



Medications for Opioid Use Disorder (MOUD) & DOC Expansion



Learning Objectives

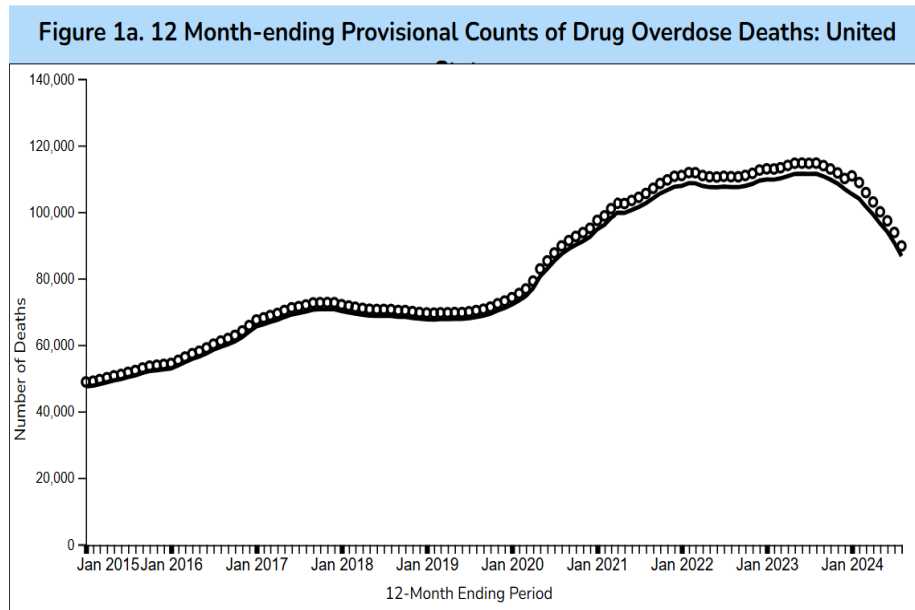


- Opioid Overdose Data & DOC MOUD Expansion Origins
 - Medication Overview
 - Opioid Use Disorder (OUD) is a Treatable, Chronic Disease
 - Strategic Expansion of increased MOUD access at DOC
 - MOUD Effects on Urine Drug Screening Results
 - Treatment outcomes in community
 - Jail & DOC Patient Transfer Collaboration
-

NATIONAL AND DOC DCC OVERDOSE DATA

National Overdose Data

Based on data available for analysis on: January 5, 2025



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

DOC DCC Overdose Data

- Total number of overdoses
 - 2022: 1,042
 - 2023: 939
 - 2024: 562 (approximately 40% drop)
-
- Total number of overdose deaths
 - 2022: 203
 - 2023: 188
 - 2024: 107 (approximately 43% drop)

Post-Incarceration Deaths and Overdose Rates High



- A seminal study in Washington State found that, in the two weeks following their release, people who had been incarcerated in the state were **129x** more likely to die from an overdose compared to the general public. (Binswanger et al., 2007)
 - A study in North Carolina found that, in the first two weeks after being released from prison, former inmates were **40x** more likely to die of an opioid overdose than someone in the general population (Ranapurwala et al., 2018)
-

WHY NOW?

- Wisconsin State Budget Funding for medications
- Medications for Opioid Use Disorder & Americans with Disabilities Act (ADA)
 - US Department of Justice settlements in Pennsylvania, Kentucky, Massachusetts, New Jersey
 - Cumberland County Jail, New Jersey, Agreement conditions:
 - Timely SUD & MH assessments, access to all three forms of MOUD, staff training, discharge planning
 - Monitoring and reports

MAT vs. MOUD



MAT

Medications Assisted Treatment or Therapy

Includes counseling plus behavioral therapy, peer support, mutual self-help groups

More comprehensive approach

Medications are used initially to stabilize and then weaned off

MOUD

Medications for Opioid Use Disorder

Term used with medical/health professionals with the rise of buprenorphine

More single prong approach initially

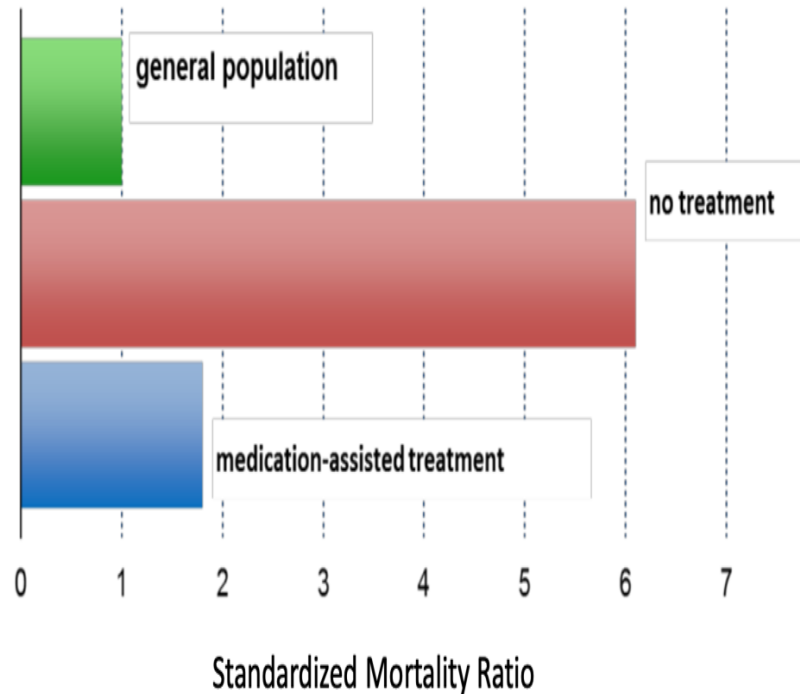
Less stigmatizing

Medications alone do save lives

Benefits of MOUD During Incarceration



Death rates:



↑ community Tx engagement

Mattick et al., 2009

↓ substance use, overdose

Deck et al., 2009

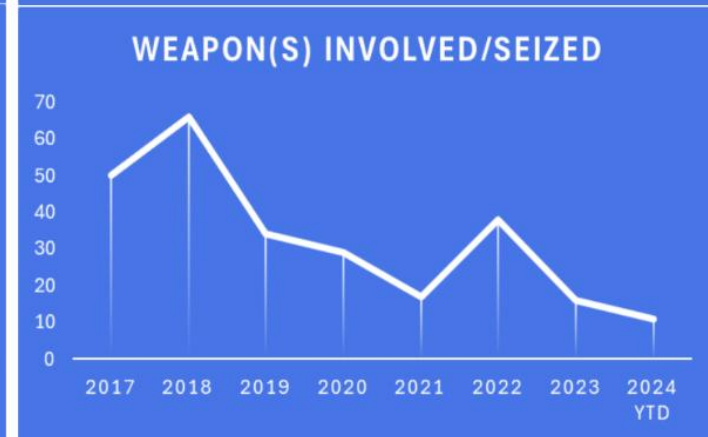
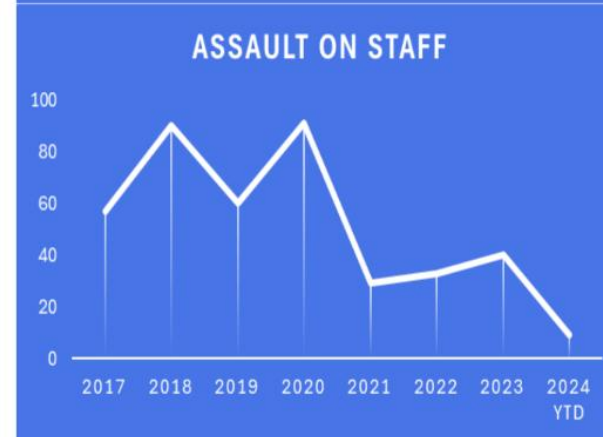
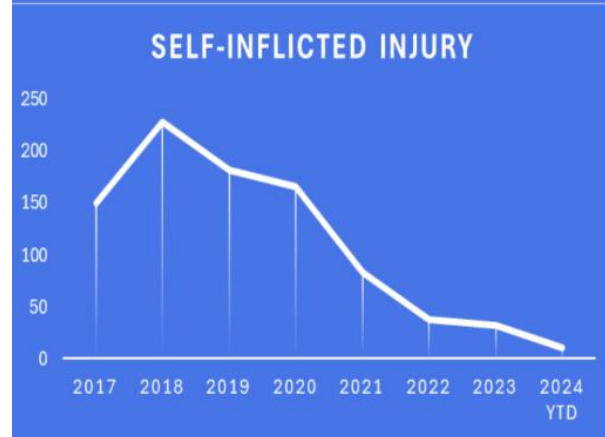
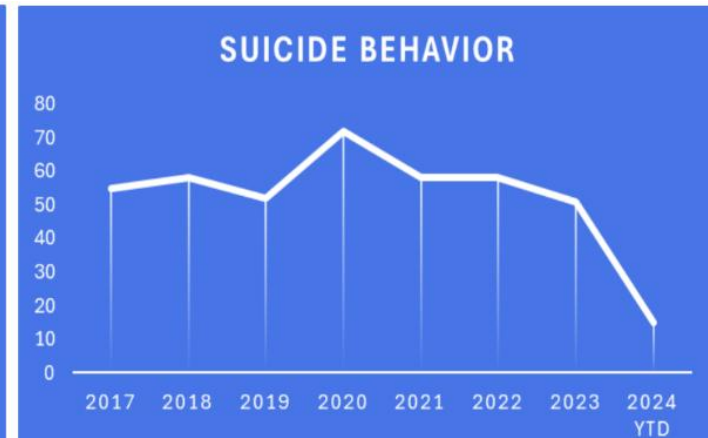
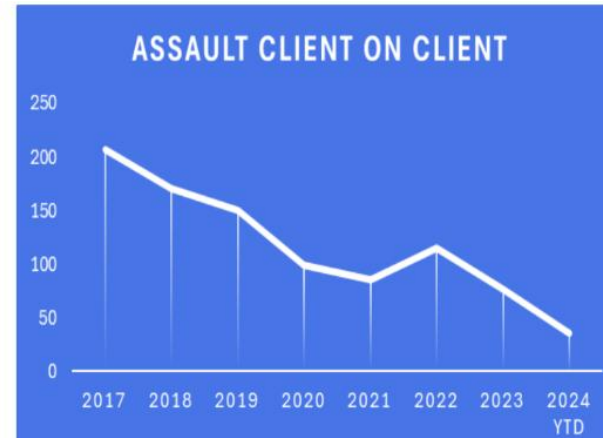
↓ criminal behavior, recidivism

