three Times Daily Standard, First dose on Sun 6/8 at 0900, For 1 day
Day 6 (continue giving full opioid agonist). MDD 12 mg.
Place under tongue to dissolve - no eating or drinking for 15 minutes after administration. Please administer without interruption including when NPO.

Followed By

buprenorphine (SUBUTEX) sublingual tablet 8 mg — Remove

Changing Gears

How Kids Buy Drugs on Social Media

1. Drug dealers advertise drugs on social media.
2. Ads appear as you scroll through social media.
3. Direct messaging is used to initiate contact.

4. The conversation moves to an encrypted messaging platform like WhatsApp.
5. Payment is made through a financial app like Venmo.
6. The drug order is shipped and arrives by mail.

gabb

Overdose Rates

Since 2022, fatal drug overdoses in Scottsdale have decreased, but non-fatal overdoses have remained steady.

Youth

In Maricopa County, 1 in 5 students indicated that drugs are easy to get.

5% of Scottsdale middle and high school students reported being offered an illegal substance in 2024.

Services

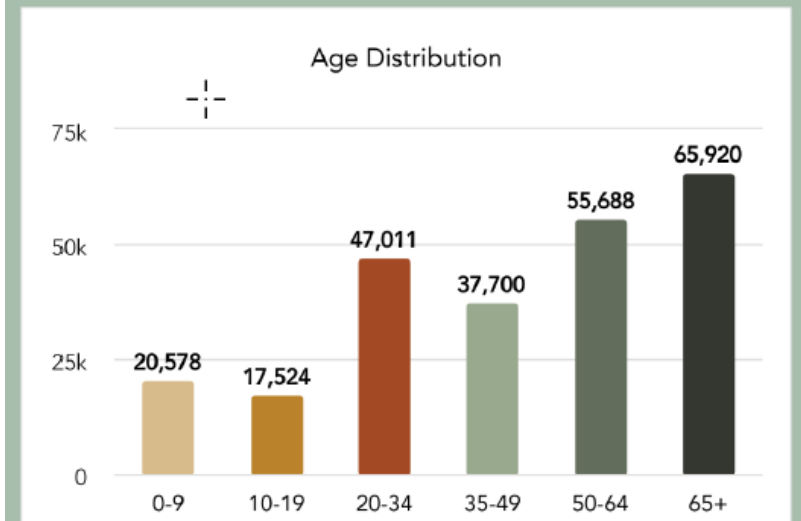
Prevention and treatment resources are not centralized, which could make them challenging to navigate.

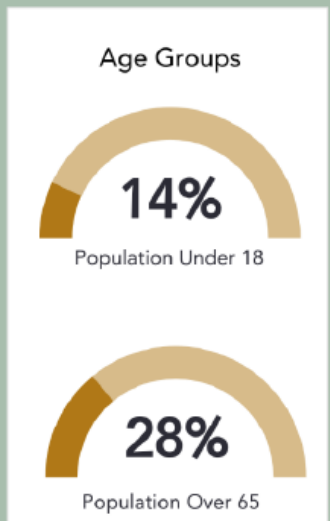
Providers commonly cited inadequate health insurance coverage as a barrier to care.

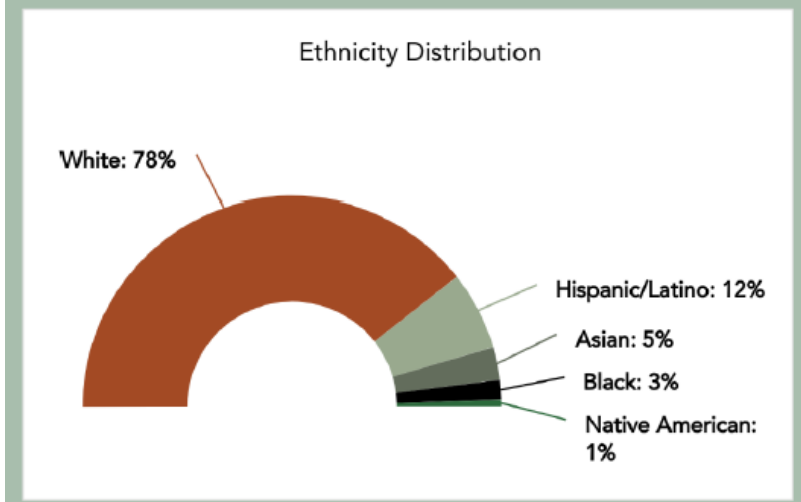
Overdose Risks

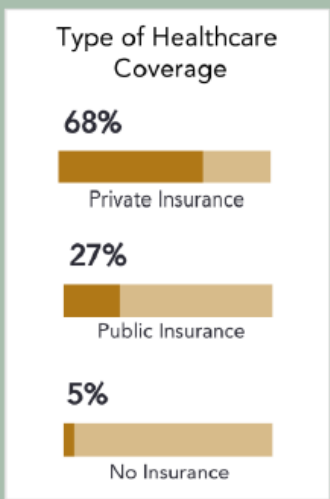
Young males comprised the majority of overdoses.

About half the City's non-fatal overdoses were recorded in South Scottsdale.









