# Care of the Hospitalized Patient with Opioid Use Disorder

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# Disclosures

None

Acknowledgment to Dr. Tom Fitzpatrick, Dr. Deanna Wilson, MD, MPH and Stephanie Klipp, RN, BSN for their contribution to this slide deck.

# Learning Objectives

Manage opioid withdrawal/OUD in the hospitalized patient

Treat acute pain in the hospitalized patient with OUD

Offer harm-reduction techniques to patients not interested in MOUD

# Goals

- Facilitate treatment of medical/surgical condition
- Prevent/treat acute opioid withdrawal

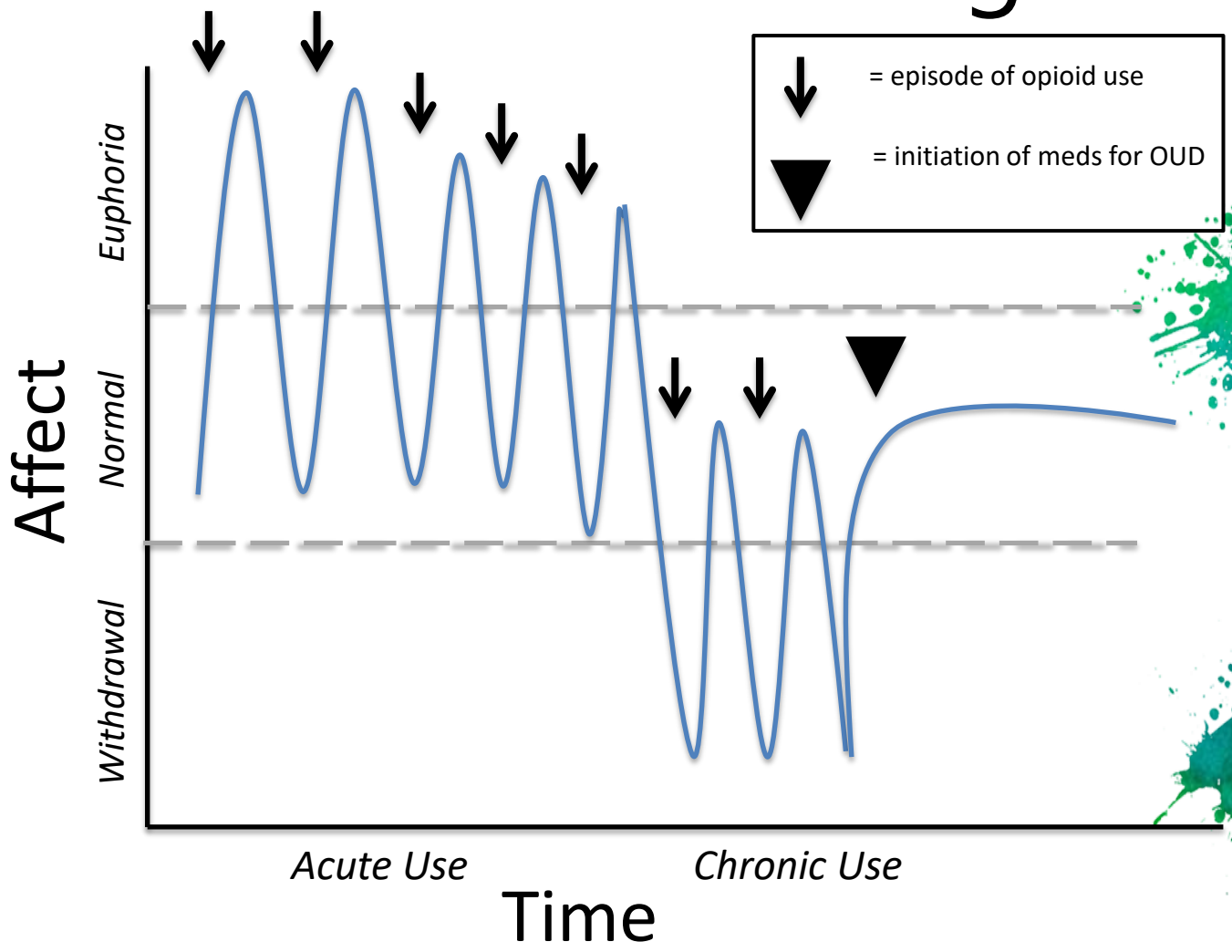
- Opioid use disorder is a chronic condition!
  - Withholding opioids will not cure patient's addiction
  - Giving opioids will not worsen patient's addiction

