Optimizing Safety in Patients with Addictions

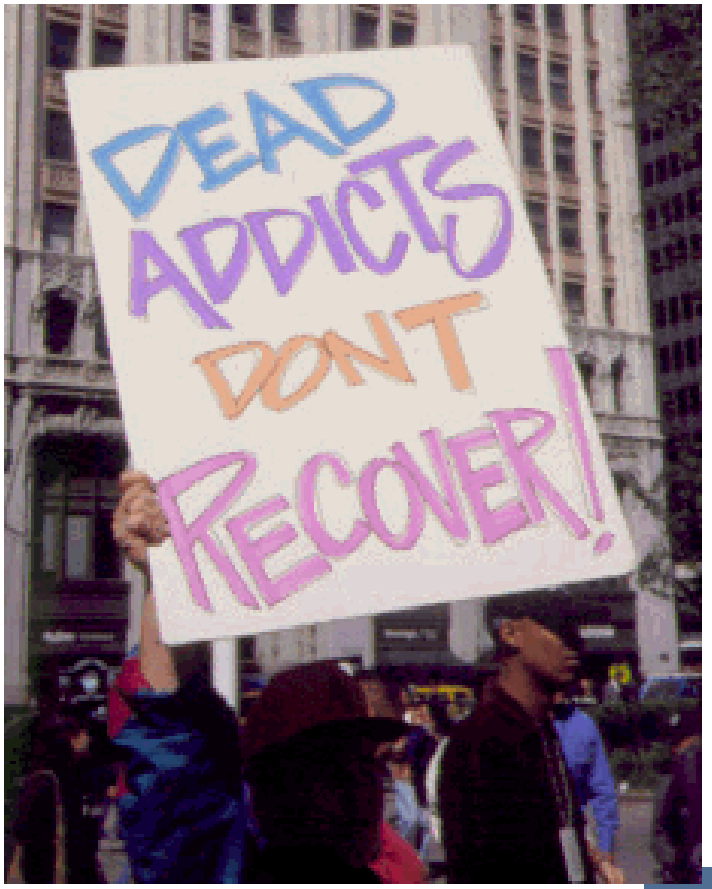
CRIT program – April 2014

Alex Walley, MD, MSc
Assistant Professor of Medicine

Learning objectives

At the end of this session, you should be able to:

1. Define harm reduction and apply it to patient care
2. Teach overdose prevention strategies
3. Minimize the risk of polypharmacy among patients



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Case

- You are called to admit a 29 yo woman with polydrug overdose, complicated by aspiration, and a left arm cellulitis. She was found unresponsive in the bathroom of a restaurant with a syringe, cooker and filters.
  - She works as a waitress and has been injecting heroin daily since age 23. She also uses cocaine on the weekends and drinks alcohol after work. She sometimes does sex work, when she does not have enough money.
  - She is prescribed clonazepam, clonidine and gabapentin for panic disorder and mood stabilization.
  - She tried methadone and buprenorphine in the past when she was pregnant. She intends to continue using again when she leaves the hospital. Despite your best brief intervention and motivational interviewing…
  - ***She is not interested in treatment at this time.***

How do you optimize safety for people who continue to use (or who may relapse)?

- First assess their risks:
  - Infection risk behaviors
    - Injection
      - New needle and syringe every time
      - Filters and Cooking
      - Clean solvent – Vitamin C better than lemon juice
    - Sex
      - Without a condom?
      - With multiple partners
      - while using drugs
      - in exchange for money or drugs – bad date sheet
  - Overdose risk behaviors
    - Using alone
    - Mixing substances - POLYPHARMACY
    - Abstinence
    - Unknown source
    - Chronic illness
- Second: Make a safety plan