Degenhardt et al., 2011; Kerr et al., 2007

↓ HIV risk behaviors

MacArthur et al., 2012

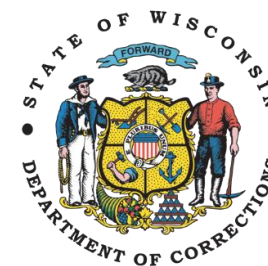
Why is MOUD Important for Correctional Facilities & Staff?



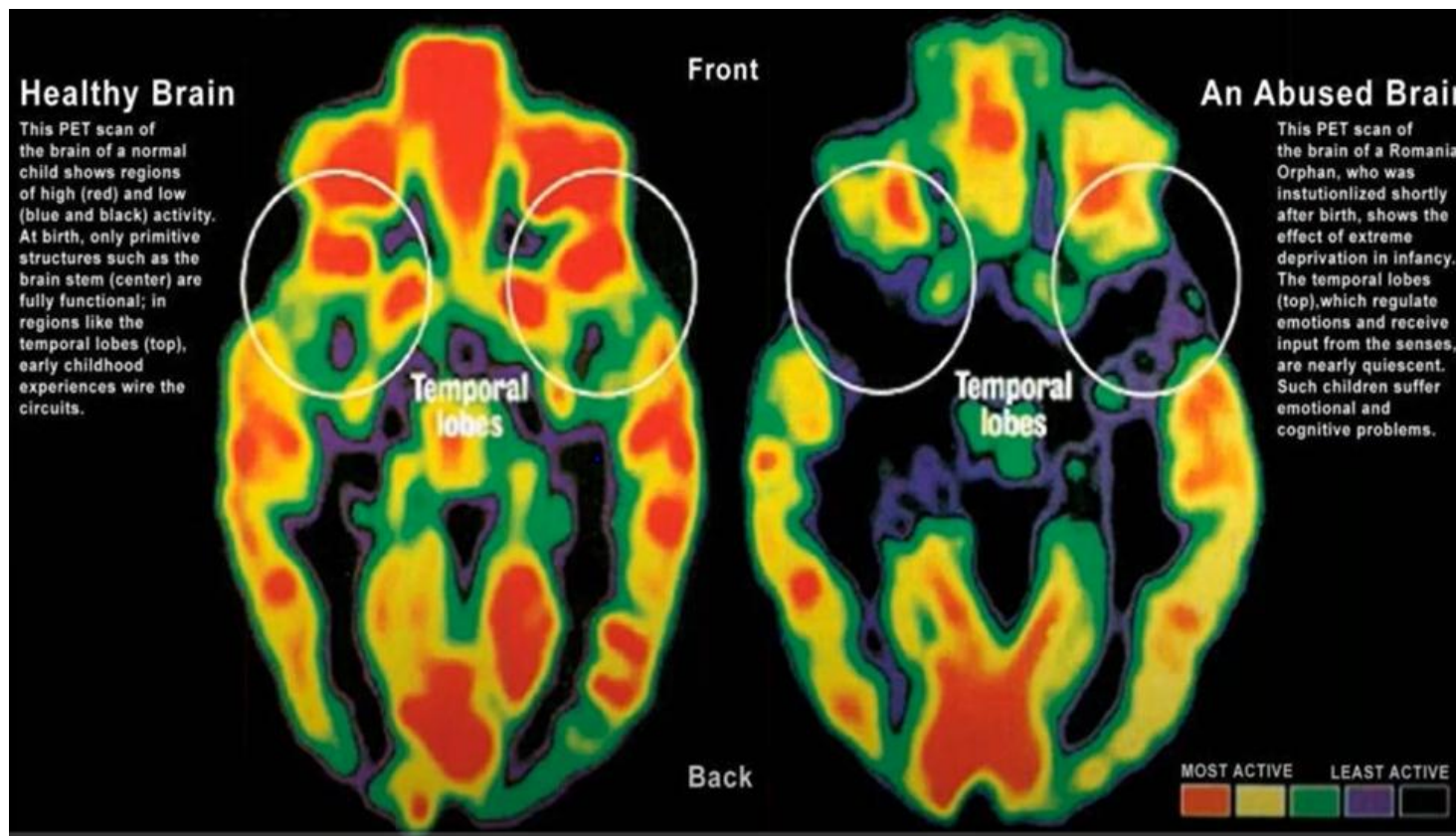
What are risk factors for SUD/Addiction?

- Genetics
- Gender (Male > Female)
- Mental Health Disorders
- Adverse Childhood Experiences
- Early Onset of Use
- Drug Availability
- Attitudes on Use
- Route of Use
- Potency
- Duration of effect

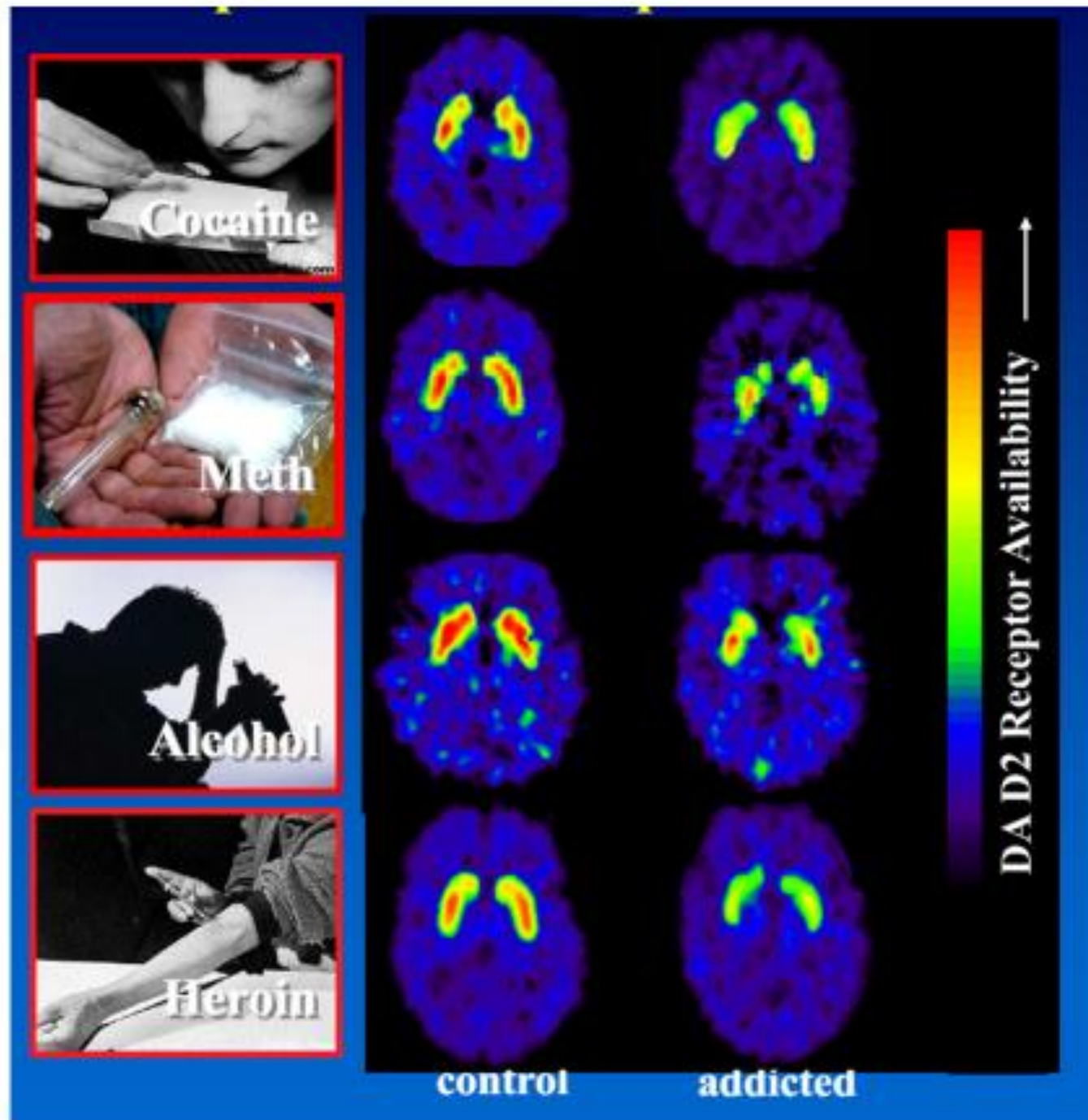




Addiction is a Chronic Brain Disease



PET scan of limbic
are
Now lets say we get
this person into
treatment but there
dopamine levels
are so low
Move to NOTES