2024 and 2023 American Community Survey Estimates, U.S. Census

Using Tech to Order Drugs

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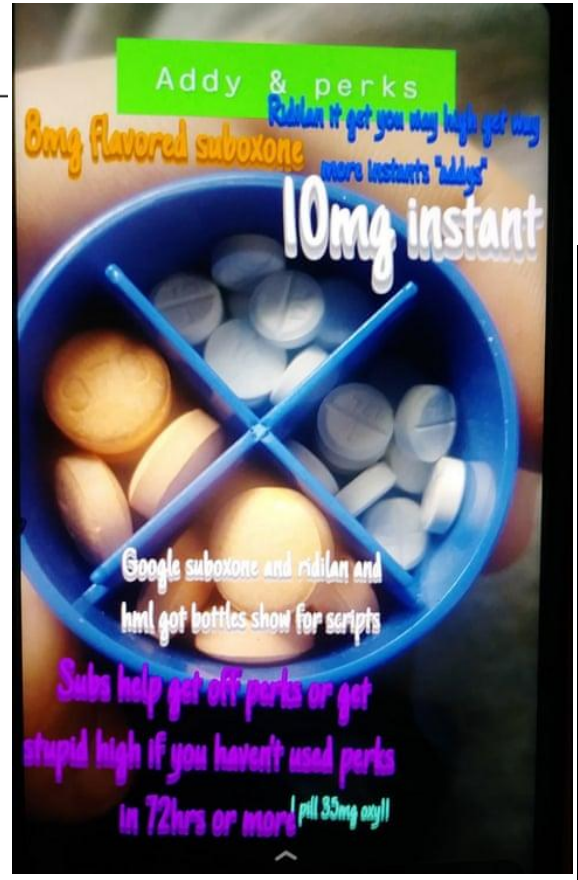
SPECIAL REPORT

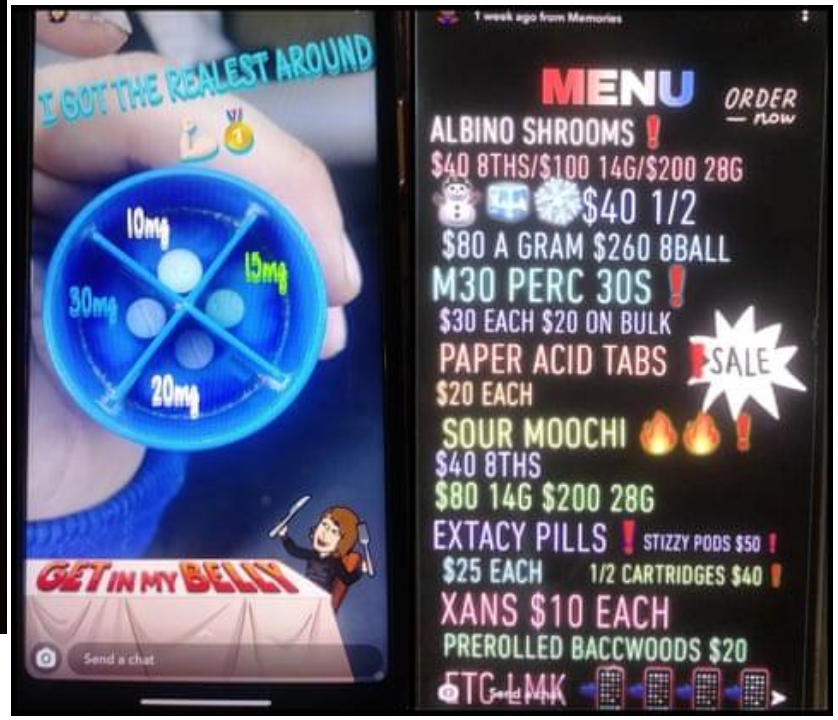
INSIDE SNAPCHAT'S TEEN OPIOID CRISIS

Law-enforcement sources and grieving families allege that the social media giant Snapchat has helped fuel a teen-overdose epidemic across the country. Now, their parents are fighting back

By PAUL SOLOTAROFF
Illustration by Justin Metz
JUNE 16, 2024

Alex Neville was one of those boys who was always in costume, wearing his obsessions





DRUG ENFORCEMENT ADMINISTRATION

ONE PILL CAN KILL

EMOJI DRUG CODE | DECODED

COMMON EMOJI CODES

FAKE PRESCRIPTION DRUGS

PERCOCET & OXYCODONE

XANAX

ADDERALL

A -

DEALER SIGNALS

DEALER ADVERTISING

HIGH POTENCY

UNIVERSAL FOR DRUGS

LARGE BATCH

OTHER DRUGS

METH

HEROIN

COCAINE

MDMA & MOLLIES

MUSHROOMS

COUGH SYRUP

MARIJUANA

This reference guide is intended to give parents, caregivers, educators, and other influencers a better sense of how emojis are being used in conjunction with illegal drugs. Fake prescription pills, commonly laced with deadly fentanyl and methamphetamine, are often sold on social media and e-commerce platforms – making them available to anyone with a smartphone.

#ONEPILLCANKILL

dea.gov/onepill

Disclaimer: *These emojis reflect common examples found in DEA investigations. This list is not all-inclusive, and the images above are a representative sample.*

Questions?