PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

PCSS-MOUD Online Case-based Learning Collaborative

Session 3: Managing Opioid Withdrawal in the Era of Medetomidine

June 23, 2026 | 5:00 – 6:30 PM ET

Jeanmarie Perrone, MD, FACMT, FASAM
Professor, Emergency Medicine, Medical Toxicology and Addiction Medicine
Director, Center for Addiction Medicine and Policy
Perelman School of Medicine at the University of Pennsylvania

Bridget Durkin, MD, MBE, FASAM
Assistant Profession , General Internal Medicine, Palliative Care and Addiction Medicine
Medical Director, Addiction Medicine Consult Team, Hospital of the University of Pennsylvania
Co-Chair, Opioid Task Force, University of Pennsylvania Health System
Perelman School of Medicine at the University of Pennsylvania

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Housekeeping

- This event is brought to you by the Providers Clinical Support System – Medications for Opioid Use Disorders (PCSS-MOUD), a program funded by the Substance Abuse and Mental Health Services Administration (SAMHSA). Content and discussions during this event are prohibited from promoting or selling products or services that serve professional or financial interests of any kind.
- PCSS-MOUD aims to increase the knowledge and skills of healthcare and counseling professionals about available evidence-based treatment approaches for substance use disorder (SUD) with a particular focus on opioid use disorder (OUD). PCSS-MOUD provides free training and mentoring to practitioners on the use of medications for OUD (MOUD) and the integration of these services into mainstream health care.

Funding for this initiative was made possible by cooperative agreement no. 1H79TI086770 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Disclosure to Learners

AAAP is committed to presenting learners with unbiased, independent, objective, and evidence-based education in accordance with accreditation requirements and AAAP policies.

Presenter(s), planner(s), reviewer(s), and all others involved in the planning or content development of this activity were required to disclose all financial relationships within the past 24 months

All disclosures have been reviewed, and there are no relevant financial relationships with ineligible companies to disclose.

All speakers have been advised that any recommendations involving clinical medicine must be based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in patient care. All scientific research referred to, reported, or used in the presentation must conform to the generally accepted standards of experimental design, data collection, and analysis.



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Agenda

1. Welcome & Introduction
2. Didactic Presentation & Facilitated Case Discussion
3. Learner Case Discussion & Q&A
4. Wrap-up & Announcements



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Participation Ground Rules

- Please participate!
- Everyone's experiences differ: Assume the best intentions.
- Monitor your participation: Everyone is accountable.
- If someone says something that is not your understanding of the evidence, ask questions and do so respectfully.



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Educational Objectives

At the conclusion of this activity participants should be able to:

1. Describe the pharmacology and clinical presentation of the medetomidine-opioid withdrawal syndrome.
2. Highlight prevalence within the drug supply/geographic regions.
3. Discuss strategies to manage medetomidine-opioid withdrawal.
4. Discuss case examples of medetomidine-opioid withdrawal syndrome, highlighting common challenges, gaps in evidence, and practical approaches.



Definitions

- Adulterant: *Pharmacologically active* substance added to enhance or mimic the expected substance
- Contaminant: *Pharmacologically active or not*, **unintentionally** added during the manufacturing process.
- Diluent: *Pharmacologically inactive* substances intentionally added to increase bulk.

Evolution of the Opioid Crisis

Wave 1 Prescriptions	Wave 2 Heroin	Wave 3 Synthetics	Wave 4 Polysubstance	Wave 5 Alpha Agonist Adulterants	Wave 6 Novel Orphines & Kratom/7-OH
1990s-2010	2010-2013	2013-2016	2016-2020	2020-2024	2025-Pres.
Pain Pills (OxyContin)	Shift to Street Drugs	Illicit Fentanyl	Fentanyl + Stimulants	Xylazine & Medetomidine	Ultra-Potent Analogues



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Identifying a Novel Overdose Syndrome – Philadelphia Spring 2024

Cluster of overdoses with sedation and bradycardia (April)



Philadelphia Department of Public Health (May 2nd)

PCSS Providers Clinical Support System
Medications for Opioid Use Disorders

TEMPLE HEALTH

Case series

11 patients with bradycardia (mean 41 bpm) after overdose between 04.29.2024 and 05.12.2024.

Findings

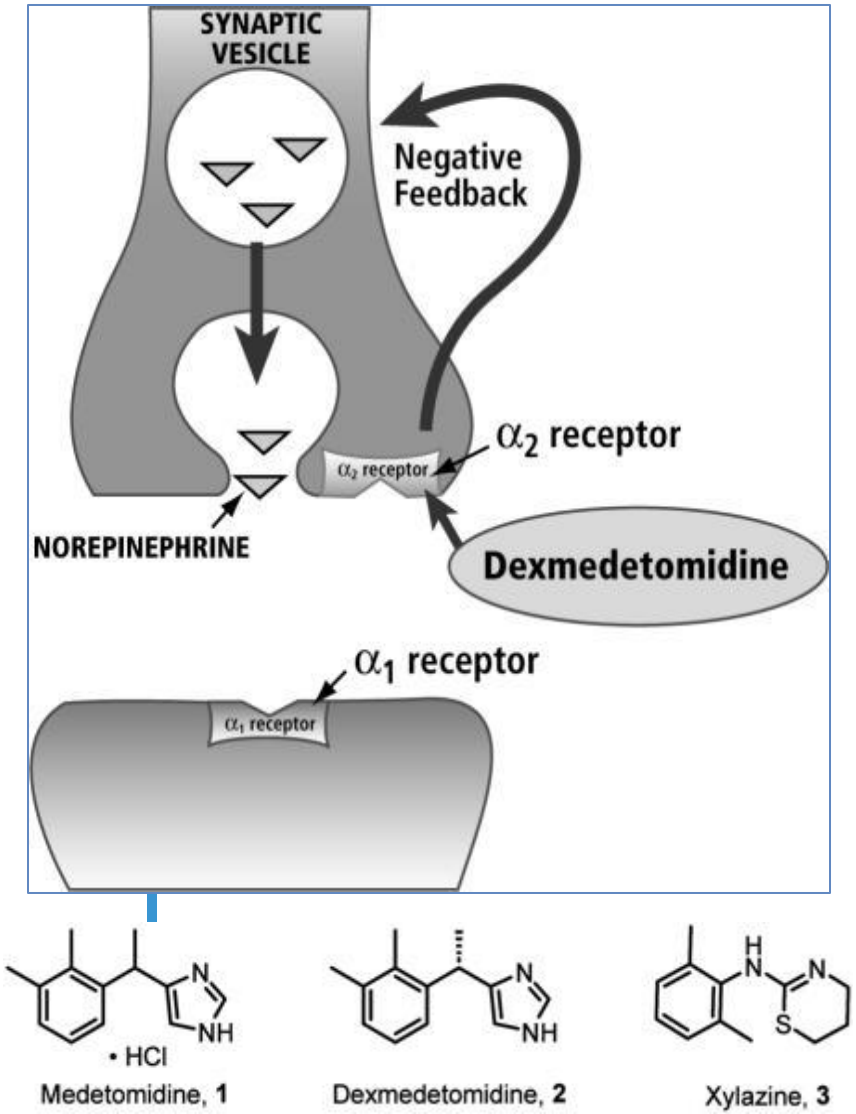
- Naloxone improves respiratory effort from opioid toxicity
  - However, non-opioid sedation persists and may be prolonged
- Protracted bradycardia (mean 8.1 hours, IQR 2.7-9.3)
- Hypotension uncommon and resolves without vasopressors

Findings	Summary
[Fentanyl] (ng/mL)	Mean 4.43 IQR 2.75-5.80
[Medetomidine] (ng/mL)	Mean 6.03 IQR 2.40-6.60
[Xylazine] (ng/mL)	Mean 21.25 IQR 4.05-28.50
Lowest Heart Rate	Mean 41 IQR 38-44
Duration of Bradycardia (Hours)	Mean 8.10 IQR 2.74-9.3
Hypotension (Systolic <90mmHg)	2/11
Hypertension (Systolic >160mmHg)	4/11
Hypothermia (< 95˚F)	4/11
Atropine Admin	1/11
Total Naloxone Dose (mg)	Average Dose 5.86mg
Disposition	7/11 Admitted

Murphy L. Clinical characteristics of patients exposed to medetomidine in the illicit opioid drug supply in Philadelphia - a case series. *Clin Toxicol (Phila)*. 2025;63(6):438-441.

What is medetomidine?