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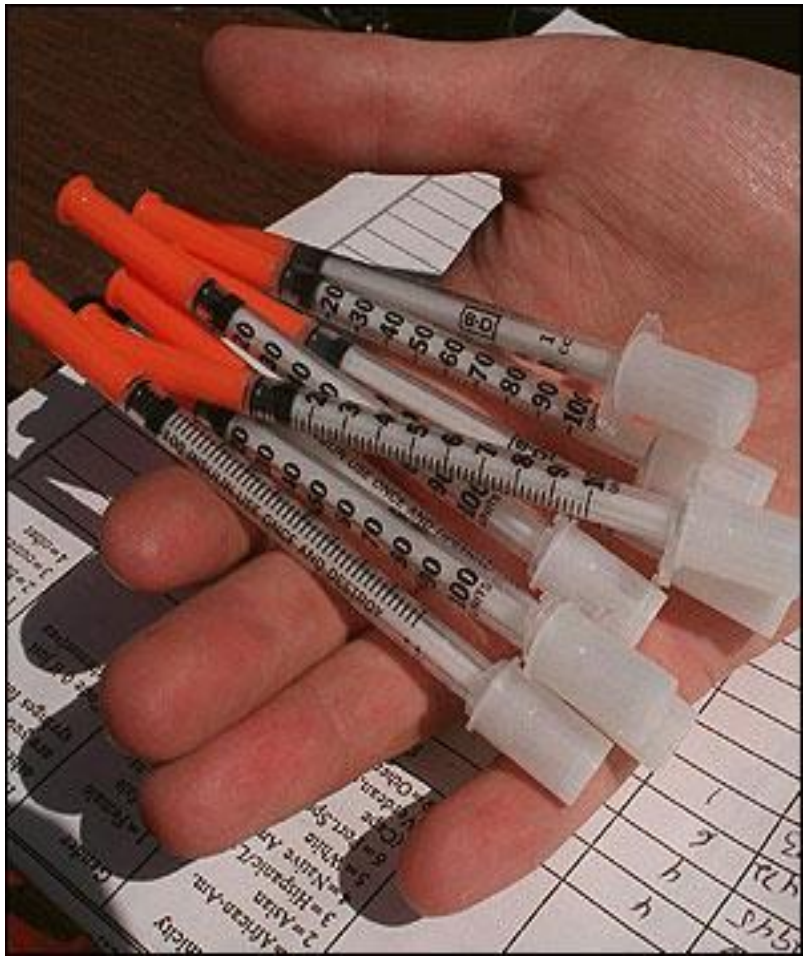
Optimizing safety
(aka Harm Reduction)

Harm Reduction



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Principles of Harm Reduction

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

- Interventions are guided by risk-benefit analysis
- Abstinence is not a prerequisite to care