Average Dopamine Levels in Healthy Brains



Monday morning wake up to go to work

- **100 nanograms per deciliter**

Middle of the night viral gastroenteritis

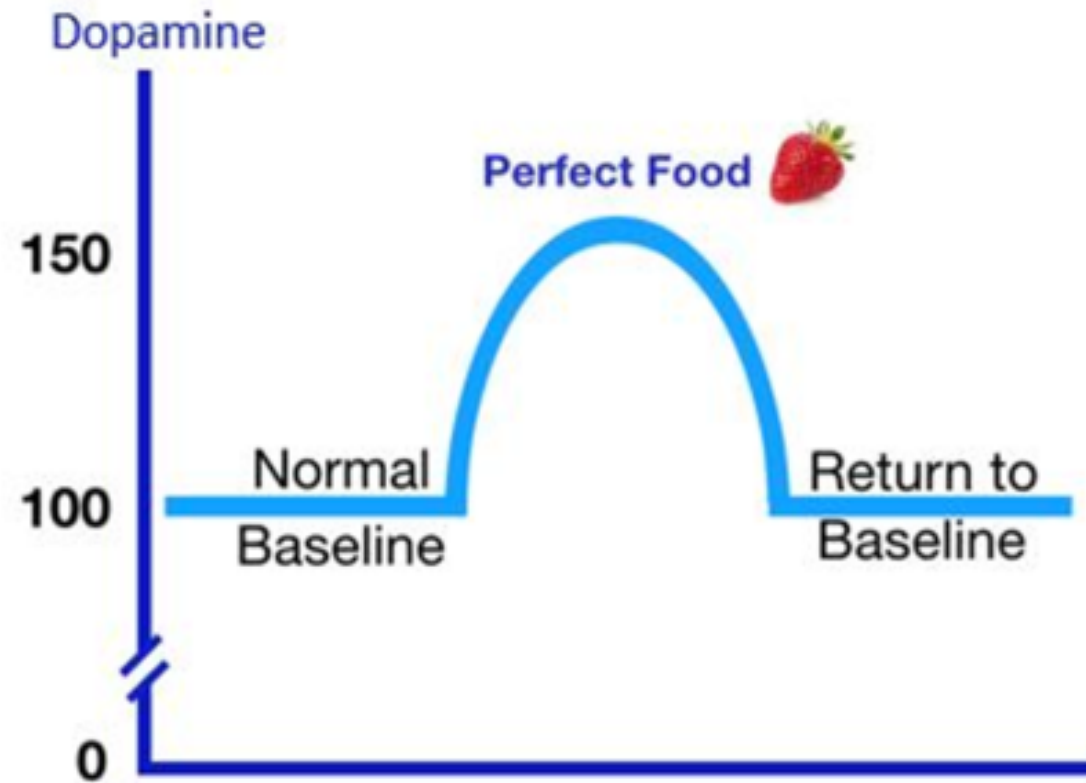
- **50 nanograms per deciliter**

Best Day Ever/Sex

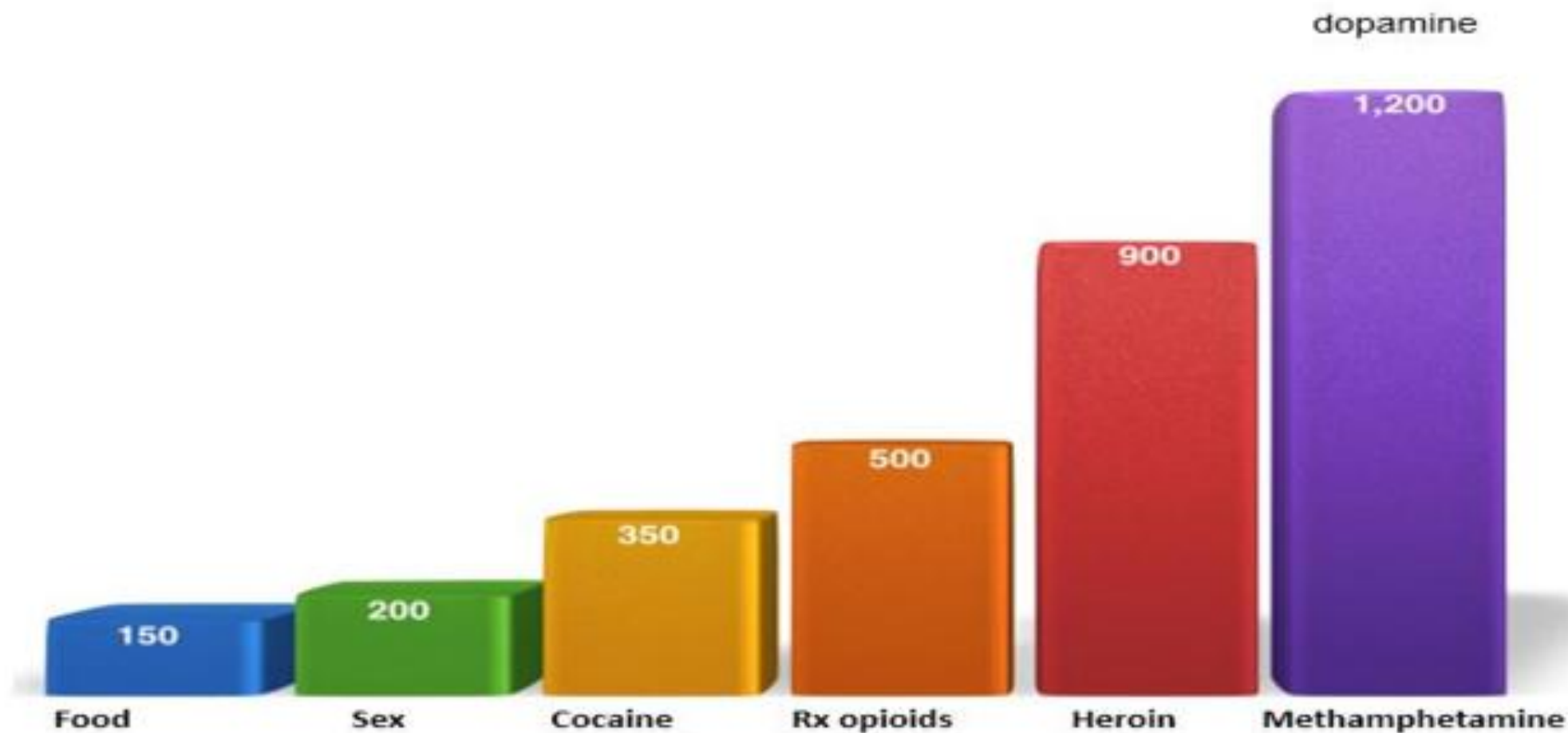
- **200 nanograms per deciliter**

Favorite food

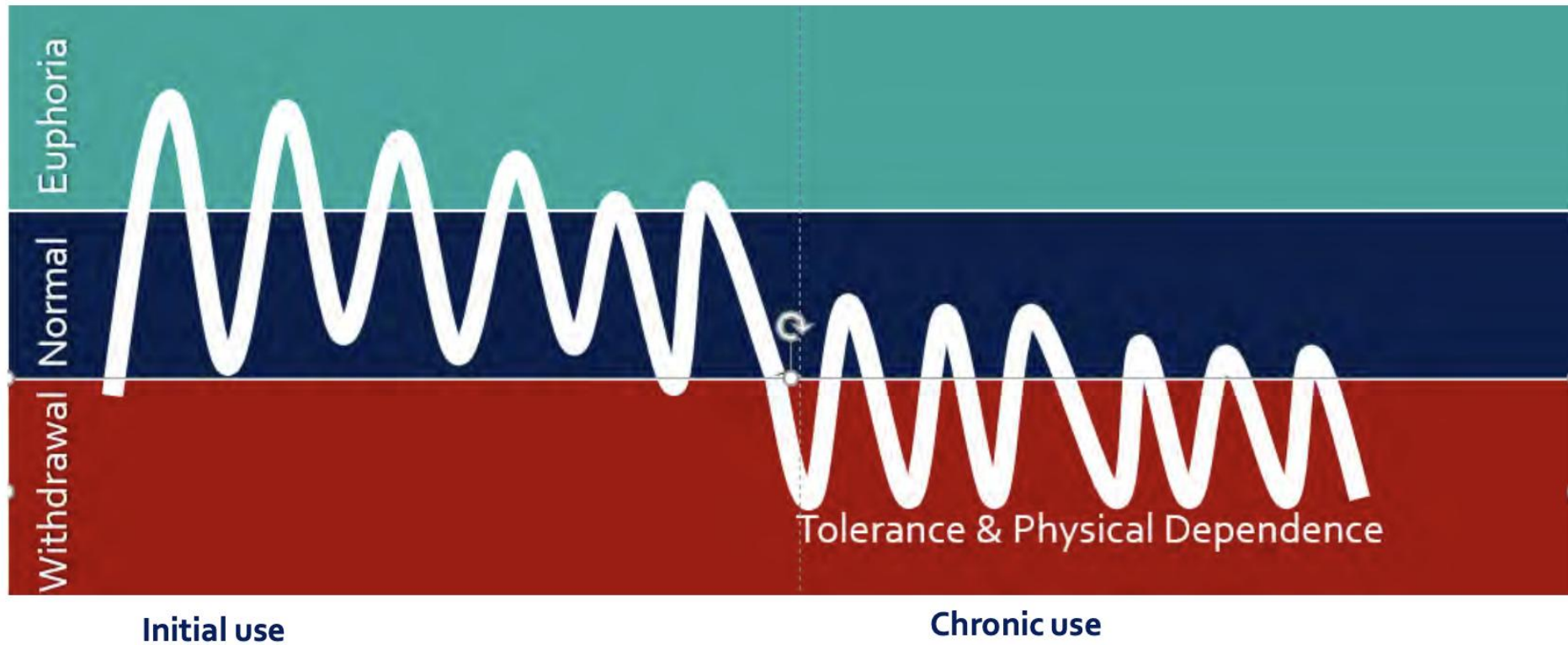
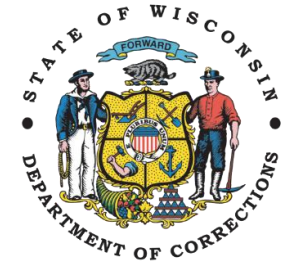
- **150 nanograms per deciliter**

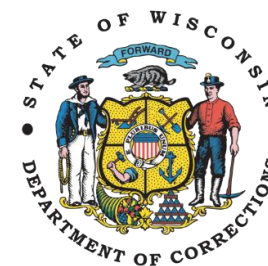


What do substances do to dopamine levels



Natural Progression Of Use Disorder





What Happens With Treatment

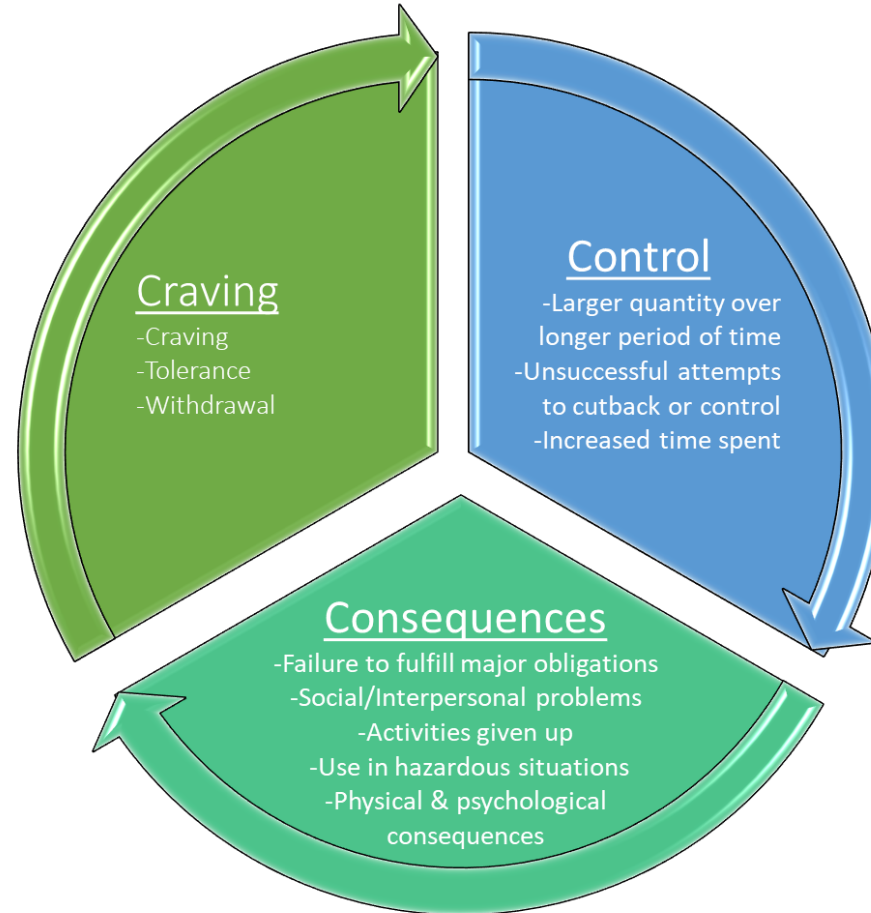


Harm Reduction Is Part of the Treatment Continuum

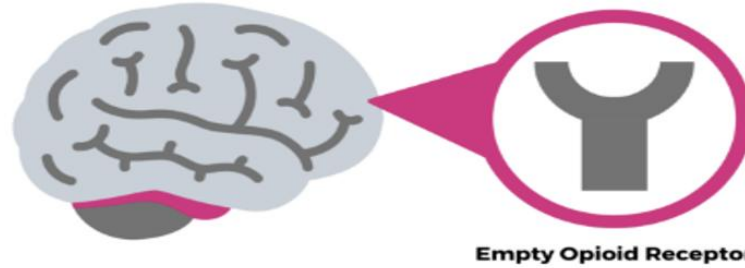
Goal: interventions that aim to slow progression or reduce negative consequences of substance use



Opioid Use Disorder Diagnosis – DSM V