- **Medetomidine**
  - racemic mixture of
    - dexmedetomidine (active)
    - and levomedetomidine (inactive)
  - α2-agonist (α2/α1 = 1620)
    - for comparison:
      - Clonidine (α2/α1 = 220)
      - Xylazine (α2/α1 = 160)



https://pmc.ncbi.nlm.nih.gov/articles/PMC1291306/,
https://hip.phila.gov/document/4421/PDPH-HAN-0441A-05-13-24.pdf/
https://pubmed.ncbi.nlm.nih.gov/2900154/

PCSS Providers Clinical Support System
Medications for Opioid Use Disorders

Overdose Management

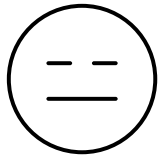
Mixed picture: opioids + medetomidine



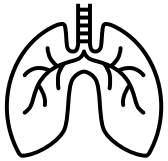
Low Heart Rate (30-60bpm)



Low Blood Pressure



Sedation



Decreased breathing (opioids)

Medetomidine

Fentanyl

Observation & Supportive Care

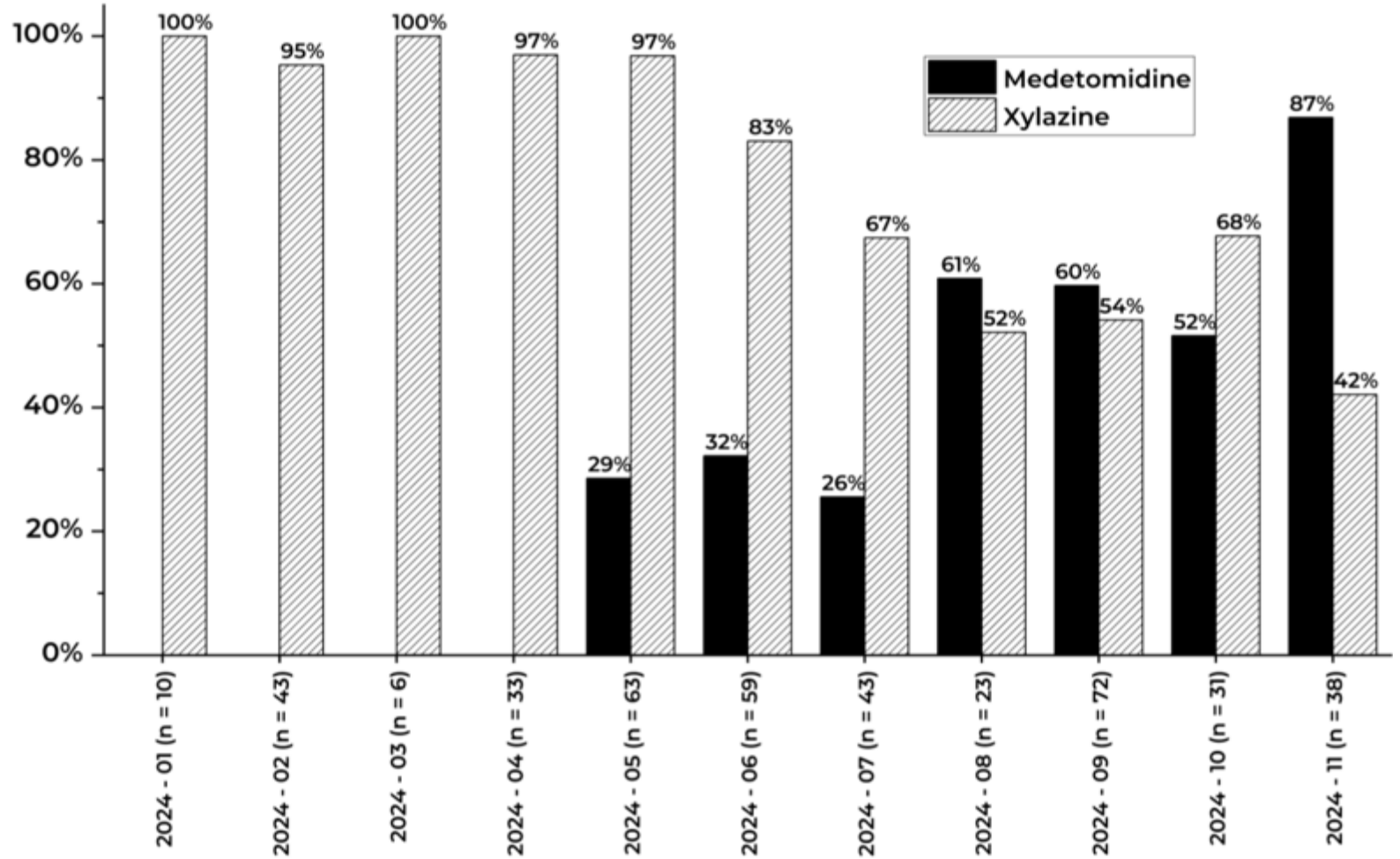
- Rarely fluids, more rarely medications
- Treat environmental exposure
- No clinical reversal agent

Naloxone for opioid overdose

- Decreased respiratory rate/Hypoxia
- Titrate to respiration, NOT mental status
- Rarely intubation for airway (no cough/gag)

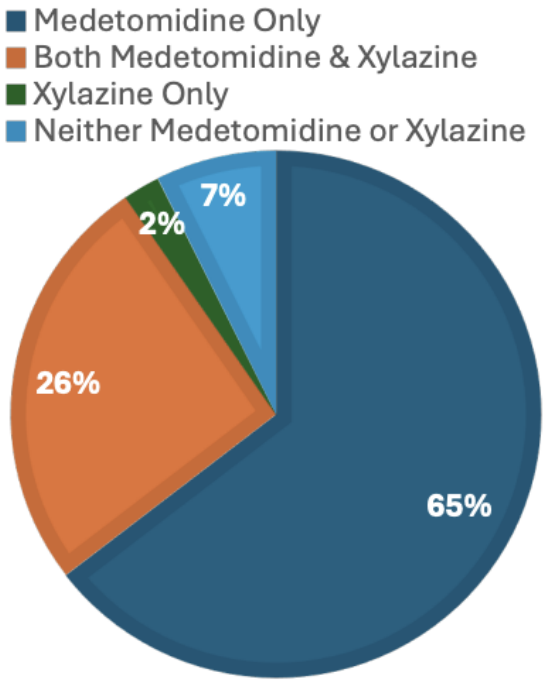
PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Figure 1: Prevalence of Xylazine and Medetomidine in Fentanyl Samples in Philadelphia, PA



Data source: Center for Forensic Science, Research and Education, PA Groundhogs, Philadelphia Department of Public Health

Figure 1. Sedatives in Samples with Fentanyl or Heroin as the Primary Substance in 2026 Q1



PDPH: 2026 Q1

https://hip.phila.gov/document/4874/PDPH-HAN-00444A-12-10-2024.pdf/

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Case

34-year-old woman with OUD presents to the ED w acute withdrawal

- Pt declines buprenorphine and opts for methadone
- 30mg methadone (PO) with improvement and resting comfortably awaiting transfer to crisis center

2 hours later, the nurse asks you to re-evaluate her:

- BP 190/110mmHg, P 140/min, RR 20, T 99, pulse ox 100%
- Intermittent vomiting, diaphoresis, tremulousness, mydriasis
- COWS 24—“This is what has been happening, Doctor…”



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

An emerging spectrum of disease

1. Nausea & vomiting
2. Tachycardia
3. Severe hypertension (complications including PRES, seizures, cardiac)
4. Tremors
5. Delirium
6. Intubation

Not all cases require ED, hospitalization, or ICU admission

Risk factors and predictors undefined

Present in those using IN, smoking, IV

Use does not need to be high

PCSS Providers Clinical Support System
Medications for Opioid Use Disorders

Dexmedetomidine withdrawal



Evaluation of dexmedetomidine withdrawal in critically ill adults

Sophia Pathan, PharmD, BCPS[a,1,*], Justin B. Kaplan, PharmD, BCCCP[b], Katarzyna Adamczyk, PharmD, BCCCP[b], Stephanie H. Chiu, MPH[c], Chirag V. Shah, MD, MSCE[d]

Table 3. DEX Withdrawal Characteristics.[a]

Withdrawal symptom	Withdrawal (n = 50)	No Withdrawal (n = 115)	*p*-value
Tachycardia	36 (72%)	23 (20%)	<0.001
Hypertension	37 (74%)	15 (13.04%)	<0.001
Agitation	21 (42%)	12 (10.53%)	<0.001
Nausea and/or Vomiting	19 (38%)	10 (8.7%)	<0.001

- Can occur after ≥24 hours of infusion (rapid dependence) in up to 30% of adult patients
- More likely to occur if receiving >12.9 µg/kg/day for >3 days
- Duration: 1-5 days

Pathan S, Kaplan JB, Adamczyk K, Chiu SH, Shah CV. Evaluation of dexmedetomidine withdrawal in critically ill adults. *J Crit Care*. 2021;62:19-24. doi:10.1016/j.jcrc.2020.10.024

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Philadelphia Data from Sep 2024-Jan 2025

Note: these represent the sickest patients, as they were easiest to identify.