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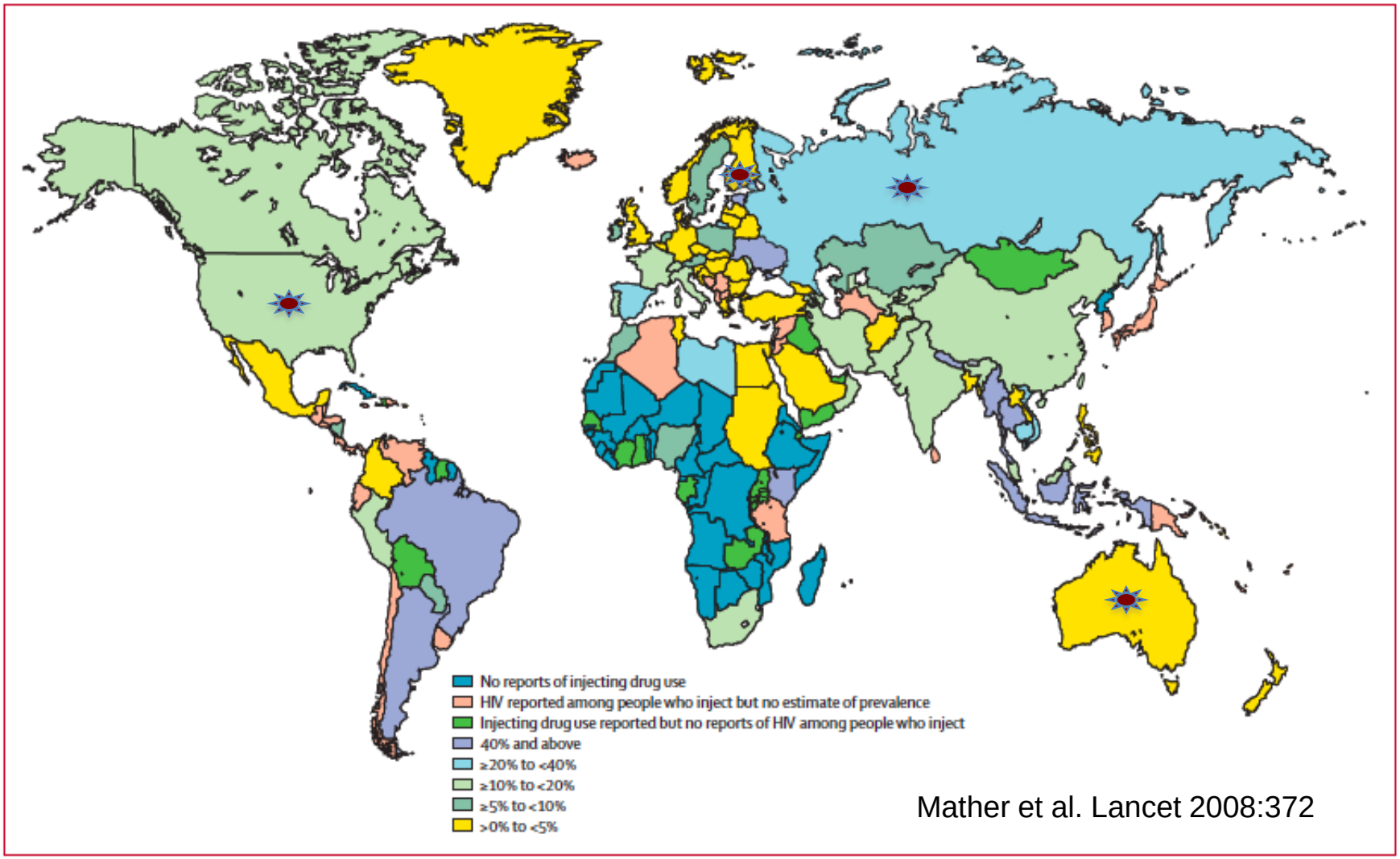
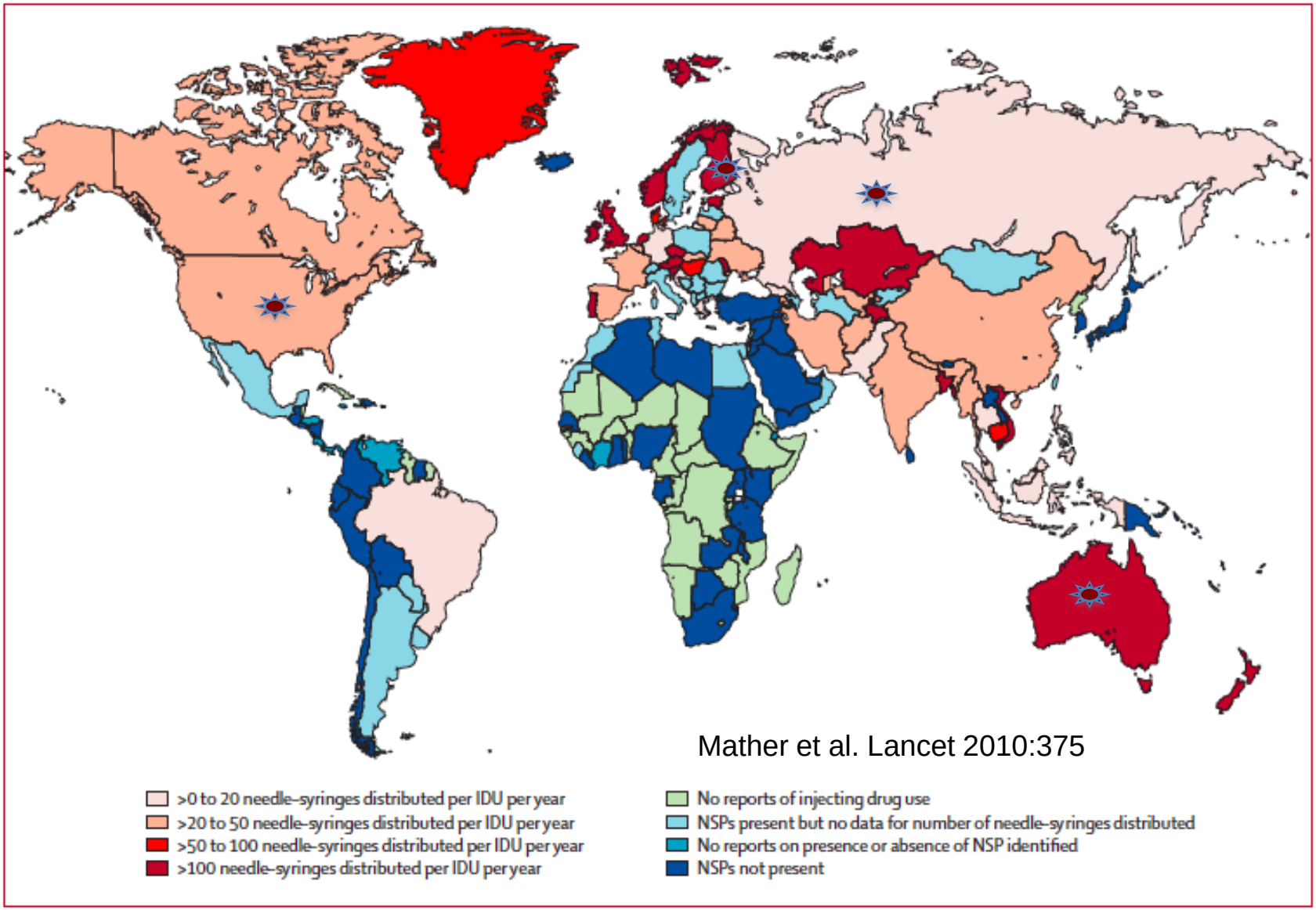
Prevalence of HIV infection among people who inject drugs



