SUBSTANCE USE DISORDERS AND TREATMENTS

Continuing Education Seminar

Saturday, April 30, 2022

Maryland
DEPARTMENT OF HEALTH
OFFICE OF PHARMACY SERVICES

Continuing Medical Education (CME) &
Pharmacy Continuing Education (ACPE) Seminar

Substance Use Disorders and Treatments

Virtual Live Program
on
Saturday, April 30, 2022

8:30 am – Registration	
8:45 am – Introductions	Maryland Department of Health Office of Pharmacy Services
9:00 am – Medications for Opioid Use Disorder- A Patient Centered Approach	Michael I. Fingerhood, MD, FACP, DFASAM, AAIVS Johns Hopkins University School of Medicine
10:30 am – Alcohol Use Disorder: Recognition Treatment, and Implications	Vincent Cavaliere, PharmD, BCPP Luminis Health
11:30 am – Harm Reduction- Not Dirty Words Anymore	Christopher J. Welsh, MD University of Maryland School of Medicine
1:00 pm – Closing Remarks	Maryland Department of Health Office of Pharmacy Services
1:15 pm - Adjourn	

The views and opinions expressed by the speakers are not necessarily the views and opinions of the State of Maryland Department of Health.

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Activity Type: Knowledge-Based

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Medications for Opioid Use Disorder- A Patient Centered Approach

Michael Fingerhood MD FACP DFASAM AAHIVS
Johns Hopkins University

1

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Conflict of Interest

- No commercial, financial or advisory relationships

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Some reasons why everyone should have x waiver

- Caring for patient in opioid withdrawal
- Patient needs urgent refill for buprenorphine
- Covering for provider who has patient on buprenorphine
- Patient doing well on buprenorphine and wants all care integrated
- Patient had surgery and is having difficulty coming off full opioid agonist
- Patient recovered from major trauma and needs help stopping opioid agonist after 4 weeks of use
- Patient has been on opioid agonist for chronic pain for many years and inquires about switching to buprenorphine (theoretically do not need x number)
- Caring for patient with opioid use disorder who asks for help
- Diagnosed patient with opioid use disorder and you want to immediately help and prevent an overdose death

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Integration of substance use disorder treatment and primary care

- **In 2006, the IOM released a report recommending improvement in coordination of mental health and substance-related services into general health care services:**
- **"Available evidence suggests that integration of mental health and primary care may lead to improved care and quality of life"**
- **"Studies of health delivery, process of care, and health outcomes in integrated clinical settings will be critical to inform the process"**

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What should providers expect from their patients with addiction?

- **Desire to receive care that will improve health**
- **Engagement in care based on trust and rapport**

Press K, Zornberg G, Geller G, Carrese J, Fingerhood M. What patients with addiction disorders need from their primary care physicians: a qualitative study. Substance Abuse 2016; 37:349-55.

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What do patients with addiction need from their providers

- **Knowledge about addiction**
- **Duty to treat**
- **Focus on overall health**
- **Engage patie**nts in care
- **Treat the full scope of illness (isolation, rejection, creating hope)**

6

The sap is extracted by slitting the pod

Highly refined Southwest Asian heroin or Southeast Asian heroin

Opiates & Opioids

Opiates **= naturally present in opium**

- **e.g. morphine, codeine, thebaine**

Opioids **= manufactured**

- **Semisynthetics are derived from an opiate**
  - **–Heroin from morphine**
  - **–Buprenorphine, oxycodone from thebaine**
- **Synthetics are completely man-made to work like opiates**
  - **–Methadone**
  - **–Fentanyl**

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Narcotic Regulation in US

- **1914- Harrison Narcotics Tax Act**
- **1925- Linder vs United States**
- **1964- Methadone introduced as experimental treatment for opioid addiction**
- **1968- Bureau of Narcotic and Dangerous Drugs formed (changed to DEA in 1973)**

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DSM5- Opioid Use Disorder

- Group 1- **Impaired control**- larger amounts and longer; desire to cut down; great deal of time spent related to using; craving
- Group **2-Social impairment**- failure to fulfill obligations; interpersonal problems; reduction in social, occupational or recreational activities
- Group 3- **Risky use-** use in hazardous situations; continued use despite negative consequences
- Group 4- **Pharmacologic dependence-** tolerance; withdrawal with cessation

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Management of OUD

- Management = Treatment + Prevention
- Management = can be utilized across patient goal

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Options for Treatment

- Medication (MOUD)- methadone, buprenorphine or naltrexone
- Simple detoxification and no other treatment
- Counseling and/or peer support without MOUD
- Referral to short or long term residential treatment

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But here is my bias:

SBIRT

vs

SIT (screen, intervene and treat)

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Intervention- "I have joined your fan club"

- Interventions and education are effective
- Interventions should emphasize health and relationship benefits
- Use family/friends in a positive way
- Avoid threats- "If you use, you will die"
- Give hope that life can improve
- Acknowledge reasons for use, but…
- Work together to define the benefits of change

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Effective Treatment of Opiate Addiction

NIH Consensus Development Conference
November 17-19, 1997

- Opiate dependence is a brain-related medical disorder
- Treatment is effective-
  - "Although a drug-free state represents an optimal treatment goal, research has demonstrated that this goal cannot be achieved or sustained by the majority of opiate-dependent people."
- Reduce unnecessary regulation of long-acting agonist treatment programs
- Improve training of health care professionals in treatment of opiate dependence

14

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MEDICATIONS

NOT MAT

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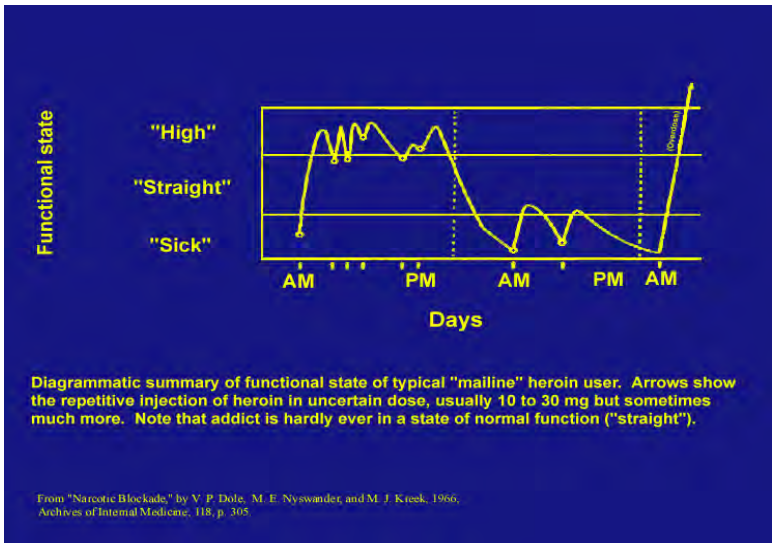
What the patient with opioid use disorder feels...



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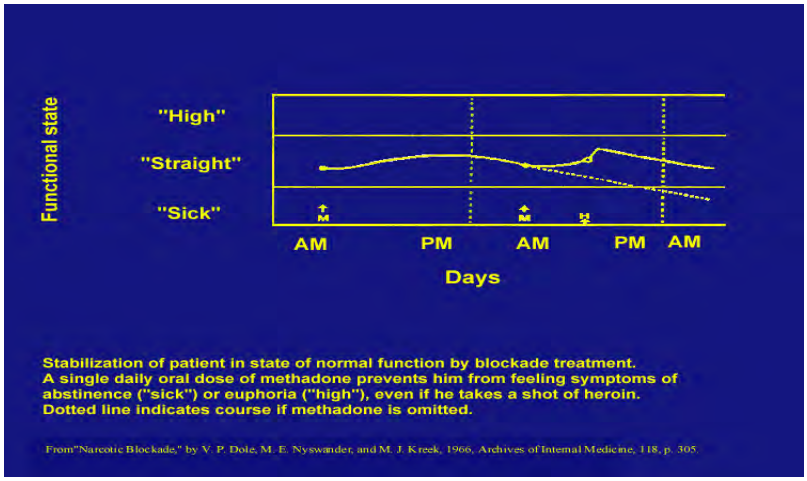
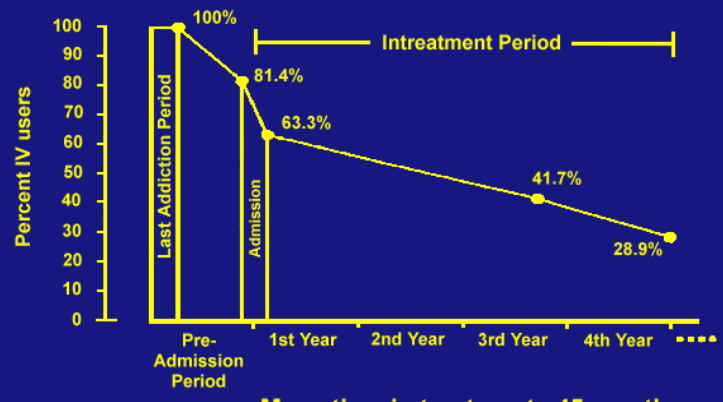
Stabilization by "Blockade Treatment"



Stabilization of patient in state of normal function by blockade treatment. A single daily oral dose of methadone prevents him from feeling symptoms of abstinence ("sick") or euphoria ("high"), even if he takes a shot of heroin. Dotted line indicates course if methadone is omitted.

From "Narcotic Blockade," by V. P. Dole, M. E. Nyswander, and M. J. Kreek, 1966, Archives of Internal Medicine, 118, p. 305.

17



Impact of methadone maintenance treatment on intravenous drug use for 388 male methadone patients in six programs.

From the Effectiveness of Methadone Maintenance Treatment (p. 169), by J. C. Ball and A. Ross, 1991, New York: Springer-Verlag. Copyright by Springer-Verlag New York, Inc. Reprinted with permission.

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Goals of Pharmacotherapy

Mitigate withdrawal	Prevent or manage withdrawal symptoms
Reduce drug use	Reduce drug use and sustain reduction or abstinence
Improve morbidity and mortality	Prevent, reduce and/or manage the physical and social complications of continued opioid use

19

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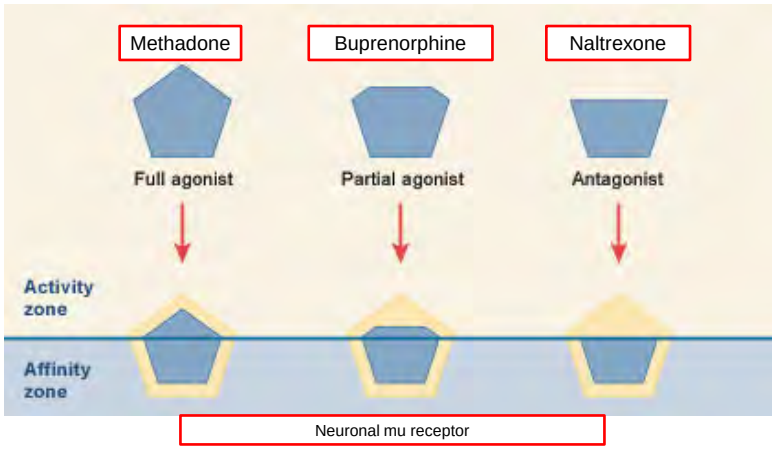
Medications for Opioid Use Disorder



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Drug Abuse Treatment Act (DATA) of 2000

- **Allowed "Qualified" physicians to treat opioid dependence outside methadone facilities**
  1. **Addiction certification from approved organization, or**
  2. **Physician in clinical trial of qualifying medication, or**
  3. **Complete 8-hour course from approved organization**
- **DEA issues (free) to qualifying physicians a new DEA number to use medication for opioid dependence**
- **As of today, only one medication formulation is approved for this use**

21

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Opioid Treatment: Changing Approach

Methadone Clinic	Buprenorphine
• Criteria: Withdrawal 12 months use	• Criteria: DSM IV No time criteria
• Dose regulated	• MD sets dose
• Age > 18	• Age > 16
• Limited take homes	• Take homes (30 days)
• Services "required"	• Services must be "available"

22

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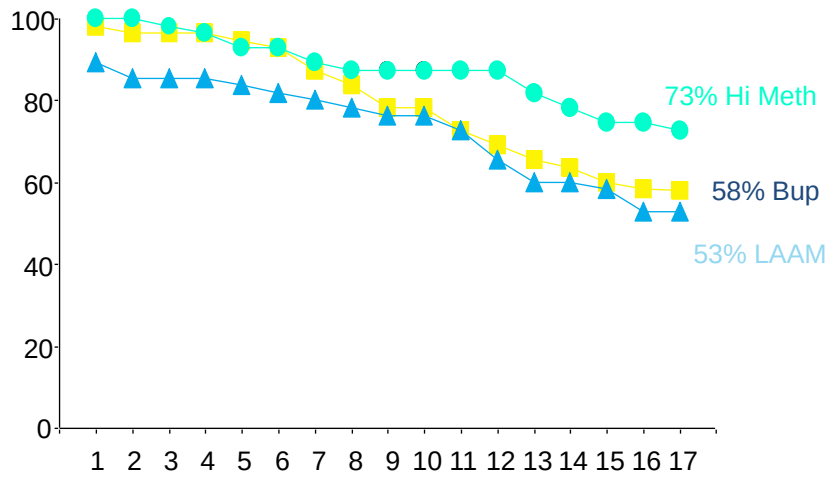
Buprenorphine, Methadone, LAAM: Treatment Retention



Johnson RE, et al NEJM 2000

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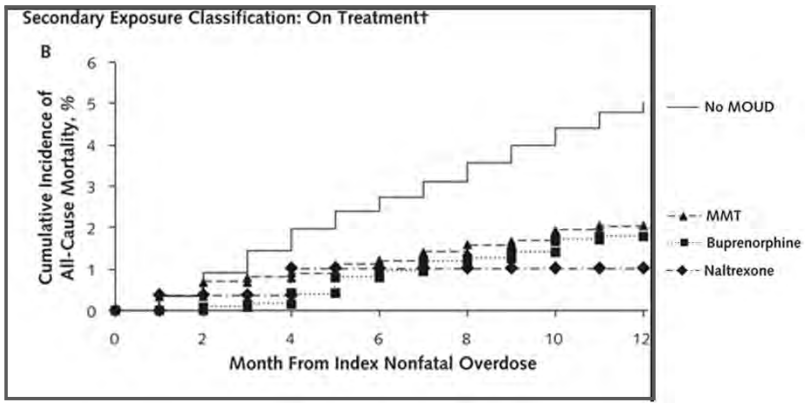
MOUD Decreases Mortality



Larochelle, Annals of Internal Medicine 2018

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Major Features of Methadone

***Full Agonist* at mu receptor**

Long acting

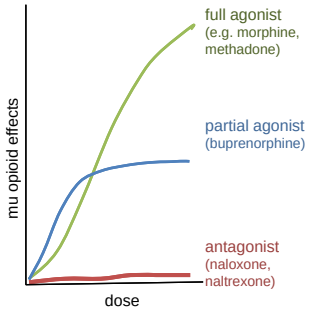
- Half-life ~ 15-60 Hours

Weak affinity for mu receptor

- *Can be displaced by partial agonists (e,g. burprenorphine) and antagonists (e.g.naloxone, naltrexone),* which can both precipitate withdrawal

Monitoring

- Significant respiratory suppression and potential respiratory arrest in overdose
- QT prolongation



25

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Methadone Initiation

- Require dispensing at "Opioid Treatment Program"
  - Medical assessment
- Dosing
  - Starting dose of 30mg
  - Liquid
  - Federal law requires that the initial dose be ≤30 mg and not exceed 40 mg in 1st day

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Methadone Maintenance

- Initial Dose Increase
  - Doses ↑ 5-10 mg every 7d
  - Can take 4d for full effect
- Maintenance Dosing
  - ↑ 60-120mg/d based on response (no craving, withdrawal, euphoria)
  - Higher dosing associated with better efficacy
  - Can go up to >200mg
- Federal law regulates take-home schedule in first two years of therapy

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Methadone Safety

Side effects:

***Common*: constipation, lightheadedness, dizziness, sedation, nausea, vomiting, sweating**

***Rare*: EKG abnormalities, psychosis, pruritis, sexual dysfunction or decreased libido, amenorrhea, weight gain, edema, seizures, hypotension**

Drug Interactions:

Metabolized primarily by CYP3A4

Inducers ↓ methadone effect

Inhibitors ↑ toxicity

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Major Features of Naltrexone