There is likely a spectrum of severity that is not represented in this cohort.

	Jeff	Penn	Temple	Total
# of patients	55	48	62	**165**
Maximum heart rate (beats per minute), median (IQR)	144 (125–155)	136 (118–156)	148 (140–157)	**145 (132–156)**
Maximum systolic blood pressure (mm Hg), median (IQR)	191 (172–211)	196 (171–224)	200 (185–215)	**195 (175–215)**
Maximum diastolic blood pressure (mm Hg), median (IQR)	111 (103–123)	127 (109–137)	131 (119–143)	**122 (109–136)**
Treated with dexmedetomidine	51 (93%)	35 (73%)	51 (82%)	**137 (83%)**
Intubated	12 (22%)	11 (23%)	16 (26%)	**39 (23%)**
Admitted to ICU	49 (89%)	44 (92%)	57 (92%)	**150 (90%)**

Huo S, London K, Murphy L, et al. Suspected Medetomidine Withdrawal Syndrome Among Fentanyl-Exposed Patients — Philadelphia,. MMWR 2025;74:266–268.

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

CDC Morbidity and Mortality Weekly Report (*MMWR*)

Search

Notes from the Field: Suspected Medetomidine Withdrawal Syndrome Among Fentanyl-Exposed Patients — Philadelphia, Pennsylvania, September 2024–January 2025

Weekly / May 1, 2025 / 74(15);266–268

Print

Please note: *This report has been corrected. An erratum will be published.*

Samantha Huo, MD[1,2]; Kory London, MD[3]; Lauren Murphy, MD[4,5]; Emily Casey, PharmD[6]; Philip Durney, MD[7]; Maya Arora[2]; Rita McKeever, MD[4,5]; Abriana Tasillo, MD[3]; Dennis Goodstein, PharmD[8]; Brendan Hart, MD, PhD[4]; Jeanmarie Perrone, MD[1,2,5] (VIEW AUTHOR AFFILIATIONS)

The New York Times

Account

A Powerful New Drug Is Creating a 'Withdrawal Crisis' in Philadelphia

Medetomidine, a veterinary sedative, mixed into fentanyl has sent thousands to hospitals, not only for overdose but for life-threatening withdrawal. It is spreading to other cities.



HEALTH | A Powerful New Drug Is Creating a 'Withdrawal Crisis' in Philadelphia



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Withdrawal

Hallmark Symptoms

- Severe tachycardia (H150-170bpm)
- Severe hypertension (170-230s/ 120-140s)
- Intractable vomiting
- Coarse tremor
- Hypoactive mental status

- Rapid onset
- Min responsive to opioids, benzodiazepines

Severe Symptoms

- Hypertensive emergency
- Myocardial injury

- PRES, seizure?
- Elevated lactate, acidosis

Other Symptoms

- Tachycardia
- Hypertension
- Diaphoresis
- Agitation
- Hyperthermia

- Jaw tremor
- Dystonia
- Myoclonus
- Opisthotonus
- Akinesia, mutism

- QTc prolongation
- Hypokalemia
- Urinary retention
- Hiccups
- “Brain zaps”



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Spectrum Of Withdrawal Severity

Risk factors & predictors unclear

- Tolerance can develop quickly
- Any route of use
- Not only high opioid use

- **Potential indicators**
  - History of severe withdrawal
  - Evidence of toxicity on presentation (bradycardia)
  - No standard hospital lab test
  - **Exposure**



Refer to ED if…

- Ongoing vomiting
- Worsening fast heart rate, high blood pressure, or change in mental status

Home → Outpatient Clinic → Withdrawal Management Unit (traditional 3.7 "Detox") → Hospitalization → Intensive Care Unit

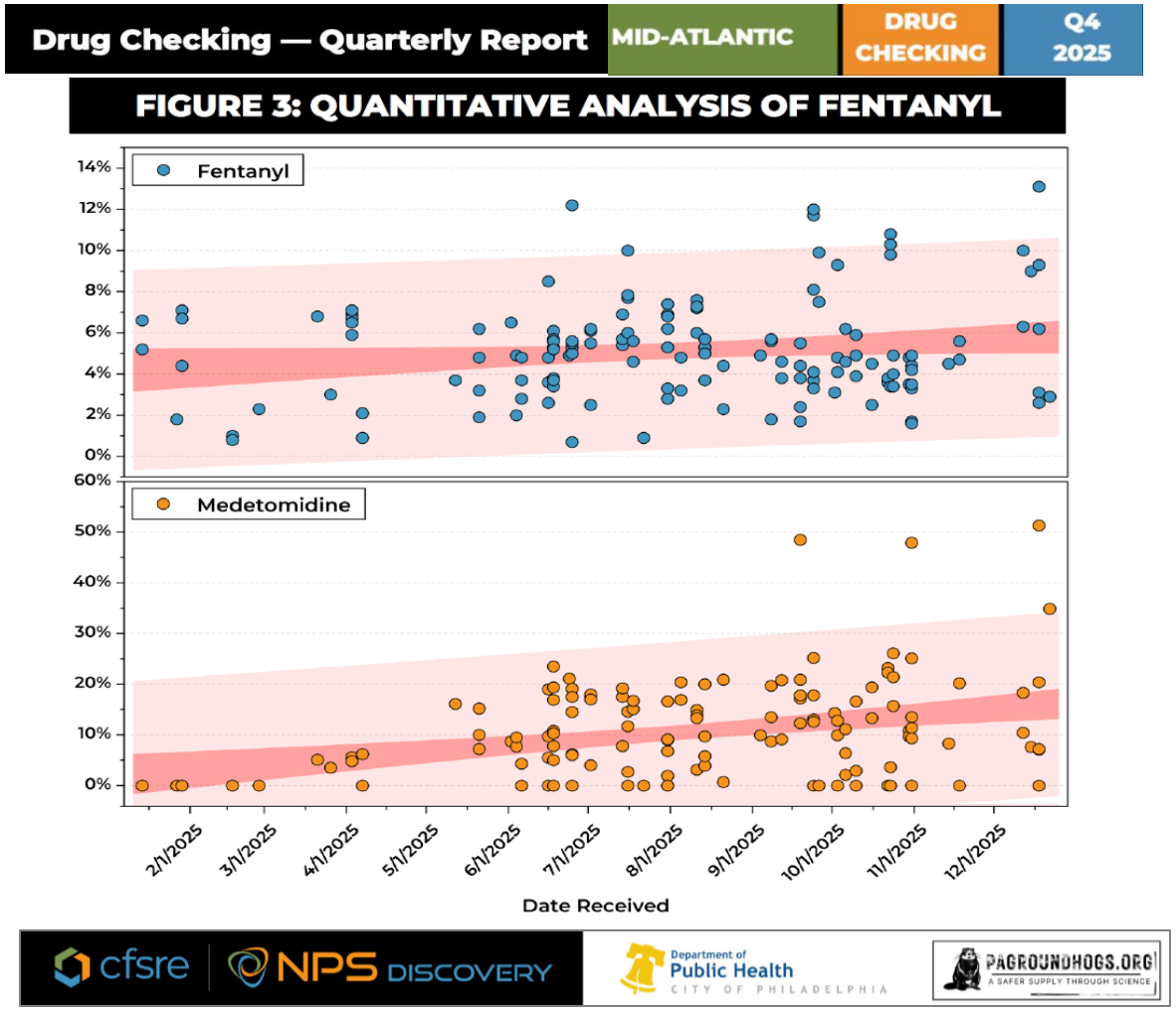
PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Exposure in Philadelphia

- Supply factors:
  - Prevalence
    - 88% of samples
  - Concentration
    - Average 15%
    - 3x increase over 2025
- Patient factor:
  - Amount of Use
- Combination:
  - Duration of exposure

100mg bag of "fentanyl" in Philadelphia
~18 x 400mcg bags of hospital dexmedetomidine