Opioid Receptor Activity



Methadone



Full Agonist:
Generates
Effect

Buprenorphine



Partial Agonist:
Generates
Limited Effect

Naltrexone

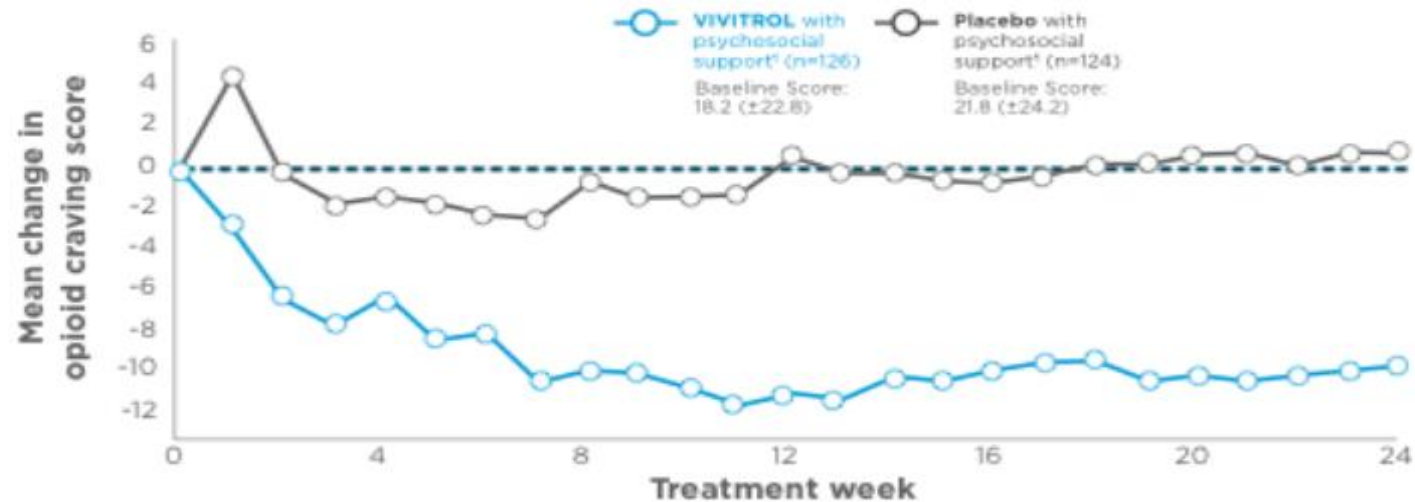


Antagonist:
Blocks Effect

Opioid Cravings – Initial Alkermes Study

- Timing: 7-10 days after last opioid use
- Can start on oral naltrexone or naloxone "challenge"

Mean change in self-reported craving score



Patients in the VIVITROL group had a 55% lower mean craving score at 24 weeks than the mean score at baseline. Patients in the placebo group had a 3% higher mean craving score at 24 weeks than the mean score at baseline.³

Retention – Initial Alkermes study - OUD

Secondary endpoint: Number of days of retention

Placebo with
psychosocial
support^{||} (n=124)

96
DAYS



$P=0.0042$ (adjusted)



168 Days

Duration of
double-blind period

VIVITROL with
psychosocial
support^{||} (n=126)