Full Antagonist at mu receptor

- Competitive binding at mu receptor

Long acting

- Half-life:
  - Oral ~ 4 Hours
  - IM ~ 5-10 days

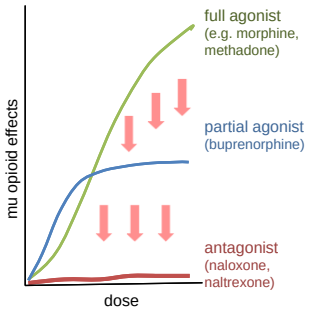
High affinity for mu receptor

- *Blocks* other opioids
- *Displaces* other opioids
  - Can precipitate withdrawal

Formulations

- *Tablets: Revia®: FDA approved in 1984*
- *Extended-Release intramuscular injection: Vivitrol®: FDA approved in 2010*

SAMHSA, 2018



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Naltrexone Formulations/Dosing

Oral naltrexone 25mg x1d, then 50mg/d

Long acting injectable naltrexone (Vivitrol®) 380mg once q4 wks

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Naltrexone Initiation

- Start ≥7 days after last opioid use
  - ≥14 days with long acting opioids (buprenorphine, methadone)
  - Can precipitate severe opioid withdrawal
- Strategies
  - Negative urine screen
  - Challenge with naloxone before administering XR-NTX

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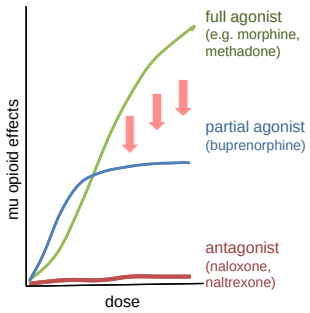
Major Features of Buprenorphine

Partial agonist at mu receptor
- Comparatively minimal respiratory suppression and no respiratory arrest when used as prescribed

Long acting
- Half-life ~ 24-36 Hours

High affinity for mu receptor
- *Blocks* other opioids
- *Displaces* other opioids
  - Can precipitate withdrawal

Slow dissociation from mu receptor
- *Stays on receptor for a long time*



SAMHSA, 2018
Orman & Keating, 2009

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Buprenorphine Formulations

- Buprenex-for pain only
- Butrans/Belbuca-for pain only
- Buprenorphine mono product- for pain or opioid use disorder
- Sublocade- monthly sc injection
- Probuphine- 6 month sc implant
- Buprenorphine/naloxone- for opioid use disorder only
  - combination pill/film/buccal "patch" w/ naloxone

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Stop using this term:

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Buprenorphine Common Adverse Effects

- Headaches
  - Management: aspirin, ibuprofen, acetaminophen (if there are no contra-indications)
- Nausea
  - Management: Consider spitting the saliva out after adequate absorption instead of swallowing.
- Constipation
  - Management: Stay well-hydrated, Consume high-fiber diet, Consider stool softeners, laxatives, naloxegol
- Xerostomia (Dry mouth) –
  - Complications: Gingivitis, Periodontitis
  - Management: Stay well-hydrated, Maintain good oral hygiene

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Precipitated Withdrawal

- Because of its high affinity for mu opioid receptors, buprenorphine can displace other agonists (such as heroin, methadone) that are already present and occupying the receptors
- The sudden change from full-agonist to partial-agonist activation of opioid receptors can cause sudden and severe withdrawal symptoms (precipitated withdrawal)

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MOUD

	Methadone	Buprenorphine (Oral)	Naltrexone (IM)
Mechanism of Action	Full Agonist on Opioid Receptor	Partial Agonist on Opioid Receptor	Antagonist on Opioid Receptor
Dosing	80mg-100mg (Usual Dose)	4-32mg	380mg Depot Injection
Advantages	▪ Provided in a highly structured supervised setting where additional services can be provided on-site and diversion is unlikely ▪ Maybe effective for individuals who have not benefited sufficiently from partial agonists or antagonists	▪ Improved safety due to partial agonism ▪ Availability in office-based settings	▪ No addictive potential or diversion risk ▪ Available in office-based settings ▪ Option for individuals seeking to avoid any opioids

Schuckit, 2016

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STARTING BUPRENORPHINE

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Obtaining History

Ask about all substances:

Prescribed and non-prescribed

Age at first use

Determine patterns of use over time:

Frequency

Amount

Route

Assess recent use

In the last 2 weeks

Most recent use

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Previous Treatment

- Prior treatment attempts
  - What type?
  - What age?
  - What happened?
  - What was your experience?
  - What was the outcome?

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Clinical Opiate Withdrawal Scale (COWS)

- Resting Pulse
- Sweating
- Restlessness
- GI Upset
- Tremor
- Pupil Size
- Bone or Joint Aches
- Yawning
- Anxiety or Irritability
- Gooseflesh
- Runny Nose or Tearing Eyes

Wesson and Ling, 2003

41

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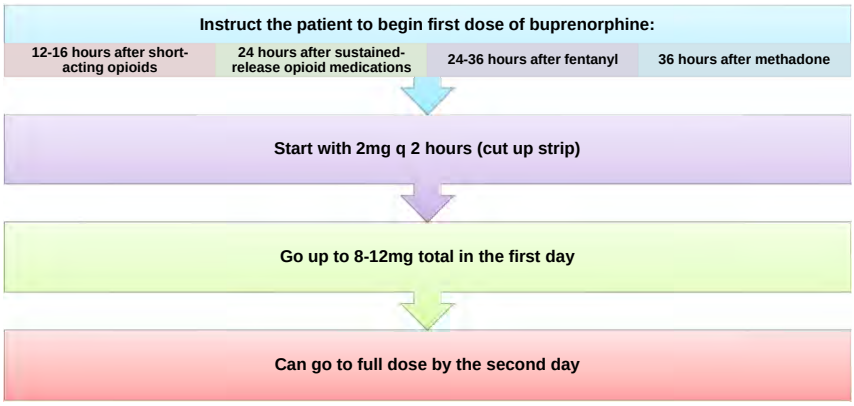
To Avoid Precipitated Withdrawal



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Buprenorphine/Naloxone Instructions

- Moisten mouth before taking film
- Hold sublingual film/tablet (for 2 to 8 minutes) until completely dissolved
- Do not swallow or spit
- If administering 2 films/tablets at the same time, place the second under the tongue on the opposite side. Try to avoid having the films/tablets touch as much as possible
- Don't drink, eat, or smoke until 10 min after taking bup
- Risk for OD:
  - Offer naloxone

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MAINTAINING BUPRENORPHINE

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Treatment Duration

Evidence supports long term maintenance

- Studies up to 16 weeks show high relapse rates with medication withdrawal
- Improved retention rates in treatment with extended buprenorphine maintenance

Continue maintenance as long as patient is benefitting from treatment

Kakko et al., 2003
Weiss et al., 2011

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Monitoring Efficacy

- Urine toxicology
  - Testing is not meant to "catch" the patient
  - Positive UDS results
    - Reflect only recent drug use
    - Cannot determine exposure time, dose, or frequency of use
    - Should not lead to a discharge from treatment
    - Opportunity for discussion

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Monitoring Adherence

- Urine testing for norbuprenorphine (metabolite)
- Check PDMP
- Pill/strip counts
- Ask your patient!

47

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Urine Toxicology Time Limits

Amphetamine	2-4 days
Benzodiazepines	1-10 days
Cocaine	1-3 days
Heroin/morphine	1-3 days
Methadone	1-4 days
Marijuana	1-30 days
PCP	3-30 days

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MOUD in Pregnancy

Buprenorphine	Methadone

▪ Similar efficacy as methadone
▪ Same rates of adverse events, NAS, as methadone
▪ Improvement over methadone:
  ▪ Lower risk of overdose
  ▪ Fewer drug interactions
  ▪ Milder withdrawal symptoms in NAS
  ▪ Reduced morphine dosing for NAS
  ▪ Significantly shorter hospital stay
	▪ More structure- better for patients in unstable situations
	  ▪ Decreased risk of diversion
	▪ More long-term data on outcomes

Fischer et al., 1998, 1999
Jones et al., 2010;
Kakko et al., 2008;
Kraft et al., 2017

49

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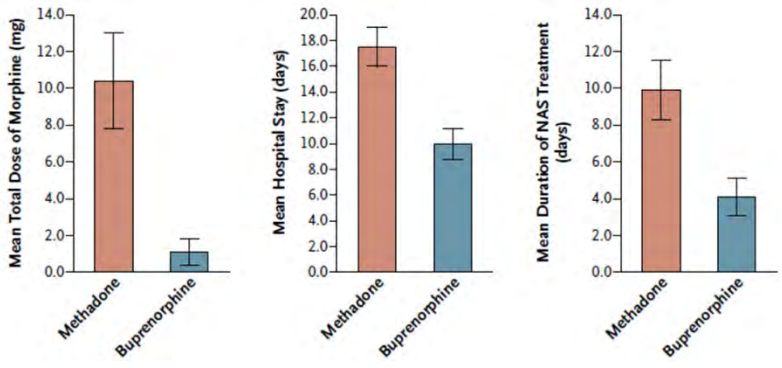
Maternal Opioid Treatment:
MOTHER Study



Jones et al., 2010

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Optimal Management

Medications alone are efficacious and should never be delayed for individuals without access to counseling or therapy

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But don't I need to provider a counselor?

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Adjunctive Counseling During Brief and Extended Buprenorphine-Naloxone Treatment for Prescription Opioid Dependence:*A 2-Phase Randomized Controlled Trial*

Roger D. Weiss, MD; Jennifer Sharpe Potter, PhD; David A. Fiellin, MD et. al. Arch Gen Psych 2011; 68:1238-1246

- **Multicenter randomized clinical trial- n=653**
  - **In both phases patients randomized to standard medical management(SMM) or SMM plus counseling**
  - **In both phases (3 &12 weeks of buprenorphine), separate counseling did not change outcomes**

53

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Support groups?

"You're not in recovery if you're on medication"

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So now I am convinced (maybe) I should prescribe in my primary care setting...

- Prescribing is the easy part
- The conversation is the art of medicine (and the fun)

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SHAME

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Self-esteem

- **You- "The best thing you can do for yourself is stop using drugs"**
- **Patient- "I don't deserve the best, what else can I do?"**

57

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Coping

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Visit openers:

What have you done today to make the world a better place?

What have you done today to make today better than yesterday?

Give me an update for your fan club

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What if ?

- **My patient's urine drug screen is positive for…**
- **My patient's urine drug screen is negative for buprenorphine**
- **My patient misses an appointment**
- **My patient asks for a refill early**
- **My patient has an overdose**

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Recovery is about progression (not linear), not perfection

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Quotes from patients on buprenorphine

"I feel normal"
"I wake up not sick"
"I have my life back"

- **Treatment in normal medical settings:**
  - **–Encourages continuity of medical care**
  - **–Encourages relationship building**
  - **–Legitimizes opioid use disorder as a treatable, chronic illness**

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Fingerhood M, King V, Brooner R, Rastegar D. A comparison of characteristics and outcomes of opioid dependent patients initiating office-based buprenorphine or methadone maintenance treatment. Substance Abuse. 2014; 35:122-6.

Characteristics

Characteristic	BUP n=252	METH n=252	P value
Abused Substances			
Heroin	83%	86%	0.39
Opioid Rx	29%	9%	<0.001
Cocaine	53%	55%	0.73
Benzodiazepines	9%	23%	<0.001
Injection drug use	61%	69%	0.051
HIV infection	14%	8%	0.023
Chronic pain	18%	12%	0.063
Recent criminal charges	43%	50%	0.129

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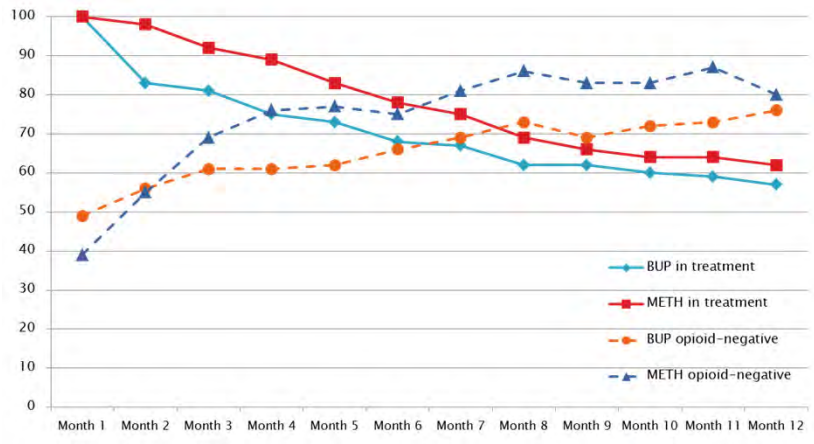
Percentage of patients in treatment at each month and percentage of those in treatment who were opioid-negative. (BUP – buprenorphine, METH – methadone).



64

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Integrated buprenorphine cost study

Hsu YJ, Marsteller JA, Kachur SG, Fingerhood MI. Integration of buprenorphine treatment with primary care: Comparative effectiveness on retention, utilization and cost. Pop Health Managem. 2019; 22:292-9.

- **Maryland Medicaid Priority Partners beneficiaries who received a script for buprenorphine and no buprenorphine script in previous 3 months**
- **Only first episodes analyzed**

65

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Buprenorphine cost study

	CCP n=137	Non-CCP n=992	
6 month retention	80.3%	59.2%	p<.001
Any ED visit 12 months	63.5%	60.4%	NS
Any acute hospital stay 12 months	15.3%	18.9%	NS
Total cost 12 months mean	$10,785	$12,210	P<.001

66

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Harm Reduction

- The practice of reducing the negative consequences of drug use in people who are not ready, or not able to abstain from drug use completely
  - –Needle and syringe programs
  - –Safe injection practice counseling
  - –Overdose education and naloxone distribution

67

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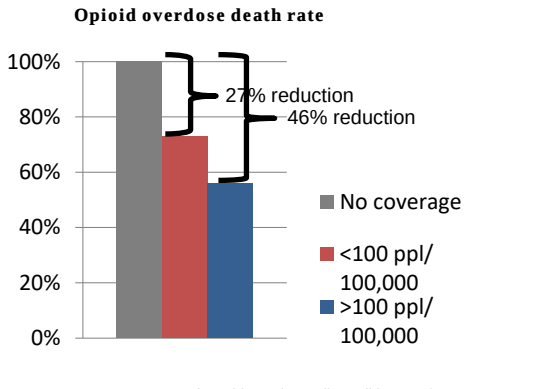
Naloxone Distribution Reduces Deaths Due to Overdose



Adapted from Alex Walley's slide, CRIT/FIT Program 2014

68

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Terms to avoid	Alternatives	Why?
Addict *User* *Substance or Drug Abuser* *Junkie* *Alcoholic/Drunk* *Substance Dependence*	• **Person with…(OUD, AUD, SUD)** • **Person with opioid addiction…** • **Patient** • **Person in recovery**	• Person-first language • Shows that a person "has" a medical problem, rather than "is" the problem • Avoids negative associations, punitive attitudes, and blame
Clean/Dirty	**For toxicology screen results:** • **Testing negative/positive**	•Accurate terminology consistent with a medical disorder
Opioid Substitution Therapy/ Replacement Therapy	• **Opioid agonist therapy** • **Evidence-Based medication for OUD** • **Pharmacotherapy**	• Avoid misconception medications substitute for another drug/addiction
Medication Assisted Treatment (MAT)	• **Medication to treat OUD** • **Pharmacotherapy for OUD**	• "Assisted treatment" -undervalues the role of medication -unlike other medical disorders

National Institute of Drug Abuse. https://www.drugabuse.gov/nidamed-medical-health-professionals/health-professions-education/words-matter-terms-to-use-avoid-when-talking-about-addiction. Accessed 04/22/2020.