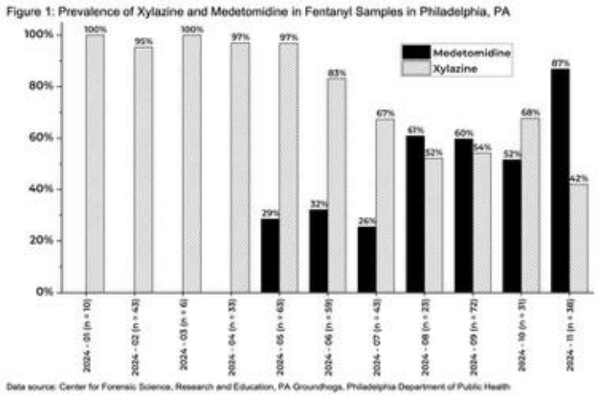


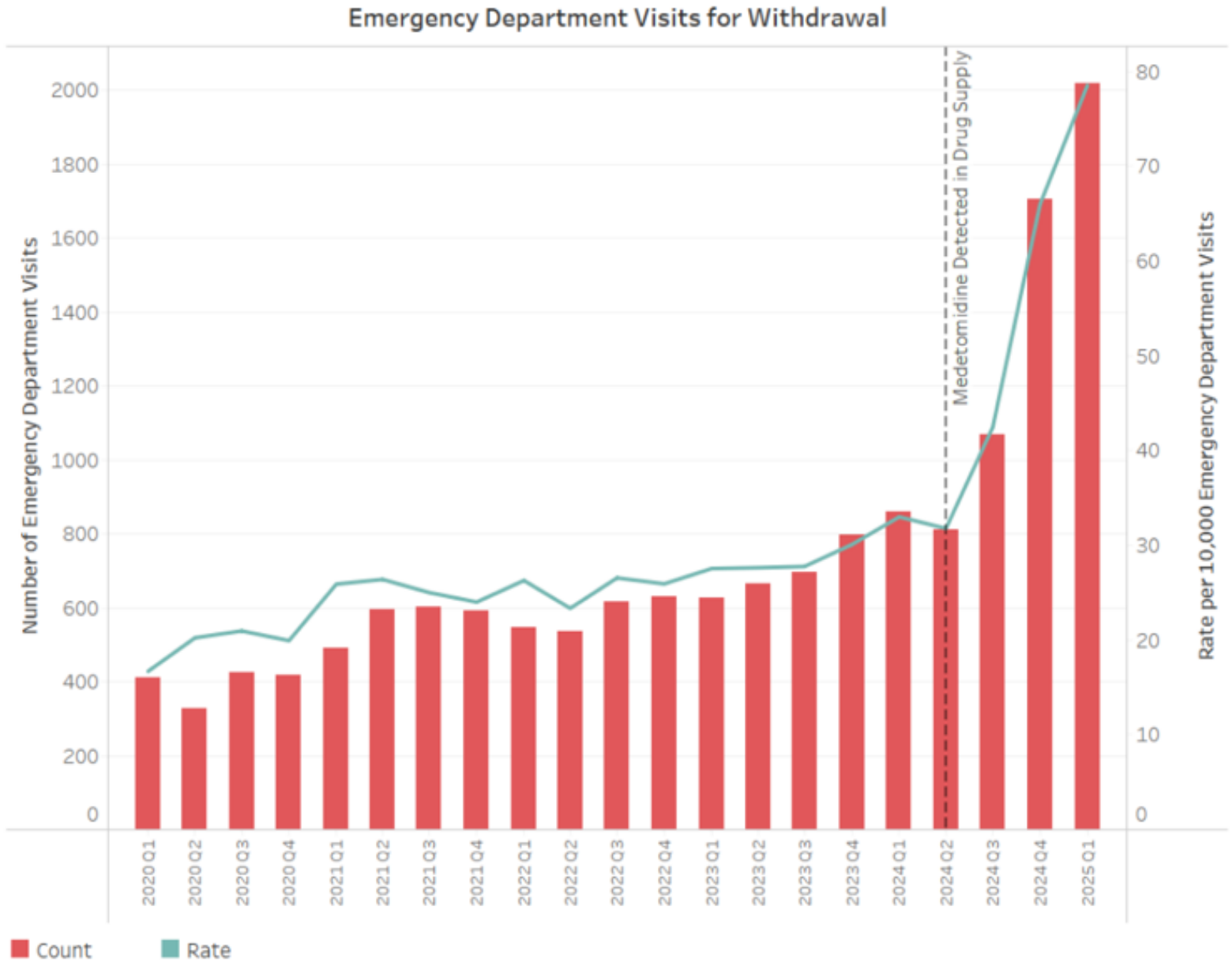


Time Course

- Severe withdrawal presents within 3-12 hours of last use
  - Onset is rapid, with n/v, tremors, severe hypertension, tachycardia developing within a 1-2 hour timespan
  - **Progression occurs if the patient is unable to tolerate oral alpha-2 agonists (eg. Clonidine)**
- Once requiring dexmedetomidine drip, typically requires at least 48-72 hours before weaning to avoid rebound.

PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

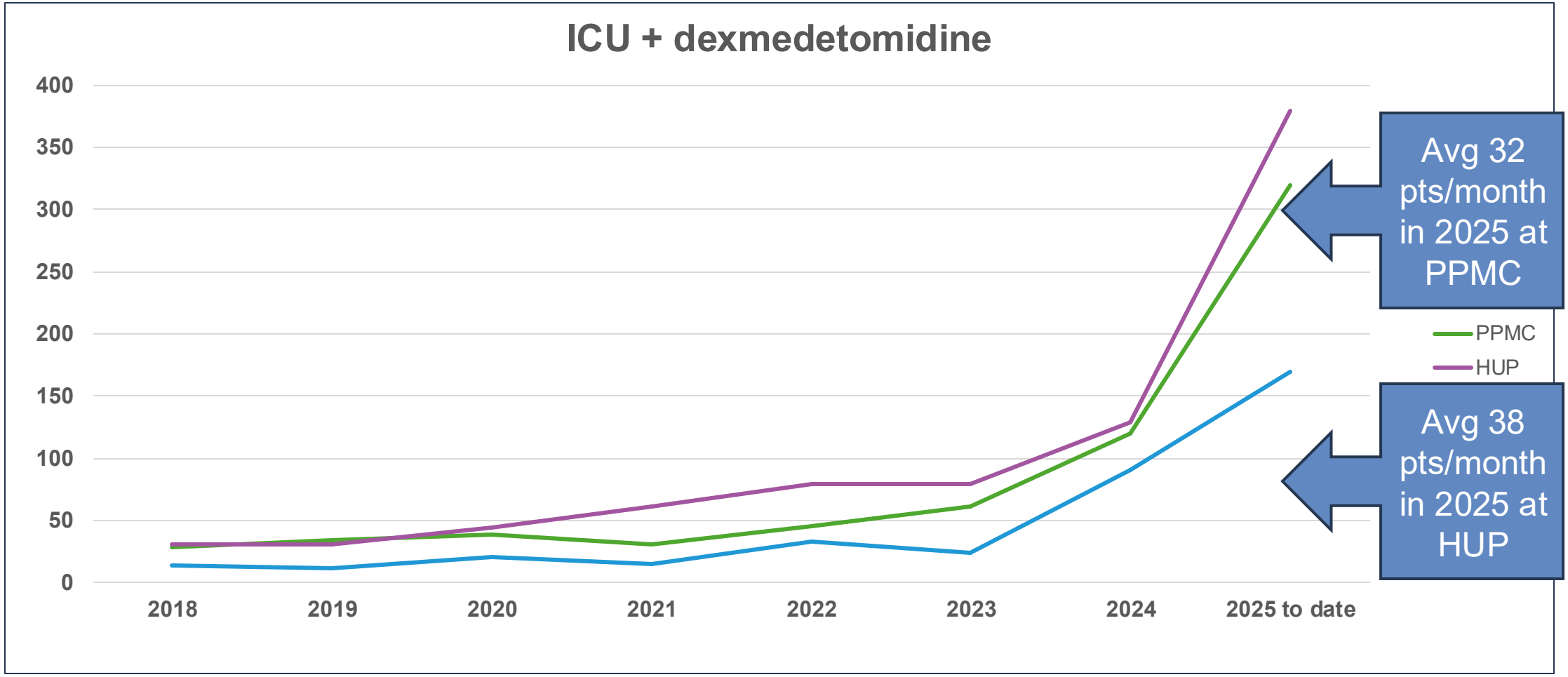




https://static1.squarespace.com/static/6386664d01197028e20ce9e1/t/6839caebf25ac917a3e1d967/1748617963527/Medetomidine-CHART_final.pdf