- Initiate substance use treatment/referral

Dan Alford MD, Boston University, 2012

# Medications

# Treatment Paradigm




Adapted from Dan Alford, MD

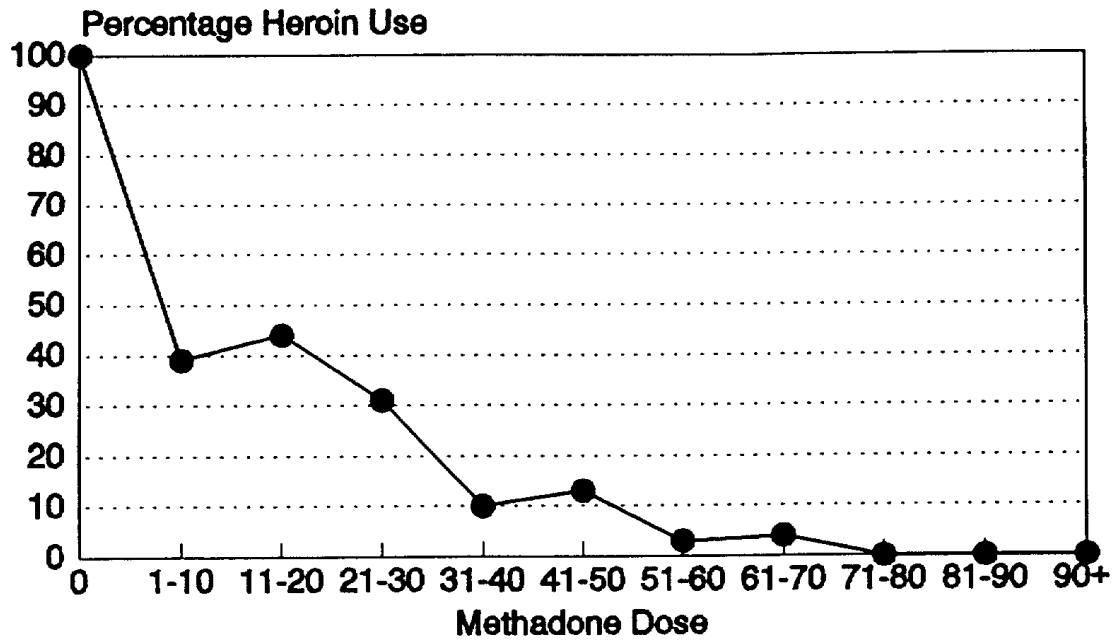
# Methadone

- Full opioid agonist
- Dose 20-40 mg for acute withdrawal
- >80 mg for craving and “narcotic blockade”
- Requires slow titration (weeks-months) due to risk of sedation, arrhythmia, respiratory depression

# Methadone

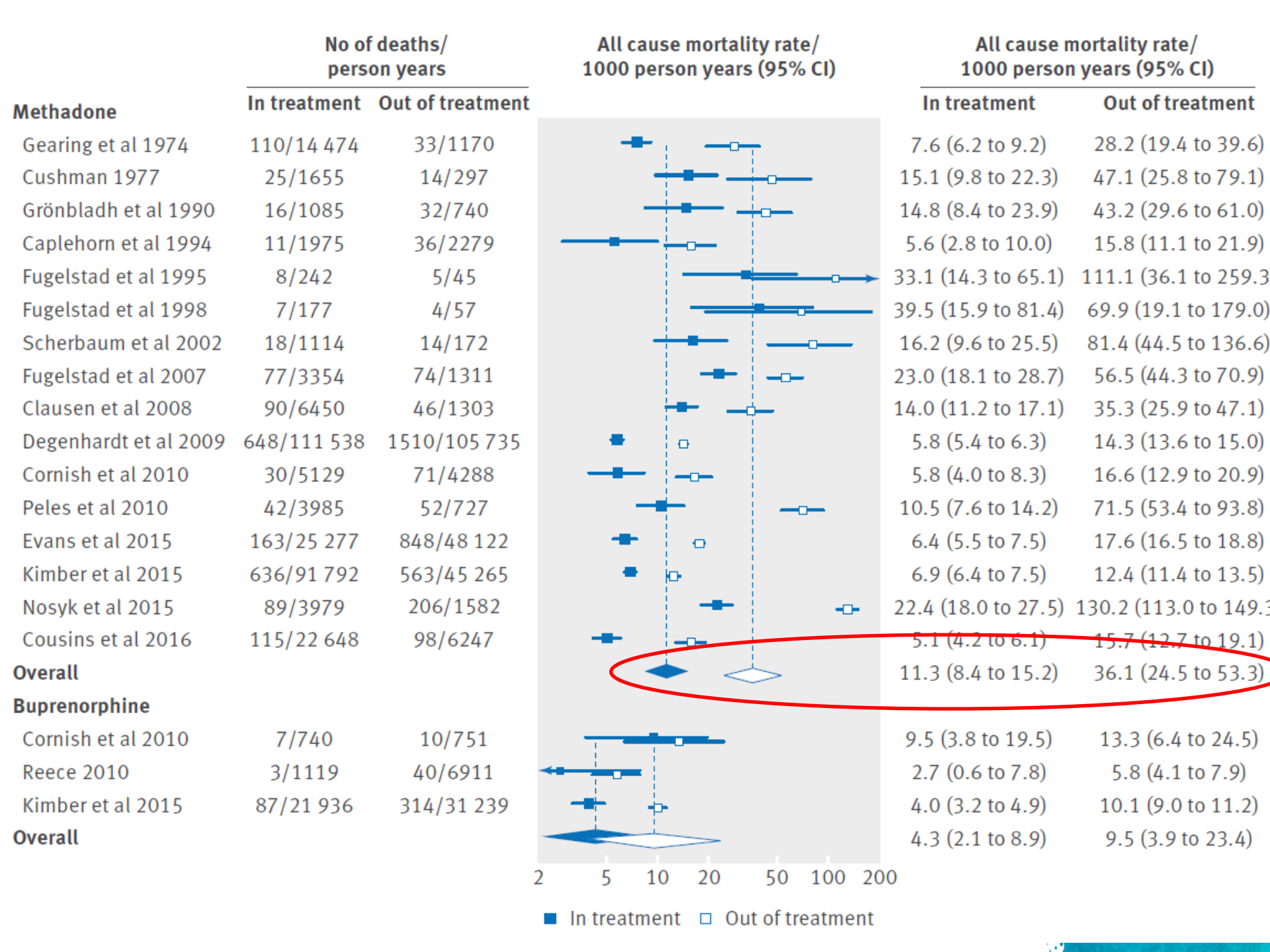
**Figure 1 - Heroin Use in Past 30 Days**

**407 MM Patients by Current Methadone Dose**




SOURCE: Ball and Ross 1991, p. 248.

* Adapted from a study of 407 methadone maintenance patients.