69

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Patient vignette 1

- **EB is a 72 F seen for initial visit. She has a history of chronic pain in hips and knees. Her previous provider will no longer prescribe oxycodone as for the past 2 months her 30 day script ran out after 2 weeks. Tearful and fearful that providers won't help her. Cannot take NSAIDs. She admits that she often takes oxycodone when she is upset.**
- **She lives alone in senior housing apartment; 2 daughters- both with difficulties (medical and social). Non-smoker; no alcohol.**

70

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Patient vignette 1 outcome

- **After spending time building rapport and making sure she knew my goal was to work with her, I explained I would not prescribe her oxycodone.**
- **She was open to undoing isolation, treating mood and trying buprenorphine.**
- **Almost immediately, physically more active (no longer dwelling on when next dose of pain medication is and does she have enough), remains on low dose buprenorphine, never running out before she should, with improved pain.**

71

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Patient vignette 2

- **KL is a 65F retired nurse who had right total knee replacement complicated by joint infection requiring prolonged course of antibiotics, hardware removal with spacer and finally replacement of hardware. She has been on oxycodone 15 mg four times daily for 4 months.**
- **She sees orthopedics in f/u and is told she should not be on any further opioids as she is now 2 weeks out since the last surgery. She is told to take ibuprofen.**

72

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Patient vignette 2 outcome

- **I receive a call from the police that KL had died from an apparent opioid overdose**
- **I find out from her son that she had gone into severe opioid withdrawal and bought opioids on the street.**

73

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Patient vignette 3

- **28F seen for first visit. Able to review in CRISP/PDMP- multiple ER visits for back pain and one opioid overdose, and many filled scripts for oxycodone from many providers. Had abnormal PAP 3 years ago. History of HIV (not addressed) and hypertension (has elevated BP today)**
- **Her agenda- getting script for oxycodone. My agenda- getting her engaged in medical care and treatment for opioid use disorder**

74

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Patient vignette 3 outcome

- **After 3 months - seen her 7 times**
- **Doing well on buprenorphine/naloxone. No back pain. Urine drug screens all negative since the first visit.**
- **On medication for hypertension; adherent with HAART for HIV; had PAP done. No ER visits.**
- **Mood/self-esteem much improved. Better relationship with family. Working part-time.**

75

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X waiver by the numbers

- 30- how many patients can be treated with taking 5 minutes to apply
- 100- how many patients can be treated if you have taken 8 hour training for physicians or 24 hours for non-physicians
- 275- how many patients can be treated after one year of being able to prescribe for 100 patients

76

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BUPRENORPHINE
Waiver Notification Form

Entering a 30 Patient Notification

77

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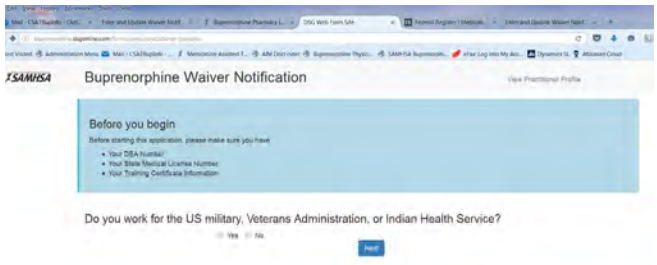
Submitting a 30 Patient Notification Form Online



Answer the question yes or no and click the Next button.

78

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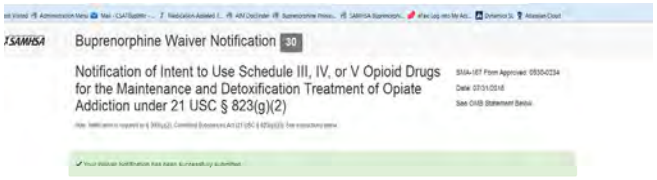
When the Notification is submitted successfully you will receive a confirmation.
If it has not, an error message will indicate what needs to be correct .



79

MACS

Maryland Addiction Consultation Service

Provides support to prescribers and their practices, pharmacists, and healthcare teams in addressing the needs of their patients with substance use disorders and chronic pain management.

All Services are FREE

- Phone consultation for clinical questions
- Education and training opportunities related to substance use disorders and chronic pain management
- Assistance with addiction and behavioral health resources and referrals
- Technical assistance to practices implementing or expanding office-based addiction treatment services
- MACS TeleECHO™ Clinics: collaborative medical education through didactic presentations and case-based learning

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80

Notes

Alcohol Use Disorder: Recognition, Treatment, and Implications

Vincent Cavaliere, PharmD, MM, BCPP
vcavaliere@luminishealth.org

1

Conflict of Interests

- No conflicts of interest to disclose
- Will be discussing the off-label use of gabapentin and topiramate for alcohol use disorder

2

2

Learning Objectives

1. Recognize signs, symptoms, risk factors, diagnostic criteria, disease course, and treatment options for:
   - Acute alcohol withdrawal
   - Delirium tremens (DTs)
   - Wernicke-Korsakoff syndrome (WKS)
   - Alcohol use disorder (AUD)
2. Identify guideline-recommended agents for the treatment of AUD
   - Dosing
   - Contraindications
   - Precautions
   - Common adverse effects
   - Serious adverse effects
   - Patient counseling

3

3

QUESTIONS TO CONSIDER

4

4

Question 1

A patient that has been stable on naltrexone 50 mg PO daily mentions that they have been forgetting to take the tablet everyday since working nights. What do you recommend?

A. Continue naltrexone 50 mg PO daily
B. Recommend switching to acamprosate 666 mg PO TID
C. Recommend switching to topiramate 100 mg PO BID
D. Recommend switching to Vivitrol® 380 mg IM monthly

5

5

Question 2

Which of the following treatment options for AUD does not require dose adjustments in patients with renal impairment?

A. Gabapentin
B. Acamprosate
C. Naltrexone
D. Topiramate

6

6

Question 3

Which FDA-indicated treatment for AUD can cause serious harm if the user ingests alcohol after taking their dose?

A. Naltrexone
B. Acamprosate
C. Disulfiram
D. Topiramate
E. Gabapentin

7

7

DEFINING “ADDICTION”

8

8

Addiction

- Terminology varies:
  - American Psychiatric Association (APA)
    - Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5)
      - Substance use disorders (alcohol use disorder [AUD], opioid use disorder [OUD], cannabis use disorder, etc.)
  - National Institute of Drug Abuse (NIDA)
- Addiction is widely accepted as a DISEASE

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

9 NIDA. Understanding Drug Use and Addiction. National Institute on Drug Abuse website. https://www.drugabuse.gov/publications/drugfacts/understanding-drug-use-addiction. June 6, 2018.

9

Addiction (NIDA)

- A chronic, relapsing disease characterized by compulsive drug seeking and use despite harmful consequences as well as neurochemical and molecular changes in the brain

10 NIDA. https://www.drugabuse.gov/publications/drugfacts/understanding-drug-use-addiction. June 6, 2018.

10

Recommended Limits for Alcohol Consumption

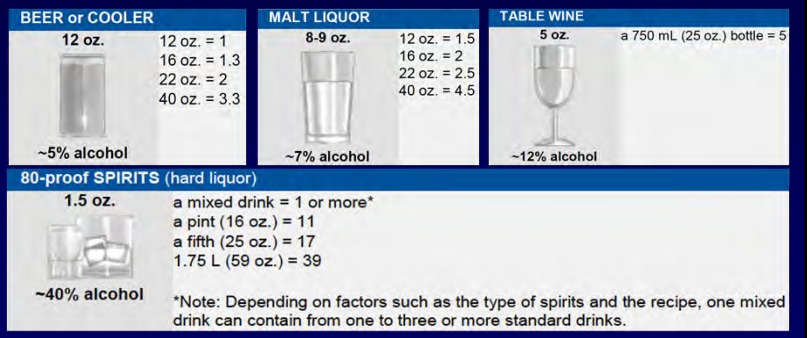
Men ≤ 65 years

- ≤ 2 drinks per day on average
- ≤ 4 drinks in one day
- ≤ 14 drinks per week

Men > 65 or Women

- ≤ 1 drink per day on average
- ≤ 3 drinks in one day
- ≤ 7 drinks per week

"Standard" Drinks



VA / DoD Clinical Practice Guideline for the Management of Substance Use Disorders. 2021.
https://pubs.niaaa.nih.gov/publications/Practitioner/pocketguide/pocket_guide2.htm#top

11

11

SCREENING TOOLS

12

12

Screening, Brief Intervention, and Referral to Treatment (SBIRT)

- Screening
  - Assesses severity of substance use
  - Identifies appropriate level of treatment
- Brief Intervention
  - Express concern and advise to abstain or decrease drinking
  - Explain alcohol-related risks and links to heath outcomes
- Referral to Treatment
  - Recommend specialty care or treatment options

13

SAMHSA. SBIRT. https://www.samhsa.gov/sbirt. Published September 15, 2017.

13

CAGE

- C: Have you ever felt the need to CUT DOWN on your alcohol or drug use?
- A: Have you ever been ANNOYED by criticism of your alcohol or drug use?
- G: Have you ever felt GUILTY about your alcohol or drug use?
- E: Have you ever needed an EYE OPENER to get started at the beginning of the day?

- One "Yes" answer may indicate need for further screening
- Two or more "Yes" answers is considered clinically significant

14

Ewing JA. Detecting alcoholism. The CAGE questionnaire. *JAMA*. 1984;252(14):1905–1907. doi:10.1001/jama.252.14.1905

14

Alcohol Use Disorders Identification Test (AUDIT)

- Developed by the World Health Organization (WHO)
- 10-question self- or clinician-administered survey
- Scores ≥ 8 indicate harmful drinking (≥ 7 in elderly)
- Abbreviated version (AUDIT-C) – seen below
- Administer annually

Questions	Scoring System					Score
	0	1	2	3	4	
How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times per month	2-3 times per week	4+ times per week	
How many units of alcohol do you drink on a typical day when you are drinking?	1-2	3-4	5-6	7-9	10+	
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	

15

Babor T.F., de la Fuente J.R., Saunders J.B. and Grant M. AUDIT. The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Health Care. Geneva: WHO, 1992.

15

Single Item Alcohol Screening Questionnaire (SASQ)

1. Do you sometimes drink beer, wine, or other alcoholic beverages?
2. How many times in the past year have you had…
   - Men: five or more drinks in a day?
   - Women: four or more drinks in a day?

- Screen is positive if the answer to #2 is one or more

16

VA / DoD. 2021.

16

Alcohol Intoxication (DSM-5)

- Recent ingestion of alcohol (EtOH)
- Significant problematic behavior or psychological changes developed during, or shortly after, ingestion
- Symptoms are not due to another medical condition or mental disorder

- ≥ 1 of the following:
  - Slurred speech
  - Incoordination
  - Unsteady gait
  - Nystagmus
  - Impairment in attention or memory
  - Stupor or coma

17

DSM-5. 2013.

17

ALCOHOL WITHDRAWAL

18

18

Alcohol Withdrawal (DSM-5)

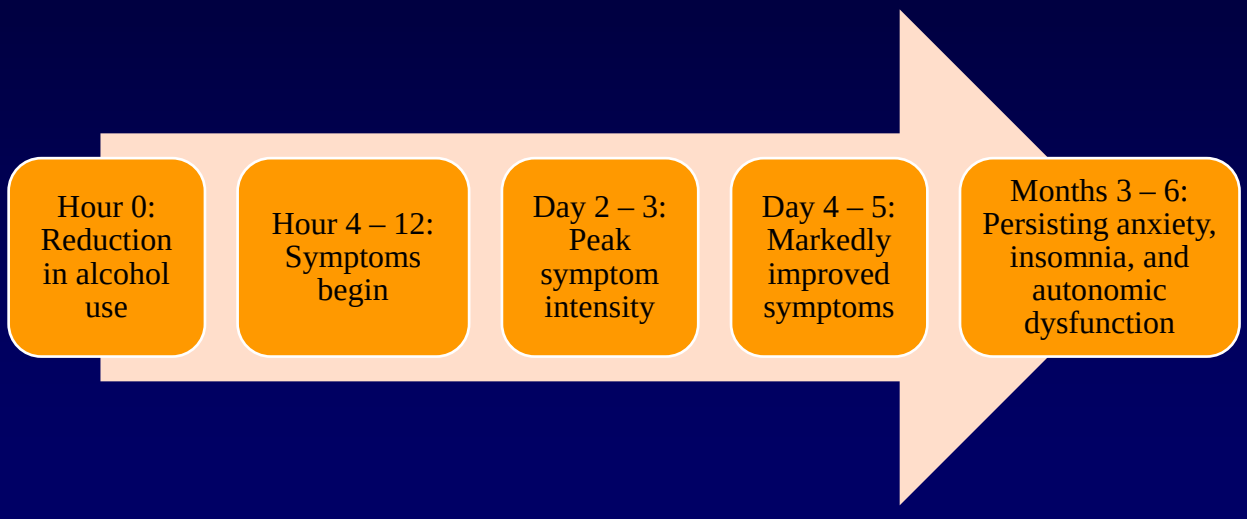
- Reduction in heavy and prolonged EtOH use
- Significant impairment in everyday functioning
- Not better explained by another medical or psychological condition

- ≥ 2 symptoms, hours to days after cessation:
  - Autonomic hyperactivity (e.g., ↑ HR/BP, sweating)
  - Hand tremor
  - Insomnia
  - Nausea/vomiting
  - Transient hallucinations (audio, visual, or tactile)
  - Psychomotor agitation
  - Anxiety
  - Generalized tonic-clonic seizures

19 DSM-5. 2013.

19

Course of Alcohol Withdrawal



20 DSM-5. 2013.

20

Monitoring Withdrawal

- Clinical Institute Withdrawal Assessment for Alcohol (CIWA-A)
  - Often use 10-item revised version (**CIWA-Ar**)
  - Mainly objective measures
    - Quick administration (~ 2 mins)
  - Measures withdrawal severity
    - Absent or Minimal ≤ 8
    - Mild to Moderate 9 – 19
    - Severe ≥ 20
  - NOT a diagnostic tool
- Others (less common):
  - Alcohol Withdrawal Scale (AWS)
  - Short Alcohol Withdrawal Scale (SAWS)
  - Alcohol Use Disorders Identification Test-Piccinelli Consumption (AUDIT-PC)
  - Luebeck Alcohol Withdrawal Risk Scale-11 (LARS-11)
  - Prediction of Alcohol Withdrawal Severity Scale (PAWSS)

VA / DoD. 2021.

Sullivan JT, et al. Assessment of alcohol withdrawal: the revised clinical institute withdrawal assessment for alcohol scale (CIWA-Ar). Br J Addict. 1989;84:1353-7.
The ASAM Clinical Practice Guideline on Alcohol Withdrawal Management. J Addict Med. 2020 May/Jun;14(3S Suppl 1):1-72. doi: 10.1097/ADM.0000000000000668.

21

21

Risk Factors for Severe or Complicated Withdrawal

1. History of delirium tremens or withdrawal seizure
2. Numerous prior withdrawal episodes
3. Comorbid medical/surgical illness
   a. Especially traumatic brain injury
4. Increased age (> 65)
5. Long duration of heavy and regular alcohol consumption
6. Seizure during current episode
7. Marked autonomic hyperactivity on presentation
8. Physiological dependence on GABAergic agents
   a. Benzodiazepines, barbituates

22

ASAM. 2020.

22

Inpatient Withdrawal Management

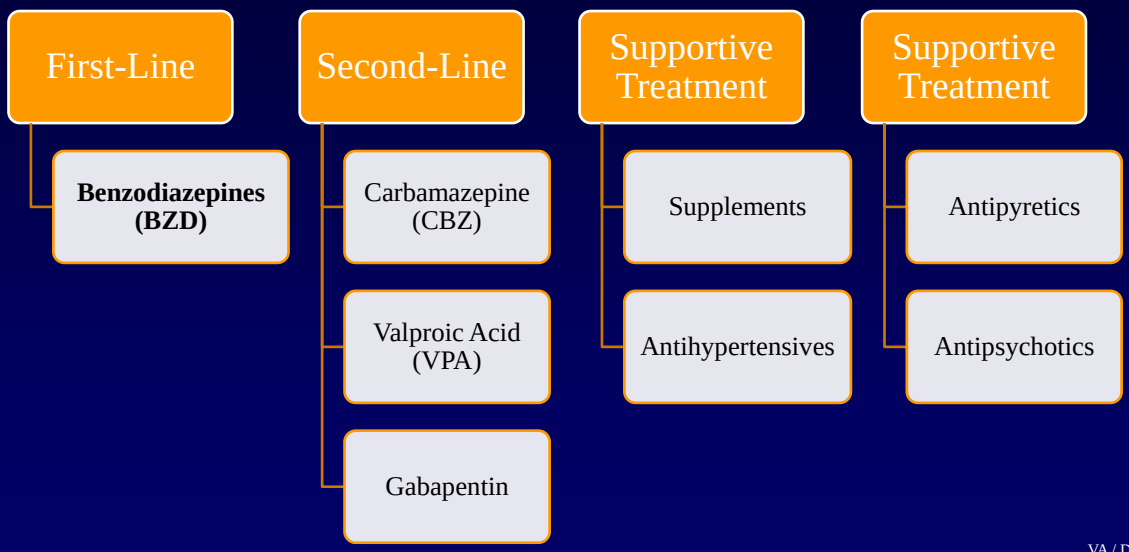
1. CIWA-Ar ≥ 20 (severe)
2. History of delirium tremens or withdrawal seizures
3. Unable to tolerate oral medications
4. Co-occurring medical conditions posing risk if managed outpatient (e.g. pregnancy)
5. Co-occurring substance withdrawal (e.g., sedative-hypnotics)
6. CIWA-Ar > 10 (moderate) PLUS any of the following:
   a. Recurrent unsuccessful outpatient attempts
   b. Reasonable likelihood patient will not complete outpatient program (e.g., homelessness)
   c. Active psychosis or severe cognitive impairment

VA / DoD. 2021.
ASAM. 2020.