PCSS Providers Clinical Support System
Medications for Opioid Use Disorders

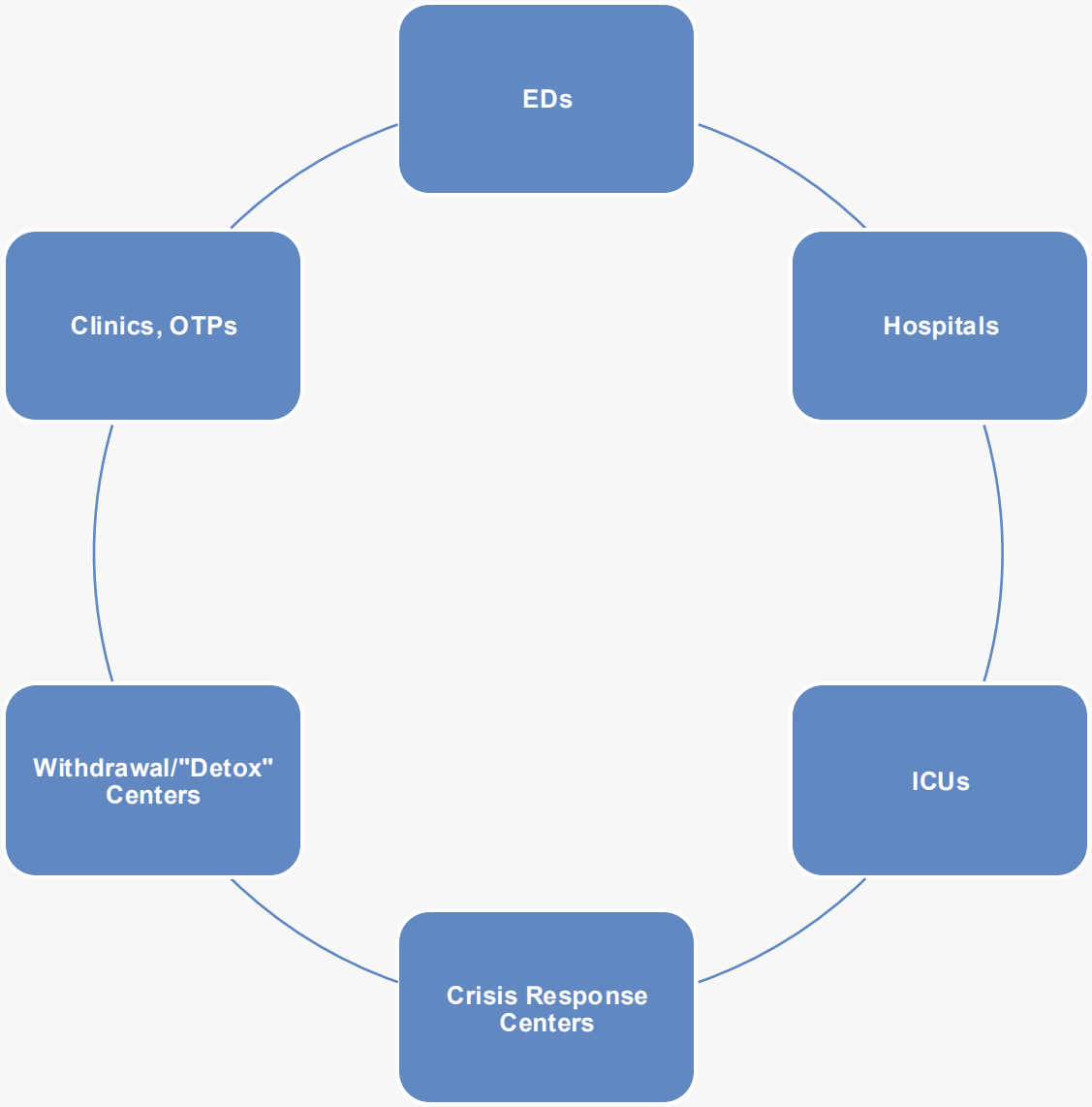
ICU Admissions for patients with OUD



Courtesy of Maggie Lowenstein, MD: Penn OUD Dashboard and Data

Systems Impact

Every level of the healthcare / SUD treatment system is facing new challenges



Testing Limitations

Biosamples:

- No immunoassay for rapid detection in urine/blood samples yet
- Initial LC-MS/MS findings at Jefferson Laboratory:
  - 2/6 overdose patients + for medetomidine at very low concentrations
  - 0/49 withdrawal patients detected
  - **Rapid metabolism limits detection of parent compound**
  - Confirmation of metabolites is expensive

Medetomidine test strips exist, though sensitivity/specificity have not been evaluated

Data courtesy of Dr. Kory London and Dr. Douglas Stickle at Thomas Jefferson University

PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Withdrawal Management

MOUD

- Methadone
- Buprenorphine (often low-dose induction)

Short-Acting Opioid Agonists

- In supervised setting
  Oxycodone (PO), hydromorphone IV

Antiemetics

- Anti-dopamine agents (not ondansetron)
- e.g. olanzapine, prochlorperazine

Monitoring

- EKG for QTc
- HR, Blood pressure
- COWS, RASS
- Electrolytes

Alpha Agonists

- Clonidine
  - oral 0.1-0.6mg q12 to q6h
  - patch 0.3mg/24h – takes 1-2 days to start
- Guanfacine
- Tizanidine
- Dexmedetomidine infusion (ICU only)
  - up to 2.5mcg/kg/hr
  - additional bolus doses

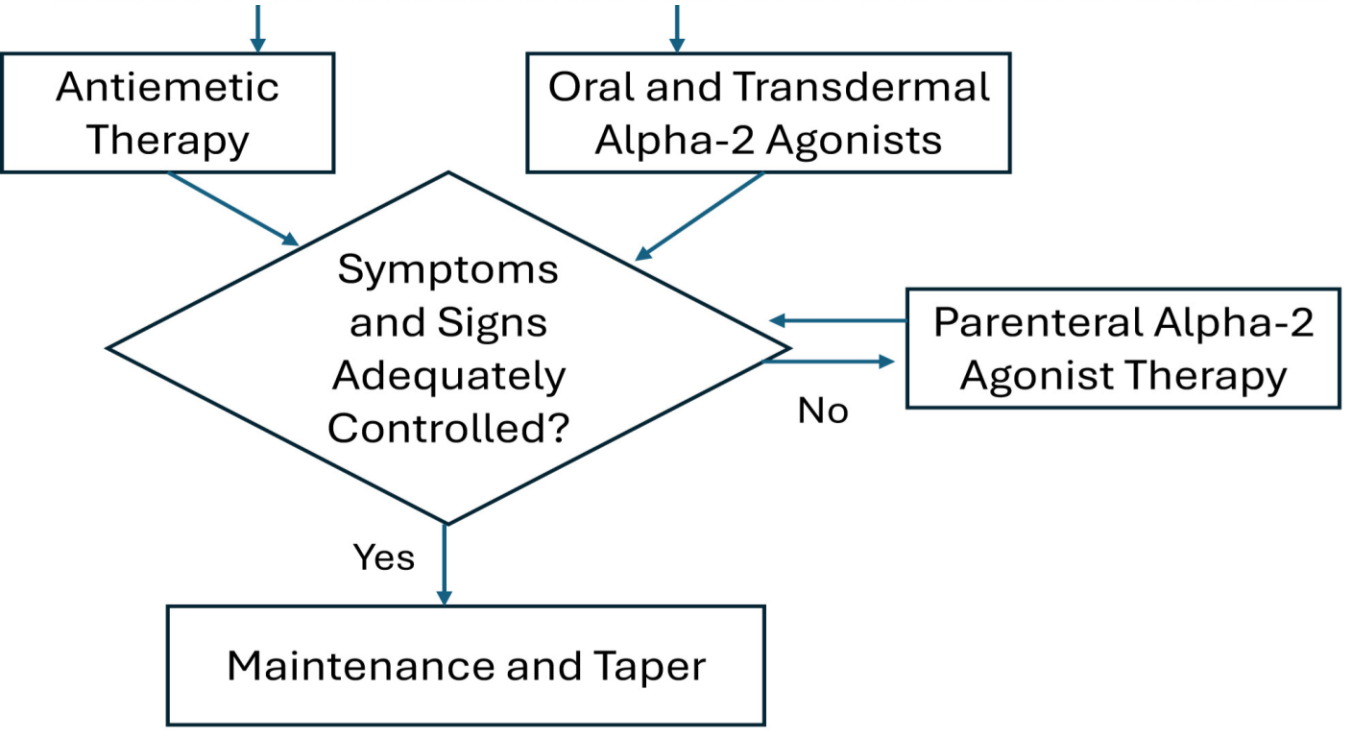
Symptom-focused medications

- Anxiety: gabapentin, hydroxyzine
- Muscle cramps: tizanidine
- Pain: ibuprofen, acetaminophen
- Anti-hypertensives
- Correct electrolytes



