Northwest (HHS Region 10)

ATTC Addiction Technology Transfer Center Network

Funded by Substance Abuse and Mental Health Services Administration

The Northwest & Pacific Southwest ATTCs and the CTN Western States Node present:

Emergency Department-Initiated Buprenorphine for OUD

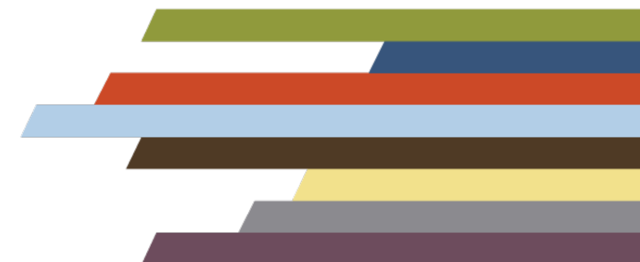
Thank you for joining us!
The webinar will begin shortly.

- **You are muted with camera off.** Attendees are automatically muted with their cameras off for the webinar. Please type questions in the chat box!

- **Slides and a recording** of this presentation will be made available on our website at: http://attcnetwork.org/northwest later this week.

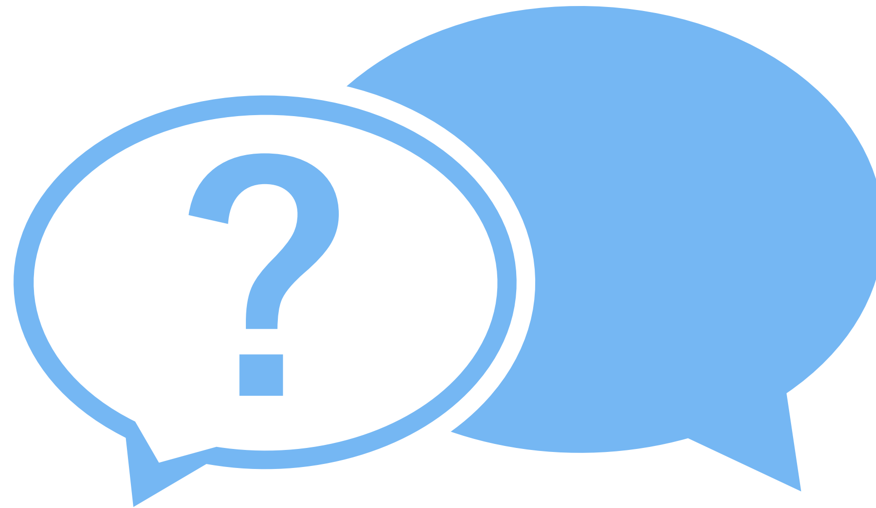
SAMHSA

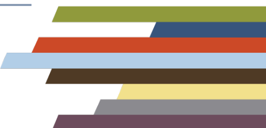
Substance Abuse and Mental Health Services Administration



Q&A

Questions? Please type them in the chat box!





ATTC Survey, Slides, Recording

Look for our survey in your inbox!

We greatly appreciate your feedback!

Every survey we receive helps us improve and continue offering our programs.

A link to the slides and recording will also be provided in this email.

Course Evaluation & Certificates

- Within five (5) business days after the webinar, participants will receive an email to log in to the Stanford CME portal (stanford.cloud-cme.com) and click My CE tab to complete the course evaluation.

- Within the evaluation, you will be asked to attest to your hours of participation. Upon completion of the evaluation and attestation, your transcript will be updated with the appropriate CME/CE credit hours.

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There are no relevant financial relationships with ACCME-defined ineligible companies for anyone who was in control of the content of this activity.

For full disclosure information please go to our website:

https://stanford.cloud-cme.com/ED-InitiatedBuprenorphine

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In support of improving patient care, this activity has been planned and implemented by Stanford Medicine and the Northwest Addiction Technology Transfer Center (ATTC). Stanford Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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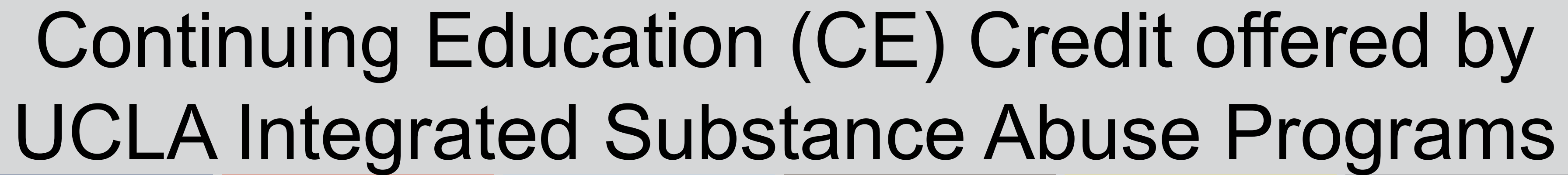
Stanford MEDICINE | Stanford Center for Continuing Medical Education



- Following the web training, LMFTs, LCSWs, and SUD counselors will receive an email from Victoria Norith with the links to two different brief online CE course evaluations.
- Once you submit your CE evaluation form, a CE Certificate will be emailed to you within 6-8 weeks
- Reach out to Victoria with questions (vnorith@mednet.ucla.edu)

Certificate of Attendance

If you requested a “certificate of attendance” rather than specific CME/CE, you will receive that certificate from the Northwest ATTC automatically via email within a week.

ED-Initiated Buprenorphine for Opioid Use Disorder

Gail D'Onofrio MD
Professor and Chair
Department of Emergency Medicine
Yale University School of Medicine

Disclosure Statement

Current grant funding:

We Know…

The Extent of the Problem

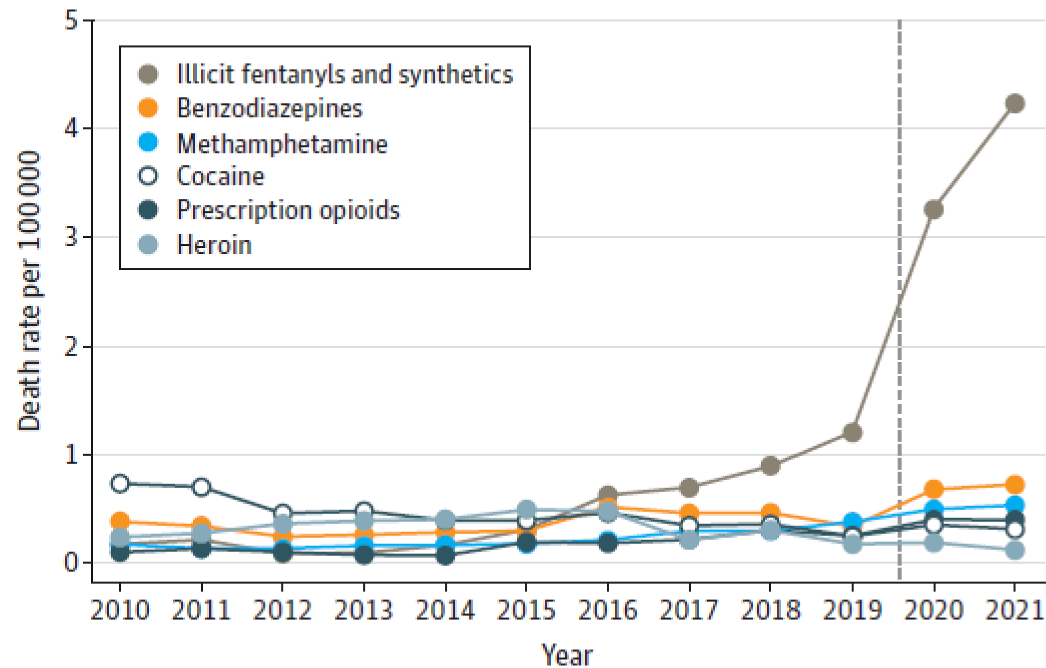
18.4 million Americans aged 12 or older had an illicit drug use disorder in the past year

2.7 million had an opioid use disorder in the past year

9.5 million report misuse of opioids (heroin or non-medical use of prescription pain relievers) in the past year. The % was highest among adults 18-25

Results from 2020 NSDUH, Oct 2021

Adolescent Overdose deaths



Letters

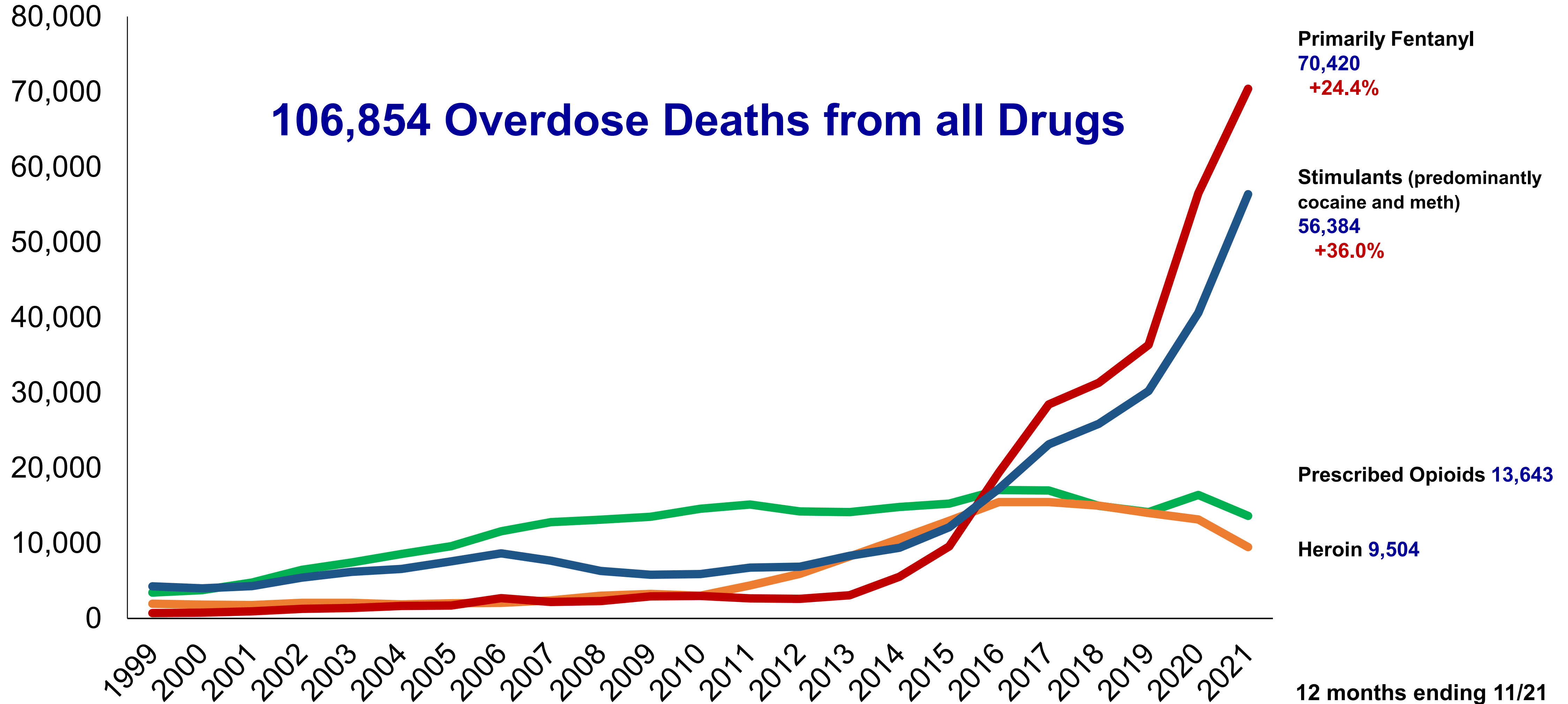
RESEARCH LETTER

Trends in Drug Overdose Deaths Among US Adolescents, January 2010 to June 2021

2019-2020 overdose mortality increased 94% and 2020-2021 by 20%

Friedman et al JAMA April 2022

Background



*NCHS Provisional drug-involved overdose death counts are PREDICTED VALUES, 12 months ending in select months.
https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

Recent CDC data for the 12-month period ending 11/21
106,854 people in a single year

293 people lost in a single day

https://www.stop-overdose.org/

ADDICTION POLICY FORUM

We Know…

Treatment Works

Evidence

RESEARCH

Cochrane Library

Cochrane Database of Systematic Reviews

Methadone & Buprenorphine equally effective

31 trials, 5430 participants

Opioid use

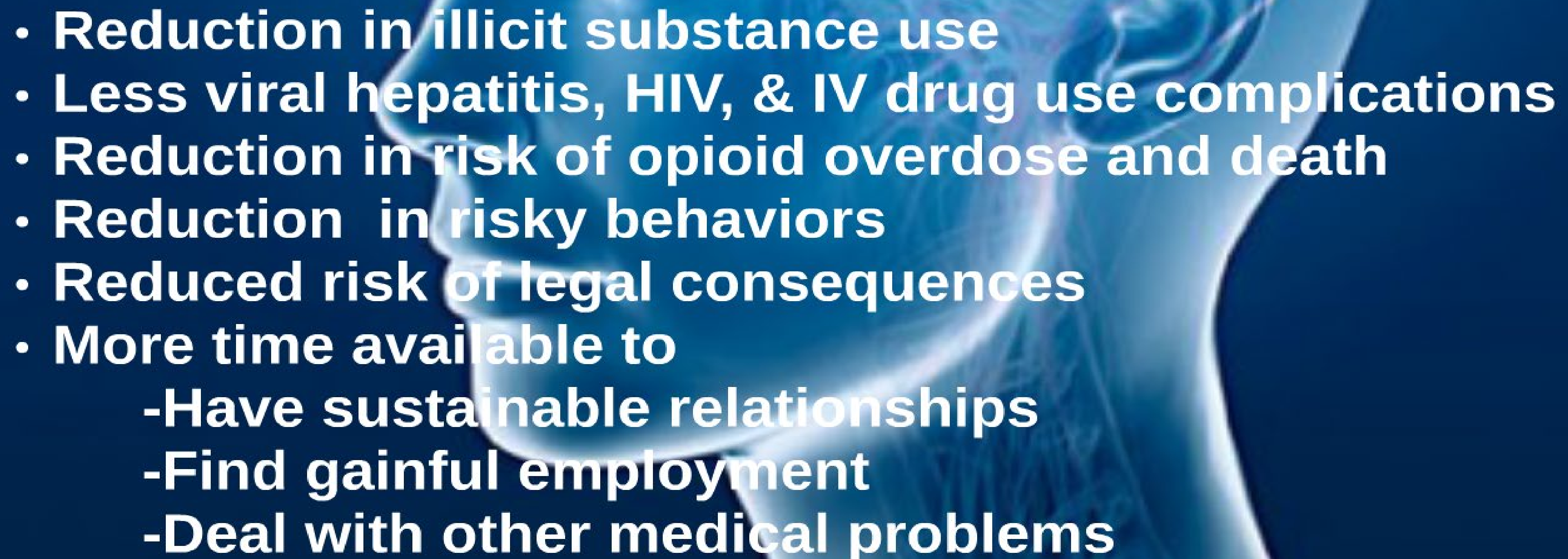
Retention in treatment

"Present evidence suggests that adding psychosocial support does not change the effectiveness of retention in treatment and opioid use during treatment."

Mattick et al., 2014

Amato et al., 2011

Advantages of Opioid Agonist Treatment



- Reduction in illicit substance use
- Less viral hepatitis, HIV, & IV drug use complications
- Reduction in risk of opioid overdose and death
- Reduction in risky behaviors
- Reduced risk of legal consequences
- More time available to
  - -Have sustainable relationships
  - -Find gainful employment
  - -Deal with other medical problems

The National Academies of
SCIENCES · ENGINEERING · MEDICINE

CONSENSUS STUDY REPORT

MEDICATIONS FOR OPIOID USE DISORDER SAVE LIVES

2019

- ✓ OUD is a treatable chronic brain disease
- ✓ FDA-approved medications to treat OUD are effective and save lives
- ✓ Long-term retention on MOUD is associated with improved outcomes
- ✓ A lack of availability of behavioral interventions is not justification to withhold MOUD
- ✓ Most people who could benefit from MOUD do not receive it, and access is inequitable
- ✓ Withholding or failing to have available all classes of FDA-approved MOUD in any care or justice setting is denying appropriate medical treatment
- ✓ Confronting the major barriers to use of MOUD is critical to addressing the opioid crisis

Sponsors: National Institute on Drug Abuse (NIDA)
Substance Abuse and Mental Health. Services Administration (SAMHSA)

We Know…

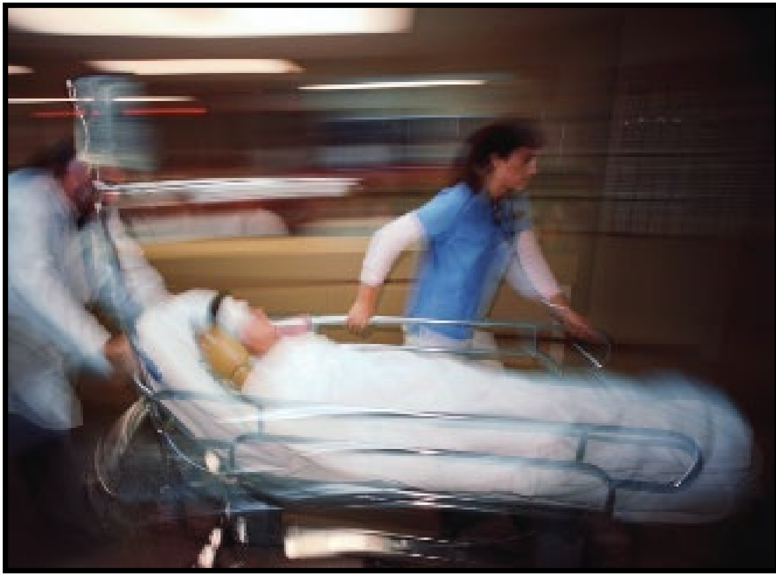
The ED Offers the 24/7/365 Option to Combat the Opioid Crisis

Why focus on the ED?

Because that's where the patients are!