23

23

Acute Withdrawal Pharmacotherapy Options



VA / DoD. 2021.
ASAM. 2020.

24

24

Benzodiazepine Options

Drug	Form	$t_{½}$ (hours)	Active Metabolites	Rate of Onset
Chlordiazepoxide* (Librium)	Cap	10–48 (parent) 14–95 (metab)	Yes (2)	Intermediate (30 min – 2 hr)
Diazepam (Valium, Diastat)	IM, IV, Liq, Tab, Nasal, Rectal	48 (parent) 100–194 (metab)	Yes (3)	Very fast (15–30 mins)
Lorazepam** (Ativan)	IV, IM, Liq, Tab	12	No	Intermediate (20–30 min)

*Slower onset: less abuse potential
**Can be administered IV, IM, PO with predictable results (IM diazepam is variable)

- Benzodiazepines reduce:
  - Withdrawal severity
  - Incidence of delirium tremens
  - Incidence of withdrawal seizures
- "LOT" (lorazepam, oxazepam, temazepam)
  - Bypass phase I metabolism (i.e. bypass the liver)
  - Ideal for elderly, over-sedated, or liver impairment

VA / DoD. 2021.
Chlordiazepoxide, Diazepam, Lorazepam. Micromedex Solutions. Greenwood Village, CO: Truven Health Analytics. http://micromedex.com/.

25

25

Dosing Regimens

1. Fixed-dose taper
2. Symptom Triggered
3. Front Loading

26

26

Fixed-dose Taper

- Advantages:
  - Patient should receive adequate medication
  - Less monitoring / lower staff burden
- Disadvantages:
  - May receive more medication than necessary (↑ side effects)
  - Should not be used for delirium tremens management
- Examples:
  - Chlordiazepoxide 100 mg Q6H x 4 doses (with PRN), then
  - Chlordiazepoxide 50 mg Q8H x 8 doses (with PRN), then
  - Chlordiazepoxide 25–100 mg Q1H PRN CIWA-Ar $\geq$ 10

27

VA / DoD. 2021.
Grover S, Ghosh A. Delirium Tremens: Assessment and Management. *J Clin Exp Hepatol*. 2018. doi:10.1016/j.jceh.2018.04.012

27

Symptom Triggered Dosing

- Advantages:
  - Only give amount of drug needed to control symptoms
  - Less medication use
  - Shorter duration of treatment
- Disadvantages:
  - Requires trained staff to assess
- Examples:
  - Chlordiazepoxide 25–100 mg Q1H PRN CIWA-Ar $\geq$ 10, or
  - Diazepam 5–20 mg Q1–4H PRN CIWA-Ar $\geq$ 10, or
  - Lorazepam 4 mg every 10 mins until CIWA-Ar < 10 or sedation

28

VA / DoD. 2021.
Grover S, et al. *J Clin Exp Hepatol*. 2018

28

Front Loading

- Slowly titrate dose upwards until one of the following:
  - Light sedation is reached (can be aroused with verbal stimulation)
  - CIWA-Ar < 10
- Preferred treatment regimen for delirium tremens
- Not favored in suspected head injury and liver dysfunction
- Example:
  - Diazepam 10 mg → 20 mg → 30 mg → 40 mg → 50 mg → 60 mg
    - Repeat each strength dose once (10 mg, 10 mg, 20 mg, 20 mg…) 10 mins apart
    - Continue administration until 320 mg total, light sedation, or CIWA-Ar < 8

29

Grover S, et al. *J Clin Exp Hepatol*. 2018

29

Second-Line Agents

- Mild-moderate withdrawal when BZD risk outweighs benefits
  - Less abuse potential
- Outpatient withdrawal management
- Adjunctive treatment
- Efficacy comparable to BZDs → Evidence limited to small, single-site randomized trials
  - Reduction of withdrawal symptoms
  - Time to withdrawal completion
  - Adverse effects

30

VA / DoD. 2021.
Brathen G, et. al. *Eur J Neurol*. 2005;12(10):575-581.
CPNP. Pharmacist Toolkit: Alcohol Use Disorder.

30

Second-Line Agents (Antiepileptics)

	Gabapentin	Valproic Acid	Carbamazepine
Daily dose	1200 mg (divided BID – TID)	15 mg/kg	800 mg
Taper duration	4 – 6 days	4 days	4 – 9 days
Comments	Possible abuse potential	May use as adjunct to BZDs Not recommended by ASAM as monotherapy	Common: dizziness, N/V Serious: neutropenia, SJS

Phenytoin is **NOT** effective in preventing withdrawal seizures

VA / DoD. 2021.
ASAM. 2020.
Brathen G, et. al. *Eur J Neurol*. 2005;12(10):575-581.
CPNP. Pharmacist Toolkit: Alcohol Use Disorder.

31

31

Supportive Care

Dietary Supplements	*Antihypertensive Agents*	*Antipsychotics*	*Antipyretics*

• **Multivitamin**
• **Thiamine**
• **Folic acid**
 	
• During withdrawal and for ≥ 30 days after
	• **Clonidine**
	  • Anti-anxiety
	
	• **Beta-blockers (propranolol)**
	  • Anti-tremor
	
	• ↓ HR, ↓ BP
		• Consider in severely agitated patients
		
		• May help with hallucinations in delirium tremens
			• **Ibuprofen**
			• **Acetaminophen**
			
			• Pain relief
			• Fever
			• Headaches

VA / DoD. 2021.
Brathen G, et. al. *Eur J Neurol*. 2005;12(10):575-581.
CPNP. Pharmacist Toolkit: Alcohol Use Disorder.

32

32

DELIRIUM TREMENS

33

33

Timeline of Alcohol Withdrawal Symptoms

> 6 hr	• Cravings, **tremor**, autonomic hyperactivity (HTN, ↑ HR), sweating, hyperthermia, N/V, anxiety, insomnia, hyperreflexia
12–24 hr	• Hallucinations (visual > auditory/tactile)
> 24 hr	• Withdrawal seizures (generalized, tonic-clonic)
48–72 hr	• Delirium Tremens (DTs)

If left untreated

34

Grover S, Ghosh A. Delirium Tremens: Assessment and Management. *J Clin Exp Hepatol*. 2018. doi:10.1016/j.jceh.2018.04.012

34

Delirium Tremens (DT)

- Two distinct aspects: delirium & severe alcohol withdrawal
- Increases length of hospital stay, stay in the ICU, and mortality
- Overall mortality 1–4%
  - Increases to 5–15% in those untreated
  - Due to hyperthermia, cardiac arrhythmias, complications of withdrawal seizures, or concomitant medical disorders

35

Grover S, et al. *J Clin Exp Hepatol*. 2018.

35

Course of DT

- Duration: 3–4 days (up to 8 days)
  - Ends with a prolonged sleep
- Rapid onset & fluctuating course, with disturbances in:
  - Level of consciousness
  - Cognition
  - Psychomotor activity
  - Sleep-wake cycle
- Symptoms:
  - Confusion
  - Hallucinations
  - Agitation
  - Tachycardia
  - Mydriasis (pupil dilation)
  - Fever

36

Grover S, et al. *J Clin Exp Hepatol*. 2018.

36

Risk Factors for DT

- History of DT
- Long history of drinking
- History of withdrawal seizures
- Concurrent acute illness
  - Especially infection, respiratory, and cardiac disease
- Early withdrawal symptoms
- Severity of early withdrawal symptoms (SBP > 150, DBP > 100)
- Older age
- Structural brain lesion
- ↑ [ALT], [GGT]
- ↓ [Platelets]
- ↓ [K], ↓ [Mg]
- ↓ [pyridoxine] (B_6)
- ↑ [Homocysteine]

37

Grover S, et al. *J Clin Exp Hepatol*. 2018.

37

Treatment of DTs

- The best treatment is prevention with long-acting BZDs, using a front-loading strategy
- Thiamine replacement (high rates of deficiency in DT)
  - Will NOT treat DT or symptoms of DT
- Treatment refractory: phenobarbital, propofol (ICU), dexmedetomidine (ICU)

38

Grover S, et al. *J Clin Exp Hepatol*. 2018.

38

WERNICKE-KORSAKOFF SYNDROME

39

39

Wernicke-Korsakoff Syndrome

Wernicke Encephalopathy

- Caused by thiamine (Vit B_1) deficiency
- Acute and reversible
- Caine's Criteria
  - Eye signs
  - Cerebellar dysfunction
  - Mild memory impairment or AMS
  - Signs of malnutrition
  - $\geq$ 2 out of 4 is used to 'make a case'

Korsakoff Syndrome

- Long-term B_1 deficiency leads to permanent neuronal damage
  - Mainly in the mamillary bodies
- Chronic and irreversible
- No diagnostic criteria
  - Severe memory problems
  - Confabulation
  - Normal cognition otherwise

Isenberg-Grzeda E, Kutner HE, Nicolson SE. Wernicke-Korsakoff-Syndrome: Under-Recognized and Under-Treated. *Psychosomatics*. 2012. doi:10.1016/j.psym.2012.04.008
Johnson JM, Fox V. Beyond Thiamine: Treatment for Cognitive Impairment in Korsakoff's Syndrome. *Psychosomatics*. 2018. doi:10.1016/j.psym.2018.03.011

40

40

Wernicke's Encephalopathy

- Classical Triad
  - Mental status changes (82%)
    - Confusion
    - Memory disorder
    - Anxiety / Fear
    - Coma / Stupor
  - Ophthalmoplegia (29%)
    - Nystagmus / Retinal hemorrhages
    - Ptosis / Photophobia
    - Diplopia / Blurred vision
  - Ataxia (23%)
    - Unsteady gait / Dysarthria
- Severity of Illness
  - Mild Disease
    - Anorexia, followed by N/V, nystagmus, and subjective eye sx
  - Moderate Disease
    - Insomnia and emotional changes (anxiety, apathy, apprehension)
    - Progressive loss of recent memory occurs over 2–3 weeks
  - Severe Disease
    - Disorientation, confabulation, coma

41

Isenberg-Grzeda E, et al. *Psychosomatics*. 2012.

41

Thiamine Deficiency

- Reasons for deficiency in AUD
  - Poor diet
  - ↓ absorption in the setting of EtOH
  - ↑ thiamine loss in kidneys
  - ↓ metabolism to active thiamine
  - ↓ absorption of colonic bacterial thiamine
  - ↓ Mg, which is a necessary cofactor in thiamine utilization
- Treatment
  - Parenteral Thiamine
    - Thiamine IV 200–500 mg TID x 3–5 days or until improvement
    - Improvement occurs within 6 hours – 3 days
    - NO ROLE for oral B_1 during acute deficiency
  - Oral thiamine and multivitamin can be given at discharge to prevent deficiency
  - Patients shouldn't receive carbohydrates (PO / IV) before thiamine replacement

42

Isenberg-Grzeda E, et al. *Psychosomatics*. 2012.

42

Symptoms of Korsakoff's Syndrome

- Progression occurs in 56–84% of patients, regardless of thiamine replacement
- Prognosis
  - Recover promptly: 25%
  - Improvement over time: 50%
  - Unchanged, permanently impaired, requiring LTC: 25%
- Prevention is critical
  - No treatment for KS
- Symptoms
  - Anterograde amnesia
    - Inability to form new memories
  - Confabulation
    - Replacing memory gaps with seemingly reasonable, but untrue, information
  - Retrograde amnesia
    - Episodic memory (events from the past) severely affected
    - Semantic memory (facts, concepts, language) is variably affected
    - Implicit memory (muscle memory) spared

43

Johnson JM, et al. *Psychosomatics*. 2018.

43

ALCOHOL USE DISORDER

44

44

Epidemiology

- 12-month prevalence (US)
  - 12–17 y/o: 4.6%
  - ≥ 18 y/o: 8.5%
- Age of onset
  - Late adolescence–early adulthood
- Costs US $223.5 billion yearly
  - Lost productivity, crime, health
- Undertreated (< 20%)
- ↑ Mortality
  - Comorbid conditions (e.g., liver disease, CVD, GI effects)
  - EtOH accounts for 55% of fatal driving events
  - Increased suicidal behavior and completion rate

45 VA / DoD. 2021.

45

Risk Factors for AUD

- Race
  - Native American/Alaskan: 12.1%
  - White: 8.9%
- ↑ availability/peer use/stress
- Poor coping skills
- Comorbid psychiatric illness
  - Schizophrenia, bipolar disorder
- Genetics
  - 3–4x risk if close relative has AUD
  - Children of AUD parents at risk, even if adopted at birth
- Age
  - 18–29 y/o: 16.2%
  - ≥ 65 y/o: 1.5%
- Gender
  - Males (12.4%) > females (4.9%)

46 DSM-5

46

Course of Illness

- Characterized by periods of remission and relapse
- Relapse does NOT mean treatment failure!
- Common Scenario:
  - Decision to stop drinking (often a response to a crisis) →
  - Period of abstinence (weeks or more) →
  - Limited periods of controlled, nonproblematic drinking →
  - Consumption rapidly escalates to severe problems, again

Age-related Physical Changes

- CNS depression
  - ↑ brain susceptibility
  - Concomitant medications
- ↓ liver metabolism
- ↓ body water
- More severe intoxication
- ↑ problems at lower levels of consumption
- Comorbid medical conditions

DIAGNOSTIC CRITERIA

49

49

Alcohol Use Disorder (DSM-5)

Significant impairment or distress caused by a problematic pattern of alcohol use with ≥ 2 of the following within a 12-month period:

- Using ↑ amounts over longer time periods
- Difficulty cutting down
- ↑ time spent seeking EtOH/recovering
- Craving EtOH
- Failing to fulfill obligations
- Continued use despite social problems
- ↓ in other activities
- Use in hazardous situations
- Using despite knowledge of physical or psychological problems
- Tolerance (one or both):
  - ↑ amounts needed to produce desired effect
  - ↓ effect with use of the same amount
- Withdrawal (one or both):
  - Symptoms of withdrawal (slide 10)
  - EtOH used to relieve or avoid symptoms

50 DSM-5

50

Alcohol Use Disorder (DSM-5)

- Most who consume EtOH do not meet AUD criteria
- Severity determined by number of symptoms displayed
  - Mild: 2–3 symptoms
  - Moderate: 4–5 symptoms
  - Severe: ≥ 6 symptoms
- Many individuals have a promising prognosis

51 DSM-5

51

AUD TREATMENT

52

52

Goals of Pharmacotherapy

- Develop goals with the patient (goals may vary for each)
- Achieve and sustain abstinence from alcohol
  - ↓ use, prevent long-term complications, etc.
- Minimize and manage alcohol withdrawal symptoms
- Prevent and/or manage the physical and social complications of continued alcohol use
- Minimize or prevent relapses

53 Reus VI, et al. The American Psychiatric Association Practice Guideline for the Pharmacological Treatment of Patients With Alcohol Use Disorder. *Am J Psychiatry*. 2018;175(1):86–90.

53

Comparing Guidelines

	VA/DOD (2021)	APA (2018)	NIH/SAMHSA (2015)
1st line	**Naltrexone (PO/IM)** Topiramate	**Naltrexone (PO/IM)** *Acamprosate*	**Naltrexone (PO/IM)** *Acamprosate* *Disulfiram*
2nd line	*Acamprosate* *Disulfiram*	*Disulfiram* Gabapentin Topiramate	N/A
3rd line	Gabapentin	N/A	N/A
Duration of Treatment	No recommendations	No recommendations	6 months – 1 year
Non-Pharm	All guidelines suggest that pharmacologic therapy be supplemented with non-pharmacologic therapy (e.g., psychosocial therapy, 12-step programs)		

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.
54 SAMHSA/NIAAA, *Medication for the Treatment of Alcohol Use Disorder: A Brief Guide*. HHS Publication No. (SMA) 15-4907. Rockville, MD: SAMHSA, 2015.