Emergence of Medetomidine in the Illicit Drug Supply: Implications for Emergency Care and Withdrawal Management

Michael J. Lynch, MD*; Anthony F. Pizon, MD; Donald M. Yealy, MD



- Onset within hours of last illicit substance use
- Nausea and vomiting
- Tremor, myoclonic jerks, anxiety, diaphoresis
- Tachycardia and hypertension
- Encephalopathy
- Minimal or no response to GABA and opioid agonists

Antiemetic therapy:
- Ondansetron rarely effective
- Prochlorperazine 10mg IV/IM/PO, repeat as needed
- Droperidol 2.5-5mg IV/IM, repeat as needed
- Olanzapine 5-10mg IV/IM, repeat as needed

Oral and Transdermal Alpha-2 Agonists
- Clonidine 0.3mg PO; repeat up to 2 additional doses in hour 1 as loading dose (total of 0.9mg)
- Transdermal clonidine 0.3mg weekly
- Guanfacine 2mg PO q8 hours
- Clonidine 0.2-0.3mg PO q2 hours for COWS of >5 or >15, respectively
- Tizanidine 2mg PO q8 hours can be considered
- Benzodiazepiness/barbiturates for additional sedation if needed

Parenteral Alpha-2 Agonist Therapy:
- Dexmedetomidine
  - 1 mcg/kg IV bolus
  - 0.5-1.5 mcg/kg/hr IV infusion titrated to Riker 3-4 or RASS -1-0 (or sedation if scores not recorded)
  - For severe cases: ↑ up to 2.4 mcg/kg/hr
- IV Dexmedetomidine can typically be weaned with overlapping oral regimen over 24-72 hours
- Benzodiazepines/barbiturates or ketamine for agitation uncontrolled with dexmedetomidine if needed

Maintenance and Taper:
- PO regimen can typically be weaned after 3-5 days:
  - As PRN clonidine needs resolve, wean guanfacine to 2mg PO BID x 1 day, then 1mg PO TID x 1 day, then 1mg PO BID x 1 day, and 1mg PO once x 1 day and remove clonidine patch

Lynch MJ: Emergence of Medetomidine in the Illicit Drug Supply: Implications for Emergency Care and Withdrawal Management. Ann Emerg Med. 2026 22:S0196.

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Reducing Risks

- Don't use – or withdraw – alone
- Naloxone counseling
- Wallet cards (eg PHD)

- MOUD
  - To reduce use
  - Low-barrier

- Co-morbidity treatment
  - Wounds
  - HIV, HCV





PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

After Acute Withdrawal

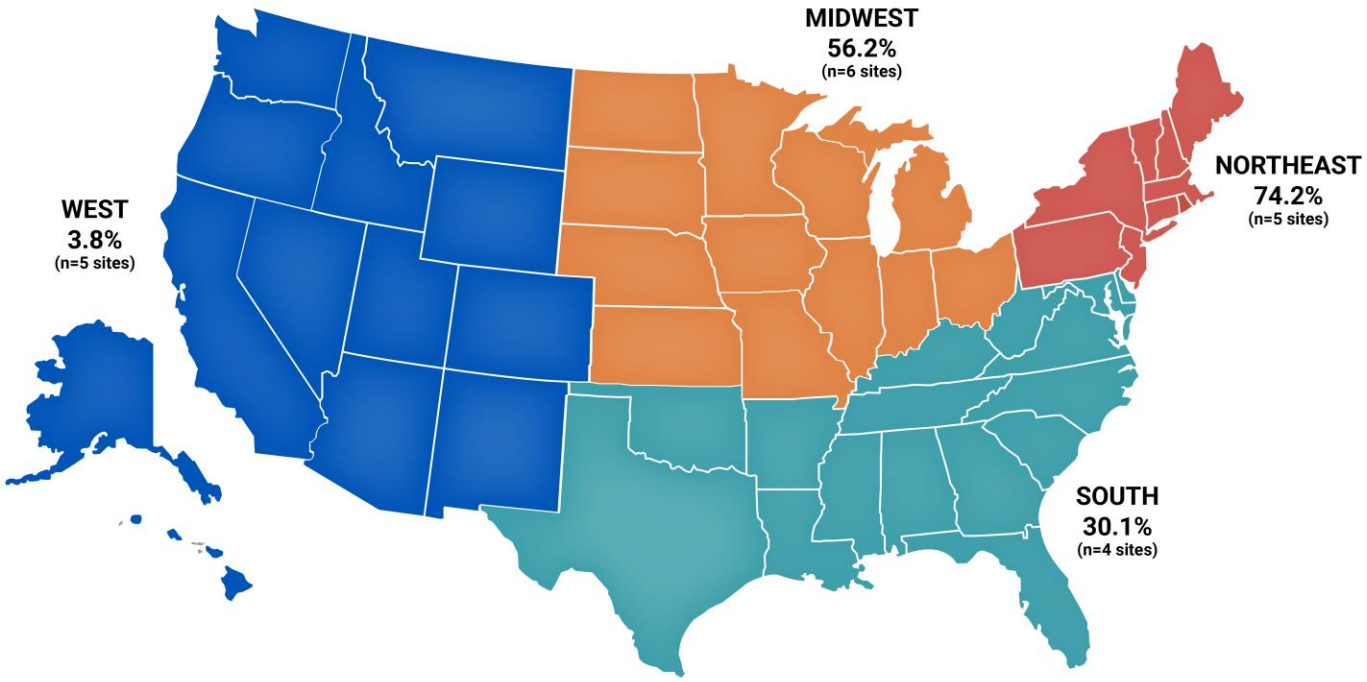
- Slow taper of clonidine (over days)
  - Based on HR, BP, and symptoms
- Alpha agonist treatment follow-up
  - Gradual clonidine taper over weeks
  - Close follow-up (days, then weekly)
  - Clonidine tapered based on BP, HR, symptoms
  - Stop if return to use
- MOUD follow-up
  - Support
  - Groups
  - Rehab
  - Counseling



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Growing national detection of medetomidine

Medetomidine Detection at Sentinel Sites
July 2025- December 2025



- By July 2024, detected in drug products and biospecimens in 18 states and DC[9]
- By December 2025, detected at sentinel surveillance sites nationally
  - Higher prevalence in NE & MW
- By June 2026, looking across various local/regional drug checking sites, detected in over 24 states
- Spread mirrors previous emergence of xylazine as adulterant