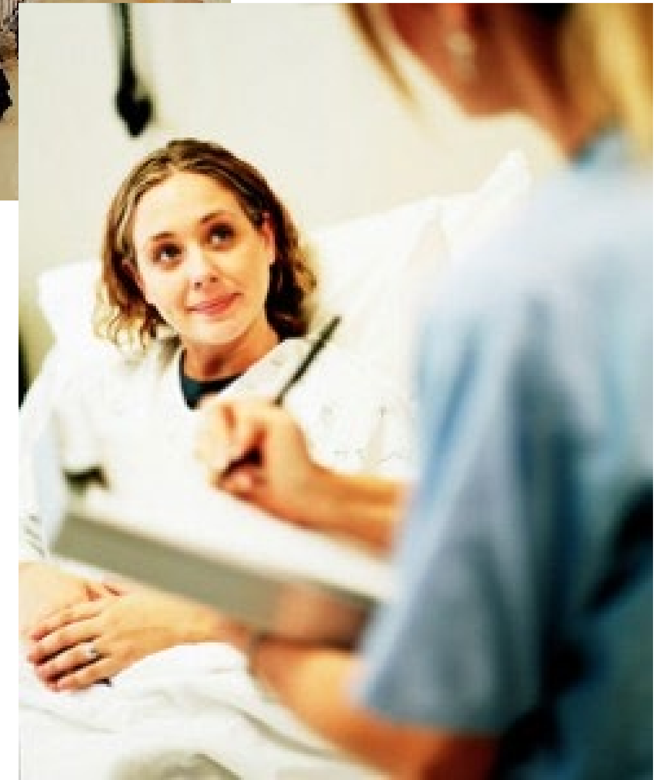
14% of drug related ED visits (1.3 million) involved opioids in 2021

Preliminary Findings from Drug-Related Emergency Department Visits, 2021; SAMHSA/DAWN 2022



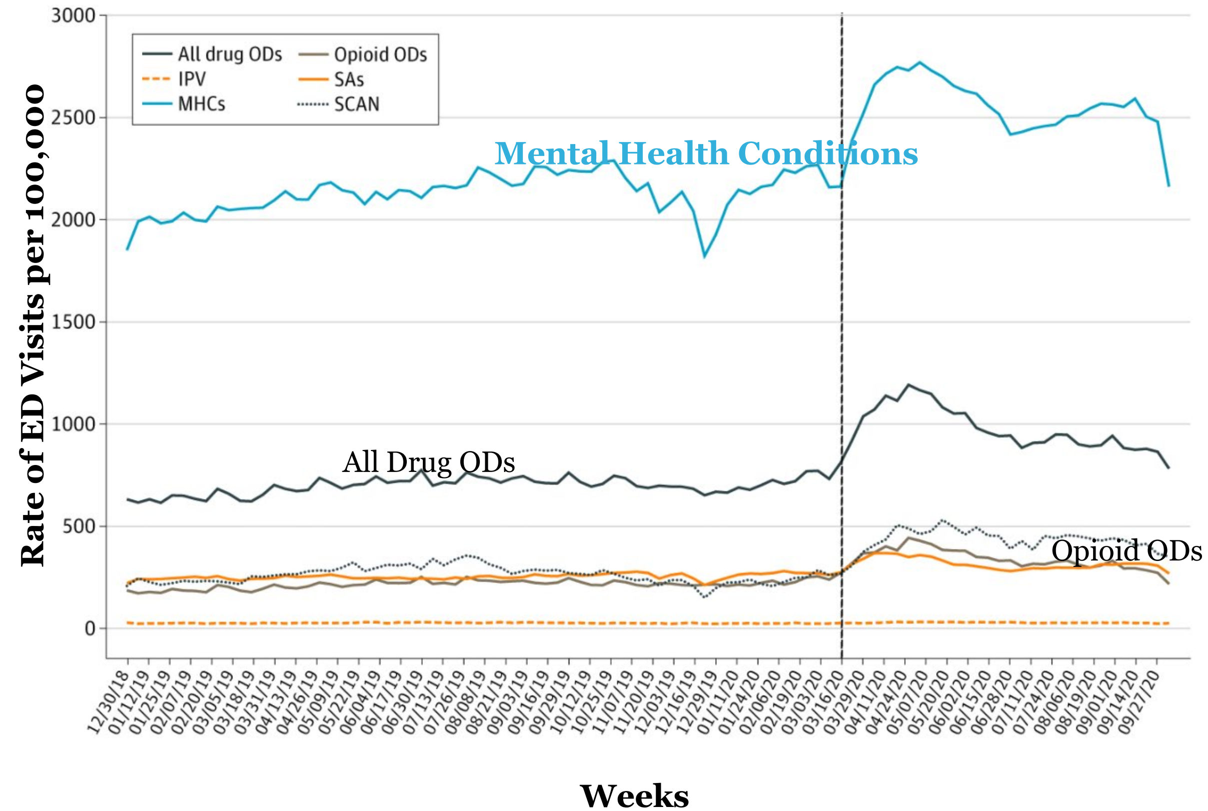
Overdose

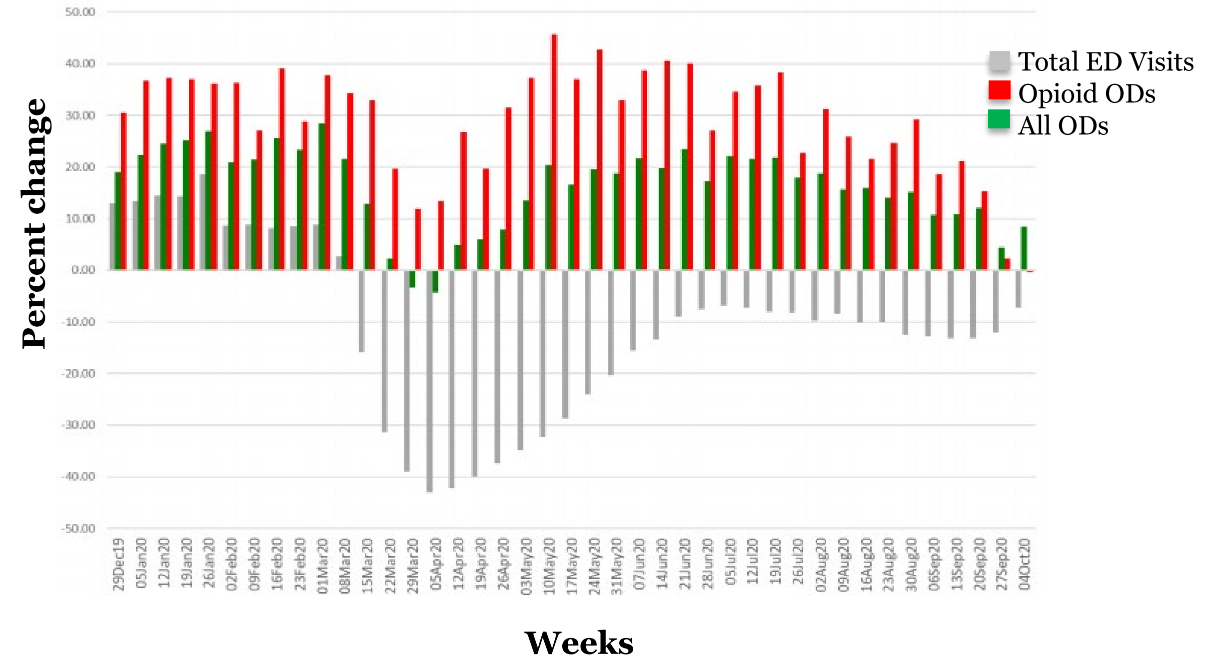
Seeking Treatment



Identified/Screening

COVID 19 Collides with the Opioid Epidemic





Count of ED Visits in the US December 30, 2018, to October 10, 2020

Weekly % Δ in Total ED visits, all drug OD, and opioid OD in 2020 compared to 2019

Holland, JAMA Psych, Feb 2021

We Know…

The Consequences of Inaction

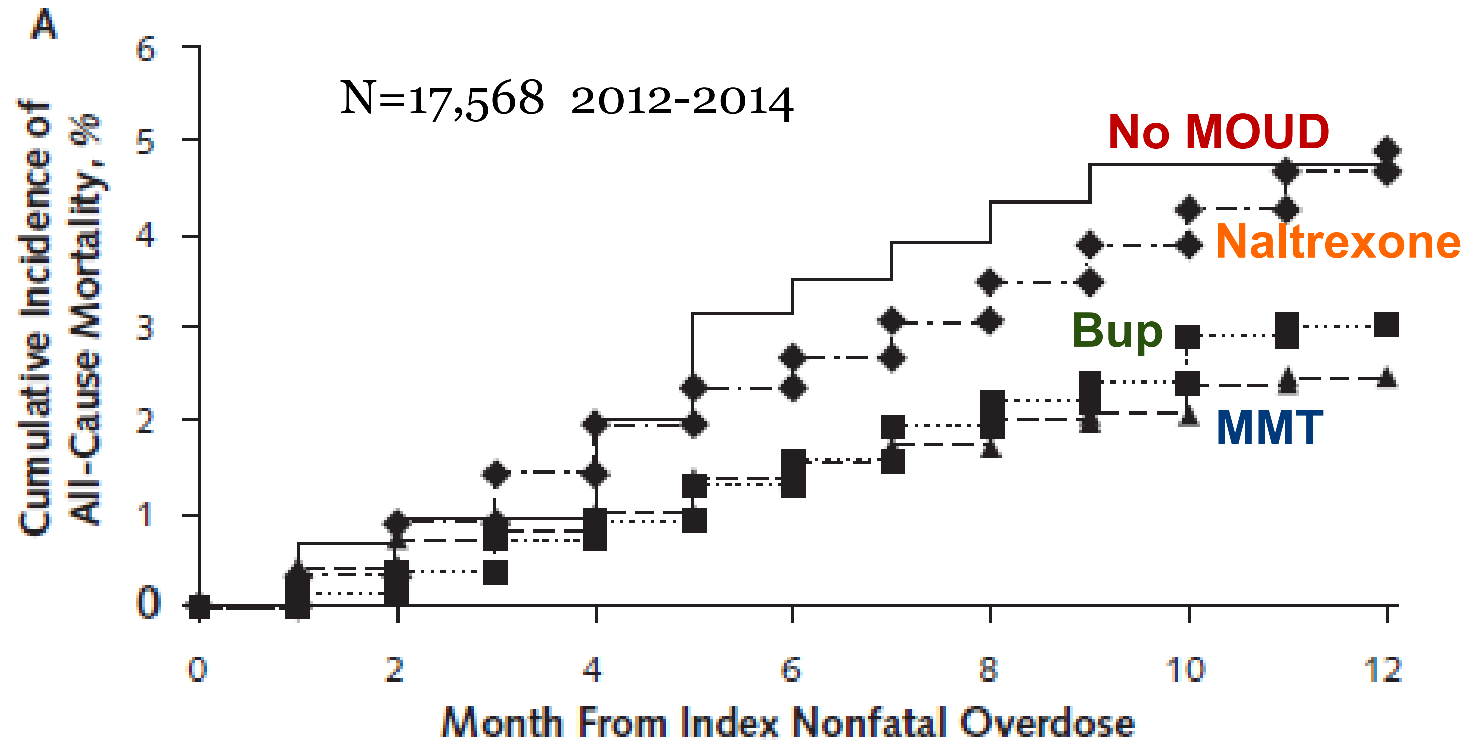
Annals of Internal Medicine

ORIGINAL RESEARCH

Medication for Opioid Use Disorder After Nonfatal Opioid Overdose and Association With Mortality

A Cohort Study

Marc R. Larochelle, MD, MPH; Dana Bernson, MPH; Thomas Land, Ph... Stopka, PhD, MHS; Na Wang, MA; Ziming Xuan, ScD, SM; Sarah M. Bagley, MD, MSc; Jane M. Liebschu...



12 months post non-fatal OD

- 30% received MOUD
- 4.7% all-cause mortality
  2.2% opioid-related
- BUP and MMT decreased in mortality

Larochelle, Annals of Int Med 2018

We Know…

The Evidence

A Randomized Trial of ED-Initiated Interventions for Opioid Dependence

Research

Original Investigation

Emergency Department–Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence
A Randomized Clinical Trial

Gail D'Onofrio, MD, MS; Patrick G. O'Connor, MD, MPH; Michael V. Pantalon, PhD; Marek C. Chawarski, PhD; Susan H. Busch, PhD; Patricia H. Owens, MS; Steven L. Bernstein, MD; David A. Fiellin, MD

IMPORTANCE Opioid-dependent patients often use the emergency department (ED) for medical care.

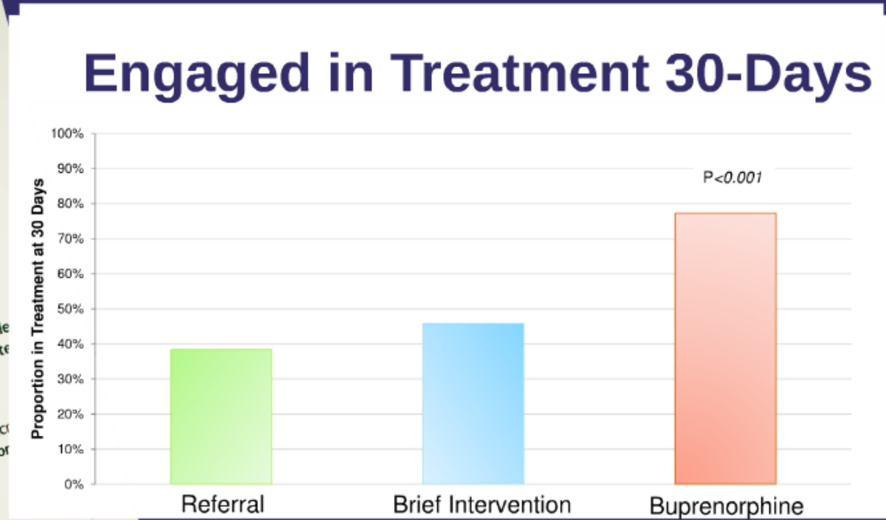
OBJECTIVE To test the efficacy of 3 interventions for opioid dependence: (1) screening and referral to treatment (referral); (2) screening, brief intervention, and facilitated referral to community-based treatment services (brief intervention); and (3) screening, brief intervention, ED-initiated treatment with buprenorphine/naloxone, and referral to primary care for 10-week follow-up (buprenorphine).

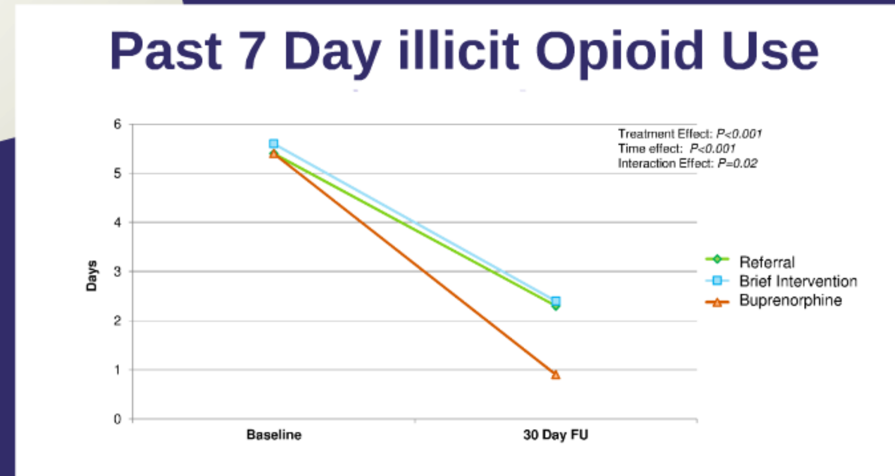
DESIGN, SETTING, AND PARTICIPANTS A randomized clinical trial involving 329 opioid-dependent patients who were treated at an urban teaching hospital ED from April 7, 2009, through June 25, 2013.