54

Nonpharmacologic Therapy

- Psychosocial interventions
  - Behavioral Couples Therapy (BCT)
  - Cognitive Behavioral Therapy (CBT)
  - Community Reinforcement Approach (CRA)
  - Motivational Enhancement Therapy (MET)
  - 12-Step Facilitation (TSF): **Alcoholic's Anonymous** (AA), etc.
    - "Ninety-day rule"
- Medications may help patients be more receptive to therapy

55

VA / DoD. 2021.
SAMHSA/NIAAA. 2015.

55

Naltrexone (ReVia, Vivitrol)

- Mechanism
  - Opioid antagonist
  - May block reward signals
- Dosing
  - ReVia: 50 mg PO every morning
  - Vivitrol: 380 mg IM every 4 weeks (deep gluteal muscle)
- Efficacy
  - Outcomes
    - ↓ relapses to dependence
    - ↓ returning to drinking
    - ↓ cravings
    - ↓ drinking days
    - ↓ relapse to heavy drinking
  - COMBINE (US)
    - Naltrexone > acamprosate
  - PREDICT (Germany)
    - Naltrexone = acamprosate

56

Reus VI, et al. *Am J Psychiatry*. 2018.

56

Naltrexone (ReVia, Vivitrol)

- Contraindications
  - Opioid use within the past 7 days
  - Acute hepatitis or liver failure
- Precaution
  - Hepatotoxicity (dose-dependent)
- Adverse Effects
  - GI upset
  - Dizziness / anxiety
  - Injection site reaction (LAI)
- Patient Education
  - Maintain abstinence for 5 days prior to initiation
    - Not necessary, but improves outcomes
  - Must be opioid-free for 7 days
  - Lower dose may ↓ GI upset
  - Medical bracelet / dog tags
    - Alert paramedics to use non-opioids for pain relief
  - Opioid tolerance will drastically decrease in OUD patients
    - High risk of overdose

Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

57

57

Acamprosate (Campral)

- Mechanism
  - Unclear
  - Glutamate modulator thought to counteract the GABA-glutamate imbalance associated with prolonged EtOH use
- Dosing
  - Two 333 mg (666 mg/dose) DR tabs PO TID
- Efficacy
  - Outcomes
    - Reduced number of drinking days
    - Increased abstinence
    - Lengthens time to relapse
  - European studies
    - Positive outcomes
  - US studies
    - No benefit

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

58

58

Acamprosate (Campral)

- Contraindications
  - CrCl < 30 mL/min (severe renal impairment)
- Precaution
  - CrCl 30–50 mL/min: reduce dose to 333 mg PO TID
- Adverse Effects
  - Diarrhea (transient)
  - HA, changes in libido, insomnia, anxiety, muscle weakness, dizziness, and suicidality
- Patient Education
  - Swallow pill whole, do not crush/chew
  - Best results if taken 5 days after quitting (can start earlier if needed)
  - Full effect may take 5–8 days
  - Continue therapy even through relapse
  - Report any changes in mood or suicidal ideation
  - Can safely take with EtOH or opioids

59

Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

59

Disulfiram (Antabuse)

- Mechanism
  - Irreversible inhibitor of acetaldehyde dehydrogenase
  - Acetaldehyde buildup causes flushing, N/V, ↑ HR, CV collapse, death
- Dosing
  - 500 mg PO daily x 1–2 weeks, then 250 mg PO daily
  - Significant ADRs: 125 mg daily
  - Inadequate response: 500 mg daily

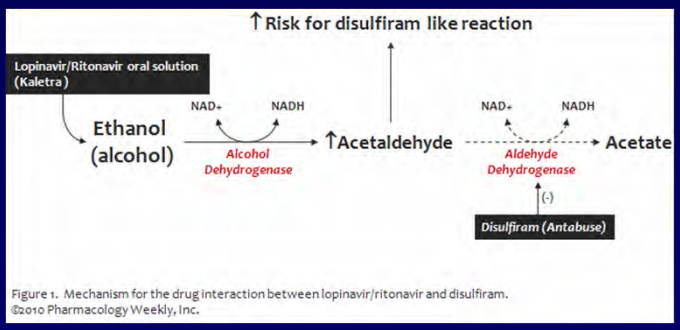


Figure 1. Mechanism for the drug interaction between lopinavir/ritonavir and disulfiram.
©2010 Pharmacology Weekly, Inc.

60

Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

60

Disulfiram (Antabuse)

- Efficacy
  - Ideal in highly motivated patients
  - Conflicting results in study data
  - High dropout rates within studies (i.e., poor adherence)
  - May be beneficial in patients court–ordered to take medication
- Drug-Drug Interactions
  - Foods/drinks/medications with EtOH
    - Elixirs, mouthwash, etc.
  - Metronidazole/ketoconazole
    - Produce similar effect
  - Inhibits CYP 3A4
    - May interact with warfarin, phenytoin, rifampin, etc.

61

Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

61

Disulfiram (Antabuse)

- Contraindications
  - Severe respiratory, CV, renal, or hepatic disease
  - Metronidazole/ketoconazole therapy
    - Produce disulfiram-like reaction
- Patient Education
  - Reaction lasts 30–60 mins to several hrs
  - Can use as PRN for difficult scenarios
    - Holidays, gatherings with EtOH, etc.
  - Consuming large amounts of EtOH can lead to coma/death
- Adverse Effects
  - Transient:
    - Skin/acneiform eruptions/dermatitis
    - HA, drowsiness/fatigue
    - Impotence
    - Metallic or garlic-like after taste
  - Serious (D/C disulfiram):
    - Optic neuritis
    - Peripheral neuritis, polyneuritis, peripheral neuropathy
    - Hepatitis and hepatic failure

62

Reus VI, et al. *Am J Psychiatry*. 2018.
SAMHSA/NIAAA. 2015.

62

Topiramate (Topamax)

- Mechanism
  - Believed to antagonize glutamate receptors, inhibiting dopamine release in the reward center
- Dosing
  - Initial: 50 mg PO daily
  - May need 100 mg PO BID
  - Maximum: 300 mg daily
  - Titrate over several weeks
- Efficacy
  - Outcomes
    - Reduced drinks per drinking day
    - Reduced % of heavy drinking days
    - Reduced % of drinking days
- NOT FDA-approved for AUD

63

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.

63

Topiramate (Topamax)

- Precautions
  - CrCl < 70 mL/min: reduce dose by 50% and titrate slowly
  - Dose adjustment may be needed in hepatic impairment
- Adverse Effects
  - CNS: Cognitive dulling, psychiatric disturbances, sedation, paresthesia, nervousness, ataxia, lack of concentration
  - GI: abdominal pain, anorexia
- Patient Education
  - Do not stop taking abruptly
    - Gradually taper
  - Topiramate may decrease efficacy of contraceptives
    - Consider using back up method while on this medication
  - Crushing/chewing the tablet may produce a bitter taste

64

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.

64

Gabapentin (Neurontin)

- Mechanism
  - Unclear
  - Likely through modulation of GABA activity in the amygdala
- Dosing
  - Initiate at 300 mg PO daily
  - ↑ by 300 mg daily, as tolerated
  - Target dose: 1800 mg PO daily
    - Three divided doses
- Efficacy
  - Outcomes
    - ↑ rates of abstinence
    - ↑ abstinence from heavy drinking
  - Possible useful in cooccurring neuropathic pain
  - Possible adjunct to naltrexone
- NOT FDA-approved for AUD

65

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.

65

Gabapentin (Neurontin)

- Precautions
  - Possible ↑ in suicide risk
  - CrCl < 60 mL/min: consider target dose < 1800 mg daily
- Adverse Effects
  - CNS: dizziness, drowsiness, somnolence, ataxia, fatigue
  - GI: N/V/D, abdominal pain
- Patient Education
  - Do not stop taking abruptly
    - Taper gradually
  - Avoid CNS depressants
    - Alcohol, opioids, BZDs
    - ↑ risk of respiratory depression
  - Antacids may decrease levels

66

VA / DoD. 2021.
Reus VI, et al. *Am J Psychiatry*. 2018.

66

Pharmacotherapy Basics

Generic	Brand	Dose (or range)	Dose Adj.	Common ADRs
Naltrexone (oral)	ReVia®	50 mg daily	N/A	GI upset
Naltrexone (IM)	Vivitrol®	380 mg monthly	N/A	Injection site reaction
Acamprosate	Camprol®	Two 333 mg tabs TID	Renal	Diarrhea
Disulfiram	Antabuse®	125–500 mg daily	Hepatic	Metallic/garlic taste; HA; fatigue
Topiramate	Topamax®	50–300 mg daily (divided)	Renal Hepatic	Cognitive dulling
Gabapentin	Neurontin®	1800 mg daily (divided TID)	Renal	Drowsiness

AUD treatment works best if started *after* withdrawal symptoms subside

67

67

QUESTION REVIEW

68

68

Question 1

A patient that has been stable on naltrexone 50 mg PO daily mentions that they have been forgetting to take the tablet everyday since working nights. What do you recommend?

A. Continue naltrexone 50 mg PO daily

B. Recommend switching to acamprosate 666 mg PO TID

C. Recommend switching to topiramate 100 mg PO BID

D. Recommend switching to Vivitrol® 380 mg IM monthly

69

69

Question 2

Which of the following treatment options for AUD does not require dose adjustments in patients with renal impairment?

A. Gabapentin

B. Acamprosate

C. Naltrexone

D. Topiramate

70

70

Question 3

Which FDA-indicated treatment for AUD can cause serious harm if the user ingests alcohol after taking their dose?

A. Naltrexone
B. Acamprosate
C. Disulfiram
D. Topiramate
E. Gabapentin

71

71

Key Takeaways

Alcohol use ↑ mortality	Withdrawal management: BZD	WKS: parenteral thiamine
AUD treatment: non-pharm + pharm	FDA-approved: naltrexone, acamprosate, & disulfiram	Non-approved: topiramate & gabapentin

72

72

Alcohol Use Disorder: Recognition, Treatment, and Implications

Vincent Cavaliere, PharmD, MM, BCPP

vcavaliere@luminishealth.org

73

Notes

"HARM REDUCTION" Not Dirty Words Any More

Christopher Welsh M.D.
Associate Professor
Division of Addiction Research & Treatment
Department of Psychiatry
University of Maryland School of Medicine

1

OBJECTIVES

- Learners will be able to state 3 principles of harm reduction.
- Learners will be able to list 3harm reduction measures used to help decrease blood-borne infections.
- Learners will be able to list 3 harm reduction measures that are being used to help decrease fatal opioid overdose.

2

WHAT IT IS

- AKA: “Risk reduction”, “Harm minimization”
- “Normalization”
- An attitude
- Secondary & Tertiary Prevention
- A difference in emphasis
- A difference in threshold- “Pre-Treatment”
- An acceptable outcome of all treatment
- An acceptable outcome even without treatment
- A means to an end and an end in itself
- It is NOT (necessarily) pro drug use or anti abstinence
- It is NOT “The lesser of two evils.”

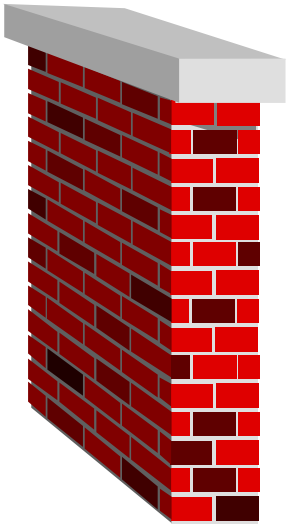
3

DEFINITION (Harm Reduction International)

- Harm reduction refers to policies, programs and practices that aim to minimize negative health, social and legal impacts associated with drug use, drug policies and drug laws.
- Harm reduction is grounded in justice and human rights. It focuses on positive change and on working with people without judgement, coercion, discrimination, or requiring that they stop using drugs as a precondition of support.

4

TRADITIONAL VIEW OF ADDICTION TREATMENT



Black
Using
Dirty
Criminal

White
Not Using
Clean
Recovered

5

HARM REDUCTION

NO HARM ⟷ **EXCESSIVE HARM**

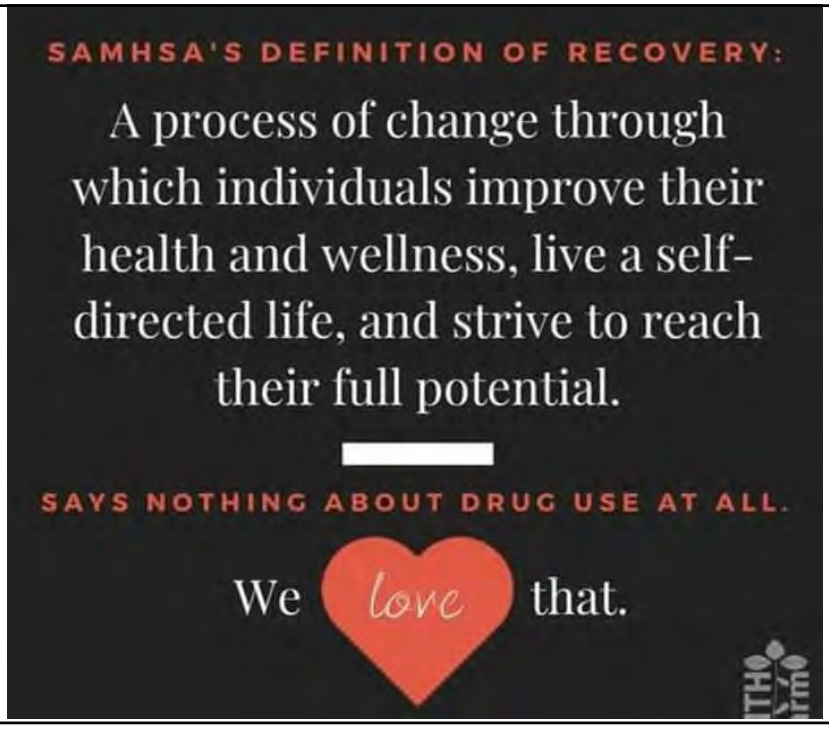
Absolute **use** may or may not correlate with this

6

“Any Positive Change”

Isn’t this just the treatment of any chronic disorder?

7



8

"…to heal is always a matter of time, but it is also sometimes a matter of opportunity…"

Hippocrates

9

BASIC PRINCIPLES

- A **public health** alternative to traditional models of substance use & treatment
- Sees improved **quality of life & well-being** as main criteria for success
- Focus on **individual & community**
- **Person-centered-** recognizing strengths & need for input from persons engaging in substance use
- Acknowledges that reducing substance use may not be feasible or desired nor the only way to reduce harm

10

BASIC PRINCIPLES

- Non-judgmental
- Pragmatic
  - "compassionate pragmatism"
- "Meet the person where they are"
  - Both figuratively and literally
  - "Low-threshold"
- De-medicalization vs Medicalization ("client" vs "patient")
- Address service needs of users, not priorities of providers

11

ZERO TOLERANCE + ZERO COMPASSION = ZERO

12

BASIC STRATEGIES

- Working with **individuals and groups** to reduce harmful behaviors
- **Modifying the environment** to enhance safety and reduce risk
- Implementing **public policy changes** to reduce harm to individuals and society
- Establishing a and addressing the more immediate and realistic first

13

WHY HARM REDUCTION?

“Nothing strikes fear in my heart more than seeing someone coming to do me good against my will.”