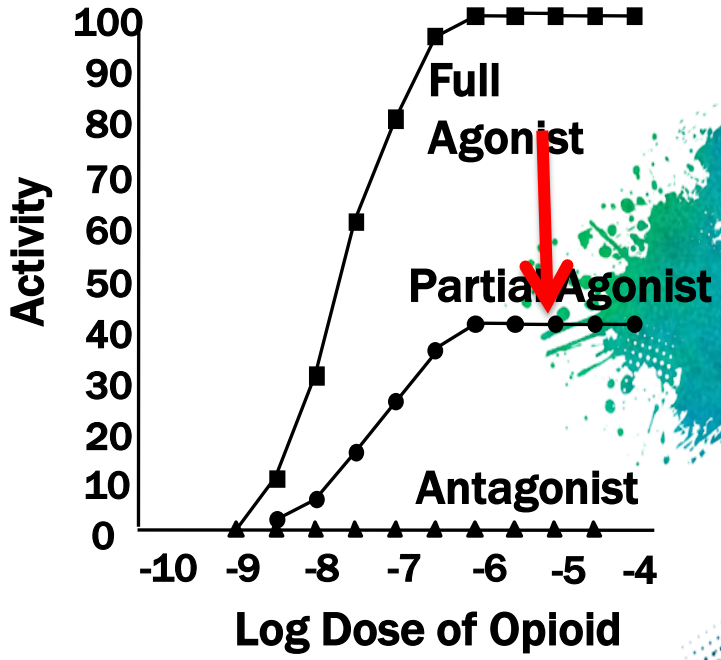

No of deaths/ person years
In treatment
Out of treatment
All cause mortality rate/ 1000 person years (95% CI)
All cause mortality rate/ 1000 person years (95% CI)
In treatment
Out of treatment
Methadone
Gearing et al 1974 110/14 474 33/1170 7.6 (6.2 to 9.2) 28.2 (19.4 to 39.6)
Cushman 1977 25/1655 14/297 15.1 (9.8 to 22.3) 47.1 (25.8 to 79.1)
Grönbladh et al 1990 16/1085 32/740 14.8 (8.4 to 23.9) 43.2 (29.6 to 61.0)
Caplehorn et al 1994 11/1975 36/2279 5.6 (2.8 to 10.0) 15.8 (11.1 to 21.9)
Fugelstad et al 1995 8/242 5/45 33.1 (14.3 to 65.1) 111.1 (36.1 to 259.3
Fugelstad et al 1998 7/177 4/57 39.5 (15.9 to 81.4) 69.9 (19.1 to 179.0)
Scherbaum et al 2002 18/1114 14/172 16.2 (9.6 to 25.5) 81.4 (44.5 to 136.6)
Fugelstad et al 2007 77/3354 74/1311 23.0 (18.1 to 28.7) 56.5 (44.3 to 70.9)
Clausen et al 2008 90/6450 46/1303 14.0 (11.2 to 17.1) 35.3 (25.9 to 47.1)
Degenhardt et al 2009 648/111 538 1510/105 735 5.8 (5.4 to 6.3) 14.3 (13.6 to 15.0)
Cornish et al 2010 30/5129 71/4288 5.8 (4.0 to 8.3) 16.6 (12.9 to 20.9)
Peles et al 2010 42/3985 52/727 10.5 (7.6 to 14.2) 71.5 (53.4 to 93.8)
Evans et al 2015 163/25 277 848/48 122 6.4 (5.5 to 7.5) 17.6 (16.5 to 18.8)
Kimber et al 2015 636/91 792 563/45 265 6.9 (6.4 to 7.5) 12.4 (11.4 to 13.5)
Nosyk et al 2015 89/3979 206/1582 22.4 (18.0 to 27.5) 130.2 (113.0 to 149.3
Cousins et al 2016 115/22 648 98/6247 5.1 (4.2 to 6.1) 15.7 (12.7 to 19.1)
Overall 11.3 (8.4 to 15.2) 36.1 (24.5 to 53.3)
Buprenorphine
Cornish et al 2010 7/740 10/751 9.5 (3.8 to 19.5) 13.3 (6.4 to 24.5)
Reece 2010 3/1119 40/6911 2.7 (0.6 to 7.8) 5.8 (4.1 to 7.9)
Kimber et al 2015 87/21 936 314/31 239 4.0 (3.2 to 4.9) 10.1 (9.0 to 11.2)
Overall 4.3 (2.1 to 8.9) 9.5 (3.9 to 23.4)
2 5 10 20 50 100 200
In treatment
Out of treatment

# Methadone

- Continue methadone without interruption
- Confirm dose with OTP
- May split dosing for pain (not mandatory)
- Add short-acting opioids for acute pain
- At discharge, communicate with OTP