INTERVENTIONS After screening, 104 patients were randomized to the referral group, 111 to

JAMA Report Vide
Author Video Inte
jama.com

CME Quiz at
jamanetworkc
CME Question

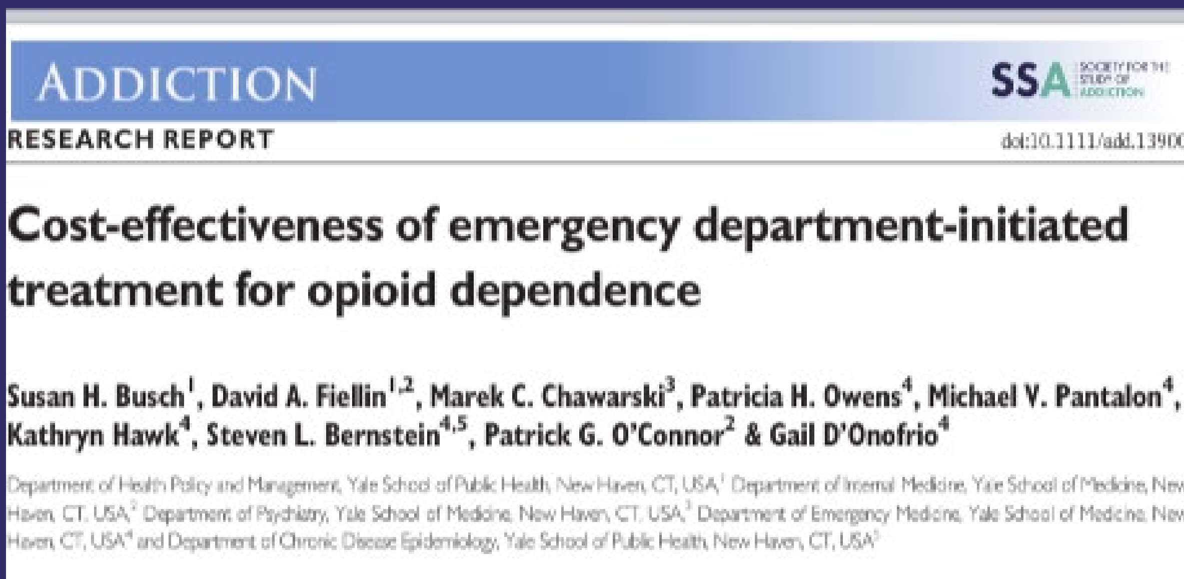




NIDA 5R01DA025991

D'Onofrio JAMA 2015

Cost-effectiveness of ED-initiated Treatment for Opioid Dependence



ADDICTION

SSA SOCIETY FOR THE STUDY OF ADDICTION

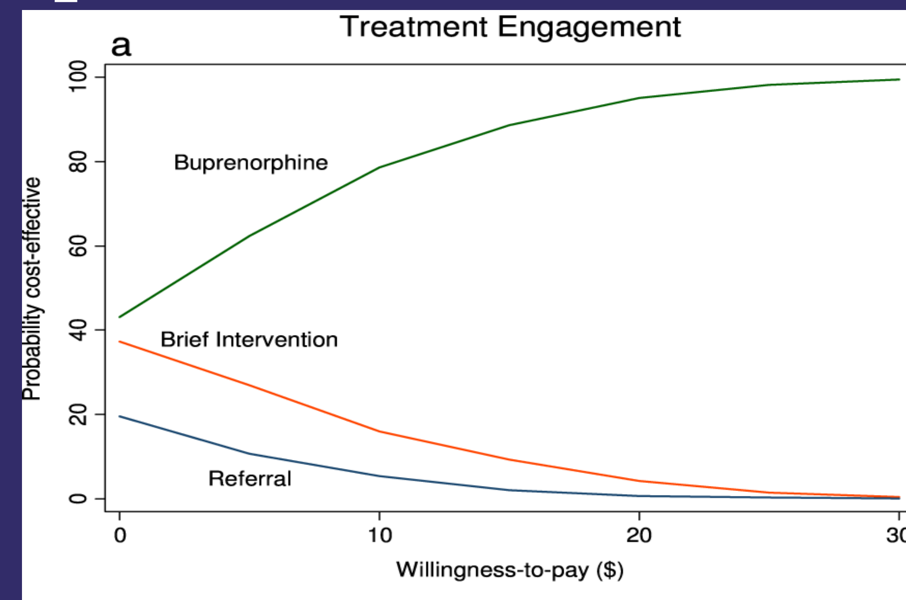
RESEARCH REPORT

doi:10.1111/add.13900

Cost-effectiveness of emergency department-initiated treatment for opioid dependence

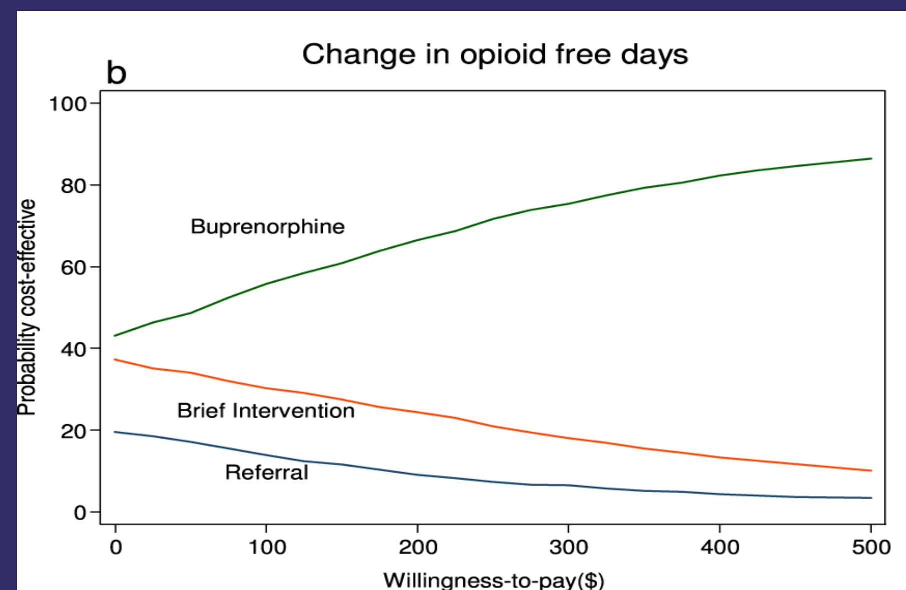
Susan H. Busch[1], David A. Fiellin[1,2], Marek C. Chawarski[3], Patricia H. Owens[4], Michael V. Pantalon[4], Kathryn Hawk[4], Steven L. Bernstein[4,5], Patrick G. O'Connor[2] & Gail D'Onofrio[4]

Department of Health Policy and Management, Yale School of Public Health, New Haven, CT, USA,[1] Department of Internal Medicine, Yale School of Medicine, New Haven, CT, USA,[2] Department of Psychiatry, Yale School of Medicine, New Haven, CT, USA,[3] Department of Emergency Medicine, Yale School of Medicine, New Haven, CT, USA[4] and Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, CT, USA[5]



Cost-effective acceptability curve: base case analysis

- Willingness-to-pay for a 1 percentage point increase in the probability a patient is engaged in treatment 30-days post-enrollment.
- Willingness-to-pay for 1 additional opioid-free day in the past 7-days



Busch Addiction 2017

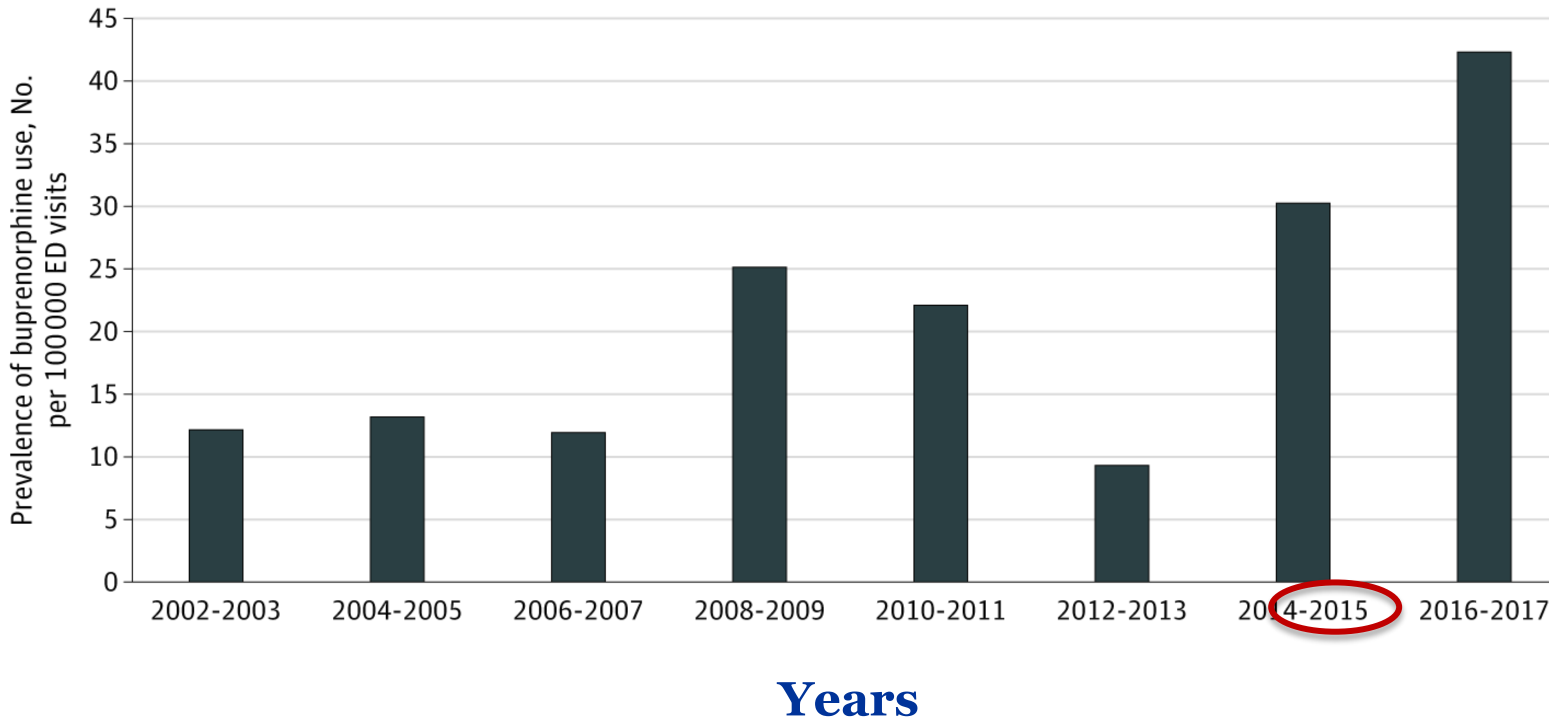
JAMA Network | Open

Research Letter | Emergency Medicine

Trends in the Use of Buprenorphine in US Emergency Departments, 2002-2017

Taeho Greg Rhee, PhD, MSW; Gail D'Onofrio, MD, MS; David A. Fiellin, MD

Prevalence of buprenorphine use, #/100,000 ED visits



Buprenorphine Use increased significantly from 2002-2003 to 2016-2017
(odds ratio for linear trend, 3.31; 95% CI, 1.04-10.50; P = .04).

Rhee TG, D'Onofrio G, Fiellin DA. JAMA Network Open. 2020

EDs and Emergency Physicians can…

- Identify patients with OUD
- Provide treatment
  - Initiate buprenorphine
  - Overdose education and naloxone distribution
- Directly link patient to continued opioid agonist therapy & preventive services

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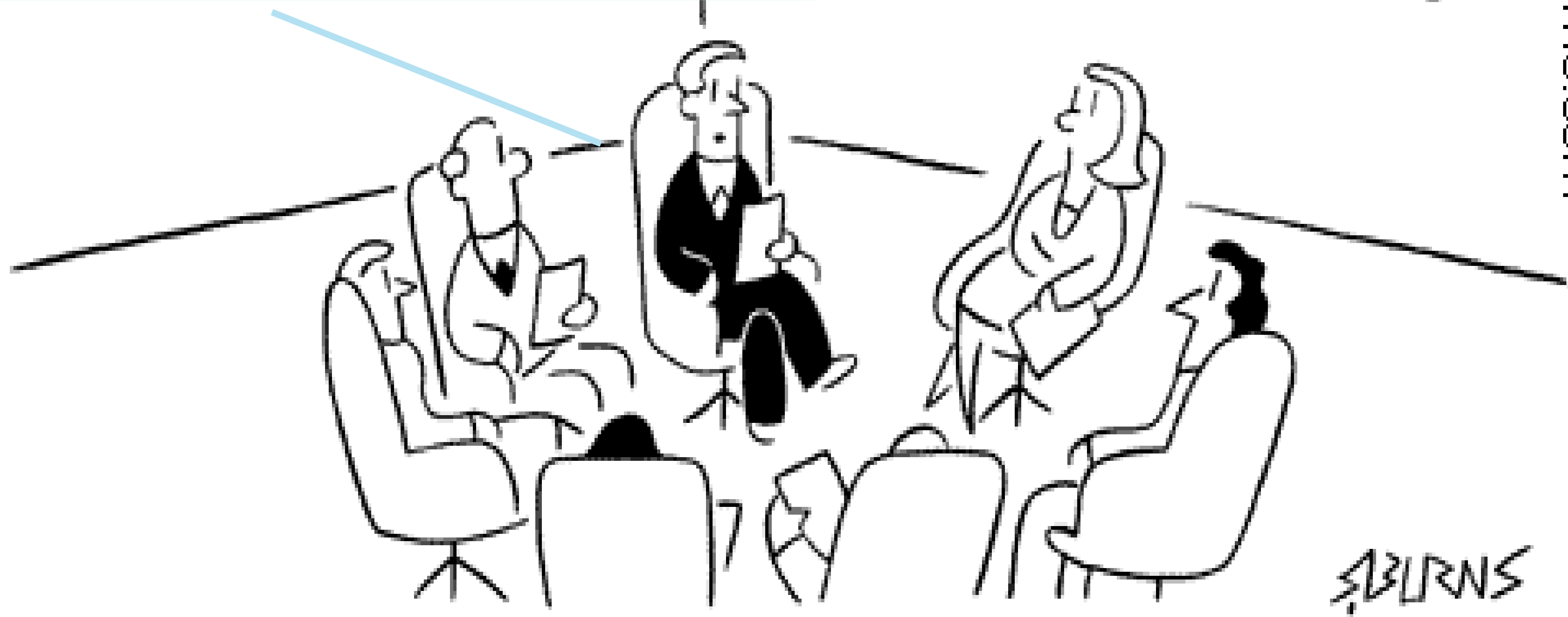
www.shannonburns.com

The latest research shows that we really should do something with all this research



We Learned…

CTN-0069 Project ED Health

Opioid Use Disorder in the Emergency Department

Gail D'Onofrio MD, MS
David Fiellin MD

Yale University
School of Medicine

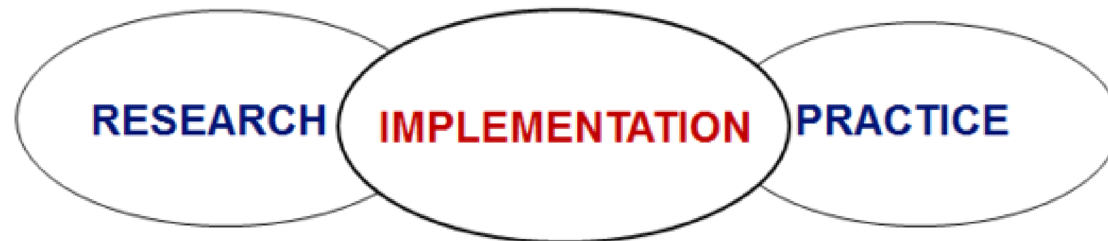
CTN 0069: Opioid Use Disorder in the ED

Project ED Health

Design: Hybrid Type 3 Implementation-Effectiveness Study

Overall Implementation of ED-Initiated buprenorphine into practice at 4 geographically diverse, urban-academic Emergency Departments

- Testing of an implementation strategy while observing and gathering information on the intervention's impact on clinical outcomes
- **Emphasizing implementation over effectiveness**



Lead Investigators

Study Team

Project ED Health

Yale – Lead Team

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Mt. Sinai – Beth Isreal

Lynne Richardson MD
Mt. Sinai

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Michael Lyons
University of Cincinnati

Richard Rothman MD, PhD
Johns Hopkins

Caroline Freiermuth MD
University of Cincinnati

Christine Wilder MD
University of Cincinnati

Robert Schwartz MD
Johns Hopkins

Methods: Populations

Clinicians

Focus Groups & Surveys

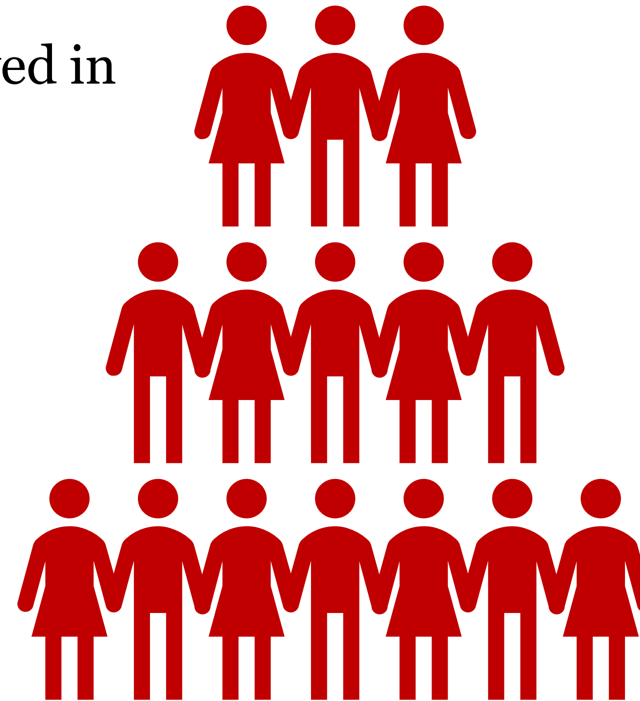
- ED clinicians and staff involved in the treatment of patients with OUD
- ED patients with OUD
- Community opioid treatment clinicians involved in ED patient referral care

EHR Data

- Treatment (buprenorphine)
- Overdose prevention (naloxone)