Thoreau

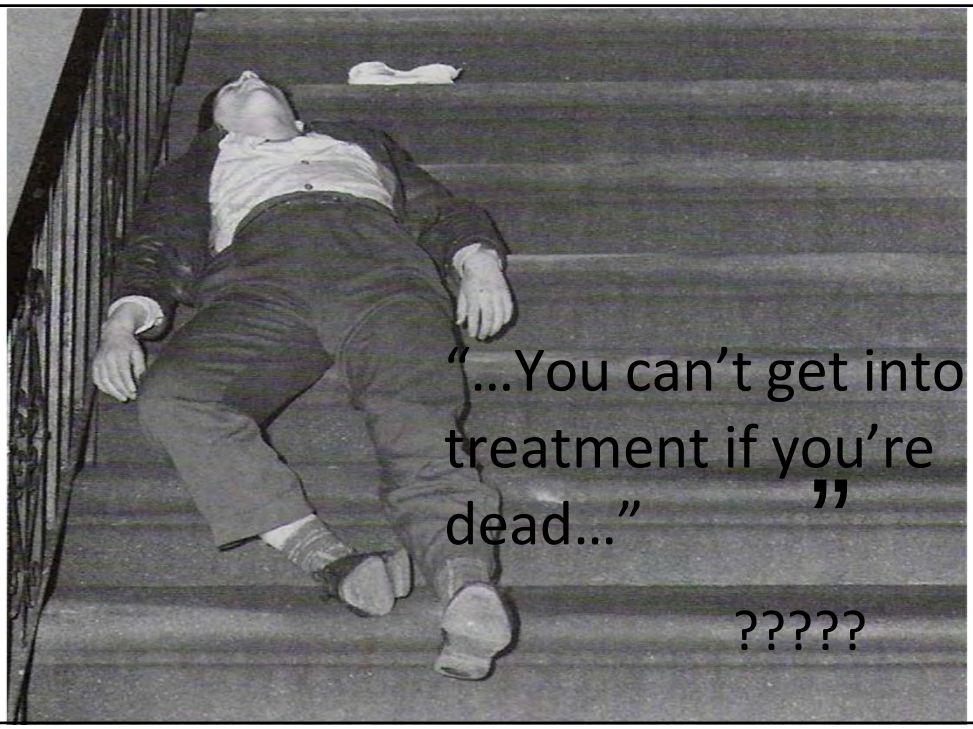
14

STAGES OF CHANGE

(Prochaska & DiClemente)

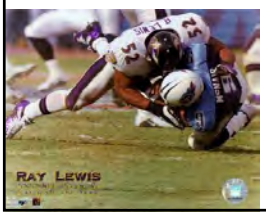
- **Precontemplation**
- **Contemplation**
- **Preparation**
- **Action**
- **Maintenance**
- **Termination**

15

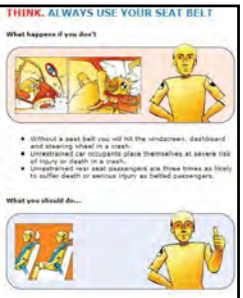


16

AREAS OF APPLICATION



- Sexual Behaviors
- Driving Behaviors
- Sports & Recreation
- Firearms
- Alcohol Use
- Tobacco Use
- Illicit Drug Use



17

ANCIENT HISTORY

- Evidence that it has been used for thousands of years
- Opium (Asia), hallucinogens & coca (Central & South America) with rituals & taboos to protect community & individual health
  - Limiting use to certain religious rituals or individuals (e.g. “shaman”)
- 1700s- Outreach to “intoxicants” in Europe
- 1700s-1800s- Opium provided to registered opium users in European colonies in Asia

18

"MODERN" HISTORY

- **1920s- "British System"**
  - Rollerston Commission
    - Concluded that maintenance on drugs may be necessary to help drug users lead useful lives
- **1960s- Methadone Maintenance**
- **1980s- Merseyside Model**
- **1980s- "Junky Union" in Amsterdam**
- **1990- 1st international conference**
  - **Liverpool, England**
- **1996- 1st national conference**
  - **Oakland, California**

19

THE U.K. MODEL

- Merseyside Health Authority
  - Outside Lverpool
- "Medicalization"
- Used 1926 Rolleston Committee recommendations to prescribe to addicts
  - Prescribed heroin and cocaine
  - Varied delivery systems
    - "reefers" (injected with Methadone and heroin)
    - Aerosolized formulations
- Provision of other social/medical services
- Close partnership with law enforcement
- Saw significant drop in HIV rates

20

THE DUTCH MODEL

- 1972-Narcotics Working Party
  - Drug policy should be congruent w risk of drug use
- 1976-revised Dutch Opium Act
  - Distinguished "hard" and "soft" drugs
    - *De facto* decriminalization of marijuana and hashish
  - Allowed legal "markets" for soft drugs (coffee shops)
  - Does not appear to have led to increased use
- 1980s- Federation of Dutch Junkie Leagues
  - An outgrowth of original "Junkiebond"(Junkie League) established in Rotterdam
- 1985- "Normalization" policy
- 1995- revised policy: "Continuity and Change"
  - To address resale,smuggling and "drug tourists."

21

THE DUTCH MODEL

"Increasing encouragement by the Government has been given to forms of aid which are not primarily intended to end addiction as such, but to improve addicts' physical and social well-being and to help them function in society. At this stage, the addicts' inability to give up drug use was accepted as fact."

Engelsman (*BMJ;* 1989)

"The Dutch policy of normalization seems to have produced a context where the addict more resembles an unemployed Dutch citizen than a monster endangering society."

22

PLASTZPITZ

- "Needle Park"
- Zurich, Switzerland
- 1987-1992

23

THE SWISS EXPERIMENT

- 1993; 8 cities
- Provided
  - Heroin, morphine, IV methadone
  - Social services
  - Medical/psychiatric services
- 1994 Social Welfare Department, Zurich:
  - No black market in diverted heroin
  - Health of drug users significantly improved
  - Heroin prescription alone can't solve problem
  - Heroin, per se, causes few problems if used in a controlled fashion in hygienic conditions

24

THE FRANKFURT PROGRAM

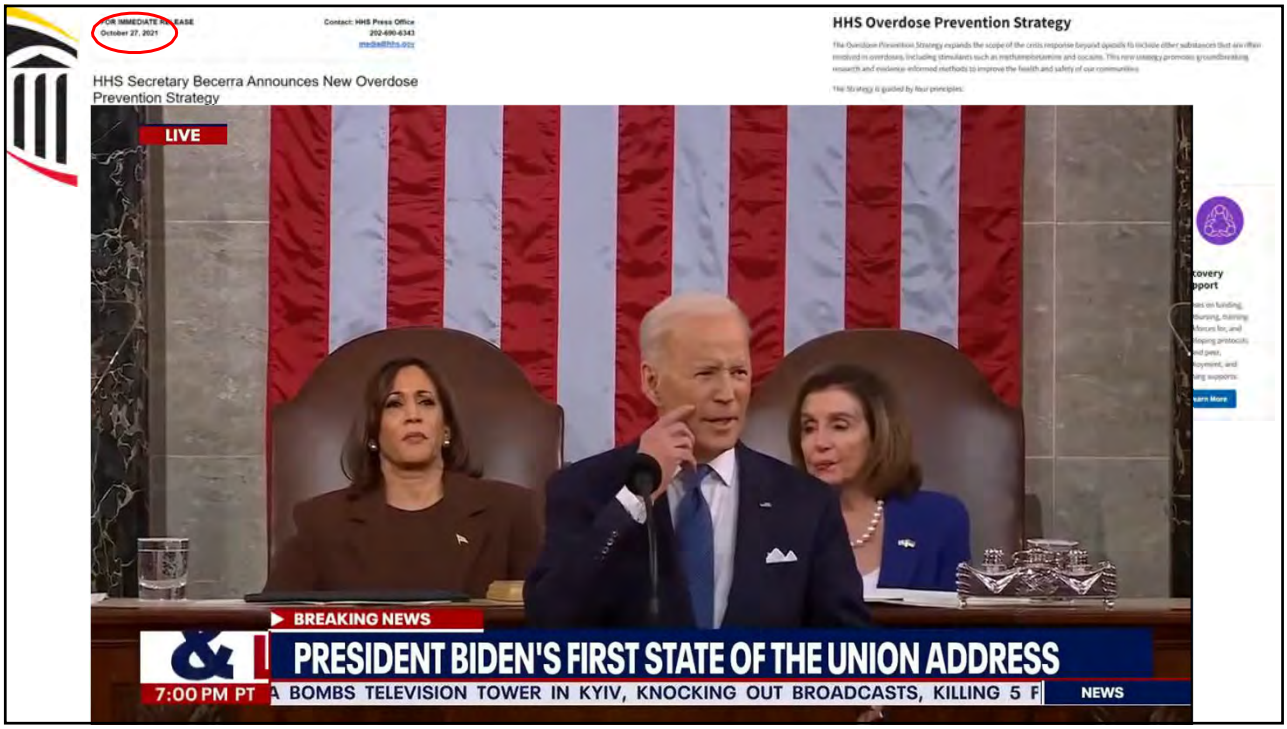
- Started in 1990
- Model for other European cities
- Provide
  - Mobile vans w counseling & needle exchange
  - Needle exchange in pharmacies
  - Low-threshold methadone programs
  - Emergency shelters
  - Crisis centers w medical care (“contact cafes”)
  - “Health care rooms” (“Fixerstuebli”)
- Found significant reductions in OD deaths & HIV and other injection-related problems

25

INTERNATIONAL PERSPECTIVE

- Many countries and organizations have adopted Harm Reduction as policy
  - Dutch Narcotics Working Party (1972) & Opium Act (1976)
  - Dutch Federation of Junkie Leagues (early 1980s)
  - Australian National Campaign Against Drug Abuse (1985)
  - British Advisory Council on the misuse of Drugs (AMCD)
  - World Health Organization
  - Canada’s National Drug Strategy (1987)
  - European “alliances”(Zurich, Amsterdam,etc)
  - Swiss “experiment”(1993)
  - U.S. Overdose Prevention Strategy (2021)

26


October 27, 2021
Contact: HHS Press Office
202-690-6343
HHS Secretary Becerra Announces New Overdose Prevention Strategy
HHS Overdose Prevention Strategy
LIVE
BREAKING NEWS
PRESIDENT BIDEN'S FIRST STATE OF THE UNION ADDRESS
7:00 PM PT
A BOMBS TELEVISION TOWER IN KYIV, KNOCKING OUT BROADCASTS, KILLING 5 F
NEWS

27


NATIONAL DRUG CONTROL STRATEGY
THE WHITE HOUSE
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF NATIONAL DRUG CONTROL STRATEGY
Biden drug control plan stresses harm reduction, treatment
President Joe Biden is sending his administration's first national drug control strategy to Congress
CARLA K. JOHNSON AP Medical Writer
April 21, 2022
The Associated Press
FILE - Dr. Rahul Gupta, the director of the White House Office of National Drug Control P...Read More
President Joe Biden is sending his administration's first national drug control strategy to Congress as the U.S. overdose death toll hit a new record of nearly 107,000 during the past 12 months.
The strategy, released Thursday, is the first national plan to prioritize what's known as harm reduction, said White House drug czar Dr. Rahul Gupta. That means it focuses on preventing death and illness in drug users while trying to engage them in care and treatment.

28

ILLICIT DRUG USE

- Needle exchange programs
- Safe injection rooms ("tolerance rooms")
- Opioid substitution therapies
- Prescription heroin
- Decriminalization/legalization of drugs
- Injection education
- Overdose prevention training
- Changing route of administration
- Street outreach/drop-in centers
- Drug Testing
- Legal- (Legalization, Decriminalization, Drug courts)

29

BLOOD-BORNE INFECTIONS

- Posters about not sharing needles
- Outreach education about not sharing
- Bleach and cleaning supplies
- Pharmacy sales of syringes
- Needle/syringe exchange programs
- Needle/syringe dispensing machines
- Safe injection facilities

30

SYRINGE CLEANING & DISPOSAL


Operation Red Box: a pilot project of needle and syringe drop boxes for injection drug users in East Baltimore

Abstract

31

SYRINGE SERVICE PROGRAMS (SSP)

- "Needle Exchange"
- Syringe vs Needle
- Exchange vs Distribution
- "SNAP"- Syringe-Needle Access Program
- >85 countries currently have some form of syringe services
- In U.S., @ 500 known needle exchange programs in >200 cities and 42 states

NEEDLE EXCHANGE
SANTA CRUZ
WATSONVILLE

32

SYRINGE SERVICE PROGRAMS

- **1960s**- needles and syringes provided to users getting prescribed heroin in UK
- **1984**- 1st program in Amsterdam
  - Started by a users advocacy group ("Junkiebond")
- **1986**- John Parker began distributing syringes in New Haven and Boston
- **1987**- New Zealand established first national program
- **1988**- 1st comprehensive U.S. program-Tacoma, WA
- **1989**- Canadian government begins funding HIV prevention programs including NEPs
- **1992**- U.S. law prohibits Federal funds for NEPs
- **1996**- Syringe "vending machines"-Marseille, France
- **2009**-Federal funding band lifted
- **2010**- Federal funding ban reinstated
- **2015**- Federal funding ban partially lifted in U.S. (All except cost of needles & syringes)
- **2021-** American Rescue Plan Act-funding for various herm reduction

33

THE 1ST NEEDLE EXCHANGE

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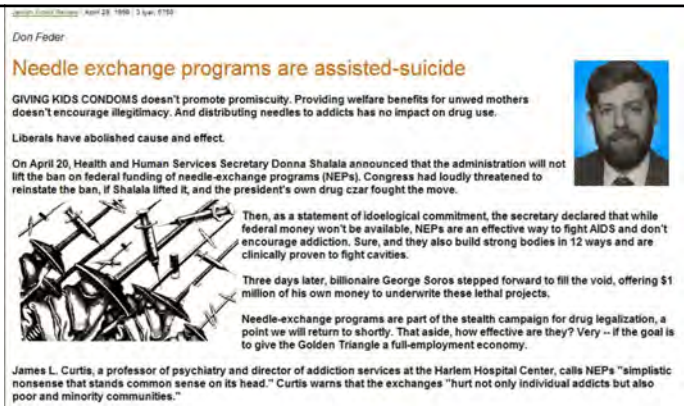


Don Feder

Needle exchange programs are assisted-suicide

GIVING KIDS CONDOMS doesn't promote promiscuity. Providing welfare benefits for unwed mothers doesn't encourage illegitimacy. And distributing needles to addicts has no impact on drug use.

Liberals have abolished cause and effect.

On April 20, Health and Human Services Secretary Donna Shalala announced that the administration will not lift the ban on federal funding of needle-exchange programs (NEPs). Congress had loudly threatened to reinstate the ban, if Shalala lifted it, and the president's own drug czar fought the move.

Then, as a statement of idoelogical commitment, the secretary declared that while federal money won't be available, NEPs are an effective way to fight AIDS and don't encourage addiction. Sure, and they also build strong bodies in 12 ways and are clinically proven to fight cavities.

Three days later, billionaire George Soros stepped forward to fill the void, offering $1 million of his own money to underwrite these lethal projects.

Needle-exchange programs are part of the stealth campaign for drug legalization, a point we will return to shortly. That aside, how effective are they? Very -- if the goal is to give the Golden Triangle a full-employment economy.

James L. Curtis, a professor of psychiatry and director of addiction services at the Harlem Hospital Center, calls NEPs "simplistic nonsense that stands common sense on its head." Curtis warns that the exchanges "hurt not only individual addicts but also poor and minority communities."

"I'm giving them clean glasses, not whiskey."

Mayor of Tacoma, 1980s

35

SSPs- EFFECTIVENESS

- Most studies primarily descriptive
  - Primarily demographics, # of syringes, etc
  - Comment on needle sharing behavior at a fixed point in time
  - @ 90 studies w/ any comparison data
  - >80 different variables in comparison studies
  - Difficult to compare studies
- Major Findings
  - No evidence of increased drug use
  - Decreased rates of HIV infection
  - Reduction in needle sharing
  - Increased HIV/AIDS knowledge

36

CITY OF BALTIMORE, MARYLAND
Mayor Kurt L. Schmoke

1994

Needle Exchange Programs Benefit Everyone

Drug abuse is at the root of a host of problems that threaten the well being of our city, including crime, child neglect, and neighborhood blight. Because 80 percent of new AIDS cases in Baltimore are linked to injection drug use, drug abuse is also the City's biggest public health threat.

Health Department officials estimate that there are approximately 43,000 heroin and cocaine addicts in Baltimore. Despite this staggering problem, Baltimore City currently has only 5,700 drug treatment slots. This means that we are only able to help about 16,000 addicts a year. What's more, there is up to a four-month wait for drug treatment. And drug addicts are not patient people. When they finally take the step to get help, they need that help now. Clearly, we must do more to meet this pressing need.

The case for drug treatment is strong. Respected research studies have found that treatment is cost-effective and that those who are in treatment or who complete treatment are much less likely to commit crimes or engage in high-risk behavior. Such individuals also are much more likely to become productive members of society than their drug using counterparts.