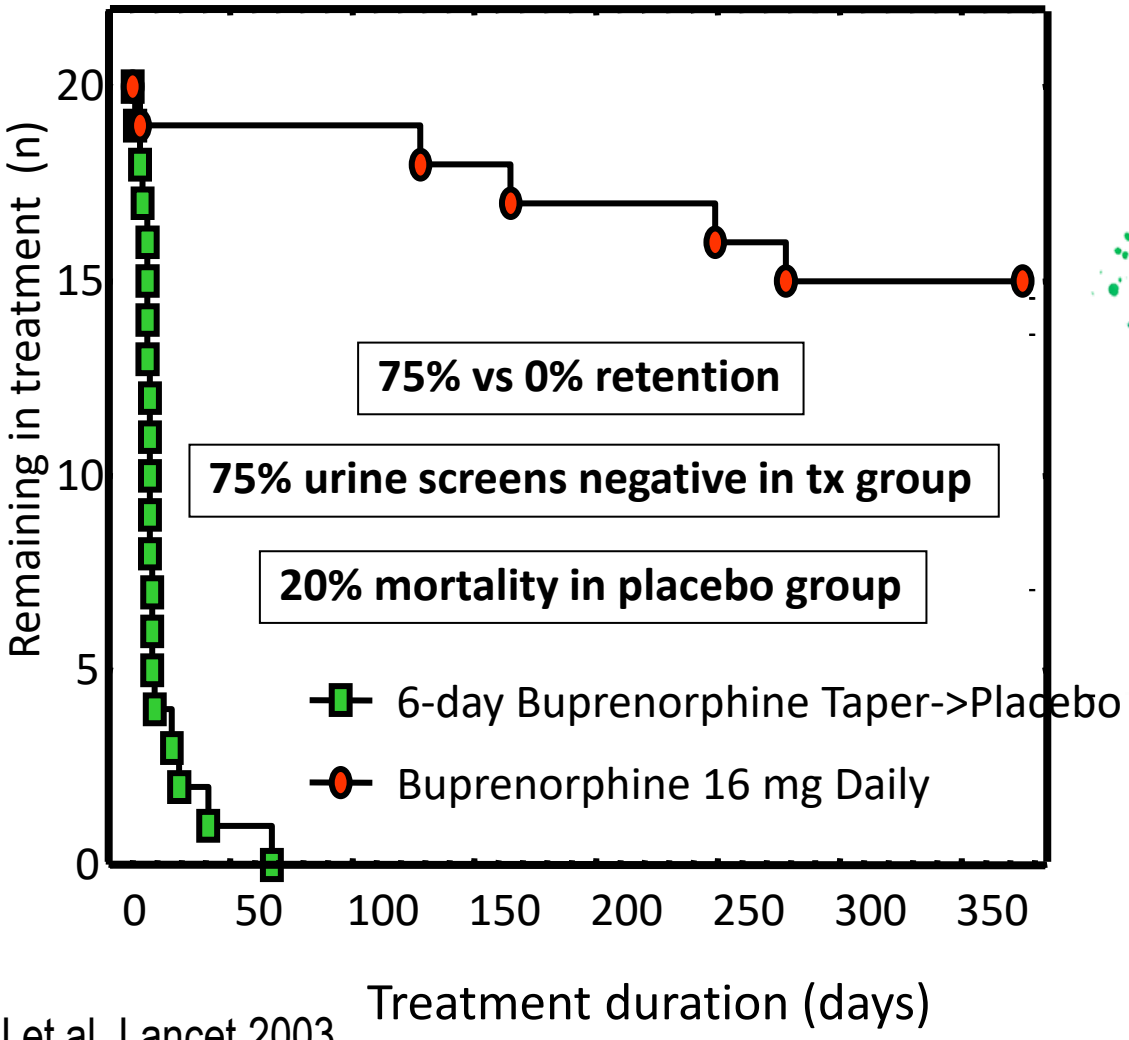
# Buprenorphine

- Partial opioid agonist
  - High affinity
  - Slow dissociation
  - Ceiling effect
  - Precipitated withdrawal




- Co-formulated with naloxone

# Buprenorphine




Kakko J et.al. Lancet 2003

# NNT

- Statins: infinity for primary prevention
- Aspirin in STEMI: 42
- CABG for CAD: 250
- Buprenorphine: 3
- Methadone: 2

Mattick RP, et al Cochrane Database Syst Rev. 2014
Mattick RP, et al *Cochrane Database Syst Rev*. 2009

# CASE 1

# How would you manage this patient's withdrawal symptoms?

A. Oxycodone 5 mg Q8 Hours
B. Methadone 10 mg TID
C. Loperamide, ibuprofen, clonidine
D. Buprenorphine 8 mg BID
E. Hydromorphone PCA

# Methadone for Withdrawal

- Start with 20-30 mg
  - Reassess q2-3 hours, give additional 5-10 mg until withdrawal signs abate
  - DNE 30 mg in first 24 hours
- Next day, give total in one daily dose *(may split dose for acute pain)*
- Monitor QTc (torsades 0.03%), sedation and respiratory depression
- Taper versus maintained dose
- Link with ongoing treatment

# Buprenorphine for Withdrawal

- Mild to moderate pain
- Standard initiation
  - Wait until withdrawal starts
  - Start 4 mg SL q6 hours
- OK to increase to 24 mg/day for pain
- Split dosing for acute pain
- Link with ongoing treatment
- Anyone can order in the hospital
- Requires X-number on discharge Rx

# CASE 2

# As the inpatient provider, how do you treat this patient's pain?

A. Maintain bup-nx dose but divide it up during the day

B. Increase bup-nx dose +/- change in the interval

C. Give short-acting opioids

# Acute pain management when on Medication for Opioid Use Disorder (MOUD)

- Analgesic effect ~6-8 hours
- Consider split dosing on TID or QID schedule
- Dose titration is also a possibility
- Ok to give short acting opioids in addition to MOUD
  - Patients on MOUD will have higher tolerance

Alford DP, Compton P, Samet JH. Ann Intern Med. 2006

# What do you do with the patient's bup-nx prior to surgery?

A. Hold bup-nx for five days per surgeon's instructions

B. Continue to take bup-nx with no modifications

C. Take a smaller dose of bup-nx until surgery

# Peri-Operative Pain Management

- Prior recommendations suggested stopping buprenorphine prior to surgery
- Assumption that buprenorphine blocked the effectiveness of additional opioids
- Limited evidence in perioperative medicine
  - Patients on bup-nx receive higher doses of short acting opioids to achieve adequate analgesia, but similar pain control, LOS & functional outcomes

Kornfeld H, Manfredi L. Am J Ther. 2010, Hansen LE et al. J Arthroplasty. 2016

# Peri-Operative Pain Management

- Most addiction medicine providers recommend continued use of buprenorphine when possible
  - No consensus on recommendations
  - Study outcomes have been conflicting
  - Some protocols recommend decreasing buprenorphine dose for high-risk surgeries

# *CASE 2, continued*

# Recommendations for pain control

- Acknowledge pain and offer reassurance
- Offer MOUD (buprenorphine, methadone) as adjunct
- Optimize non-opioid analgesics
- Use opioid analgesics, often at higher doses because of cross-tolerance
- Consider regional or other interventions

Slide Credit: Deanna J. Wilson, MD, MPH

# General principles for opioid tx in patient with OUD

- Use more potent opioids with shorter dosing intervals compared to opioid-naïve patients
- Schedule continuous opioids for better long-acting pain control
- Recognize maintenance agonist does not provide adequate analgesia

Alford and Samet, 2007

# Hospitalization as window of opportunity

- Patients describe hospitalization as a time of high motivation
- MOUD is efficacious in retaining people in treatment, suppressing illicit opioid use and decreasing craving
- MOUD initiation in hospital is feasible and increases engagement in treatment
- Use as part of broader patient-centered conversations

Velez, et al, 2017; Mattick, et al, 2014; Liebschutz, et al, 2014

Slide Credit: Deanna J. Wilson, MD, MPH

# *CASE 2, continued*

# What would you offer this patient?

A. Taper her completely off opioids and then start bup-nx

B. Recommend she start methadone instead of bup-nx

C. Start bup-nx while she is still receiving full agonist opioids

# General principles of low dose induction

- Allow patients to continue full opioid agonists
  - Start with small doses of buprenorphine to gradually displace full opioid agonist
- Gradually increase the amount of buprenorphine patients receive
  - Continue full opioid agonist during induction period
  - Start to wean full opioid agonists as tolerated after buprenorphine maintenance dose achieved
  - Limited evidence: no comparative-effectiveness trials comparing traditional start to low dose protocols; small case-series reporting protocols