Training

- X waiver training

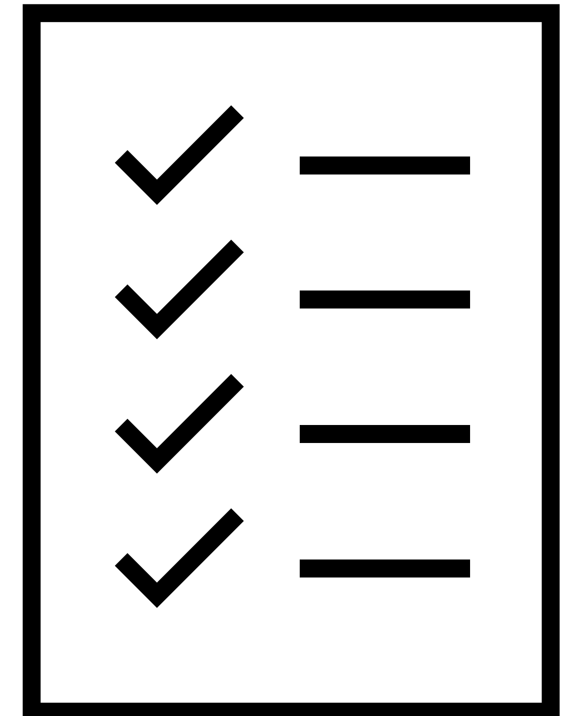


Patient Observational Cohorts

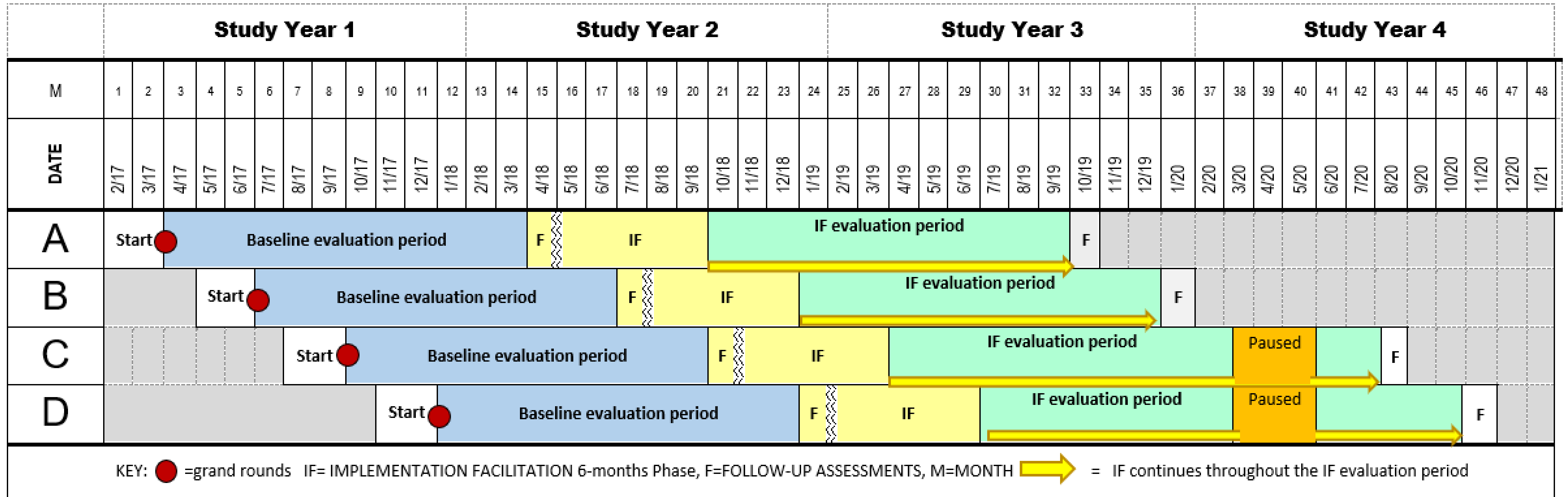
- 756 of a planned 960 ED patients with moderate to severe OUD were enrolled – Baseline evaluation period and IF evaluation period

Implementation Facilitation Activities

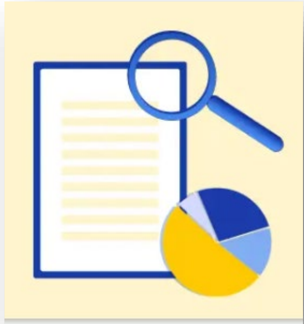
- ✓ External Facilitators
- ✓ Formative Evaluation
- ✓ Local Champions
- ✓ Stakeholder Engagement
- ✓ Tailor Program to Site
- ✓ Provider Education & Academic Detailing
- ✓ Performance Monitoring and Feedback
- ✓ Learning collaborative
- ✓ Problem-solving
- ✓ Program Marketing



Timeline and Overview of Events



Clinician Data



Surveys

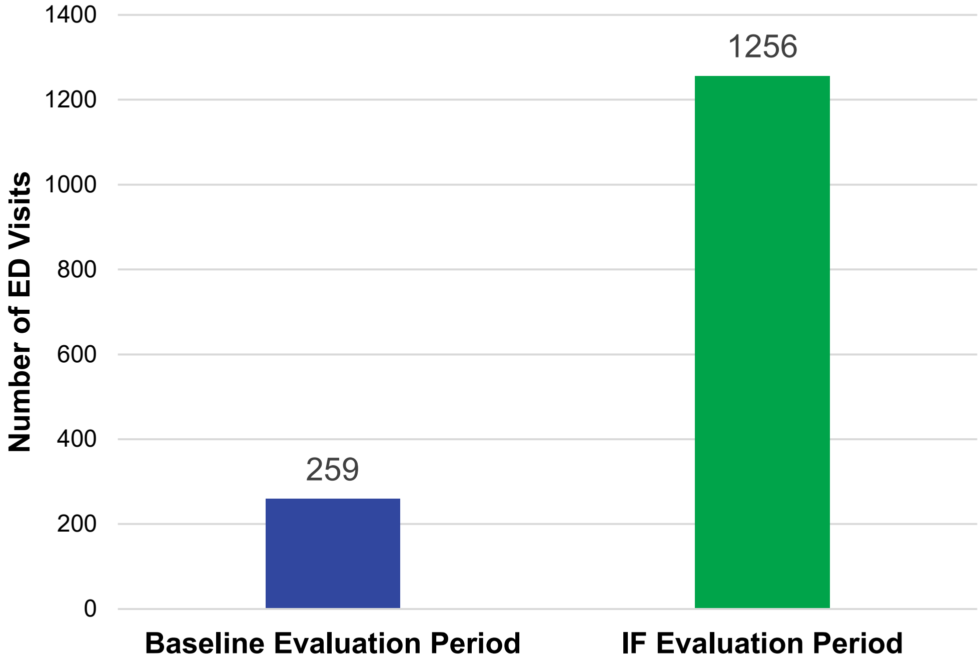
Quantitative
Organizational Readiness to Change Assessment (ORCA) • ED Partners • Community Clinicians
Readiness and Preparedness Ruler • Readiness to provide the intervention • Preparedness to provide the intervention

Focus Groups

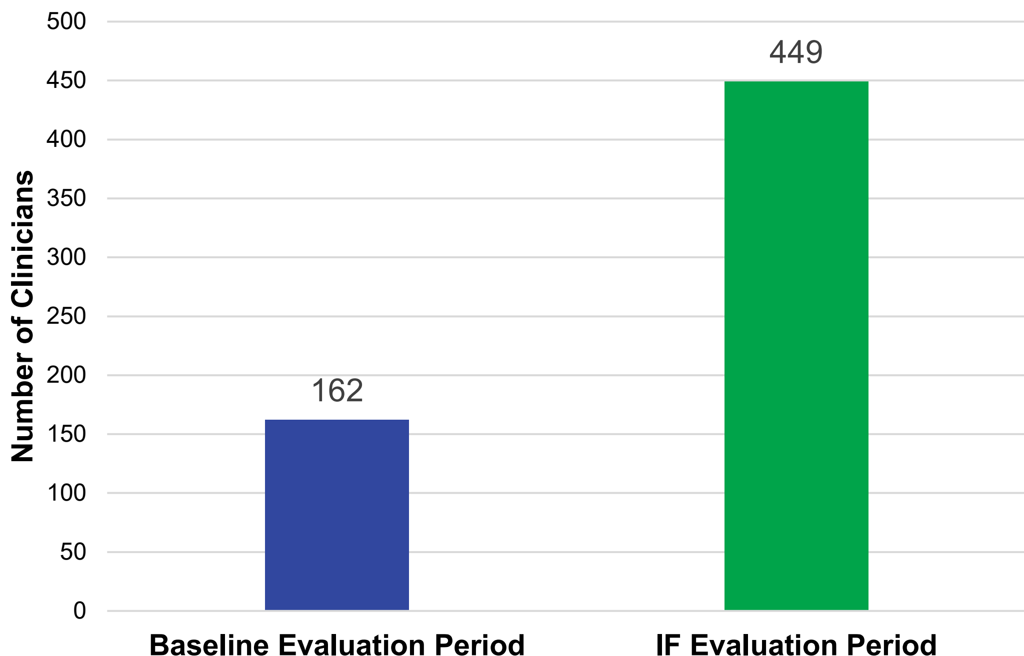
Qualitative
ED • Leadership • Faculty • ED residents • Advance Practice • Nursing • Social work • Case management • Pharmacist • Patients
Community Clinicians