https://www.cdc.gov/han/php/notices/han00527.html

PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Cases

PCSS Providers Clinical Support System
Medications for Opioid Use Disorders

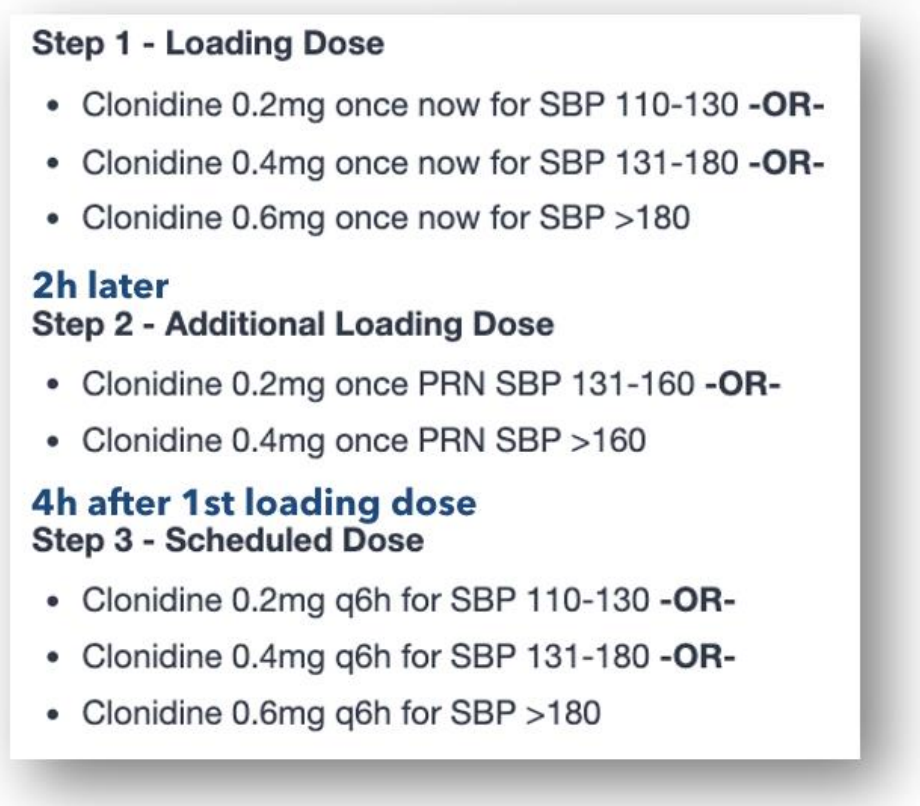
Case Study: ED

Patient Presentation History	36 yo man with OUD transported to ED by EMS following overdose Field VS: HR 35bpm, BP 87/55, T 98.0, RR 4, SpO2 88% EMS administered naloxone 2mg IN x 1, 30min PTA with improvement in RR 12, SpO2 94%, no change in MS
Vital Signs	HR 65 bpm, BP 92/68, T 98.5, RR 10, O2 99% on 4L O2
Physical Exam	Neuro/psych: GCS = 8, localizes to pain, intermittent moaning, gag+ with suction Skin: mod diaphoresis, trace piloerection HEENT: pupils 5mm ERRL, no lacrimation or rhinorrhea; NCAT Cardio: RRR Pulm: no increase WOB, CTAB
6 hours later	HR 70, SBP 115/80, RR 14, O2 97% on RA UDS: + fent, + cocaine Patient awake, reports using 10 bags “fentanyl and tranq” daily; has nausea, chills, myalgia COWS 9

When do you start withdrawal treatment? What medications do you give?

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Sample Clonidine Dosing Protocol



Step 1 - Loading Dose

- Clonidine 0.2mg once now for SBP 110-130 **-OR-**
- Clonidine 0.4mg once now for SBP 131-180 **-OR-**
- Clonidine 0.6mg once now for SBP >180

2h later
Step 2 - Additional Loading Dose

- Clonidine 0.2mg once PRN SBP 131-160 **-OR-**
- Clonidine 0.4mg once PRN SBP >160

4h after 1st loading dose
Step 3 - Scheduled Dose

- Clonidine 0.2mg q6h for SBP 110-130 **-OR-**
- Clonidine 0.4mg q6h for SBP 131-180 **-OR-**
- Clonidine 0.6mg q6h for SBP >180

Loading Dose Protocol

University of Pennsylvania Health System

Philadelphia Hospitals

- Medetomidine prevalence in local fentanyl supply > 80%
- Average medetomidine concentration > 10%

Adapt dosing amounts and SBP parameters to local drug supply

PennPathway for Opioid & Adulterant Withdrawal. Supported by the Penn Medicine Center for Evidence-based Practice.

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Sample Clonidine Dosing Protocol

Step 1 - Loading Dose

- Clonidine 0.2mg once now for SBP 110-130 **-OR-**
- Clonidine 0.4mg once now for SBP 131-180 **-OR-**
- Clonidine 0.6mg once now for SBP >180

2h later
Step 2 - Additional Loading Dose

- Clonidine 0.2mg once PRN SBP 131-160 **-OR-**
- Clonidine 0.4mg once PRN SBP >160

4h after 1st loading dose
Step 3 - Scheduled Dose

- Clonidine 0.2mg q6h for SBP 110-130 **-OR-**
- Clonidine 0.4mg q6h for SBP 131-180 **-OR-**
- Clonidine 0.6mg q6h for SBP >180

VS now	• HR 70, SBP 115/80, RR 14, O2 97% on RA
	• Receives
	  • Olanzapine IV 10mg
	  • Clonidine 0.2mg
	  • Oxycodone 20mg

2 Hours Later	• HR 91 bpm, BP 135/89 – worsening nausea and tremor
	• EKG: sinus, QTc 480
	• Receives:
	  • Clonidine 0.2mg
	  • Compazine IV 10mg
	  • IV hydromorphone 4mg
	  • PO methadone 40mg

2 Hours Later	• HR 110, BP 133/90 – nausea improved
	• Receives:
	  • Clonidine 0.4mg
	  • Oxycodone 30mg

2 Hours Later	• HR 98, BP 119/82
	• Admitted to floor on:
	  • Clonidine 0.4mg q6h
	  • Olanzapine PO 5mg qhs, Compazine IV 5mg q6h PRN
	  • Oxycodone 30mg q4h, additional 30mg q4h PRN
	  • Started 28h low-dose bup induction

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Case Study: ICU

Patient Presentation History	28yo woman with OUD on long-acting injectable buprenorphine with active fentanyl use transferred to ED from inpatient detox due to emesis, tachycardia, and hypertension. • SH: using 16 bags IN fentanyl/day • Initial VS: HR 150 bpm, BP 194/122, T 37.5, RR 18, O2 99% on RA **In the ED,** olanzapine IV 10mg, prochlorperazine IV 10mg, hydromorphone IV 4mg x 4 w/o improvement in emesis / symptoms • Started on dexmedetomidine infusion, admitted to MICU **In ICU,** dexmedetomidine infusion titrated to 1.5mcg/kg/hr • ICU Nurse reports: emesis resolved, ongoing nausea but able to take sips • Addiction Medicine Team consulted
Vital Signs	HR 120bpm, BP 165/105, T 100.1, RR 12, O2 97% on RA
Physical Exam	Skin: diaphoresis, no piloerection; ~10mm depot palpated in abdomen HEENT: pupils 1mm, no lacrimation or rhinorrhea GI: intermittent hiccups Neuro/Psych: awakens briefly to touch, not following commands; when awake, high amplitude tremor in hands and jaw and restless

How do you distinguish signs/symptoms of ongoing opioid vs medetomidine withdrawal?

How would you adjust her medications?

When and how would you downtitrate the dexmedetomidine infusion?



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

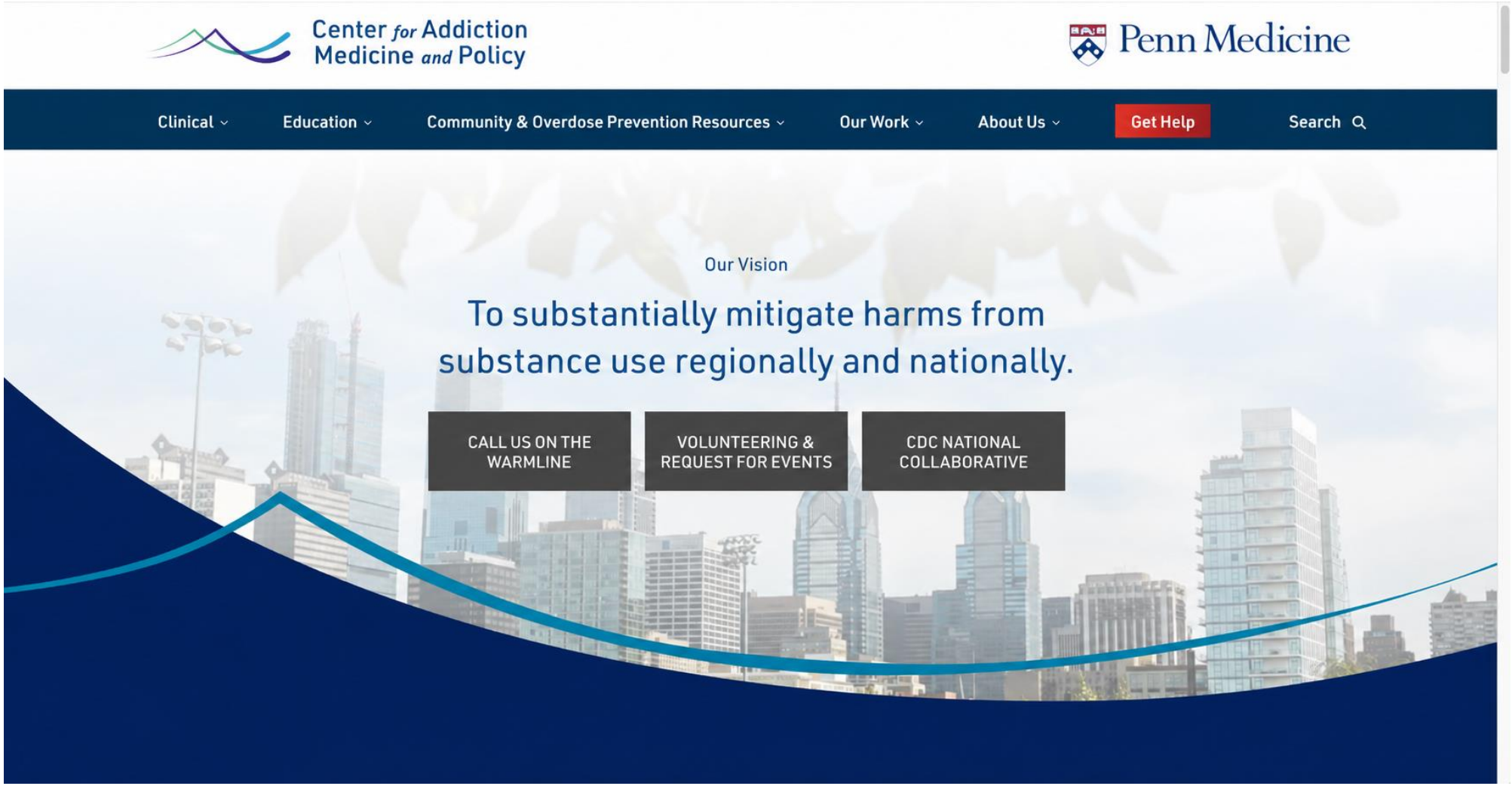
Q&A

Please put your questions in the chat.