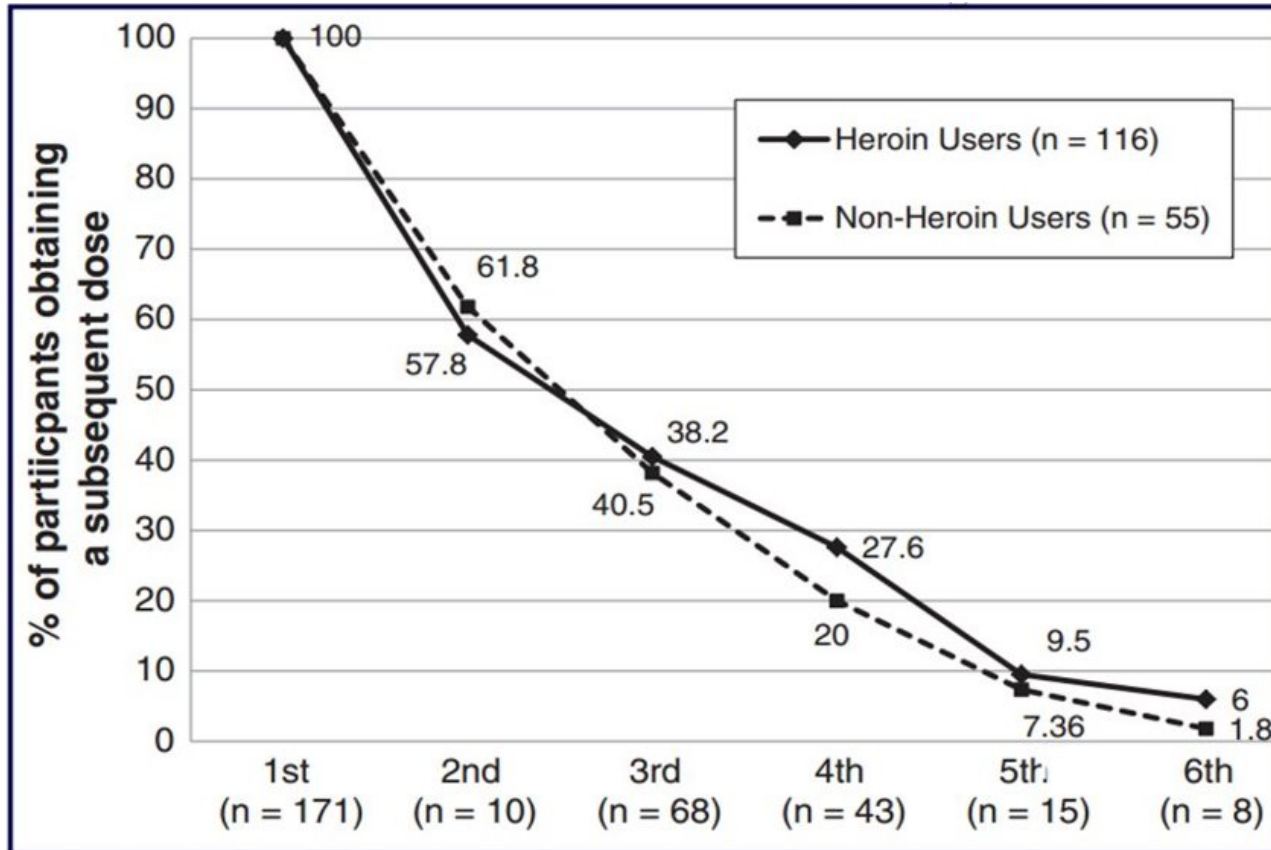
>168[†]
DAYS



^{||} Psychosocial support consisted of biweekly sessions of individual drug counseling, adapted for opioid dependence.

[†] Median number of days of retention >168 days for patients (n=67) who continued into the open-label long-term extension study.

Retention for Extended-Release Naltrexone (Vivitrol)



Cousins SJ et al. *J Sub Abuse Treat* 2016

Mean doses (max 6)

- Heroin users 2.3
- Non-heroin opioid users 2.5

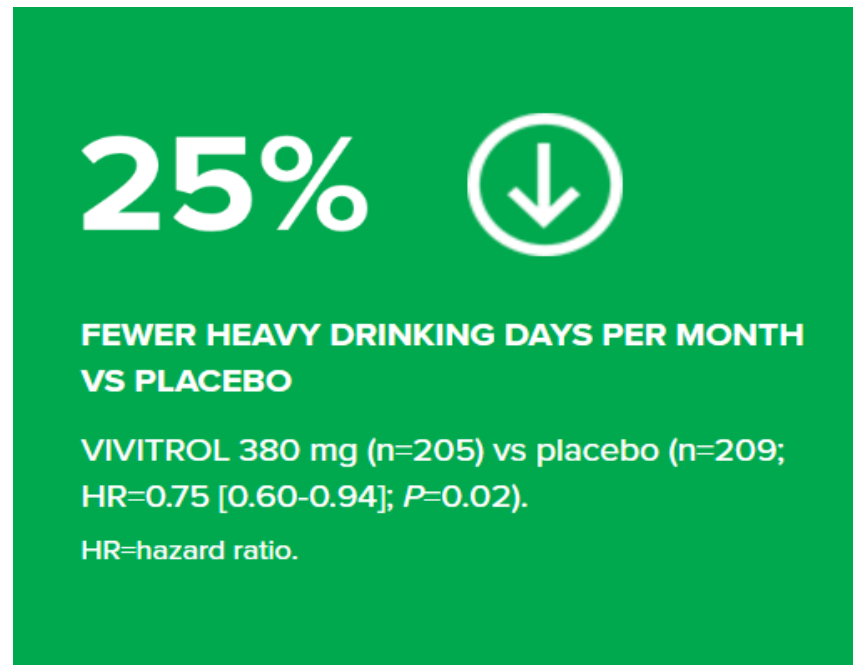
Drop out risk factors

- Homelessness
- Opioid injection use (regardless of opioid-type)
- Mental illness

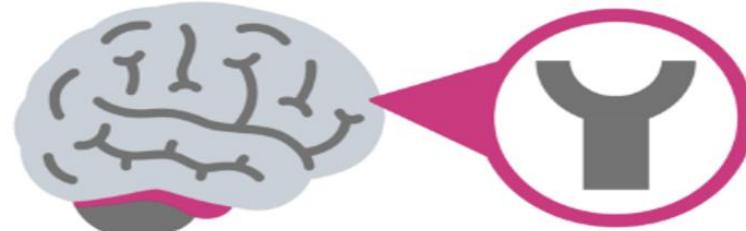
**HIGH
DROP OUT
RATE !!**

What About Alcohol?

- N=624 – alcohol dependence and > 2 heavy drinking episodes/week
- XR Naltrexone vs Placebo – every 4 weeks for 6 months
- Both groups received psychosocial support – Twice a month (12 sessions)