Results: Implementation of ED-initiated Buprenorphine

Buprenorphine Administered/prescribed

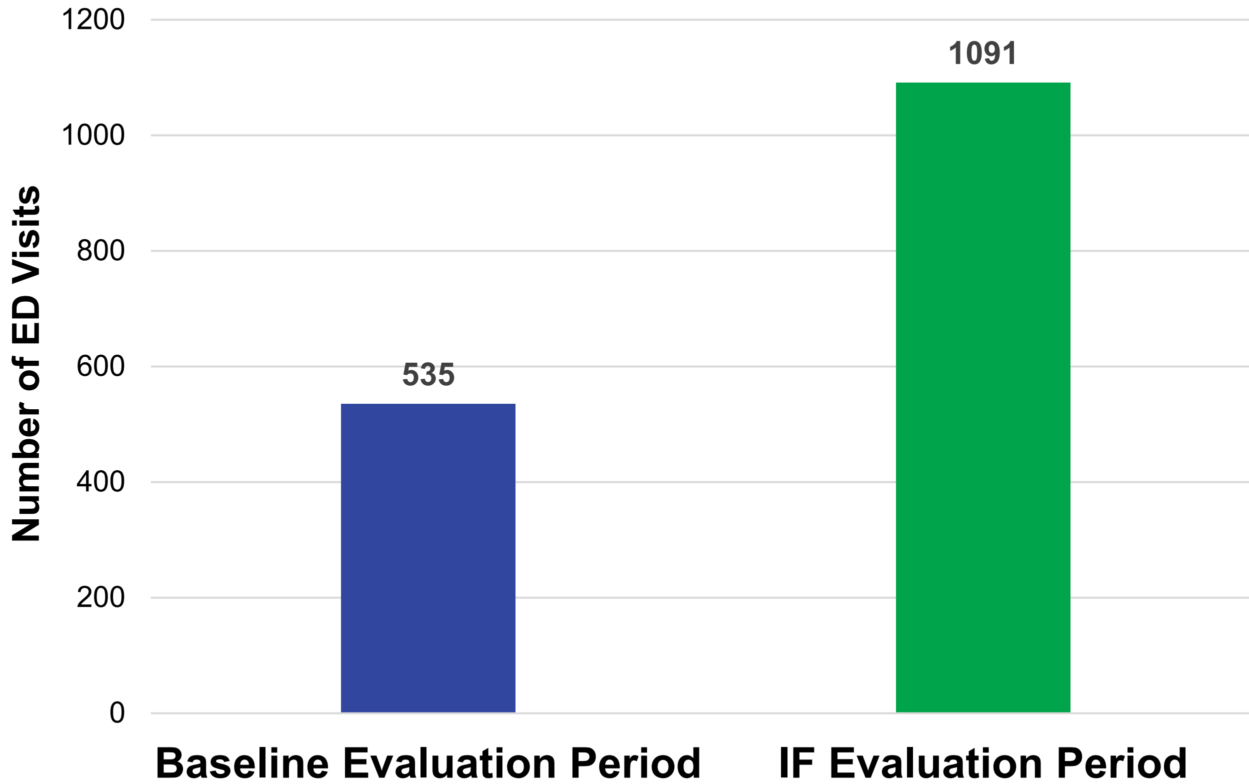


Unique ED Clinicians

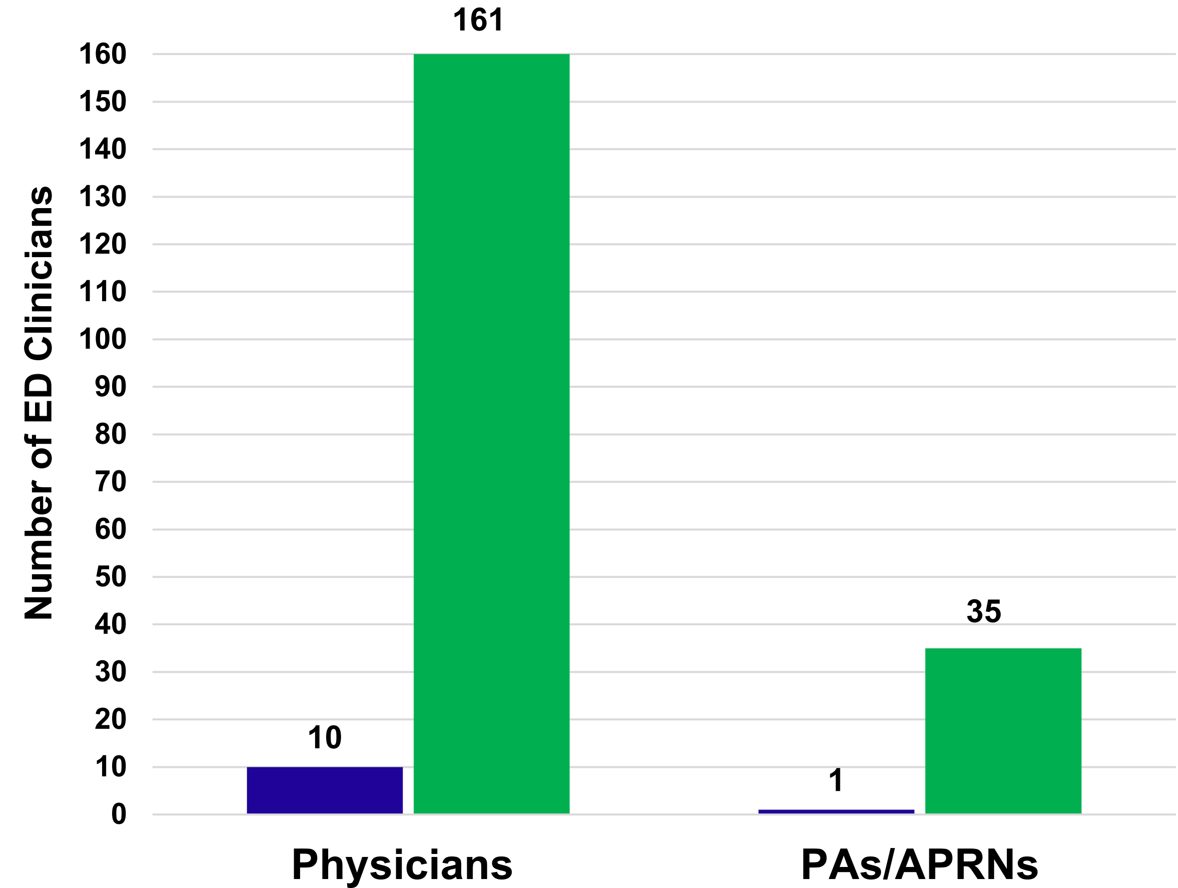


Other Implementation Data

Naloxone Dispensed/Prescribed



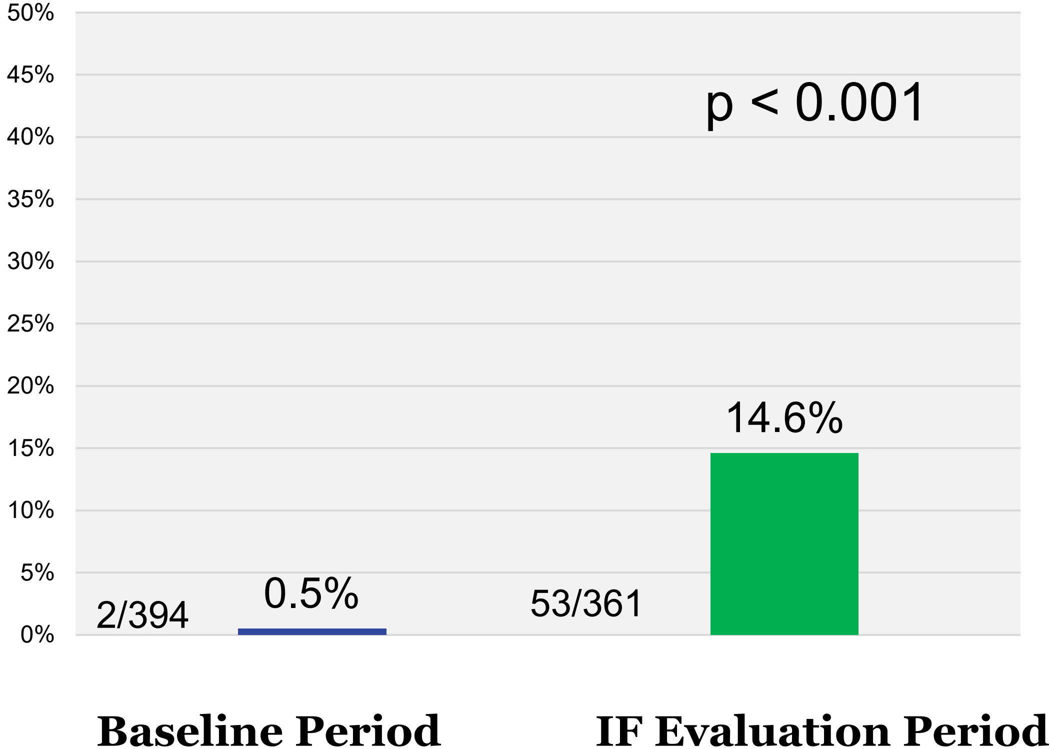
X-Waivered



Outcomes

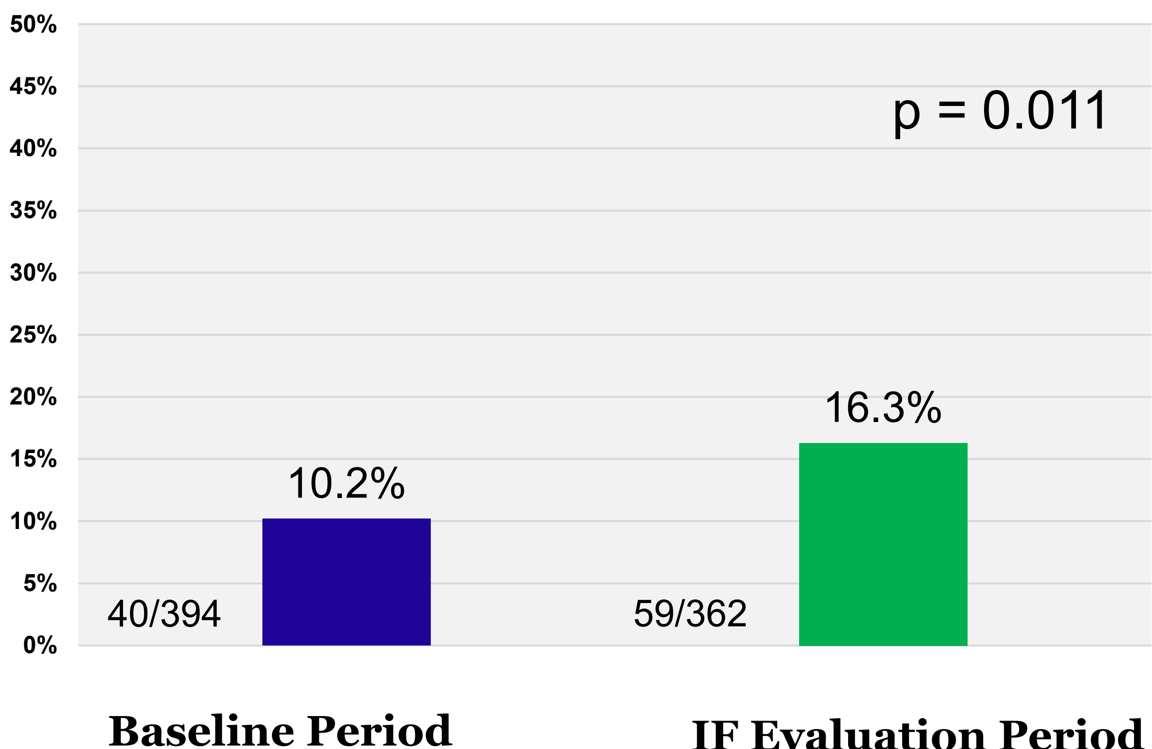
Implementation

% Received ED-initiated Bup with Referral

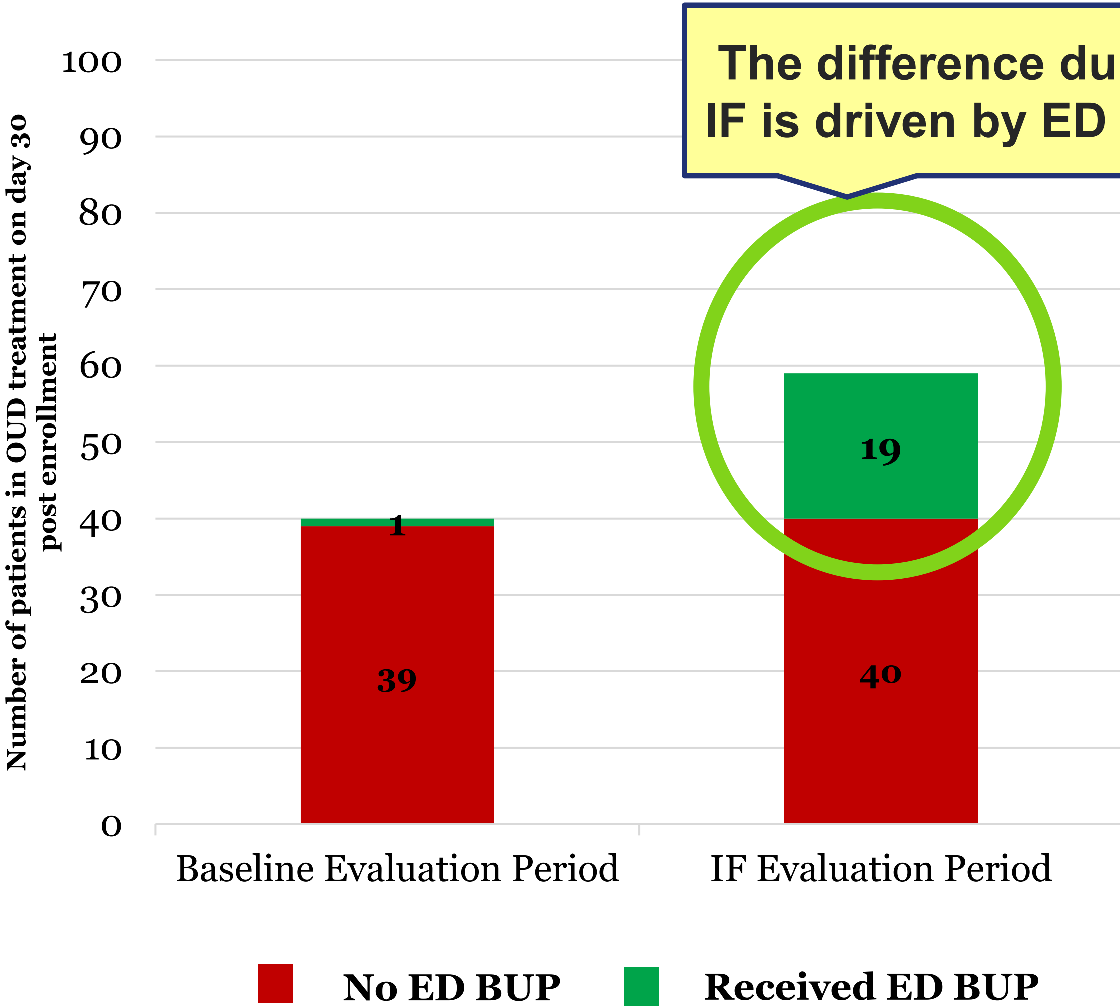


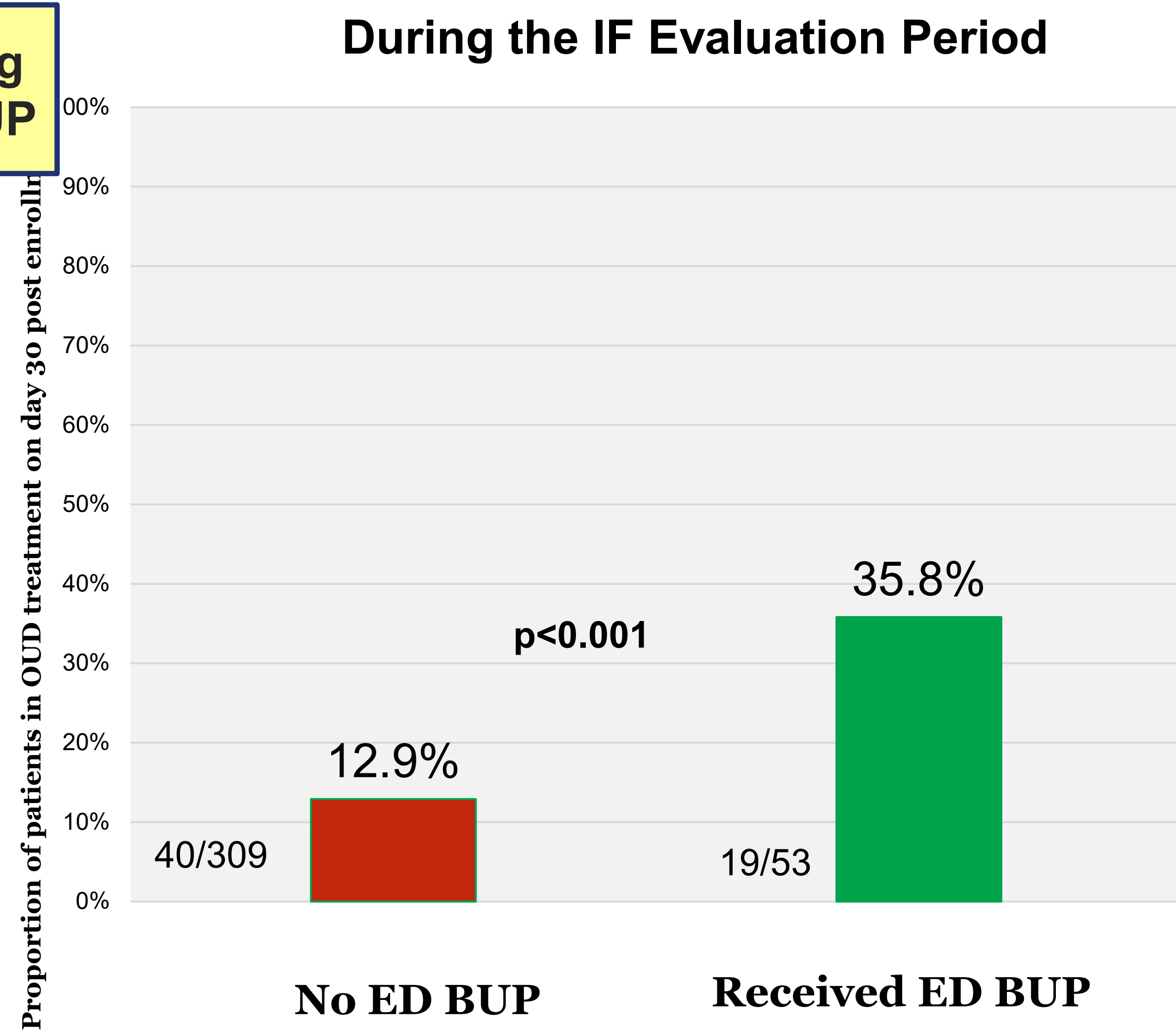
Effectiveness

% Engaged in Formal OUD Treatment on day 30



Engagement in Treatment
Comparison of Patients Receiving BUP vs no BUP





JAMA Network | Open
Hawk, JAMA Open, 2020

Clinician Barriers to Treat

Original Investigation | Substance Use and Addiction

Barriers and Facilitators to Clinician Readiness to Provide Emergency Department–Initiated Buprenorphine

Barriers to implementation:

- Requirement for a X-waiver
- Lack of experience in treating OUD with buprenorphine
- Ability to link to treatment
- Competing priorities for ED time and resources,
- Misunderstanding and stigma toward patients with OUD

Solutions:

- Training
- Protocols integrated within the EHR
- Targeted feedback to ED staff on patient outcomes
- **ACEP Consensus Recommendations** (Hawk et al., Ann Emerg Med 2021)

NIDA CTN-0079 ED-CONNECT

Implementation of ED-BUP programs in rural and urban settings with high need and limited resources

McCormack

Hawk

6-month evaluation

- 112 of 134 (83.6%) unique ED-BUP candidates received BUP
- Approx. 50 unique ED providers

Catholic Medical Center Manchester NH

Among the 40 BUP-recipients enrolled:

Successfully linked to OUD treatment

50% engaged at 30 days; 70% had ≧ 1 visit

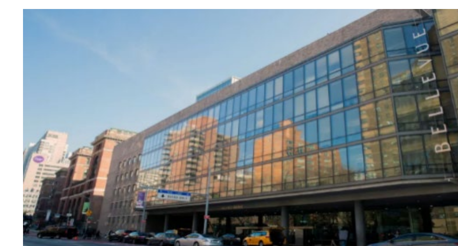
Decreased Opioid Use

-2.9 days/week ($p<0.001$); 51.4% negative toxicology

Fewer opioid overdoses

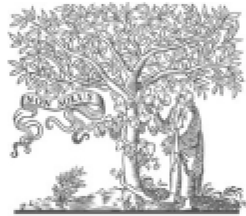
Odds of overdose was **4x** higher at baseline (95% CI: 1.3-12.8; $p=0.019$)

Valley Regional Hospital, Claremont NH



Bellevue Hospital, NY

McCormack, Addict Sci Clin Pract 2021



Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment

journal homepage: www.elsevier.com/locate/jsat

April 2021

Bridge clinic buprenorphine program decreases emergency department visits

Ross W. Sullivan[a,*], Laura M. Szczesniak[b], Susan M. Wojcik[a]

[a] Department of Emergency Medicine, Upstate Medical University, Syracuse, NY, USA
[b] College of Medicine, Upstate Medical University, Syracuse, NY, USA

269 patients:

- 654 ED visits in 6-months prior to referral
- 381 ED visits in 6-months after referral **(↓ of 42%)**

56% buprenorphine treatment adherence at 2- years

Extra Motivation

Consensus Recommendations on the Treatment of Opioid Use Disorder in the Emergency Department

Kathryn Hawk, MD, MHS*; Jason Hoppe, DO; Eric Ketcham, MD; Alexis LaPietra, DO; Aimee Moulin, MD; Lewis Nelson, MD; Evan Schwarz, MD; Sam Shahid, MBBS, MPH; Donald Stader, MD; Michael P. Wilson, MD; Gail D'Onofrio, MD, MS

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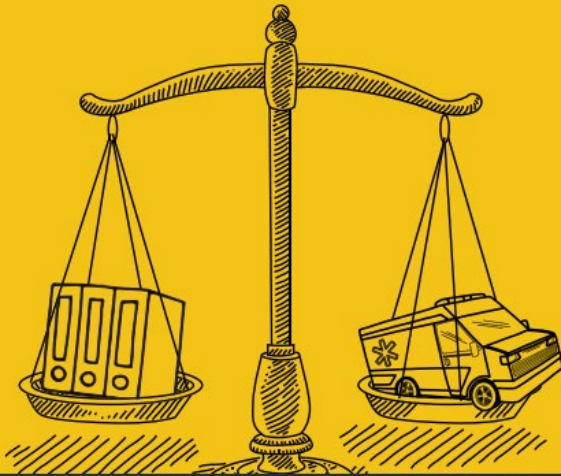
The treatment of opioid use disorder with buprenorphine and methadone reduces morbidity and mortality in patients with opioid use disorder. The initiation of buprenorphine in the emergency department (ED) has been associated with increased rates of outpatient treatment linkage and decreased drug use when compared to patients randomized to receive standard ED referral. As such, the ED has been increasingly recognized as a venue for the identification and initiation of treatment for opioid use disorder, but no formal American College of Emergency Physicians (ACEP) recommendations on the topic have previously been published. The ACEP convened a group of emergency physicians with expertise in clinical research, addiction, toxicology, and administration to review literature and develop consensus recommendations on the treatment of opioid use disorder in the ED. Based on literature review, clinical experience, and expert consensus, the group recommends that emergency physicians offer to initiate opioid use disorder treatment with buprenorphine in appropriate patients and provide direct linkage to ongoing treatment for patients with untreated opioid use disorder. These consensus recommendations include strategies for opioid use disorder treatment initiation and ED program implementation. They were approved by the ACEP board of directors in January 2021. [Ann Emerg Med. 2021;■:1-9.]

0196-0644/$-see front matter
Copyright © 2021 by the American College of Emergency Physicians. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).
https://doi.org/10.1016/j.annemergmed.2021.04.023

LAC LEGAL ACTION CENTER

EMERGENCY:

Hospitals are Violating Federal Law by Denying Required Care for Substance Use Disorders in Emergency Departments



Key Legal Findings

Hospitals could be liable for violations of **the Emergency Medical Treatment and Labor Act (EMTALA), the Americans with Disabilities Act (ADA)** and **Rehabilitation Act of 1973 (Rehabilitation Act)** and **Title VI of the Civil Rights Act of 1964 (Title VI)**, when they fail to adopt evidence-based practices, resulting in patient harm. "

"Do the best you can until you know better. Then when you know better, do better."
— Maya Angelou

https://www.lac.org/assets/files/LAC-Report-Final-7.19.21.pdf

Anyone Can Treat Opioid Withdrawal with Buprenorphine

HHS Releases New Buprenorphine Practice Guidelines, Expanding Access to Treatment for Opioid Use Disorder

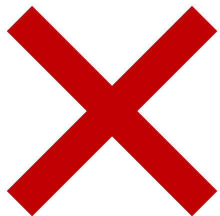
Tuesday, April 27, 2021

In an effort to get evidenced-based treatment to more Americans with opioid use disorder, the Department of Health

The Mainstreaming Addiction Treatment (MAT) Act

117th Congress

House Sponsors: Paul Tonko (D-NY), Antonio Delgado (D-NY), Anthony Gonzalez (R-OH), Mike Turner (R-OH)
Senate Sponsors: Maggie Hassan (D-NH), Lisa Murkowski (R-AK)



the x-waiver

72-hour rule

Title 21, Code of Federal Regulations, Part 1306.07(b)

Allows to administer (but not prescribe) narcotic drugs for the purpose of relieving acute withdrawal symptoms while arranging for the patient's referral for treatment

- e than 1-day's medication administered or given to a at one time
- must return to ED each day ore than 72 hours
- This 72-hour period cannot be renewed or extended.

D'Onofrio, Ann Emerg Med, In Press 2021

Link to start the process: https://buprenorphine.samhsa.gov/forms/select-practitioner-type.php

Buprenorphine Waiver Notification

View Practitioner Profile

ATTENTION NEW APPLICANTS: To indicate the qualified training exemptions when applying on the NOI website, applicants must select a training source or the system will bump them out. To apply, providers should check "Other" as under "**CERTIFICATION OF QUALIFYING CRITERIA**," then enter "practice guidelines" in the text box.
Further information regarding how to submit a NOI and obtain a waiver, can be found here: https://www.samhsa.gov/medication-assisted-treatment/become-buprenorphine-waivered-practitioner.

System Use Notification

- You are accessing a U.S. Government information system, which includes (1) this computer, (2) this computer network, (3) all computers connected to this network, and (4) all devices and storage media attached to this network or to a computer on this network. This information system is provided for U.S. Government-authorized use only.
- Unauthorized or improper use of this system is prohibited and may result in disciplinary action, as well as civil and criminal penalties.
- Personal use of social media on this system may result in disciplinary action unless otherwise authorized.
- By using this information system, you understand and consent to the following:
  - You have no reasonable expectation of privacy regarding any communication or data transiting or stored on this information system. At any time, and for any lawful Government purpose, the government may monitor, intercept, and search and seize any communication or data transiting or stored on this information system.
  - The government may record and audit your information system usage, including usage of personal email systems to conduct HHS businesses.
  - Any communication or data transiting or stored on this information system may be disclosed or used for any lawful Government purpose.

- Go to the following link: SAMHSA DATA Waiver
- Fill in next page with DEA number and state license number.
- Choose to apply for the 30-patient level. Under the notice of intent, you are only able to apply for the 30-patient level.
- Under section 8, select "other" for the criteria for qualification. The form did ask us to fill out the date, city, and state where the certifying criteria took place. Fill out today's date and under "city" put "Practice Guidelines". Leave the state where you are licensed. This may change in the future and another box may pop up per SAMSHA. The key is to put "practice guidelines" as the criteria for qualification.
- Fill out the other areas with the appropriate information and with your preferences.