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Learn More at PennCAMP.org



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Additional Learning on Medetomidine

Understanding Medetomidine: Emerging Challenges for Addiction Medicine

Monday Feb 09, 2026

Drs. Stephen Taylor and Jeanmarie Perrone follow up on Season 1's episode, Emerging Illicit Substances: What Clinicians Need to Know. Together, they discuss how medetomidine has continued to spread to different regions and what has changed over the past year. They explore strategies for managing medetomidine withdrawal, keeping patients safe, and preparing for this growing public health threat.



Listen at https://asampracticepearls.podbean.com

- *Free!*
- *0.5 CE*
- *Listen to the podcast or download the transcript*

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Wrap-up

- ✓ **Evaluation:** Please complete this quick evaluation: https://ttc-gpra.org/P?s=722537
- ✓ **Claim CE:** Complete a quick post-test and claim your 1.5 CE https://elearning.asam.org/p/PCSSMOUD_Session3_06232026
- ✓ **Recording:** The recording will be available at: https://elearning.asam.org/oud-learning-collaboratives

PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

Join Us for the Rest of this Series on Opioid Withdrawal!

ASAM-hosted PCSS-MOUD Online Case-based Learning Collaboratives:

Session 1	**Strategies to Effectively Manage Opioid Withdrawal** *Recording Available*
Session 2	**Strategies to Effectively Manage Complicated Opioid Withdrawal in the Emergency Department or Hospital Setting** *Recording Available*
Session 3	**Multidisciplinary Approach to Assessing Opioid Withdrawal** *Wednesday, July 15, 2026 | 5:00 – 6:30 PM ET*

- *Free!*
- *1.5 CE each*
- *Join live or watch the recording*

PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

PCSS-MOUD Steering Committee

- PCSS-MOUD is led by the American Academy of Addiction Psychiatry (AAAP), in collaboration with a coalition of national professional and healthcare organizations.

Learn more about the Steering Committee and its partner organizations: **https://pcssnow.org/about/steering-committee/**



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

PCSS-MOUD Mentoring Program

- Designed to offer general information to clinicians about evidence-based clinical practices in prescribing medications for opioid use disorder (MOUD).
- Supported by a national network of providers with expertise in addictions, pain, and evidence-based treatment, including MOUD.
- Three mentoring options are available to meet your needs.
- No cost to participate.



For more information visit:
https://pcssNOW.org/mentoring/

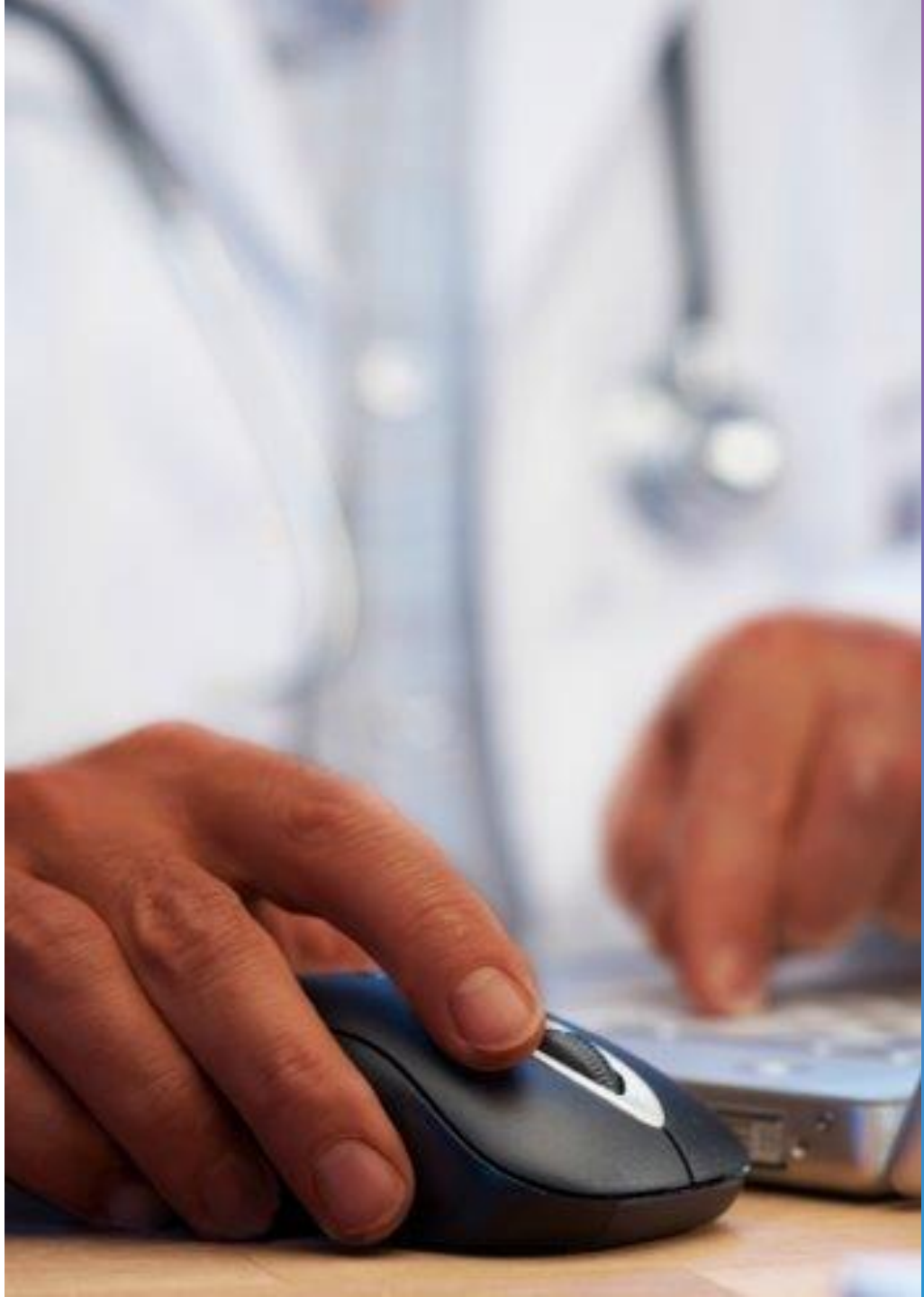
PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

1: Discussion Forum

- An online discussion forum moderated by addiction specialists where health professionals can post questions and receive answers from clinical experts and other colleagues.

Register here at no cost!

For more information visit:
https://pcssNOW.org/mentoring/



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

2: Ask a Clinical Question

- A simple and direct way to receive an answer related to Substance Use Disorder, Opioid Use Disorder, and other related topics. Designed to provide a prompt response to clinical questions via email.

Submit your clinical question

For more information visit:
https://pcssNOW.org/mentoring/



PCSS Medications for Opioid Use Disorders
Providers Clinical Support System

3: One-on-One Mentoring

- Provides individualized, one-on-one guidance via email, phone, or in-person (if feasible), to discuss specific clinical issues. Members are “matched up” with one of our mentors in their region. This is the most in-depth of the three PCSS-MOUD mentoring tools. Please contact **pcssmentoring@aaap.org** to receive a mentor request form.

Browse our Mentors

For more information visit:
https://pcssNOW.org/mentoring/



PCSS Medications for Opioid Use Disorders | Providers Clinical Support System

Contact us

PCSS-MOUD: Educate, Train, Mentor

PCSS-MOUD | Facebook

PCSS-MOUD.org

pcss@aaap.org



Funding for this initiative was made possible by cooperative agreement no. 1H79TI086770 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.