Mather et al. Lancet 2008:372

Number of needle-syringes distributed per PWID per year



Mather et al. Lancet 2010:375

Change in HIV seroprevalence with and without needle-syringe programs

	Cities with NSPs	Cities with NSPs
All cities	-5.8% per year	+5.9% per year
Cities with seroprevalence <10%	-1.1% per year	+16.2% per year

Hurley et al. Lancet 1997:349; 1797-1800.
www.unodc.org/documents/hiv-aids/EFA%20effectiveness%20sterile%20needle.pdf

David Satcher, Surgeon General 2000

After reviewing all of the research to date, the senior scientists of the Department and I have unanimously agreed that there is conclusive scientific evidence that **syringe exchange programs**, as part of a comprehensive HIV prevention strategy, **are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs.** In many cases, a **decrease in injection frequency** has been observed among those attending these programs. In addition, when properly structured, syringe exchange programs provide a unique opportunity for communities to reach out to the active drug injecting population and **provide for the referral and retention of individuals in local substance abuse treatment and counseling programs** and other important health services.

- www.csam-asam.org/evidence-based-findings-efficacy-syringe-exchange-programs-analysis-scientific-research-completed-ap

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Harm Reduction Interventions

- Opioid agonist treatment to reduce HIV and mortality
  - Treatment continuity post-incarceration
- Needle and syringe programs to reduce HIV and injection risk
  - Pharmacy access needles and syringes
- Drug consumption rooms for injection risk and overdose mortality
- Naloxone rescue kits for opioid overdose mortality
- Housing first programs
- Shelter-based alcohol administration
- Bad date sheets

http://www.emcdda.europa.eu/best-practice/harm-reduction

Vascular Access

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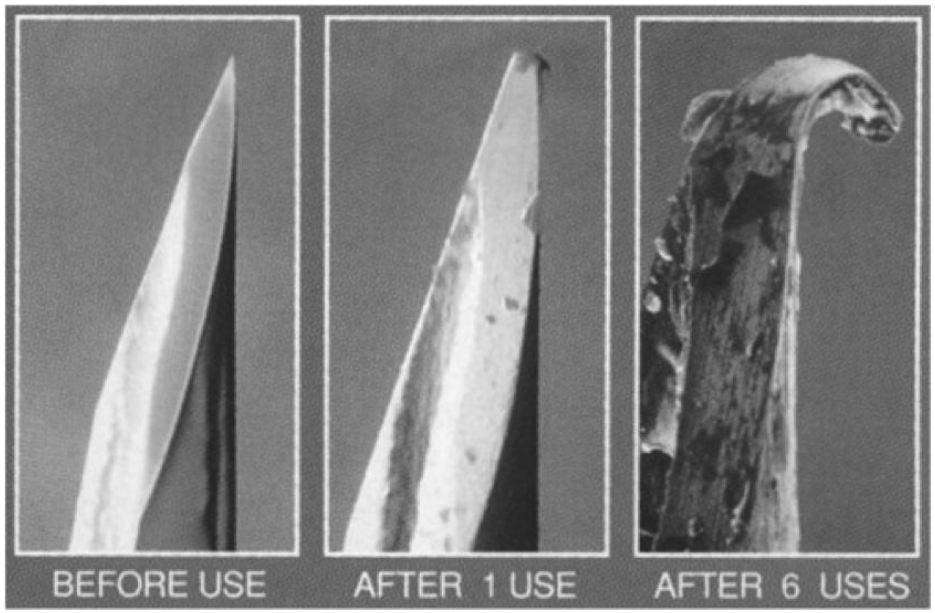
Syringes and needles



- New needle and syringe each injection
- Needle dulls with each use
- Bleach is option
- Don’t use syringe to divide dose or mix heroin