Opioid Receptor Activity



Empty Opioid Receptor

Methadone



Full Agonist:
Generates
Effect

Buprenorphine



Partial Agonist:
Generates
Limited Effect

Naltrexone

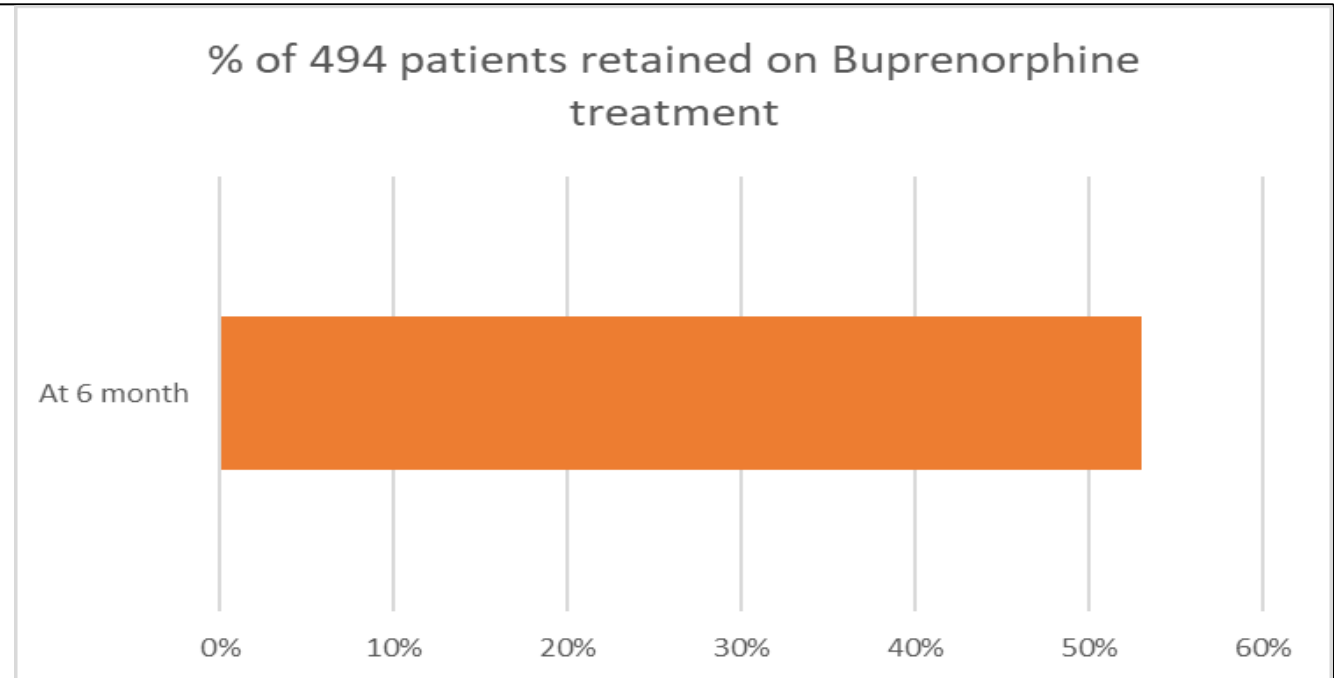


Antagonist:
Blocks Effect

Retention Rate for Sublingual Buprenorphine Treatment in Primary Care

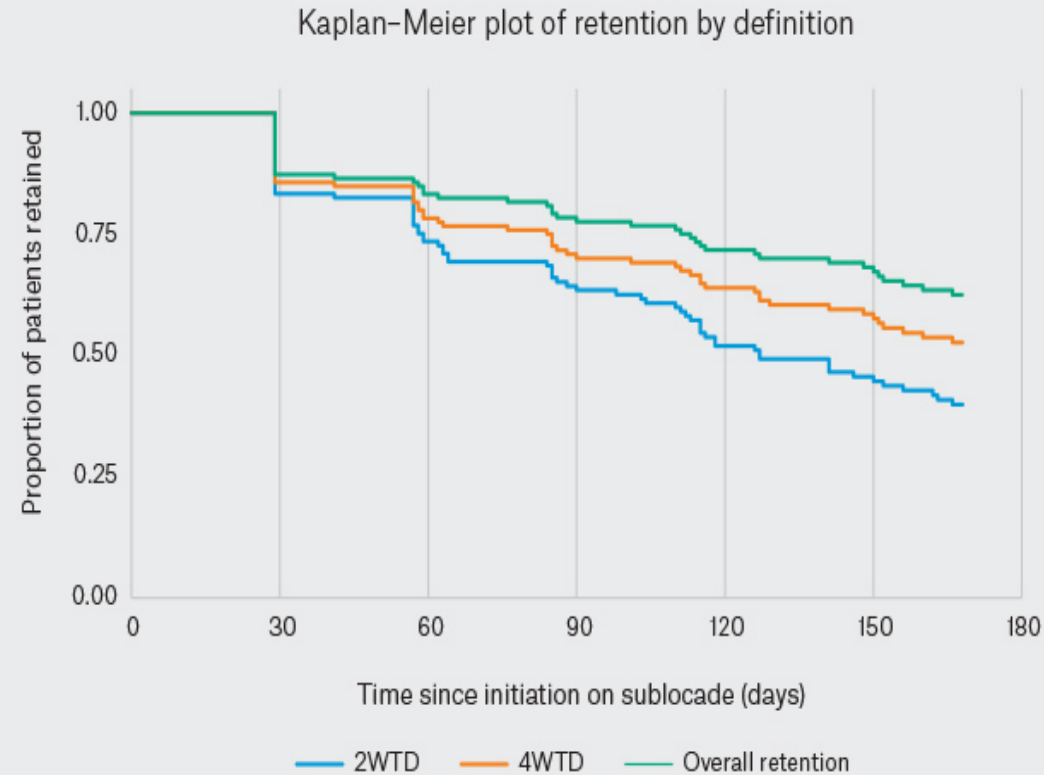
N=494

53 % of individuals were engaged @6 months



- Steffani R. Associations of retention on buprenorphine for opioid use disorder with patient characteristics and models of care in the primary care setting, Journal of Substance Abuse Treatment, Volume 131,2021,

Retention Rate for Long Acting Injectable Buprenorphine Treatment (Sublocade)



**Overall Retention
62 %**

**(percentage of pts still on LAI
Buprenorphine at day 168)**

Extended-Release Naltrexone vs. Buprenorphine for Opioid Treatment

X-BOT Study Revisited

Lee, 2017 – The Lancet, Comparative effectiveness of ER Naltrexone vs Bup/Nx

Ajazi EM, 2022 - J Addict Med, Revisiting the X:BOT Naltrexone Clinical Trial Using a Comprehensive Survival Analysis.

- Total – n = 570 participants
- XR – NTX – 283 & Bup/Nx - 297
- ONLY initiated XR-NTX – **204** (unable to start XR-NTX on 79 participants due to abstinence required)
- Only Included Opioid Overdose as a fatal overdose (did not include individuals who were not initiated. Original article did not include, drug overdose, respiratory depression or narco overdose)
- X:BOT Revisited - shows increased risk of overdose with XR- Naltrexone than buprenorphine
- More than DOUBLES your chance of fatal overdose on XR - Naltrexone

Buprenorphine Formulations



- **Sublingual**

- Suboxone
- Zubsolv
- Subutex

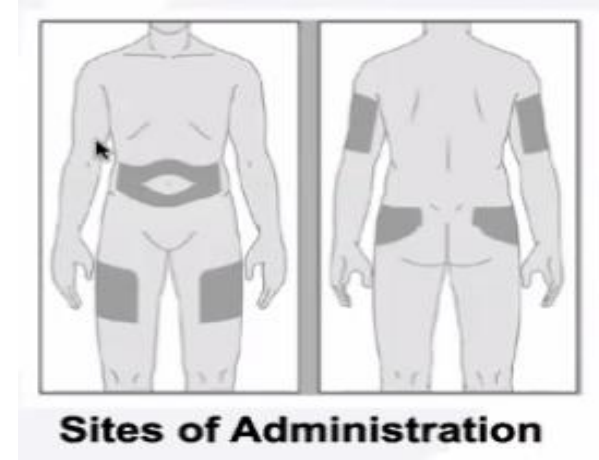
- **Extended Release (XR)** — all non-pregnant PIOC's will transition to XR Bup

- Brixadi
 - Sublocade
-

BRIXADI



- Two formulations:
 - weekly
 - monthly
- Small needle size
- Small injection volume
- Multiple injection sites
- No refrigeration



Side Effects

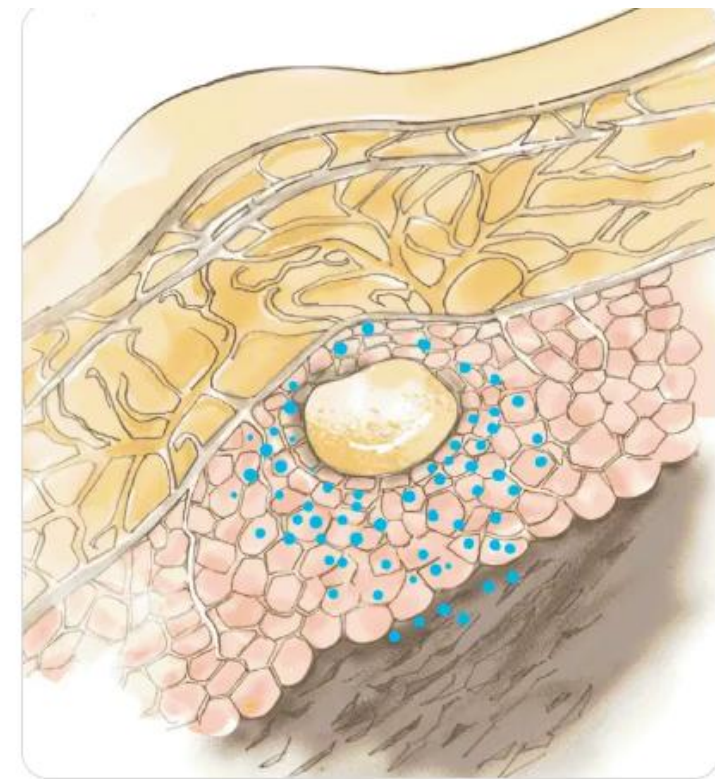
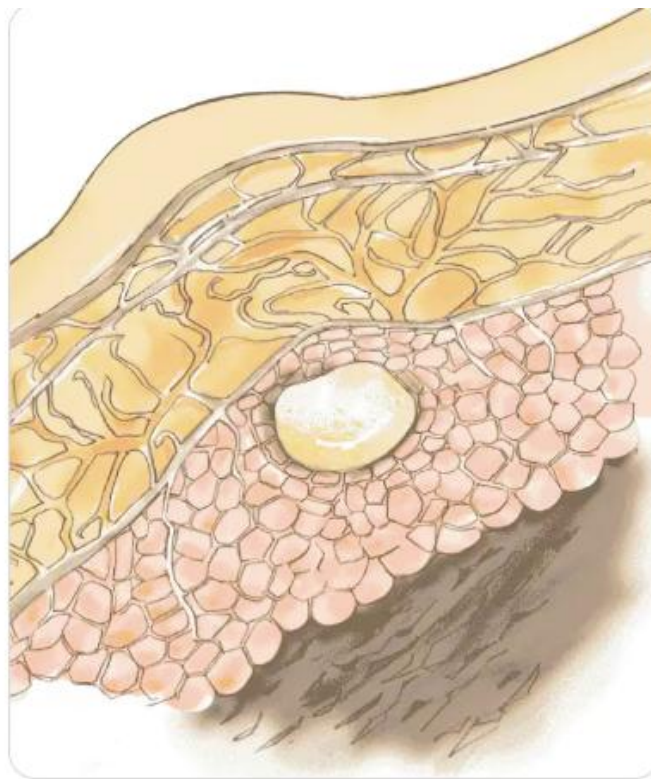
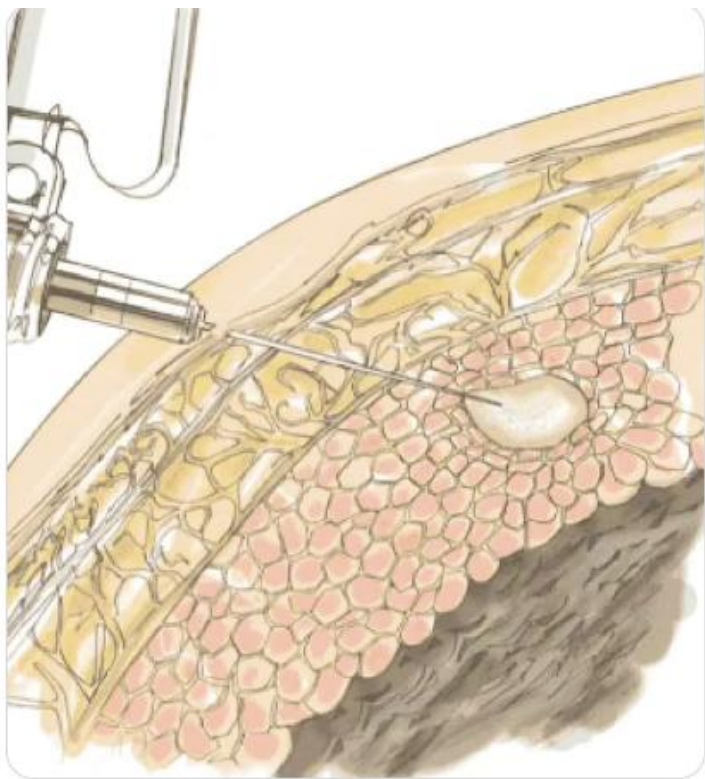
- Injection site reactions 20%
- Body Aches 9.4%
- Constipation 7.5%
- Nausea 7.0%
- Vomiting 4.2 %
- Insomnia 5.6%
- Headache 7.5%
- Elevated LFTS