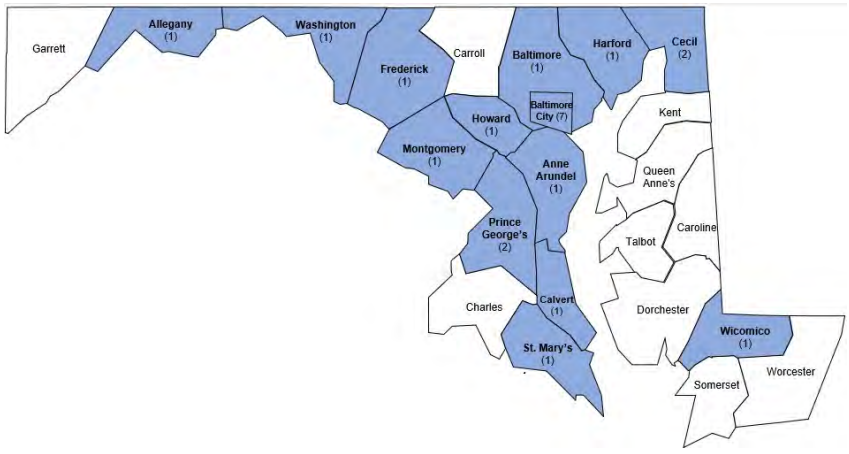
In addition, we know that it is impractical to jail every person who has a drug habit. Maryland's prisons are already overcrowded with people charged with various drug offenses, and we know that young black men are disproportionately represented in this population. After serving their sentences, these young men not only must forever bear the label "ex-con," they also are likely to leave prison with the yearning for drugs still intact, and the downward spiral of addiction and addiction-related crime begins anew.

Given these harsh realities, Baltimore has been seeking additional drug treatment funds from the federal government for the last three years -- to no avail. The problem is too grave for us to wait any longer for outside funding. That's why I recently moved to create a $5 million pool of funds, drawn from existing City resources, to enable us to expand drug treatment programs.

These reallocated funds will allow us to provide treatment slots for an additional 5,000 addicts. Most importantly, we plan to use these funds to leverage additional money from local and national foundations, as well as through federal grants, to enable us to treat

37

SYRINGE SERVICES PROGRAMS MARYLAND



20 approved SSPs and the Baltimore City NEP

- *14 jurisdictions*
- *2 programs not yet operational*
- *1st multi-county program*

9 out of 21 programs are Community Based Orgs

Two Pharmacy Voucher Programs:

- *Wicomico County*
- *Frederick County*

mdh.syringeservices@maryland.gov

38

SYRINGE DISPENSING MACHINES

39

SUBSTANCE USE MANAGEMENT

- Using proper injection techniques
- Changing route of administration
- Substitution of less harmful substances
- Education about drug combinations
- Buying drugs from reliable person
- Controlling amount & rate of use
- Using in a familiar setting

40

SAFER INJECTION PRACTICE

41

~~SAFE~~ CONSUMPTION SPACES, BALTIMORE

42

SAFE INJECTION FACILITIES

- AKA: Safe(r)/Supervised Consumption/Injection/Use Facilities/Centers/Rooms/Services/Spaces "Overdose Prevention Site"
- Integrated or Specialized
- 1st "sanctioned" one: Berne, Switzerland-1986
  - "Fixerstubli"- "IDU's Living Room"
- >170 sanctioned
- >75 cities
- 11 Countries
  - Switzerland, Netherlands, Germany, Spain, Denmark, Norway, Luxembourg, France, Canada, Australia, U.S.

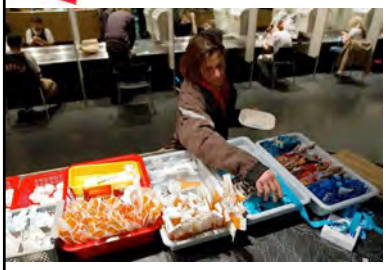
43

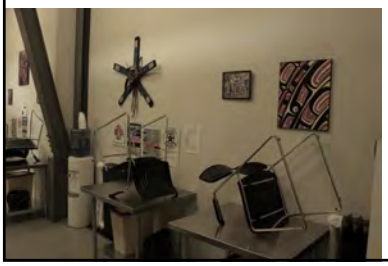
GOALS of SCFs

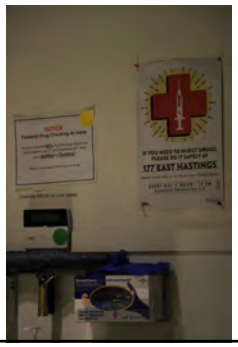
- Reducing **overdoses**, both fatal and non-fatal
- Reducing injection-related health problems such as **skin abscesses, heart valve and spinal infections**
- Reducing the transmission of viral infections such as **Hepatitis B & C & HIV**
- Reducing the number of **used syringes/needles** discarded improperly
- Reducing the "nuisance" of **public drug use and intoxication**
- Reducing **interactions with police** among people who use drugs
- Connecting individuals who inject drugs with **medical and social services**
- Engaging individuals who inject drugs in more formal **substance use treatment???**

44

VANCOUVER







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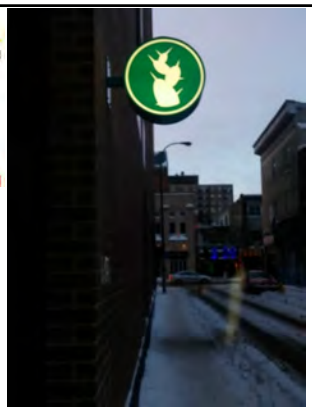
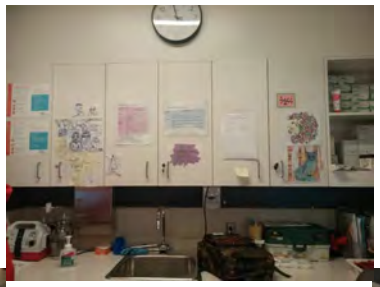
MONTREAL





46

VANCOUVER

ST. PAUL'S OPENS SUPERVISED INJECTION SITE IN TENT OUTSIDE HOSPITAL (OPS)

POSTED ON THU, MAY 24, 2018 - 8:41AM

St. Paul's Hospital in Vancouver has set up the first overdose prevention site at a hospital in B.C., as new figures show an ever-increasing rise in overdose deaths from illicit drugs.

It is also the first overdose prevention site to be located outside the Downtown Eastside, within the boundaries of the Vancouver Coastal Health region.

As the overdose crisis has fleshed out and spread across Vancouver, a need arose for a site serving the West End and Granville corridor, said Scott Harrison, director of urban health, Indigenous health, substance use, maternity and neonatal intensive care with Providence Health Care.

News / Local News

Canada's first in-hospital overdose prevention site touts lives saved in first year

Nurses supervised St. Paul's patients as they injected illicit opioids, stimulants in the hospital room this past year

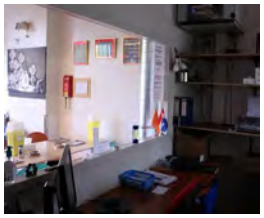
Sarah Grochowski
Feb 01, 2022 • February 1, 2022 • 3 minute read • Join the conversation

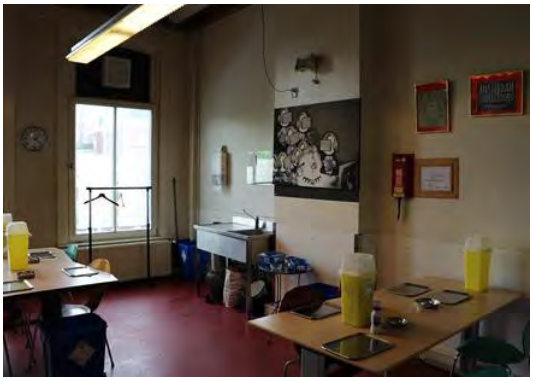
Supervised drug use area as St. Paul's Hospital has been open now for one year. PHOTO BY NICK PROCAYLO /PNG

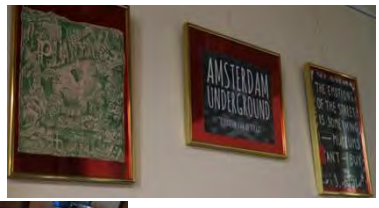
47

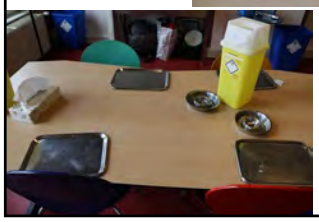
AMSTERDAM

"Medical" vs "Social"









48

GERMANY

SWITZERLAND

AUSTRALIA

FRANCE

49

WHAT HAPPENS IN A SCF

50

51

SCFs-EFFECTIVENESS

- Decreased overdoses
  - No overdose deaths at any SCS worldwide (among millions of injections)
  - In the 2 years after Insite opened, there was a 35% reduction in overdose events in the ¼ mile immediately surrounding Insite vs. a 9% reduction in the rest of the city
- Decreased risky injection behaviors
- Decreased HIV & Hepatitis
- Increased engagement in drug treatment
  - After 2 years of attending SCS, 23% ceased injection and 57% reported drug treatment entry among PWIDs who did not report treatment at baseline (n=625)
- No increase in drug use or new injection drug use
- No increase in crime

52

NOT-QUITE-SCF

SPOT
SUPPORTIVE PLACE FOR OBSERVATION AND TREATMENT

- Supportive place for observation & treatment
- Boston Health Care for the Homeless

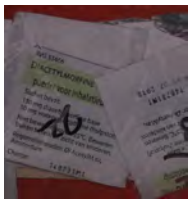
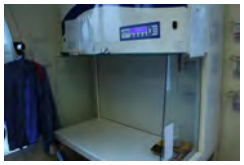
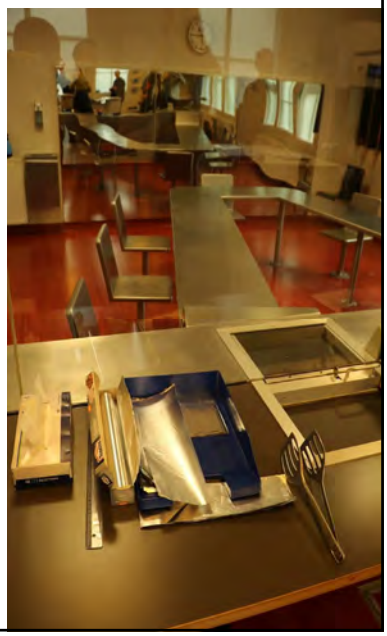
53

HEROIN ASSISTED TREATMENT (HAT)

- Present in Britain since 1920s
  - Primary treatment in UK until late 1960s
- Part of standard practice: Britain, Germany, Netherlands, Denmark, Switzerland
- Ongoing clinical trials: Canada, Spain, Belgium
- Most also give patients methadone
- Some use parenteral & some use oral or inhaled heroin
- PROVE (Switzerland; 1994-1996)
- RIOTT (U.K.; 2004-2009)

54

AMSTERDAM- HAT

55

iOAT (injectable Opioid Agonist Therapy)

BMJ 2003;327:310 (9 August), doi:10.1136/bmj.327.7410.310

Paper

Medical prescription of heroin to treatment resistant heroin addicts: two randomised controlled trials

Wim van den Brink, *professor*[1], **Vincent M Hendriks**, *senior researcher*[3], **Peter Blanken**, *researcher*[1], **Maarten W J Koeter**, *assistant professor*[2], **Barbara J van Zwieten**, *delegate to CPMP*[4], **Jan M van Ree**, *professor*[5]

[1] Central Committee on the Treatment of Heroin Addicts (CCBH), Stratenum, Universiteitsweg 100, 3584 CG Utrecht, Netherlands, [2] Amsterdam Institute for Addiction Research, Tafelbergweg 25, 1105 BC Amsterdam, Netherlands, [3] Parnassia Addiction Research Centre, PO Box 2505 AA The Hague, Netherlands, [4] Netherlands Medicines Evaluation Board, Kalvermarkt 53, The Hague, Netherlands, [5] Rudolf Magnus Institute of Neuroscience, Utrecht University, Utrecht, Netherlands

The NEW ENGLAND JOURNAL of MEDICINE

Diacetylmorphine versus Methadone for the Treatment of Opioid Addiction

Eugenia Oviedo-Joekes, Ph.D., Suzanne Brissette, M.D., David C. Marsh, M.D., Pierre Lauzon, M.D., Daphne Guh, M.Sc., Aslam Anis, Ph.D., and Martin T. Schechter, M.D., Ph.D.

56

HAT

57

iOAT EXPANSION

Canada Hopes to Save Lives with New Opioid Vending Machines

By Ben Leyland 02/25/18

Three new vending machines, installed this spring, will dispense hydromorphone pills.

Like the U.S., Canada is in the midst of an opioid crisis. But parts of the country are taking a unique approach to combat the issue: vending machines that dispense prescription opioids.

According to *The Washington Post*, one-third of overdose deaths in Canada in 2017 took place in the province of British Columbia. Health officials there are hoping to prevent more deaths by installing three vending machines to provide prescription opioids to people struggling with addiction.

58

MySafe PROJECT- VANCOUVER

59

ALTERNATE SAFE SUPPLY

60

OVERDOSE PREVENTION

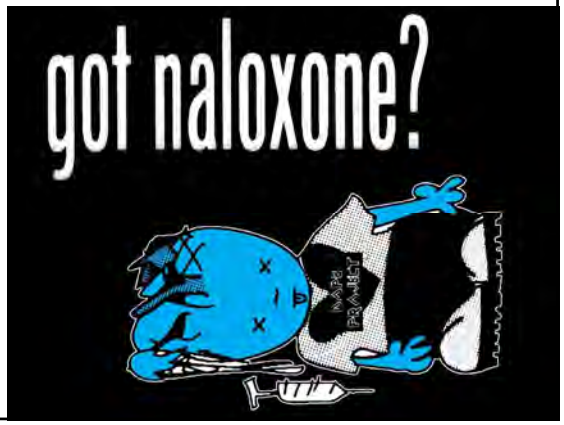
- Growing issue with increased fentanyl & newer synthetics
- Multimodal
  - Education of users and public:
    - Recognition
    - Prevention
    - Response
  - Education of healthcare providers
  - Monitoring of healthcare providers
  - Rescue breathing
  - Naloxone
  - Increased treatment

61

NALOXONE DISTRIBUTION

- Mid 1990s- 1st program in Australia
- 1996- 1st program in U.S. in Chicago
- 2012- > 50 programs in U.S.(18 states & D.C.)
- Late 2000-teens- programs in every state
- > 25,000 reported reversals
- No evidence that it increases drug use
- Various issues/questions related to:
  - Price
  - Availability
  - Route of Administration
  - Dose needed for higher-potency synthetics
  - FDA status (OTC?)
  - Prescribing
  - Poor public acceptance

The Chicago Recovery Alliance



62

NALOXONE- BALTIMORE

CITY OF BALTIMORE

For Immediate Release
March 28, 2005

FOR INFORMATION CONTACT:
Monique Racker, M.P.H.
monique.racker@baltimorecity.gov
410-396-4398
410-385-9197 (direct, no voice mail)

Illegal Drug Overdose Deaths Drop
Health Department's Drug Overdose Prevention Program Contributes to Decline

BALTIMORE (March 28, 2005) – Illicit drug overdose deaths have reached a 5-year low in 2004, showing a 19% decline from 2000. In 2004, 261 deaths were attributed to illicit drug overdose, down from 321 deaths in 2000. This decline is due, in part, to the tremendous efforts of the City's *Staying Alive* program, which trains injection drug users to reverse opiate overdoses in their peers and partners.

Since its launch at the end of April 2004, *Staying Alive*, funded by The Open Society Institute, has trained 56[illegible] people, and reported 52 lives saved. *Staying Alive* participants are provided with a safe learning environment where they can discuss their addiction and other health conditions while being trained in overdose prevention, mouth-to-mouth resuscitation, and Naloxone administration. While in training, all participants must complete a medical history and consent form reviewed on-site by a volunteer physician or nurse practitioner. After receiving a score of 80% or above on a quiz, they then each receive three intramuscular syringes and one, 10 milliliter vial of Narcan. Narcan, is an opiate antagonist that reverses the effects of an opiate (i.e. Heroin

Many in treatment, medical field question city's plan with Narcan

Drug-Related Deaths Hit 10-Year Low in Baltimore
Greater Funding, Access to Treatment Credited

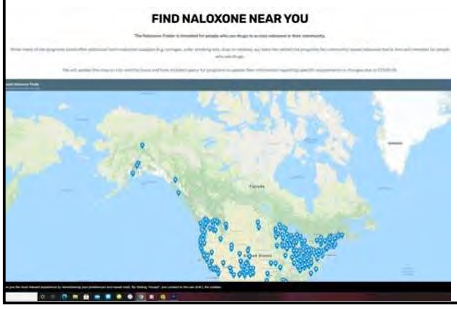
By David Brown
Washington Post Staff Writer
Friday, June 9, 2006; Page A10

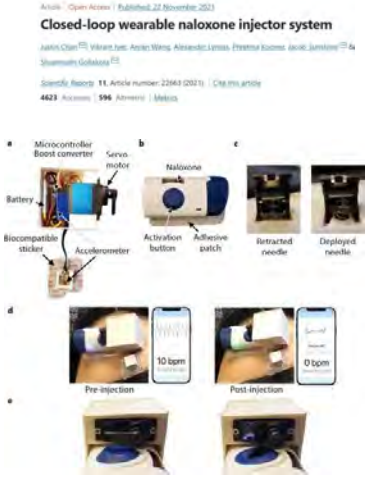
The number of drug-overdose deaths in Baltimore has fallen to the lowest level in 10 years, the apparent result of a huge effort by the city to make drug treatment readily available and to give addicts the capability to reverse some overdoses themselves.