Patient Themes (CTN 0069 & 0079)

- **Need for low-barrier access to treatment in the ED, particularly after overdose**
- **Sense that ED staff did not understand addiction or perceive it as a medical disease**
- **Perception that pain and medical issues were minimized or not taken seriously because of history of addiction**
- **History of feeling stigmatized while receiving ED care, with recent variability noted across EDs**
- **Rare positive experiences with clinicians**

Stigma

Hawk, K,... & D'Onofrio, G. (2022). Perspectives About Emergency Department Care Encounters Among Adults With Opioid Use Disorder. *JAMA Network Open*, *5*(1), e2144955-e2144955.

Words Matter

Words are powerful... They can contribute to stigma and create barriers to accessing effective treatment

Use person-first language; focus on the person, not the disorder

When Discussing Opioid or Other Substance Use Disorders...

Avoid These Terms:	Use These Instead:
Addict, user, drug abuser, junkie	Person with opioid use disorder or person with opioid addiction, patient
Addicted baby	Baby born with neonatal abstinence syndrome
Opioid abuse or opioid dependence	Opioid use disorder
Problem	Disease
Habit	Drug addiction
Clean or dirty urine test	Negative or positive urine drug test
Opioid substitution or replacement therapy	Opioid agonist treatment
Relapse	Return to use
Treatment failure	Treatment attempt
Being clean	Being in remission or recovery

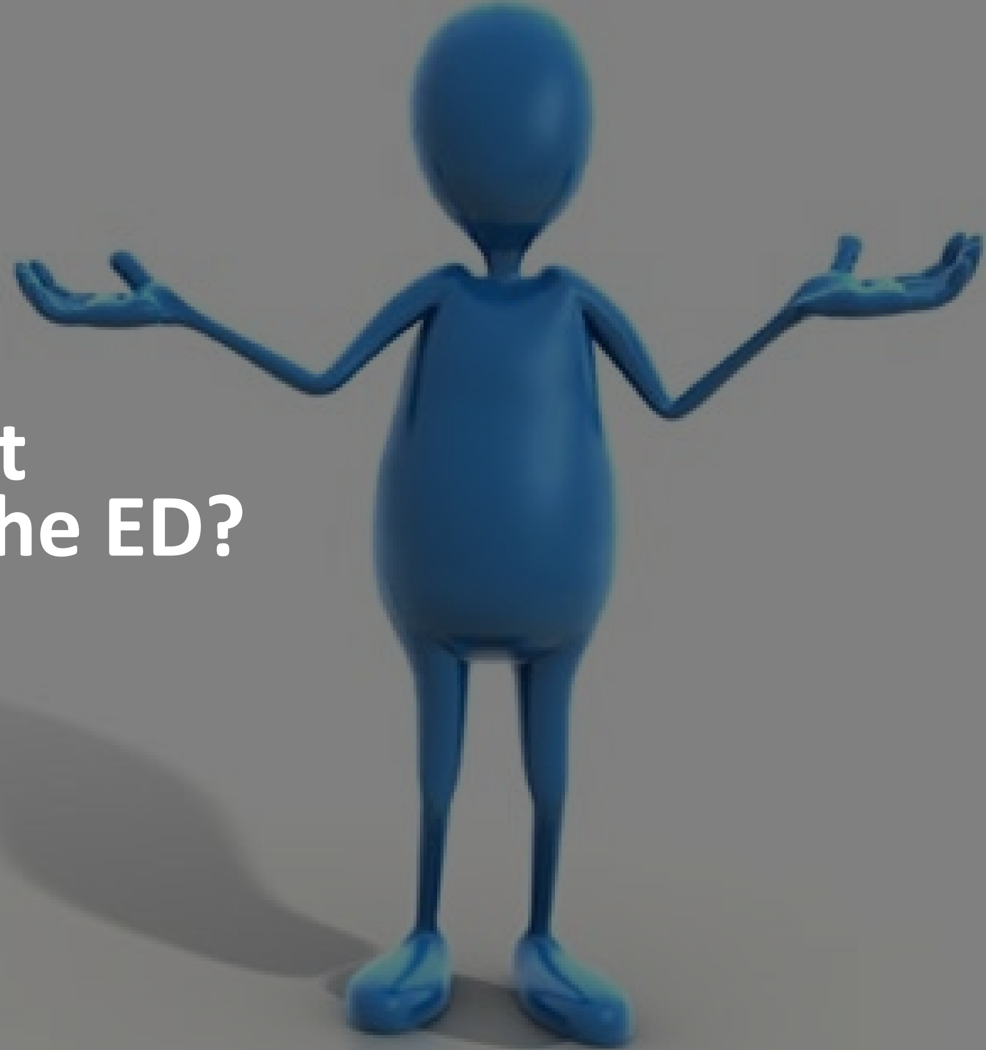
VIEWPOINT

Michael P. Botticelli, MEd
White House Office of National Drug Control Policy, Washington, DC.

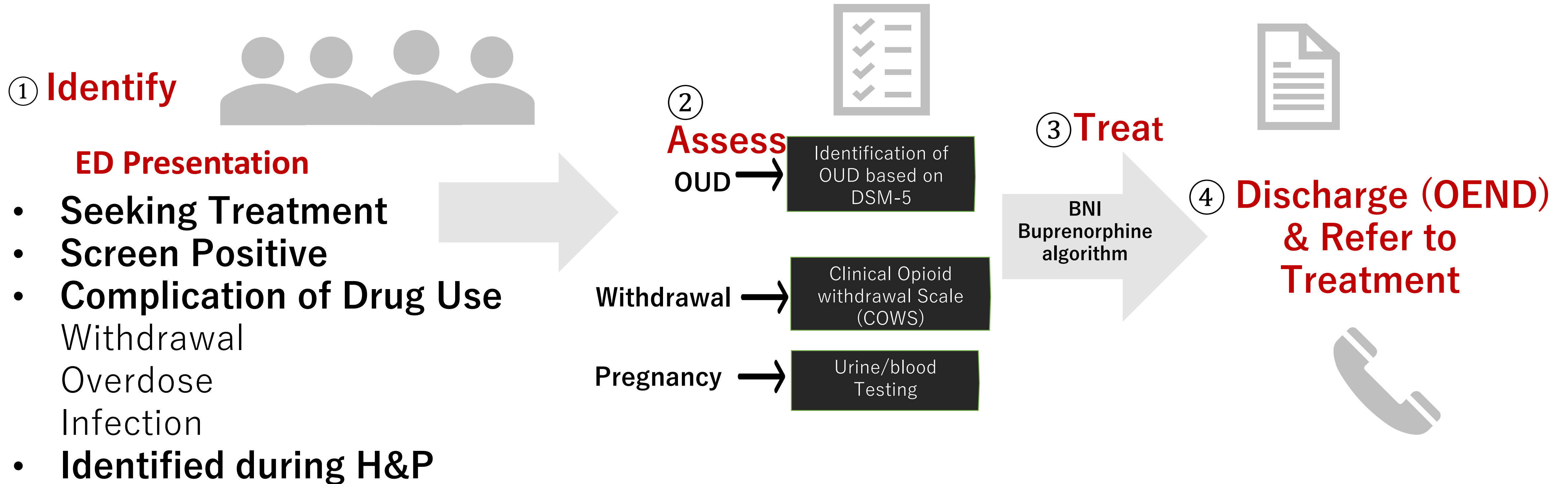
Howard K. Koh, MD, MPH
Harvard T.H. Chan School of Public Health, Boston, Massachusetts; and Harvard Kennedy School, Cambridge, Massachusetts.

Translating Research into Practice

How do I start buprenorphine in the ED?

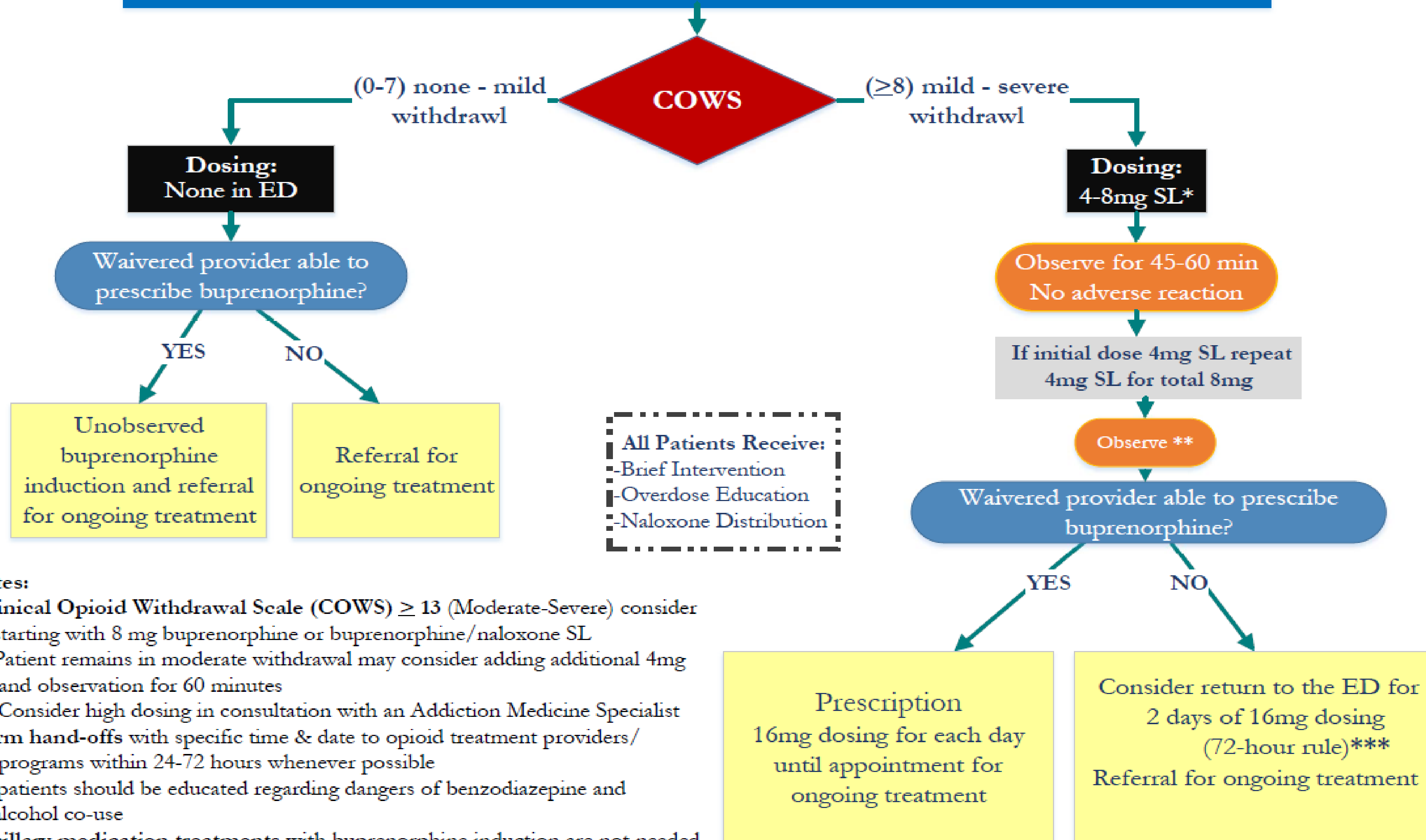


Buprenorphine Integration Pathway



BNI Brief Negotiation Interview
OEND Overdose Education & Naloxone Distribution

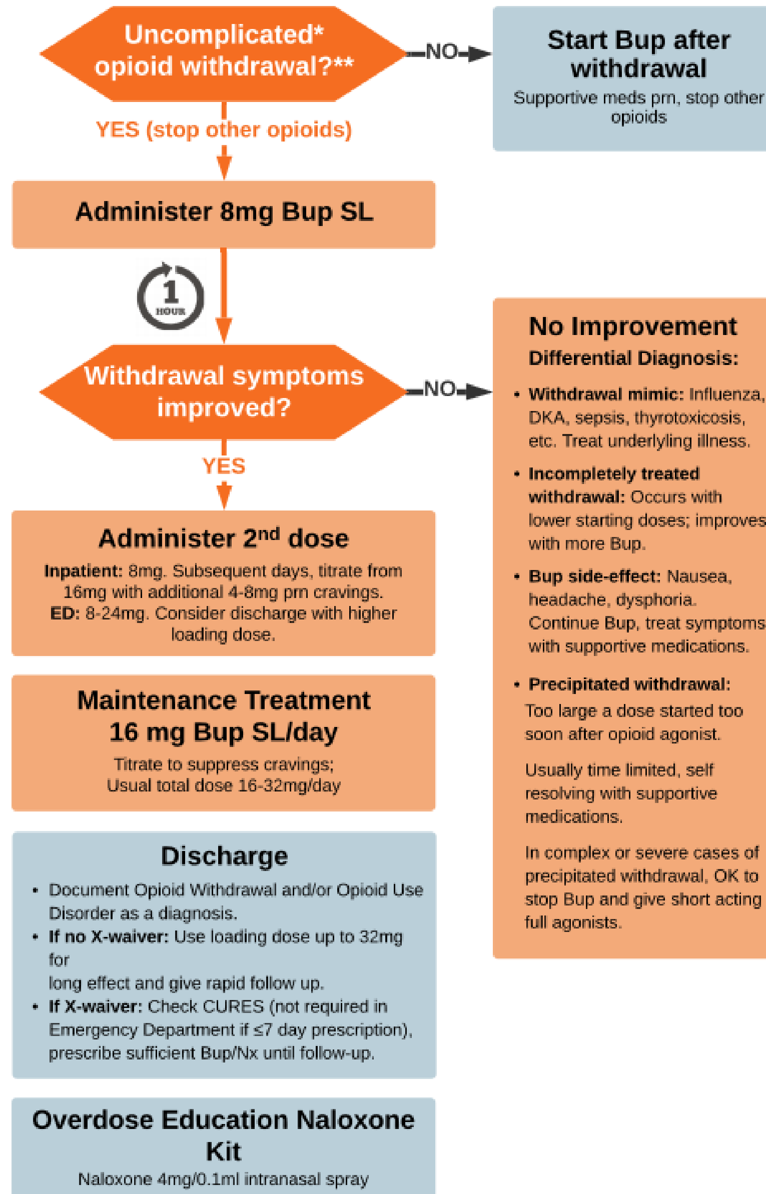
ED-Initiated Buprenorphine



https://cabridge.org/resource/buprenorphine-bup-hospital-quick-start/

Buprenorphine (Bup) Hospital Quick Start

- Any prescriber can order Bup in the hospital, even without an x-waiver.
- Bup is a high-affinity, partial agonist opioid that is safe and highly effective for treating opioid use disorder.
- If patient is stable on methadone or prefers methadone, recommend continuation of methadone as first-line treatment.



Buprenorphine Dosing

- Either Bup or Bup/Nx (buprenorphine/naloxone) films or tab sublingual (SL) are OK.
- If unable to take oral/SL, try Bup 0.3mg IV/IM.
- OK to start with lower initial dose: Bup 2-4mg SL.
- Total initial daily dose above 16mg may increase duration of action beyond 24 hrs.
- Bup SL onset 15 min, peak 1 hr, steady state 7 days
- May dose qday or if co-exisiting chronic pain split dosing TID/QID.

***Complicating Factors**

- Altered mental status, delirium, intoxication
- Severe acute pain, trauma or planned large surgeries
- Organ failure or other severe medical illness
- Recent methadone use

****Diagnosing Opioid Withdrawal**
Subjective symptoms AND one objective sign

Subjective: Patient reports feeling "bad" due to withdrawal (nausea, stomach cramps, body aches, restlessness, hot and cold, stuffy nose)

Objective: *[at least one]* restlessness, sweating, rhinorrhea, dilated pupils, watery eyes, tachycardia, yawning, goose bumps, vomiting, diarrhea, tremor

Typical withdrawal onset:
≥ 12 hrs after short acting opioid
≥ 24 hrs after long acting opioid
≥ 48 hrs after methadone (can be >72 hrs)

If unsure, use COWS (clinical opioid withdrawal scale). Start if COWS ≥ 8 AND one objective sign.

If Completed Withdrawal:
Typically >72 hrs since last short-acting opioid, may be longer for methadone. Start Bup 4mg q4h prn cravings, usual dose 16-32mg/day. Subsequent days, OK to decrease frequency to qday

Opioid Analgesics

- Pause opioid pain relievers when starting Bup.
- OK to introduce opioid pain relievers after Bup is started for breakthrough pain. Do not use methadone with Bup.

Supportive Medications

- Can be used as needed while waiting for withdrawal or during induction process.

Pregnancy

- Bup monoproduct or Bup/Nx OK in pregnancy.
- Consider referencing buprenorphine in pregnancy guide.

A Guide to Begin Buprenorphine Treatment on Your Own

Before you begin you want to feel very sick from your withdrawal symptoms

It should be about . . .

- **12 hours** since you used heroin/fentanyl
- **12 hours** since snorted pain pills (Oxycontin)
- **16 hours** since you swallowed pain pills
- **48-72 hours** since you used methadone

You should feel at least three of these symptoms . . .

- Restlessness
- Heavy yawning
- Enlarged pupils
- Runny nose
- Body aches
- Tremors/twitching
- Chills or sweating
- Anxious or irritable
- Goose pimples
- Stomach cramps, nausea, vomiting or diarrhea

Once you are ready, follow these instructions to start the medication

DAY 1:

8-12mg of buprenorphine

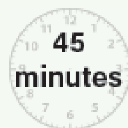
Most people feel better the first day after 8-12mg. (Dosing depends on how early on the first day you started)

Step 1.

Take the first dose

4mg

Wait 45 minutes



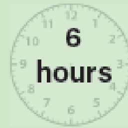
- Put the tablet or strip under your tongue
- Keep it there until fully dissolved (about 15 min.)
- Do NOT eat or drink at this time
- Do NOT swallow the medicine

Step 2.

Still feel sick? Take next dose

4mg

Wait 6 hours



Most people feel better after two doses = 8mg

Step 3.