Slide Credit: Deanna J. Wilson, MD, MPH

# Example Low-Dose Induction

- Day 1: 0.5 mg once a day
- Day 2: 0.5 mg twice a day
- Day 3: 1 mg twice a day
- Day 4: 2 mg twice a day
- Day 5: 3 mg twice a day
- Day 6: 4 mg twice a day
- Day 7: 12 mg (stop other opioids)

Randhawa PA et al. CMAJ. 2020

# CASE 3

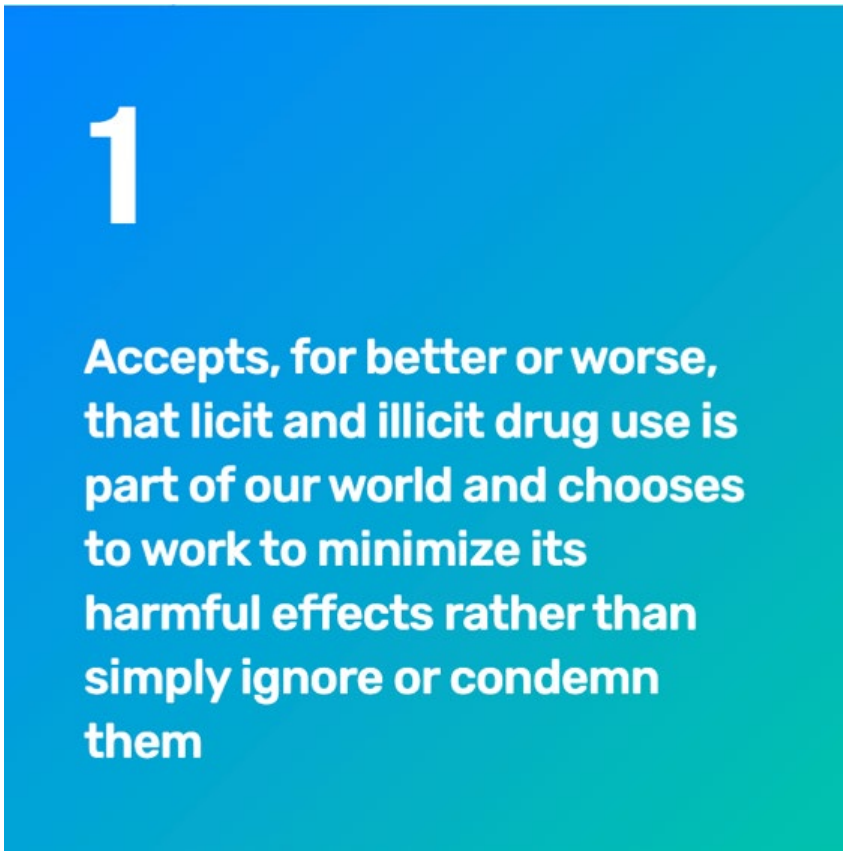
What could we have done better for this patient's care during his admission?

How could we have used a harm reduction approach to help our patient?

# PRINCIPLES OF HARM REDUCTION

Harm reduction is a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use. Harm Reduction is also a movement for social justice built on a belief in, and respect for, the rights of people who use drugs.

# What is harm reduction?




https://harmreduction.org/about-us/principles-of-harm-reduction/

# What is harm reduction?

**2**

**Understands drug use as a complex, multi-faceted phenomenon that encompasses a continuum of behaviors from severe use to total abstinence, and acknowledges that some ways of using drugs are clearly safer than others**

https://harmreduction.org/about-us/principles-of-harm-reduction/

# What is harm reduction?

**3**

**Establishes quality of individual and community life and well-being – not necessarily cessation of all drug use – as the criteria for successful interventions and policies**

https://harmreduction.org/about-us/principles-of-harm-reduction/

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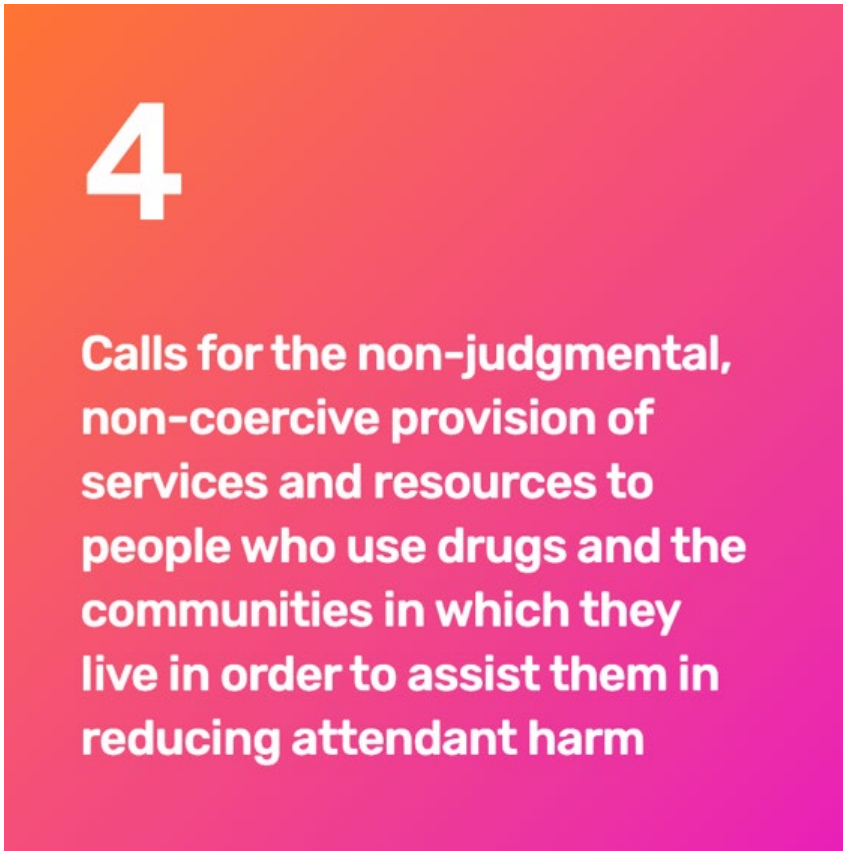