Preferred Term*	BRIXADI Total† (N=213) N (%)	SL BPN/NX* (N=215) N (%)
Administration Site Reactions§	44 (20.7%)	49 (22.8%)
Injection site pain	21 (9.9%)	17 (7.9%)
Injection site erythema	14 (6.6%)	12 (5.6%)
Injection site pruritus	13 (6.1%)	13 (6.0%)
Injection site swelling	10 (4.7%)	7 (3.3%)
Injection site reaction	9 (4.2%)	7 (3.3%)

ALERT:

Brixadi ONLY – needle cap contains natural rubber latex should not be used in latex allergy

How Does LAI Buprenorphine Work?

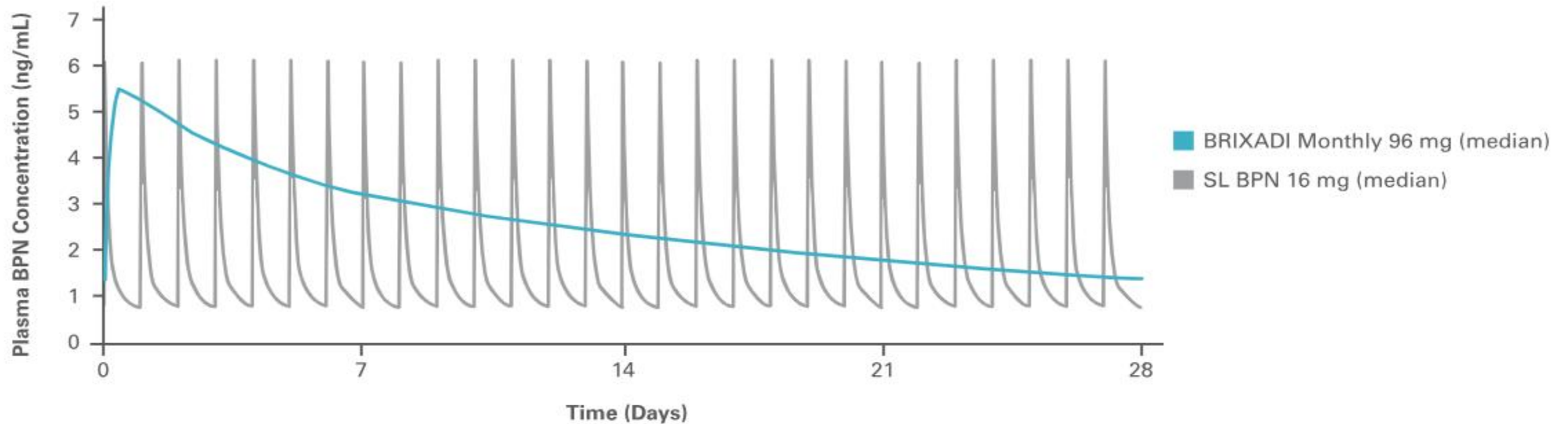
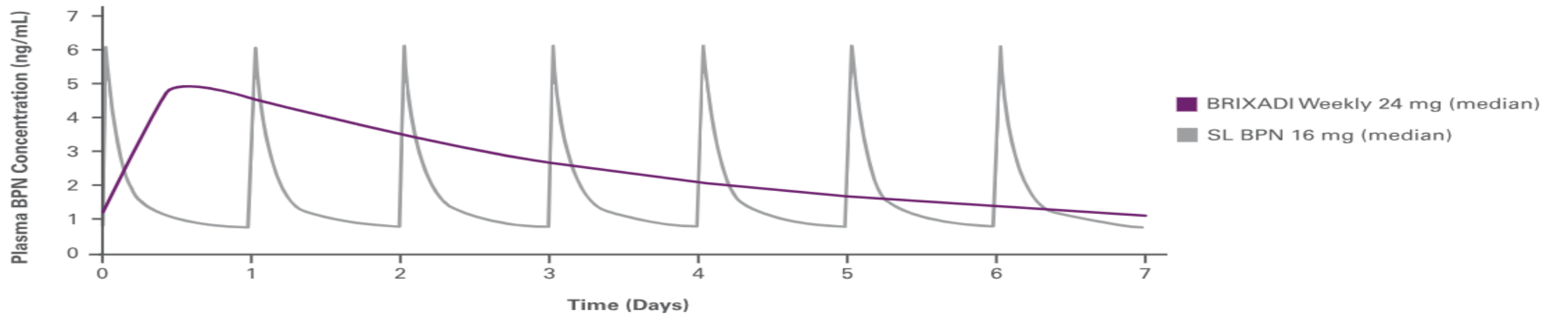


Buprenorphine is injected SQ as a liquid and, once inside the body, turns to a solid gel called a depot. The depot gradually releases buprenorphine at a controlled rate allowing for sustained plasma concentrations

<https://www.sublocade.com/how-sublocade-works>

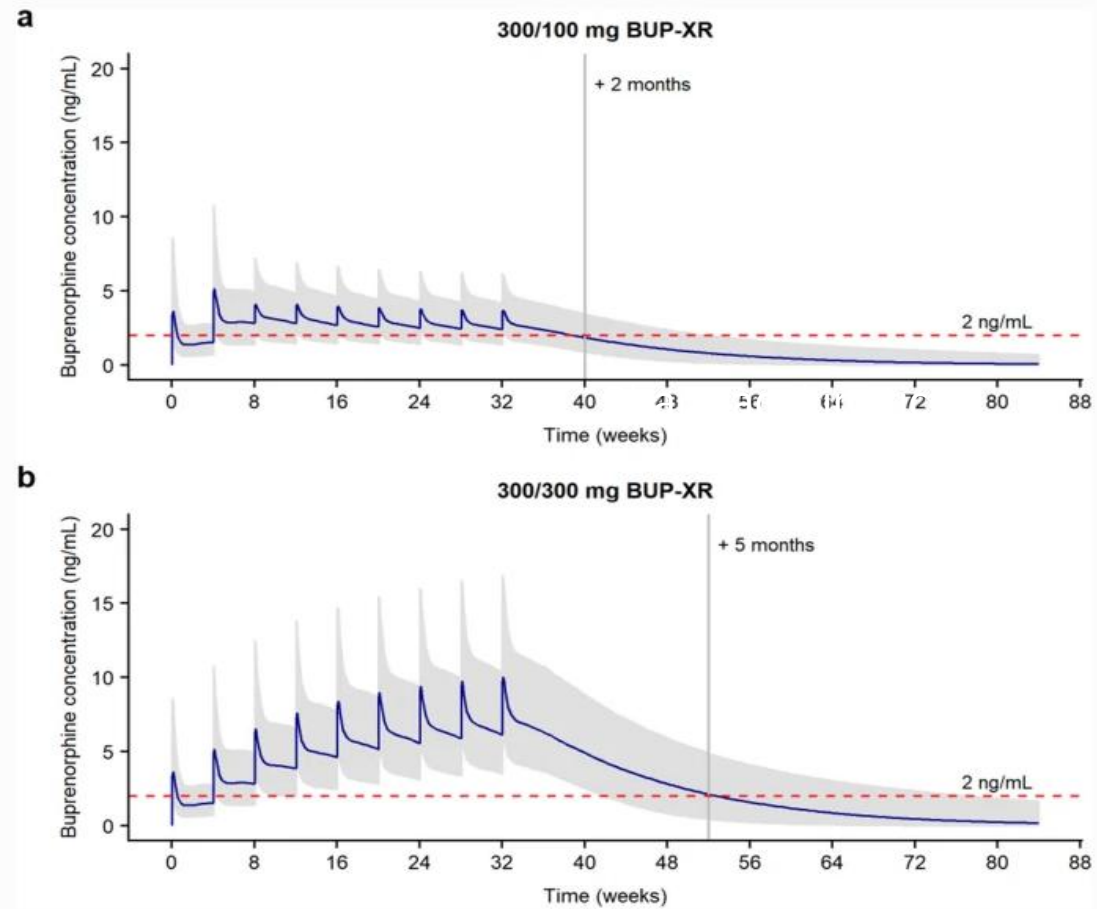
<https://www.sublocadehcp.com/dosing-administration>