Still uncomfortable? Take last dose

4mg

Stop

- Stop after this dose
- Do not exceed 12mg on Day 1

DAY 2:

16mg of buprenorphine

Take one 16mg dose

Most people feel better with a 16mg dose

16mg

Repeat this dose until your next follow-up appointment

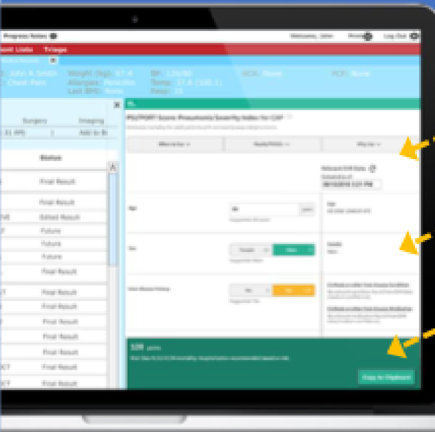
If you develop worsening symptoms while starting buprenorphine before your scheduled outpatient appointment return to the emergency department

Clinical Decision Support

Search: ED Buprenorphine
Desktop/phone app coming soon!

MDCalc Connect

Early Adopters Program – **INVITE ONLY**



Embedded in patient chart → integrated & broad ad

Proprietary, next-gen **autofills** → **more accu** the standar

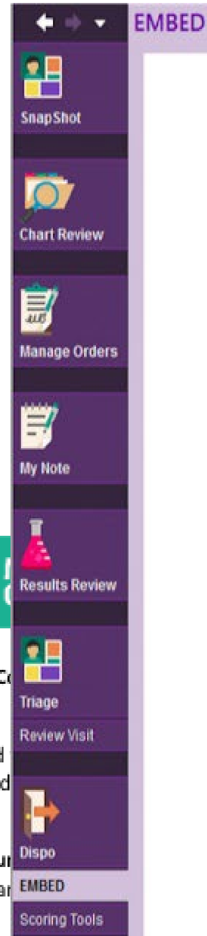
Dot phrases for easy documentation → ⬆ collections, ⬇ waste, ⬇ liability *(your CFO will love it)*

Abedin 2020[1] found MDCalc Connect **superior** to standard of care:

Among 60 patients, found ***57 conditions missed by clinicians***

Changed treatment *in* ***13.5%*** *of patients*

The MDCalc you love, now even better!



EMBED

Buprenorphine (BUP) Initiation

Do you have a waiver to prescribe Buprenorphine?

No Yes

Buprenorphine Treatment Options

ED-initiated Buprenorphine Resources

	Care Pathway #1	Care Pathway #2	Care Pathway #3	Care Pathway #4	Decision Support
	Exit/No BUP	Hold in ED	Start 4 mg BUP (2x)	Start 8 mg BUP	Use these optional tools in any order to help you decide
Does the patient have Opioid Use Disorder?	NO (<4 DSM criteria)	YES (≥4 DSM criteria)	YES (≥4 DSM criteria)	YES (≥4 DSM criteria)	Diagnose OUD using DSM tool
How severe is patient's withdrawal?	None-to-Mild < 8	None-to-Mild < 8	Mild-to-Moderate 8 - 13	Moderate-to-Severe > 13	Assess Withdrawal using COWS tool
Is patient ready for treatment?	NO	YES	YES	YES	Motivate Readiness using interview tool
	Select #1	Select #2	Select #3	Select #4	

Edward Melnick, BMJ, 2022

https://www.bmj.com/content/377/bmj-2021-069271.full?ijkey=MDnsHCwjJhZGKal&keytype=ref

BUP In

Funded by NI

APPLE: htt

GOOGLE: ht

mbed

6:09

Buprenorphine Initiation

Use the optional tools to help determine the best care pathway treatment for the patient.

Prescription Waiver

Opioid Use Disorder

Opioid Use Disorder Assessment

Does the patient have an Opioid use disorder?

No | Yes

Opioid Withdrawal

Opioid Withdrawal Assessment

How severe is the patient's withdrawal?

<8 None - Mild | 8-12 Mild to Moderate | >12 Moderate to Severe

Do not prescribe if patient is currently intoxicated or has used opiates within the last 12-24 hours.

Motivate Readiness

How ready is the patient to start treatment with Buprenorphine today?

Not Ready At All — Totally Ready

0 1 2 3 4 5 6 7 8 9 10

6:07

Opioid Use Disorder Assessment

Total: 4 — Mild OUD

Opioid Use Disorder Assessment informed by DSM-5

Ask the patient the following questions about their opioid usage in the past 12 months to determine if they meet the criteria (score of 4 or more) for BUP treatment:

1. Have you found that when you started using opioids you ended up taking more than you intended to?

No (0) | Yes (+1)

2. Have you wanted to stop or cut down one using opioids?

No (0) | Yes (+1)

3. Have you spent a lot of time getting or using opioids?

No (0) | Yes (+1)

4. Have you had a strong desire or urge to use opioids?

No (0) | Yes (+1)

5. Have you missed work or school or often arrived late because you were intoxicated, high, or recovering from the night before?

No (0) | Yes (+1)

Apply Results

6:07

Opioid Withdrawal Assessment

Total: 6 — Mild Withdrawal

Clinical Opiate Withdrawal Scale (COWS)

For each item, select the appropriate description of the patient's signs or symptoms. Rate symptoms based on their apparent relationship to last opioid use. For example, you should not give points to an elevated pulse from infection or runny nose from a cold.

1. Resting Pulse Rate (BPM) measured after patient is sitting or lying down for 1 minute

80 or Below	0
81 - 100	+1
101 - 120	+2
120 or Above	+4

2. Restlessness

Able to sit still	0
Some difficulty sitting still	+1
Frequent shifting of limbs	+3
Unable to sit still	+5

3. Anxiety or Irritability

Apply Results

NIDA Website

https://www.drugabuse.gov/ed-buprenorphine

Home » NIDAMED: Medical & Health Professionals » **Initiating Buprenorphine Treatment in the Emergency Department**

Initiating Buprenorphine Treatment in the Emergency Department

NIDAMED: Medical & Health Professionals

- Drug Screening and Assessment Resources ▼
- CTN Dissemination Initiative
- CME/CE
- ADM Fellow Toolkit
- About the Addiction Medicine Subspecialty
- Initiating Buprenorphine Treatment in the Emergency Department ▼
  - Buprenorphine Integration Pathway

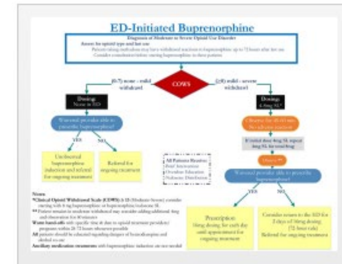
Revised September 2018

Introduction

Emergency department (ED) clinicians are in a unique position to interact with people struggling with opioid addiction. Some ED clinicians will see the same patients in their emergency clinics multiple times, often after administering life saving naloxone to reverse an overdose. NIDA has funded research into the initiation of medication assisted treatment for addiction to opioids right there in the emergency setting, coordinated by emergency department specialists at Yale University. The resources reflect best practices identified in that research; and offer tools to assist emergency room clinicians.

Treatment Information

- Buprenorphine Integration Pathway
- Buprenorphine Treatment Algorithm



Motivating Patients

- Case 1 - Opioid Overdose: ED-Initiated Buprenorphine
- Case 2 - Seeking Treatment for Opioid Use Disorder
- Case 3 - Opioid Overdose: Harm Reduction
- Case 4 - Adolescent Presenting with Opioid Overdose: Assessment, Intervention and Referral
- Case 5 - Prescription Opioid Withdrawal Symptoms: Assessment, Treatment and Referral

Testing Innovative Treatments

High-Dose Buprenorphine (>12mg) Induction for Treatment of Opioid Use Disorder

CTN 0069-A1

Accelerated induction achieves therapeutic buprenorphine levels in < 3-4 hours vs typically 2-3 days… extended-release increases safety during the crucial gap between ED & follow-up care… particularly in context of COVID limitations

Retrospective case series –

2018 calendar year at a single site – Highland Hospital, Oakland CA.

- 391 unique patients (579 encounters)
- No cases of respiratory depression or sedation
- 5 cases of precipitated withdrawal not dose related

High dose buprenorphine induction was safe and well tolerated in untreated OUD patients

JAMA Network | Open

Original Investigation | Substance Use and Addiction

High-Dose Buprenorphine Induction in the Emergency Department for Treatmen[t] of Opioid Use Disorder

Andrew A. Herring, MD; Aidan A. Vosooghi, MS; Joshua Luftig, PA; Erik S. Anderson, MD; Xiwen Zhao, MS; James Dziura, PhD; Kathryn F. Hawk, MD, MHS; Ryan P. McCormack, MD, MS; Andrew Saxon, MD; Gail D'Onofrio, MD, MS

Abstract

IMPORTANCE Emergency departments (EDs) sporadically use a high-dose buprenorphine induction strategy for the treatment of opioid use disorder (OUD) in response to the increasing potency of the illicit opioid drug supply and commonly encountered delays in access to follow-up care.

OBJECTIVE To examine the safety and tolerability of high-dose (>12 mg) buprenorphine induction for patients with OUD presenting to an ED.

DESIGN, SETTING, AND PARTICIPANTS In this case series of ED encounters, data were manually abstracted from electronic health records for all ED patients with OUD treated with buprenorphine at a single, urban, safety-net hospital in Oakland, California, for the calendar year 2018. Data analysis was performed from April 2020 to March 2021.

INTERVENTIONS ED physicians and advanced practice practitioners were … sublingual buprenorphine induction protocol, which was then clinically imp…

MAIN OUTCOMES AND MEASURES Vital signs; use of supplemental oxyg… precipitated withdrawal, sedation, and respiratory depression; adverse ever… hospitalization during and 24 hours after the ED visit were reported accordi…

Key Points

Question Is high-dose (>12 mg) buprenorphine induction safe and well tolerated in patients with untreated opioid use disorder who present to the emergency department?

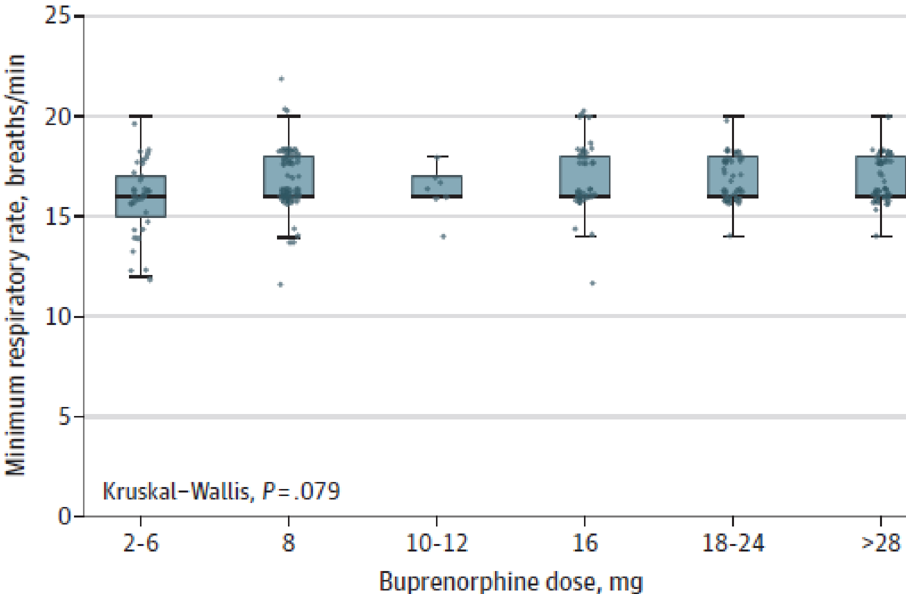
Findings In this case series of 579 cases, 54 clinicians followed a high-dose buprenorphine (monoproduct) protocol. There were no documented episodes of respiratory depression or excessive sedation, and precipitated withdrawal was rare (0.8% of cases) and was not associated with dosing.

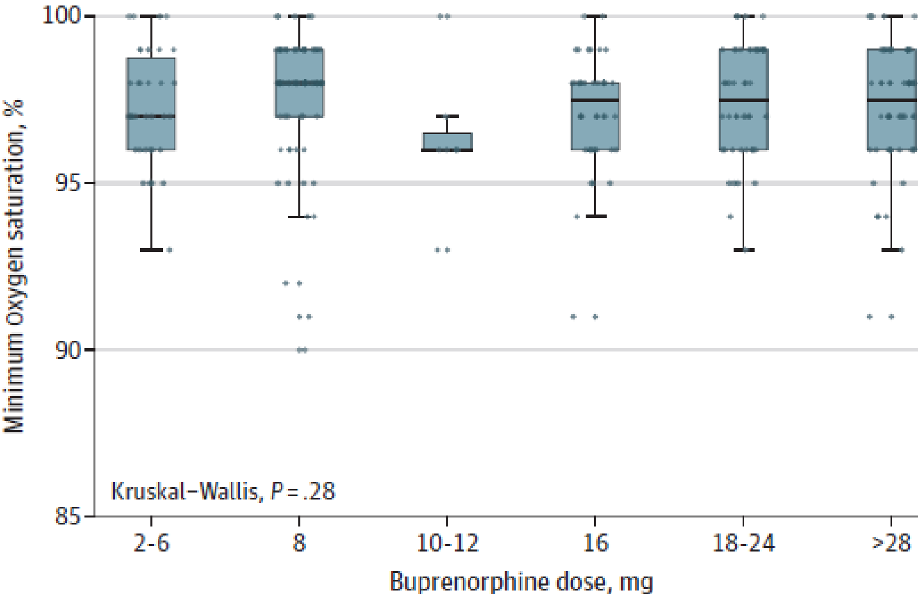
…findings suggest that …orphine induction, …le clinicians in a …emergency …afe and well tolerated …treated opioid use

Herring, JAMA Netw Open. 2021 July

Expanding Access to Medications for OUD (MOUD)

ED-administered, High-dose Buprenorphine (>12 mg) May Enhance OUD Treatment Outcomes





High-dose Buprenorphine induction was safe and well tolerated in untreated OUD patients (n=391).
No cases of respiratory depression or sedation. 5 cases of precipitated withdrawal were not associated with dose.

Herring AA et al., JAMA Network Open. 2021;4(7):e2117128

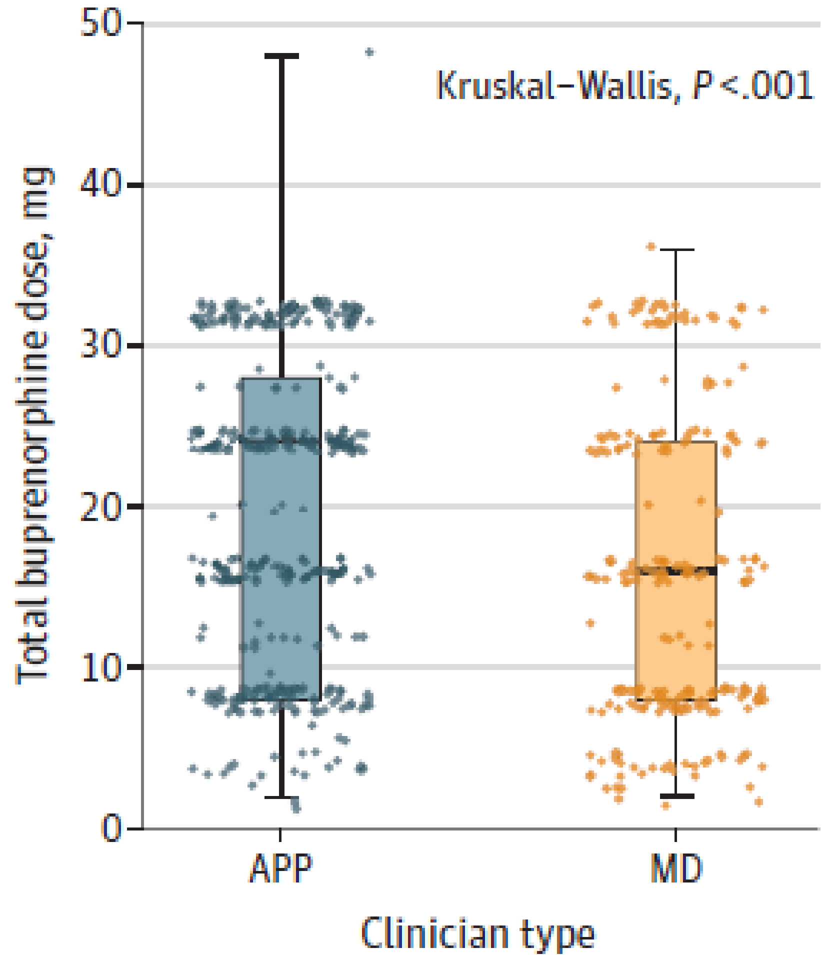
Outcomes

Total Buprenorphine Dose (mg sublingual)							
	2-6 n=55	8 n=136	10-12 n=22	16 n=106	20-24 n=122	28+ n=138	*p-value*[b]
Length of Stay—hours[a]	3.5 (2.4-5.8)	2.6 (1.7-4.4)[d]	2.6 (2.1-3.7)	2.1 (1.5-3.5)[d,e]	2.2 (1.4-3.3)[d]	2.3 (1.7-3.6)[d]	0.002
Precipitated Withdrawal—no. (%)	0	4 (2.9%)	0	0	0	1 (0.7%)	0.20
Hospitalization—no. (%)	5 (9.1%)	4 (2.9%)	1 (4.5%)	3 (2.8%)	8 (6.6%)	4 (2.9%)	0.26
Return to ED within 24 Hours—no. (%)	2 (3.6%)	10 (7.4%)	3 (14%)	9 (8.5%)	6 (4.9%)	15 (11%)	0.32
Time to Return to ED Within 24 Hours—hours[a]	13.8 (12-16)	11.4 (5.9-14)	17.8 (11-20)	10.4 (6.5-23)	15.1 (13-18)	18.4 (14-22)	0.52

[a] Median and interquartile range [b] p-value for any differences among categories of total buprenorphine sublingual dose
[c] p-value for any difference in the proportions of encounters that were by advance practice providers across the total buprenorphine dose categories. After significant omnibus test, all pairwise comparisons were performed. Results of pairwise dose category comparisons that are significant are marked by a superscript indicating which column was different: [d] $p<0.05$ for pairwise comparison to 2-6 mg total dose
[e] $p<0.05$ for pairwise comparison to 8 mg total dose