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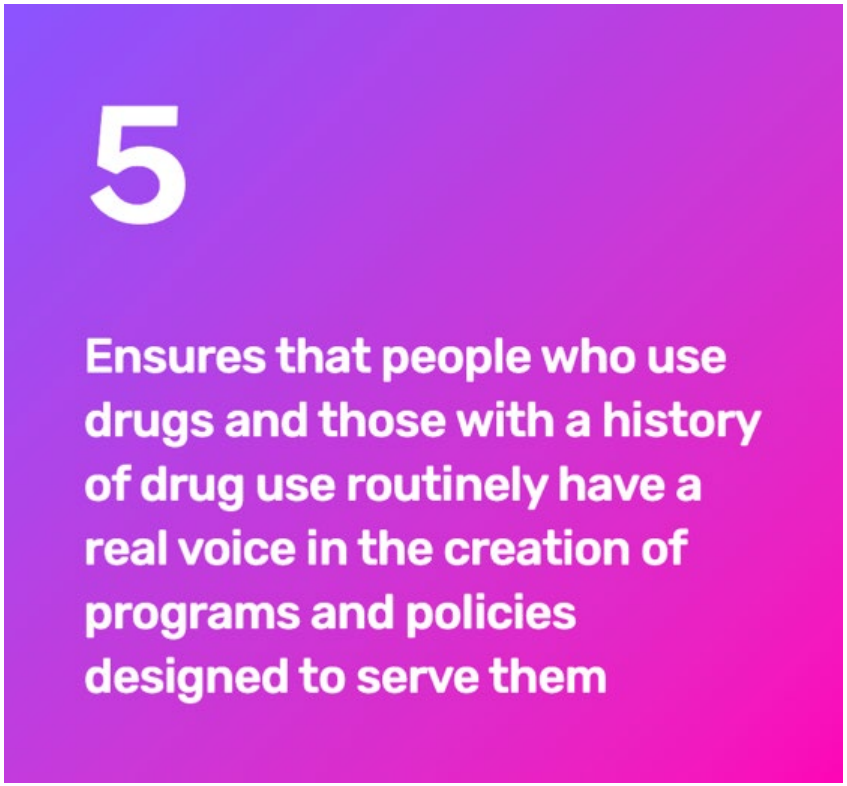


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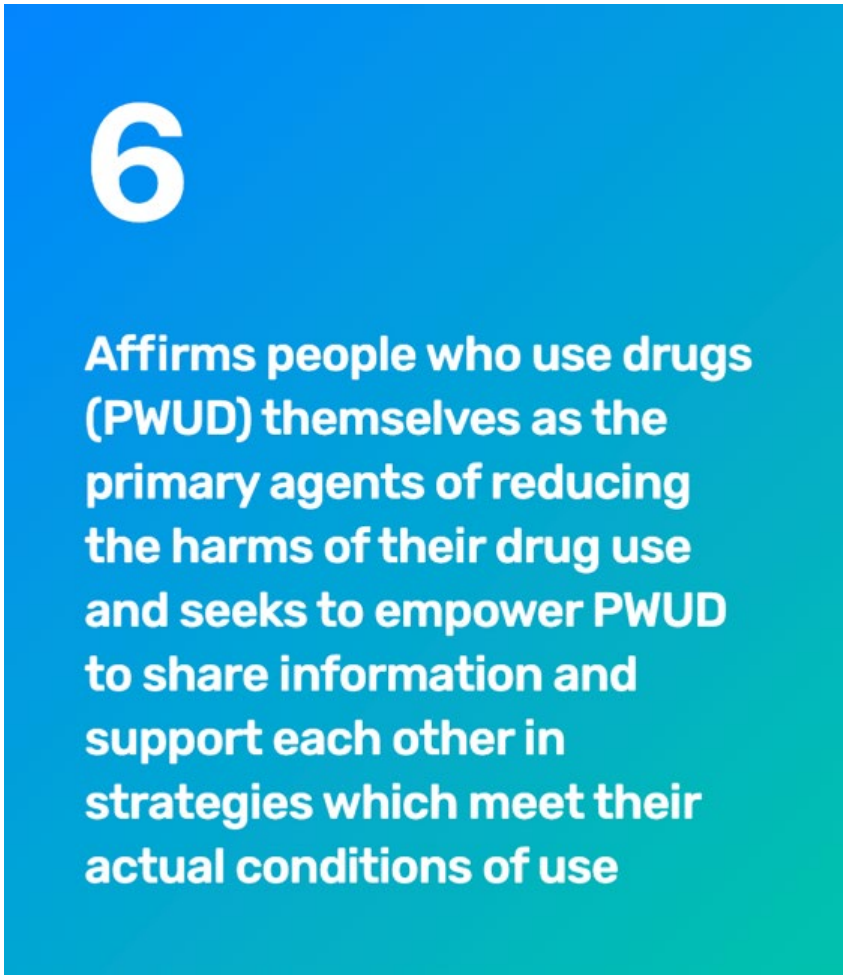