In 2005, 218 people died of "drug intoxication" in the city, down from about 235 in 1996, and one-third below the peak of 328 in 1999, according to data collected by Maryland's chief medical examiner and presented at a drug-treatment conference yesterday in Baltimore. About 90 percent of deaths each year are from heroin and other opiate overdoses.

63

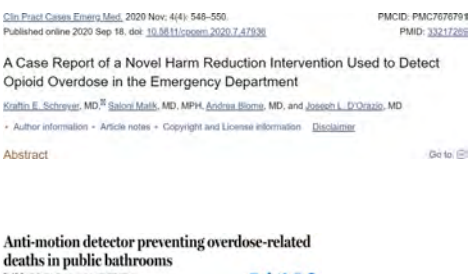
OVERDOSE PREVENTION APPS & WEARABLE DEVICES





64

REVERSE MOTION DETECTORS



Clin Pract Cases Emerg Med. 2020 Nov; 4(4): 548–550. PMCID: PMC7676791
Published online 2020 Sep 18. doi: 10.5811/cpcem.2020.7.47936 PMID: 33217285

A Case Report of a Novel Harm Reduction Intervention Used to Detect Opioid Overdose in the Emergency Department

Kraftin E. Schreyer, MD,[a] Saloni Malik, MD, MPH, Andrea Blome, MD, and Joseph L. D'Orazio, MD

• Author information • Article notes • Copyright and License information Disclaimer

Abstract Go to:

Clinic Bathroom Alarm Helps Prevent Fatal Overdoses

Anti-motion detector preventing overdose-related deaths in public bathrooms

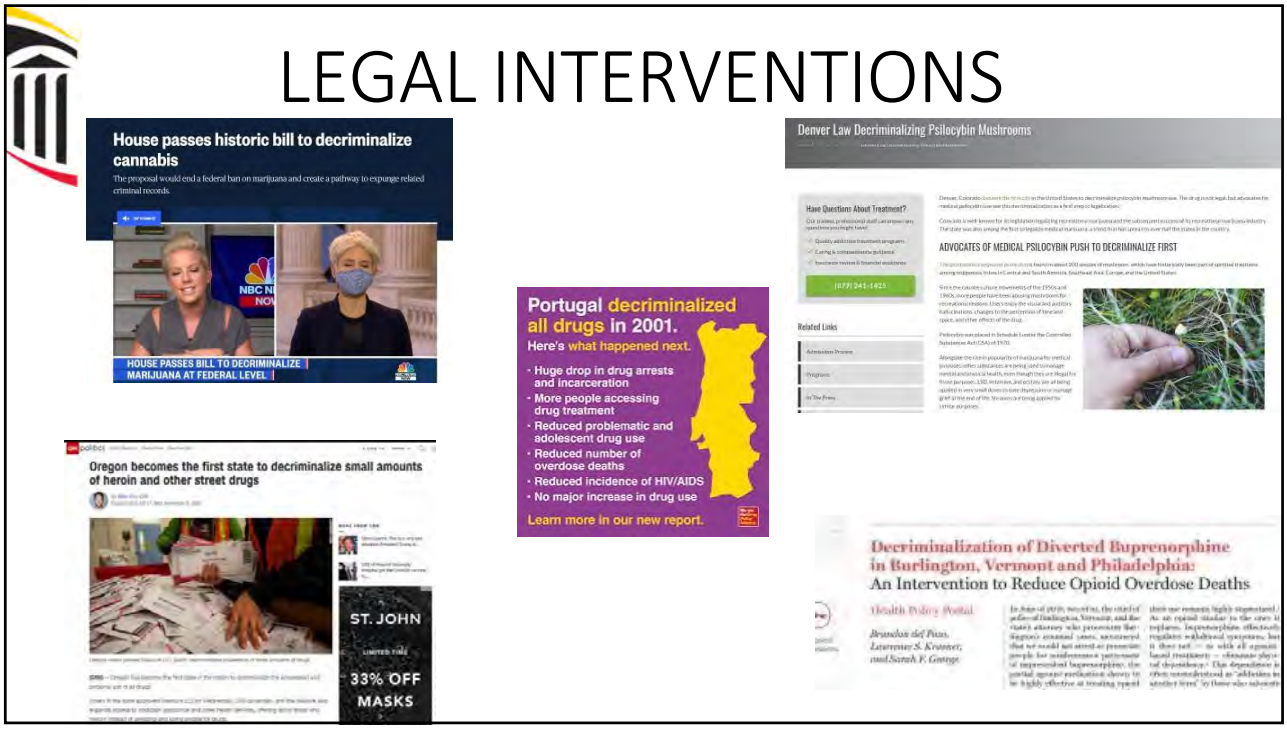
65

66

DRUG TESTING

67

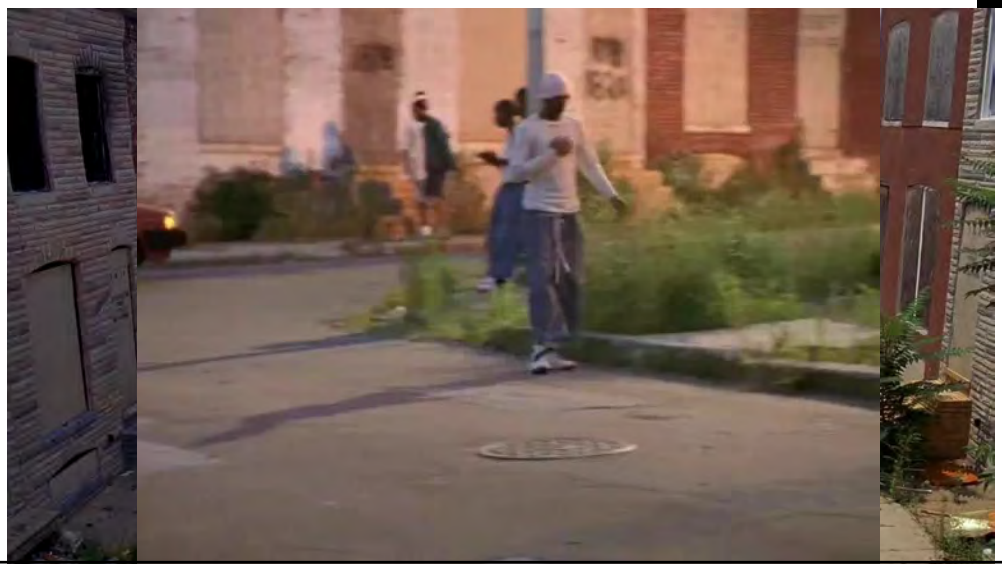
LEGAL INTERVENTIONS



68

HAMSTERDAM

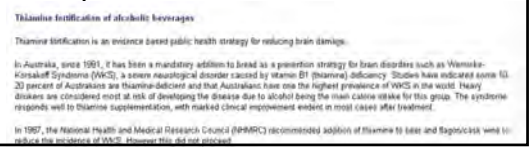
- Baltimore, Maryland



69

ALCOHOL USE

- Drinking and driving laws
- Designated driver campaigns
- Paid Cab/Lyft services
- Sober students at campus parties
- Alcohol percent limits
- Restrictions on advertisement
- Warning labels
- Low threshold shelters/housing (“wet shelters”)
- Moderation drinking training
- Thiamine supplementation

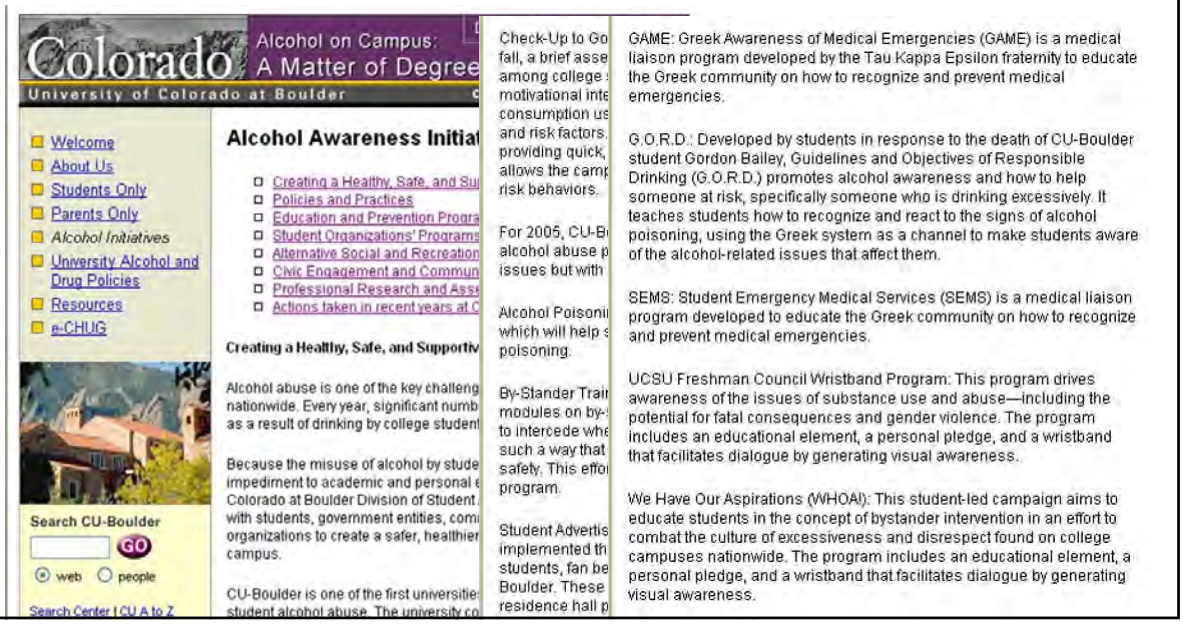


70

ALCOHOL & DRIVING

71

ALCOHOL ON CAMPUS

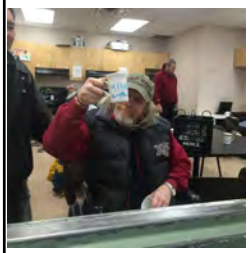


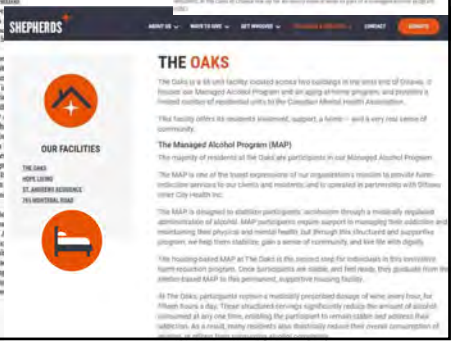
72

ALCOHOL GLASSES & BOTTLES

73

ALCOHOL PROVISION





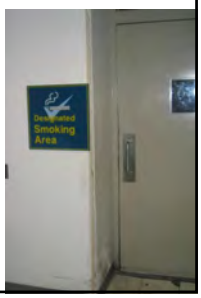
74

ALCOHOL & DISINHIBITION

75

TOBACCO USE

- Low tar/nicotine cigarettes
- Restrictions on advertisement
- Graphic warning labels
- Nicotine replacement
- Vaping
- Designated smoking areas
- Bans on smoking in certain public areas



76

SOME TAKE-HOME MESSAGES

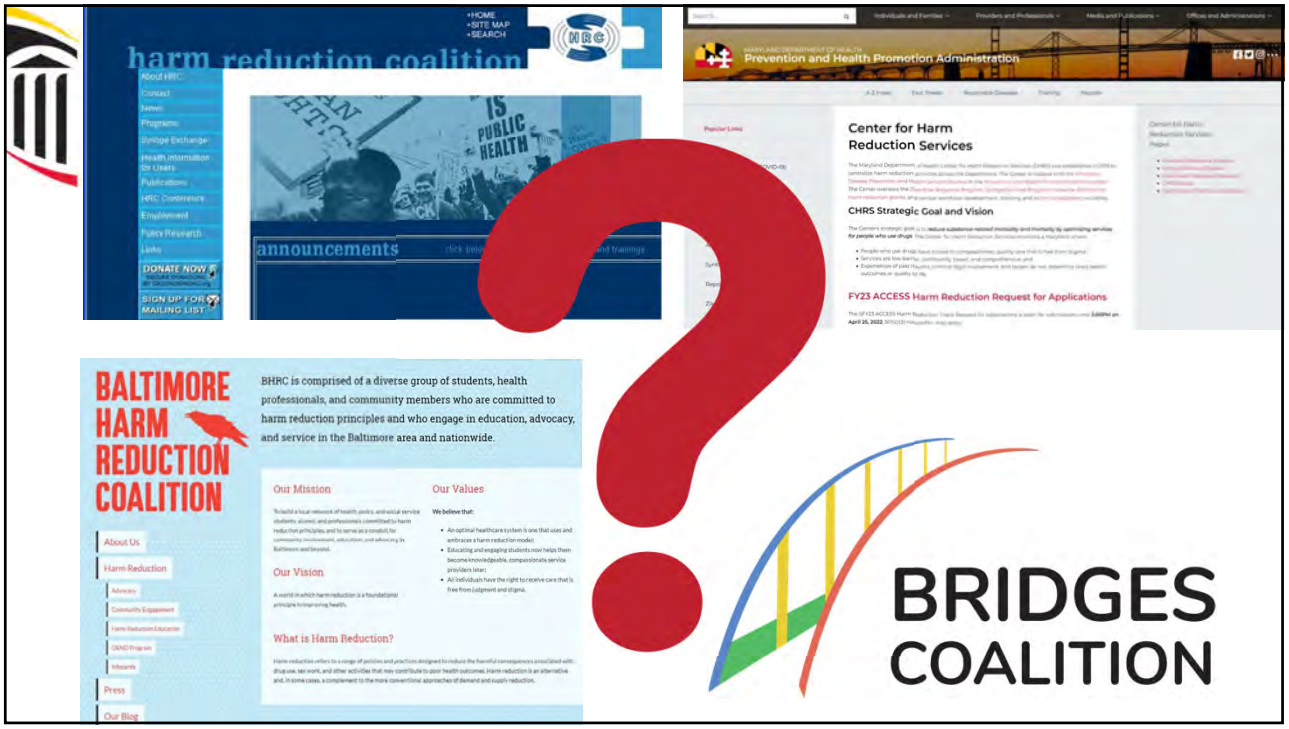
•The principals of harm reduction should be integrated into all medical settings, addiction treatment programs, social services and law enforcement agencies.

•The basic philosophy that total abstinence from all substance use is not the only acceptable goal/outcome of successful treatment has become much more acceptable in the current addiction treatment world.

•Efforts should be made to reduce the barriers to accessing care for individuals using substances.

•Providers should familiarize themselves with local harm reduction services and refer patients to them readily.

77



78

MACS

Maryland Addiction Consultation Service

Provides support to prescribers and their practices in addressing the needs of their patients with substance use disorders and chronic pain management.

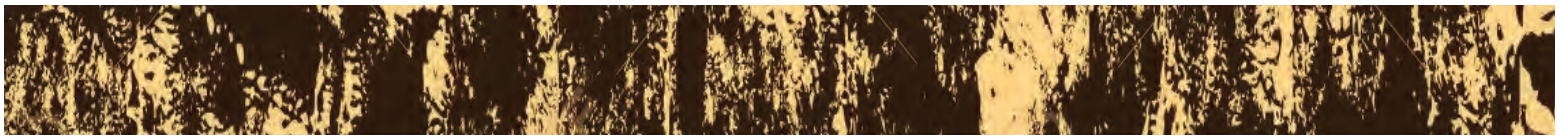
All Services are FREE

- Phone consultation for clinical questions
- Education and training opportunities related to substance use disorders & chronic pain management
- Assistance with addiction and behavioral health resources and referrals
- Technical assistance to practices implementing or expanding office-based addiction treatment services
- MACS TeleECHO™ Clinics: collaborative medical education through didactic presentations and case-based learning

1-855-337-MACS (6227) • **www.marylandMACS.org**

79

Notes



Maryland
DEPARTMENT OF HEALTH

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https://health.maryland.gov/mmcp/pap/pages/paphome.aspx