Buprenorphine Plasma Level after 4 Consecutive Doses



Pharmacokinetics

Fig. 6



Jones, Aksana K., et al. "Population pharmacokinetics of a monthly buprenorphine depot injection for the treatment of opioid use disorder: a combined analysis of phase II and phase III trials." *Clinical pharmacokinetics* 60.4 (2021): 527-540.

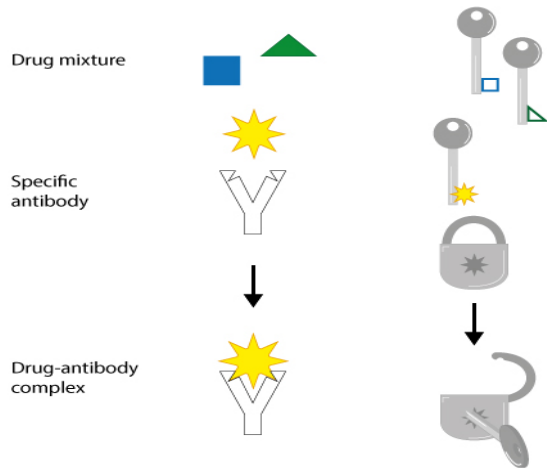
Drug Testing – Instant vs Confirmation



1. Screening or Initial or Instant Test: Presumptive Positive (Qualitative)

- POC testing – **iCUP Test** - UA
- Immunoassay – antibody testing
- Initial Urine Drug Screen – Urine Cup or Oral
- Rapid test but many **FALSE POSITIVE**

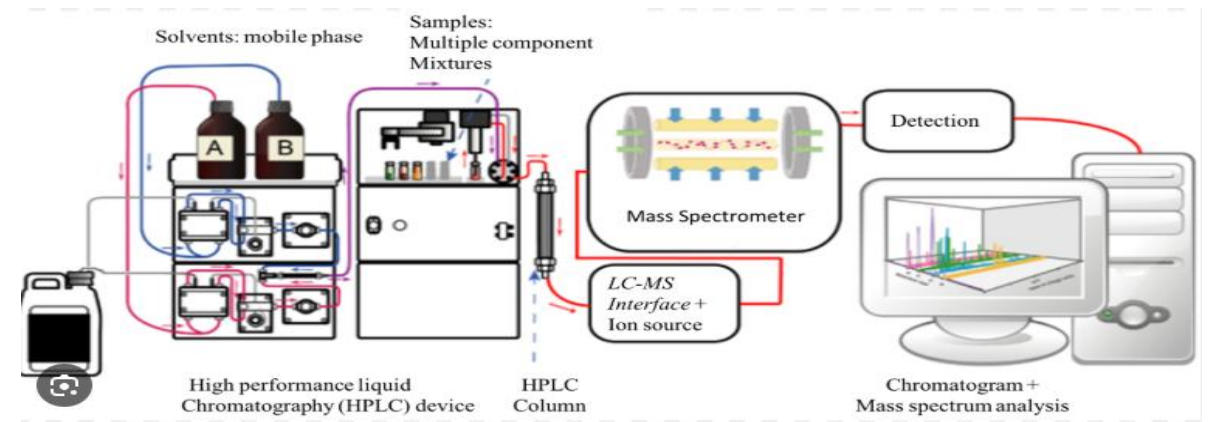
The lock-and-key principle



- Can be fooled if a prescribed medicine fits into the lock can flag a positive result

2. Confirmatory Test: Definitive Test (Quantitative)

- Gc/MS – Sent to lab for gas chromatography/mass spectrometry **LAB Test**
- Urine & Oral can be sent for confirmation
- Sweat Patch Testing is always Confirmation Test
- **VERY Expensive**
- Delayed results can take approx 1-2 weeks



False Positives
UNCOMMON/RARE
with
Instant Results
UA or Oral Swab

1. Buprenorphine/Norbuprenorphine (active metabolite) (BUP)

Greater > 12 months if Injectable
Buprenorphine was given

2. Cocaine (COC)

Tests for active metabolite
benzoylecgonine – no cross reactivity with
other medications

- coco leaf (not sold in US), topical nasal spray rarely used for nose bleeds (ER Only)
- If affecting a clients case plan, supervision status, treatment status - send for confirmation

Top 5 Most Common False Positive Tests

1. **Amphetamine** (AMP)- Adderall, Vyvanse, bupropion, pseudoephedrine (decongestant), OTC Vick's decongestant (has L-amphetamine, technically a true positive)

2. **Methamphetamine** (mAMP/MET) - Ranitidine (Zantac), Trazodone, Metformin (Glucophage), Bupropion (Wellbutrin), Ibuprofen

3. **Benzodiazepine** – sertraline (Zoloft), clonidine, amitriptyline

4. **Phencyclidine** - (PCP) **RARE** in drug supply –Confirmation not needed venlafaxine (Effexor), Diphenhydramine (Benadryl) Dextromethorphan (cough med)

5. **Fentanyl** – risperidone (risperadol) trazodone* (*risk of false positive may be kit dependent), labetalol, and ziprasidone (zyprexa)

How is DOC expanding access to MOUD?



Pre-implementation



- Leadership Buy-in
 - Medical
 - Security
 - Pilot Site Process Co-development
 - Policy Academy, Learnings from other DOCs & WI County Jails
 - Pilot Site Staff Education: Sharing the Why
-

Strategic Implementation Progression



Phase 1: Continuation at all DOC facilities

PIOC are given the
option of continuing
medication*



Phase 2: Initiation at select DOC facilities

- PIOC are given the option of medication if they meet criteria
- PIOC are referred to community provider prior to release & receive assistance with F/U appt.



Phase 3: Ongoing Consultation & Support

- Addiction Medicine Physician "Office Hours"
- Substance Use Disorder Nurse Clinician
- Continuing Education & Outreach

JAIL CONTINUITY OF CARE COORDINATION

- Do not withdraw patients from MOUD in preparation for transfer to DOC
 - Patients who withdraw from MOUD prior to arriving at DOC facilities do not qualify for continuation
 - Ensure the medication is listed on the transfer summary as an active medication
 - Coordination with OTP may be required
- Coordinate with SUD Nurse, Kaitlyn Cole (or designated MSDF MOUD Nurse Clinician)

How will DOC handle...



Criteria and Duration of Medication

- *Criteria*
 - Continuation: arrive on MOUD at intake facility and transfer facility
 - Initiation: release date within six months, meet diagnostic criteria as outlined in DOC policy
 - *Duration*
 - Long - term treatment with MOUD is often required for effective and sustained outcomes
-



How will DOC handle...

- *Diversion of medication*

- Utilize injectables to prevent diversion
- If misuse, the PIOC shall be disciplined in accordance with DOC policy
 - HSU is able to provide current medication list to security
- Designated Prescriber makes final decision on removal from MOUD, in collaboration with multi-disciplinary team

Drug screening

- Diagnostic urine drug screens will be ordered by MOUD provider
 - Medically-ordered drug screening will be separate from security screening
-

Early MOUD Expansion Data

- 153 unique patients received injectable buprenorphine (bup.) (2/1/24 through 3/7/25).
 - The majority of patients at MSDF with 77 medication continuation patients and 66 initiation patients in the first year (2/2/24 – 2/1/25).
- 632 medication doses (injectable bup.) were administered at MSDF, WWCS, and DCI (through 3/7/25)
- 10 DOC facilities, identified in collaboration with BOCM, are receiving patients from DCI and continuing the injectable bup.
- No overdoses to date at MSDF

Early Lessons Learned

- Cast a wide net
 - Regular check-ins with Executive Leadership
 - Education and communication of progress over time
 - Cross-divisional collaboration (including with unanticipated partners)
- Length of incarceration may affect medication initiation
- Patient education
 - Fear of withdrawal
 - Side effects
- Continuous improvement
 - Stay humble

Reach out with questions

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