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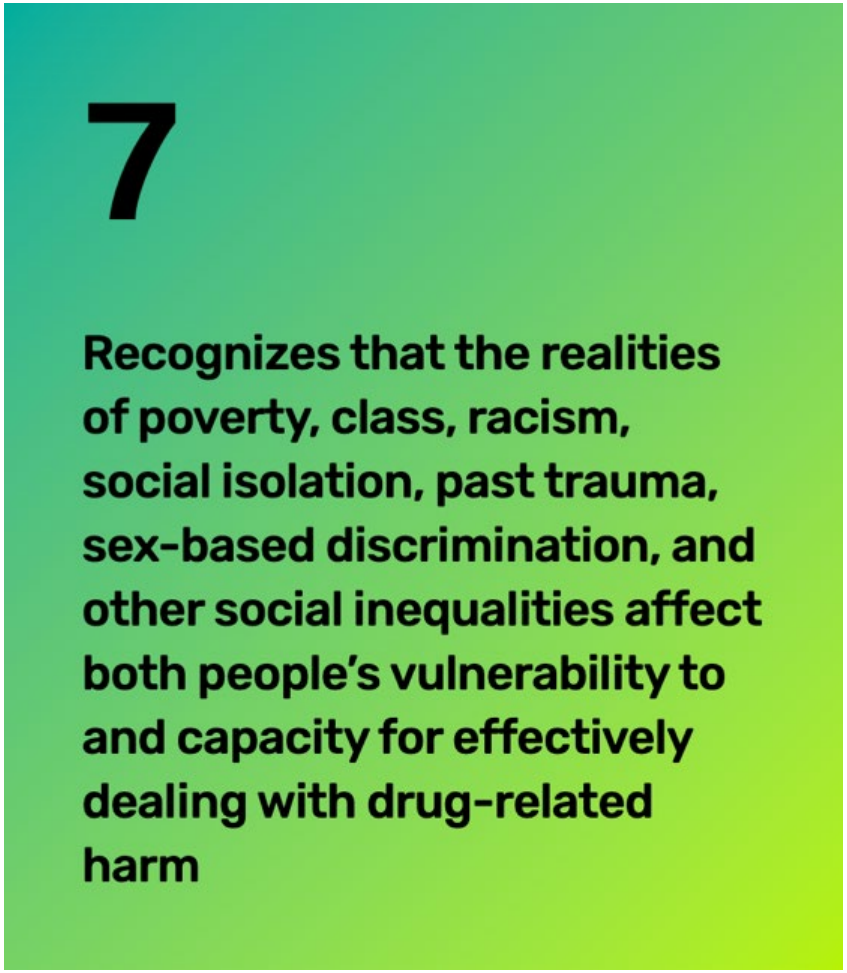


https://harmreduction.org/about-us/principles-of-harm-reduction/

# What is harm reduction?

**8**

**Does not attempt to minimize or ignore the real and tragic harm and danger that can be associated with illicit drug use**

https://harmreduction.org/about-us/principles-of-harm-reduction/

# What does harm reduction look like in practice?

Some of the best-known harm reduction tools include:

- Syringe service programs (i.e. syringe exchange)
- Supervised injection facilities / overdose prevention sites
- Drug checking services (e.g. fentanyl test strips)
- Naloxone kits and training
- Sterile smoking equipment

Harm reduction also comprises:

- Addiction facilities
- Support groups
- Medical services (e.g., wound care, vaccinations, and COVID-19 masks)
- Sex education
- STI testing and treatment
- Pre-exposure prophylaxis (PrEP)

https://publichealth.jhu.edu/2022/what-is-harm-reduction

# The 5 S's: A framework for safer injection education

- Educate on safer:
  - **S**ettings
  - **S**upplies
  - **S**ubstances
  - **S**ites
  - **S**kin Prep

Slide content curtesy of Dr. Deanna Wilson and Steph Klipp, RN

# Safer
# **Settings**

- **Find a safe place to inject**
  - Access to clean water
  - Safe from crime/risk of arrest
  - Inside or away from the elements
- **Have a partner and alternate use (in case of overdose)**
  - Have naloxone available
  - Make sure partner knows how to administer

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# Safer
# **Supplies**

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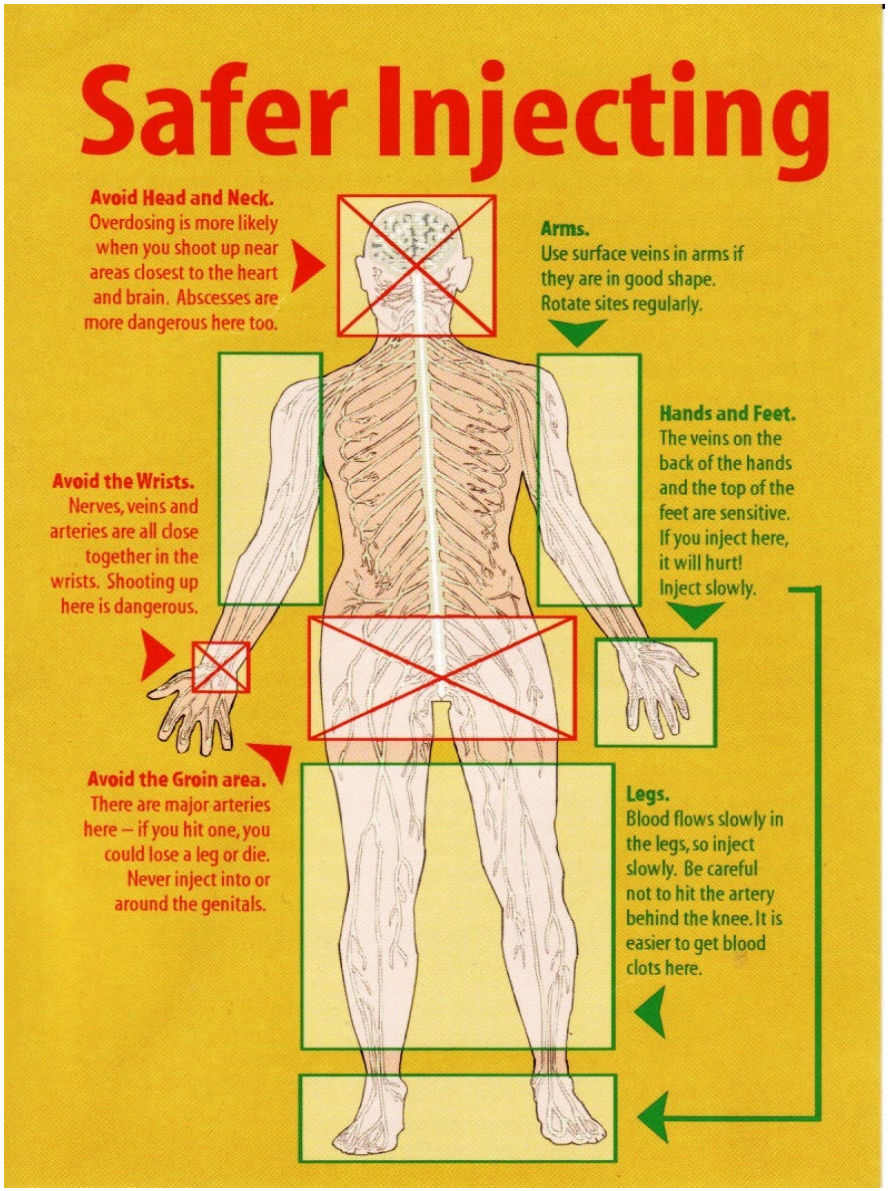
# Safer **Substances**