Buprenorphine Dose Administered by MDs & APPs

Each dot represents a unique patient encounter



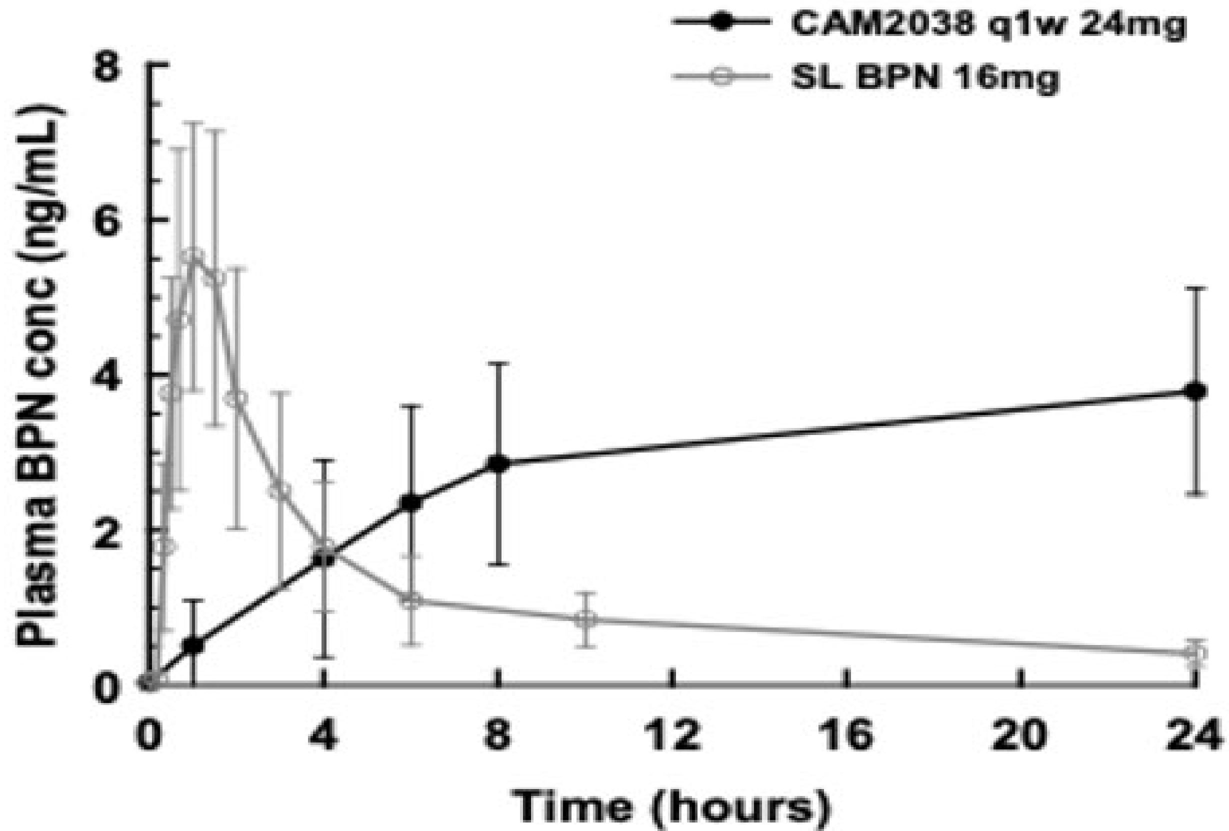
54 unique providers were observed. All 21 APPs (100%) and 29 MDs (29/33=88%) have administered high-dose buprenorphine at least once.

High-Dose Induction Safe and Effective

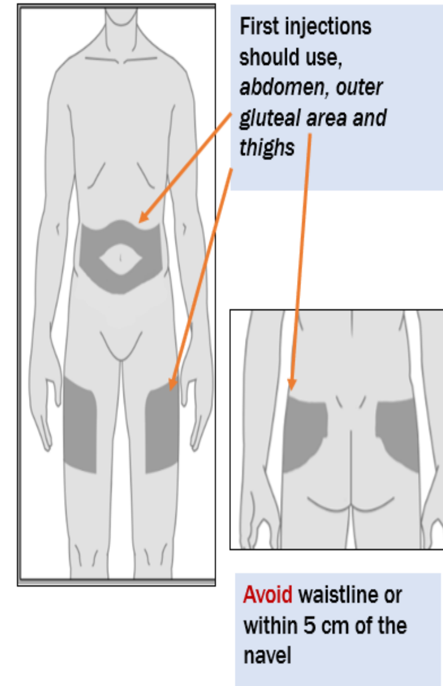
ED INNOVATION

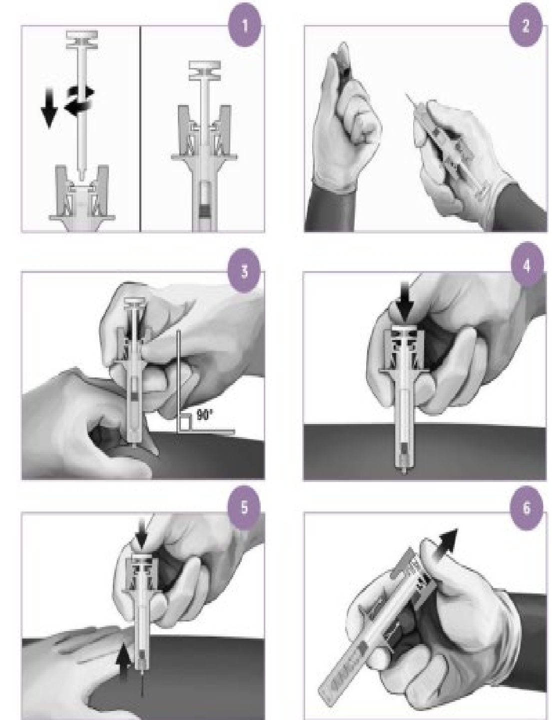
ED-INitiated BupreNOrphine VAlidaTION Network Trial

Pharmacokinetics of XR- & SL- Buprenorphine



Injection Placement





3UG1DA015831

ED-INitiated BupreNOrphine VAlidaTION Network Trial

To compare the effectiveness of XR-BUP and SL-BUP induction (8-12mg) in approximately 2000 patients with untreated OUD in the ED on the primary outcome of engagement in formal addiction treatment at 7 days

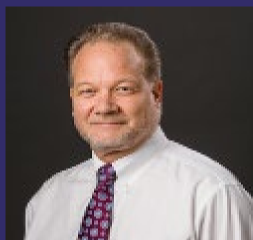
RCT
990
enrolled
27 Sites

Ancillary
86
enrolled

Lead Investigators

D'Onofrio, Contemporary Clinical Trials, 2021

Team



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...and the ED Health, ED Connect & ED Innovation Core Investigators

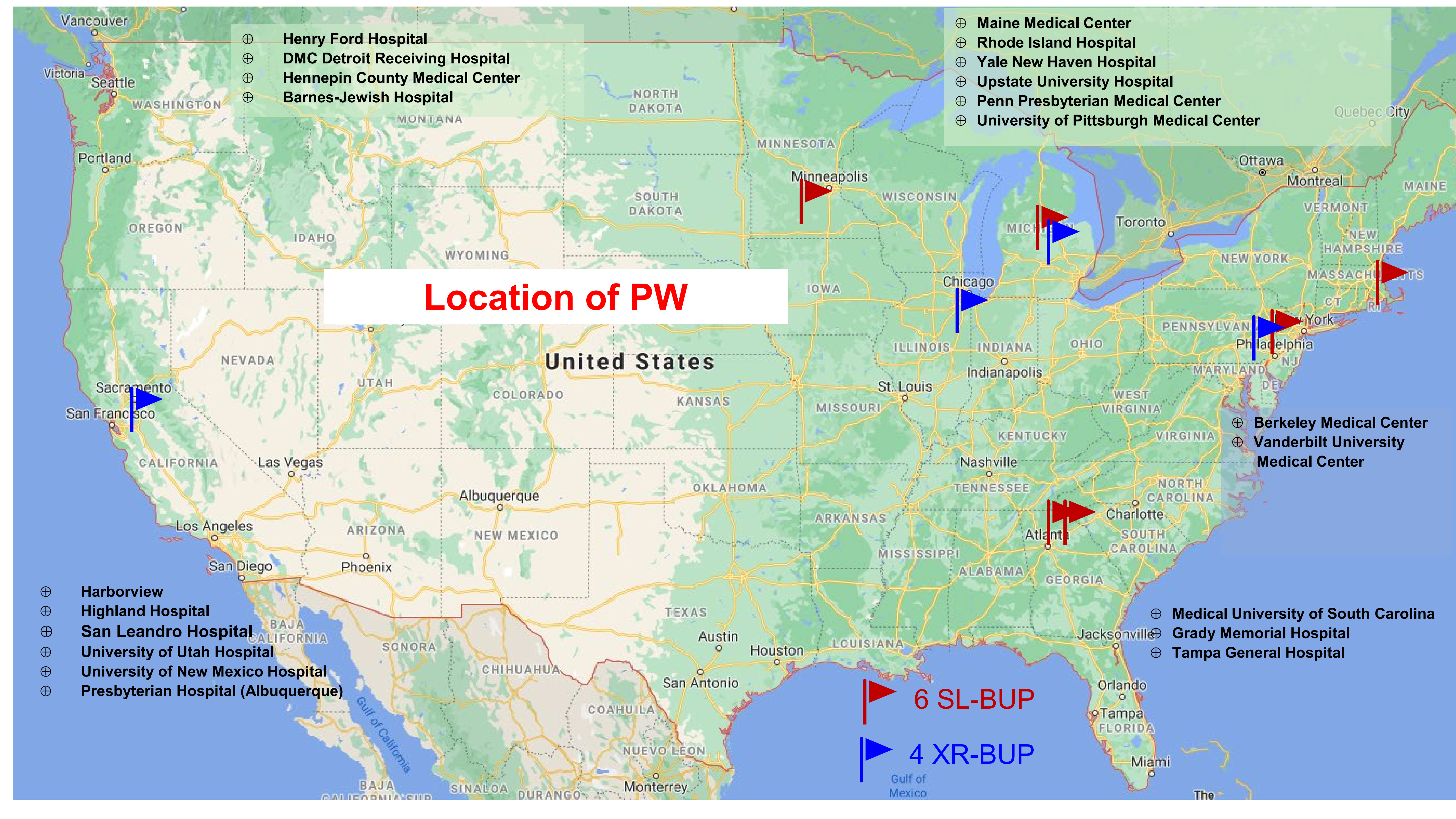
Site	Number with precipitated withdrawal	Number Randomized
1) Northwestern	0	5
2) Grady	2	47
3) RIH	1	41
4) Miriam (RI)	0	9
5) Maine	0	56
6) UPMC	0	29
7) San Leandro	1	58
8) Barnes-Jewish	0	37
9) Temple	1	15
10) Vanderbilt	0	42
11) Dartmouth	0	13
12) Utah	0	101
13) Berkeley	0	41
14) U New Mexico	0	49
15) Penn Pres	1	43
16) Tampa General	0	57
17) MUSC	0	30
18) Upstate	0	4
19) Henry Ford	1	53
20) Hennepin	1	43
21) Pres NM	0	28
22) Harborview	0	32
23) Johns Hopkins	0	7
24) U of Chicago	1	17
25) YNHH	0	39
26) Detroit Receiving	1	21
27) Highland	0	63
28) NY Pres	0	10
OVERALL	**10 (1%)**	**990**

Summary of Precipitated Withdrawal

10/990: 1%

4 XR
6 SL

ED INNOVATION Sites
Initially: 28 Sites, 27 Institutions
Currently: 22 Sites, 21 Institutions
⊕ Henry Ford Hospital
⊕ DMC Detroit Receiving Hospital
⊕ ~~UChicago Medicine Hospital~~
⊕ Hennepin County Medical Center
⊕ Barnes-Jewish Hospital
⊕ ~~Northwestern~~
⊕ Maine Medical Center
⊕ ~~Dartmouth Hitchcock Medical Center~~
⊕ Rhode Island Hospital & The Miriam (6/2/2021) [2 sites/1 institution]
⊕ Yale New Haven Hospital
⊕ ~~Upstate University Hospital~~
⊕ ~~New York-Presbyterian Hospital~~
⊕ ~~Temple University Hospital-Episcopal Campus~~
⊕ Penn Presbyterian Medical Center
⊕ University of Pittsburgh Medical Center
⊕ ~~Johns Hopkins Hospital~~
⊕ Berkeley Medical Center
⊕ Harborview
⊕ San Leandro Hospital
⊕ Highland Hospital
⊕ University of Utah Hospital
⊕ University of New Mexico Hospital
⊕ Presbyterian Hospital (Albuquerque)
⊕ Medical University of South Carolina
⊕ Grady Memorial Hospital
⊕ Tampa General Hospital



Location of PW
Henry Ford Hospital
DMC Detroit Receiving Hospital
Hennepin County Medical Center
Barnes-Jewish Hospital
Maine Medical Center
Rhode Island Hospital
Yale New Haven Hospital
Upstate University Hospital
Penn Presbyterian Medical Center
University of Pittsburgh Medical Center
Berkeley Medical Center
Vanderbilt University Medical Center
Medical University of South Carolina
Grady Memorial Hospital
Tampa General Hospital
Harborview
Highland Hospital
San Leandro Hospital
University of Utah Hospital
University of New Mexico Hospital
Presbyterian Hospital (Albuquerque)
6 SL-BUP
4 XR-BUP
United States
Vancouver
Victoria
Seattle
WASHINGTON
Portland
OREGON
IDAHO
MONTANA
WYOMING
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
Minneapolis
WISCONSIN
IOWA
Chicago
ILLINOIS
INDIANA
Indianapolis
OHIO
Toronto
Ottawa
Montreal
Quebec City
MAINE
VERMONT
NEW HAMPSHIRE
NEW YORK
CT
RI
PENNSYLVANIA
Philadelphia
NJ
MARYLAND
DE
WEST VIRGINIA
VIRGINIA
KENTUCKY
Nashville
TENNESSEE
NORTH CAROLINA
Charlotte
SOUTH CAROLINA
Atlanta
GEORGIA
ALABAMA
MISSISSIPPI
ARKANSAS
LOUISIANA
MISSOURI
St. Louis
KANSAS
OKLAHOMA
TEXAS
Austin
Houston
San Antonio
NEVADA
UTAH
COLORADO
Sacramento
San Francisco
CALIFORNIA
Las Vegas
Albuquerque
ARIZONA
NEW MEXICO
Los Angeles
San Diego
Phoenix
BAJA CALIFORNIA
SONORA
CHIHUAHUA
COAHUILA
NUEVO LEON
Monterrey
SINALOA
DURANGO
Gulf of California
Gulf of Mexico
Jacksonville
Orlando
Tampa
FLORIDA
Miami

Precipitated Withdrawal

- Rapid onset of withdrawal symptoms within 1-hour of administration of buprenorphine (described for SL-BUP)

- Assessment is based on rapidity of onset of withdrawal symptoms and clinical factors, similar to when a patient receives full naloxone rescue. COWS scores reflect this rapid deterioration and skyrocket to moderate/severe levels.

(e.g., timing since last use, duration and use of opioid agonist(s))

Rosado, Alcohol Depend 2007;90(2-3):261-269 https://doi.org/10.1016/j.drugalcdep.2007.04.006
Comer S, et al. National practice guideline for the use of medications in the treatment of addiction involving opioid use. American Society for Addiction Medicine. 2015;66.

Lessons Learned: Treatment of PW

- **More Buprenorphine 24-32 mg (Use mono product with large dosing)**
- **Ancillary Medications**
  - Muscle aches and pains: Acetaminophen, NSAIDs: Ibuprofen, ketorolac
  - Abdominal cramps and diarrhea: Dicyclomine, Loperamide
  - Nausea: Antiemetics
  - Elevated blood pressure, tachycardia and/or anxiety/restlessness: Clonidine
- **Consider IV Fluids & small doses of lorazepam**
- **Best to find a dark quieter place or send home if possible**

CTN 0099 Substance Use (POC Urine Testing)

Substance	Overall (N = 790)	Region		
		East – 18 sites (N = 478)	West – 8 sites (N = 312)	P Value
	N (%)			
Opioid + Other Drug	650 (82.3)	388 (81.2)	262 (83.9)	0.31
Fentanyl Only	42 (5.3)	031 (6.5)	11 (3.5)	0.07
Fentanyl + Other Drug	560 (70.9)	394 (82.4)	166 (53.2)	<0.001
Fentanyl + Any Other Opioid	382 (48.3)	266 (55.6)	116 (37.2)	<0.001
Fentanyl + No Other Opioid	220 (27.8)	159 (33.3)	61 (19.5)	<.0001
Opioids & Stimulants				
Opioid + Meth	249 (31.52%)	90 (18.83%)	159 (50.96%)	<0.001
Opioid + ATS	279 (35.32%)	110 (23.01%)	169 (54.17%)	<0.001
Opioid + Any Stimulant	465 (58.86%)	263 (55.02%)	202 (64.74%)	0.007

Opioids = buprenorphine, opiates, oxycodone, fentanyl
Other Drugs = amphetamines, barbiturates, benzodiazepines, cocaine, ecstasy, methamphetamine, phencyclidine, marijuana
ATS = methamphetamine, Amphetamine
Stimulant = Cocaine, amphetamine, methamphetamine, phencyclidine

Active Surveillance

We Know...

The Extent of the Problem

Treatment Works

The ED Offers 24/7/365 Day Option to combat the Opioid Crisis

The Consequences of Inaction

The Evidence

We Learned...

How to Break Down Barriers & Increase the Chances Of Success

We Are Investigating...

Implementation strategies, dosing & formulations, surveillance techniques

At the End of the Day……

Offering ED-initiated buprenorphine is NOT a choice!!

https://cabridge.org/

Need help with pain pills or heroin?

We want to help you get off opioids
and started on Suboxone (Buprenorphine).

Ask here for more information.

Thank you!!!

Websites:

https://www.drugabuse.gov/ed-buprenorphine

https://medicine.yale.edu/edbup/