1. **Test for fentanyl using fentanyl test strips**
2. **Do a "test" dose and go slow**
3. **Use sterile water, but if not then boil**

   **If no boiled water, then tap/ bottled**

Slide content curtesy of Dr. Deanna Wilson and Steph Klipp, RN

# Safer **Sites**




How about avoiding injection altogether?

RESEARCH Open Access

## Heroin pipe distribution to reduce high-risk drug consumption behaviors among people who use heroin: a pilot quasi-experimental study

Thomas Fitzpatrick[1,2*†], Vanessa M. McMahan[2,3†], Noah D. Frank[2,4], Sara N. Glick[1], Lauren R. Violette[5], Shantel Davis[6] and Shilo Jama[6]

# **Skin** Prep

1

Clean hands prior to injecting with soap and water (or sanitizer)

2

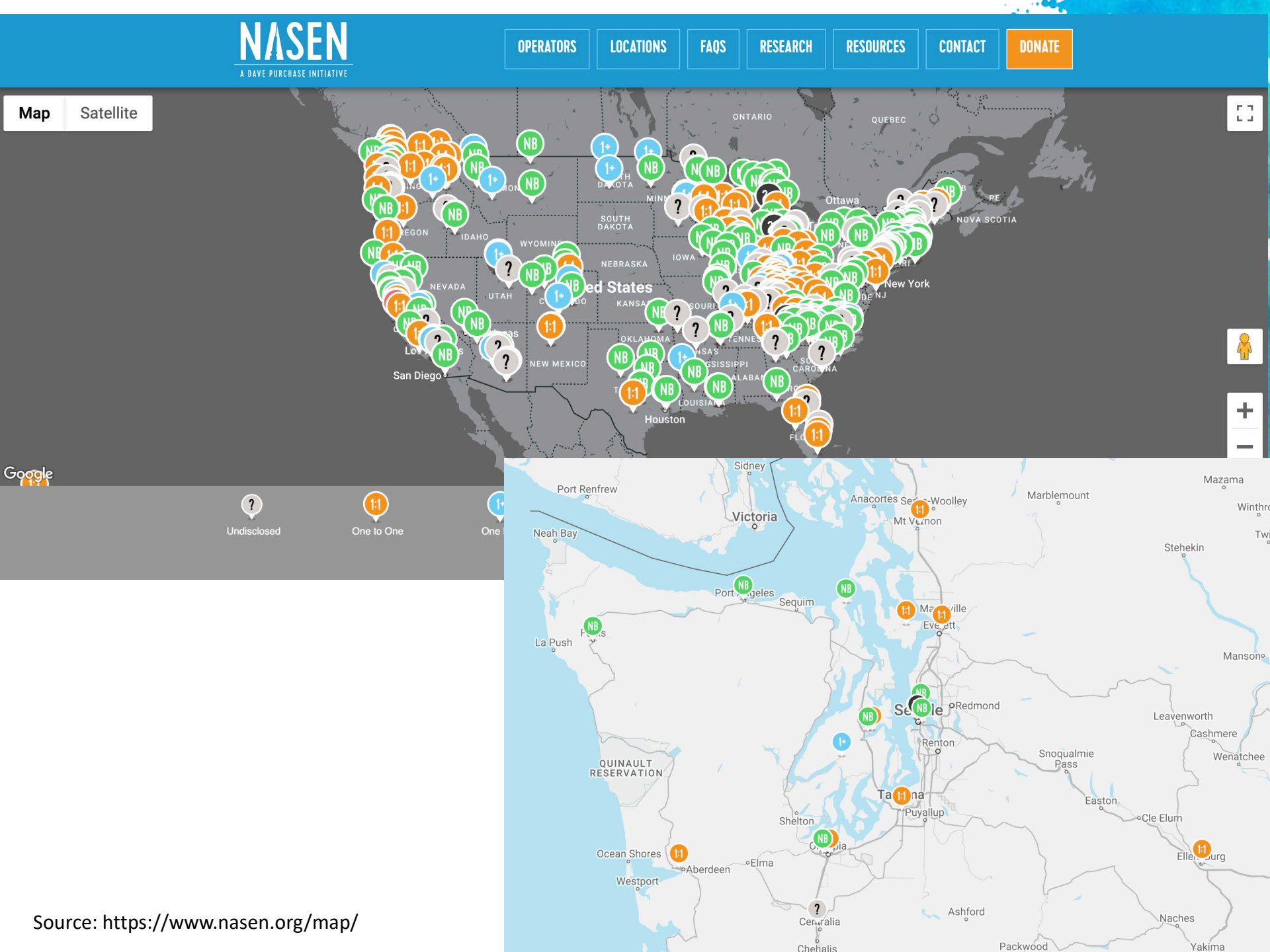
Clean skin prior to injecting with alcohol wipe

Slide content curtesy of Dr. Deanna Wilson and Steph Klipp, RN

# Overdose prevention!

- Naloxone is a short-acting opioid antagonist
- Available in multiple forms in the community: injectable, nasal spray, etc.
- Single use 4mg nasal spray (2 applicators per box)
- Re-dose in 2-3 minutes if insufficient response

- But where can patients go to get harm reduction supplies?




Source: https://www.nasen.org/map/

Thank you!!!

***Questions???***