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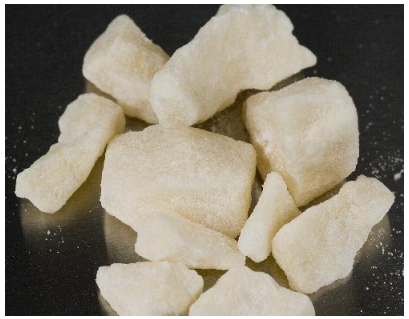
Injecting Solids

- Oxycontin, Percocet, Crack
- All bases, need acid to dissolve
- Vinegar is caustic
- Lemon juice as solvent linked to disseminated candida
  - Buchanan et al. DAD 2006:81: 221-229.
- Ideal is Vitamin C powder



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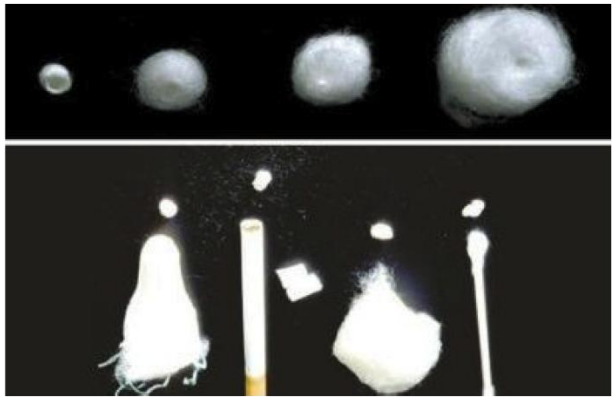
Filters

- Used to trap particulate matter
- Cotton balls, Q tip, tampon, cigarette filter
- Require manipulation with fingers
- Contamination with skin flora
- Ideal filter small, preformed (dental pellet)



To Cook or not to Cook

- “Cold shot” common
- Reasons for not cooking include necessity and frugality (no flame, fear evaporation)
- Cooking usually for a few seconds, doesn’t kill all bacteria/viruses but helps dissolve particles
- Clean cookers

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Overdose prevention

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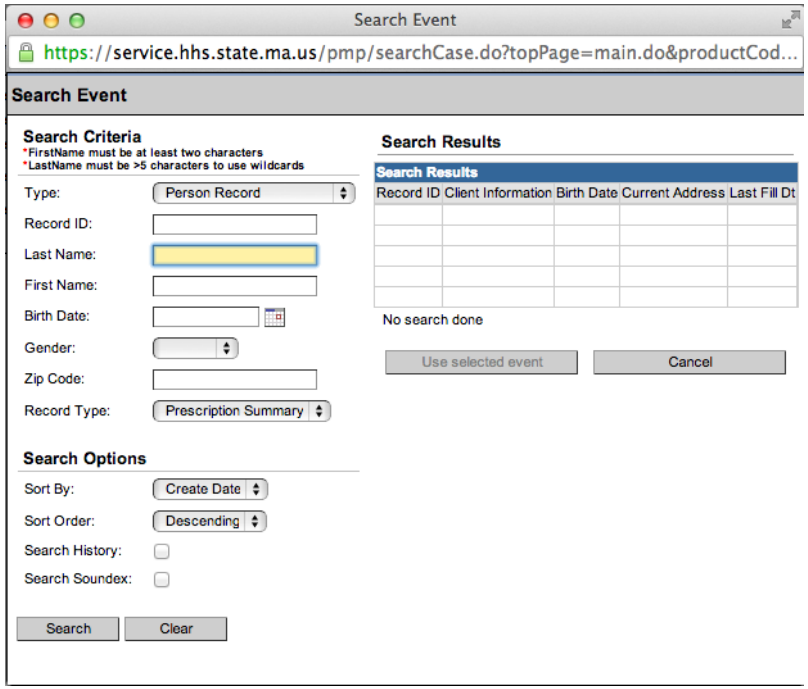
Strategies to address overdose

- **Prescription monitoring programs**
  - Paulozzi et al. Pain Medicine 2011
- Prescription drug take back events
  - Gray and Hagemeier. JAMA Intern Med 2012
- Safe opioid prescribing education
  - Albert et al. Pain Medicine 2011; 12: S77-S85
- Opioid agonist treatment
  - Clausen et al. Addiction 2009:104;1356-62
- Supervised injection facilities
  - Marshall et al. Lancet 2011:377;1429-37



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www.scopeofpain.com

www.opioidprescribing.com

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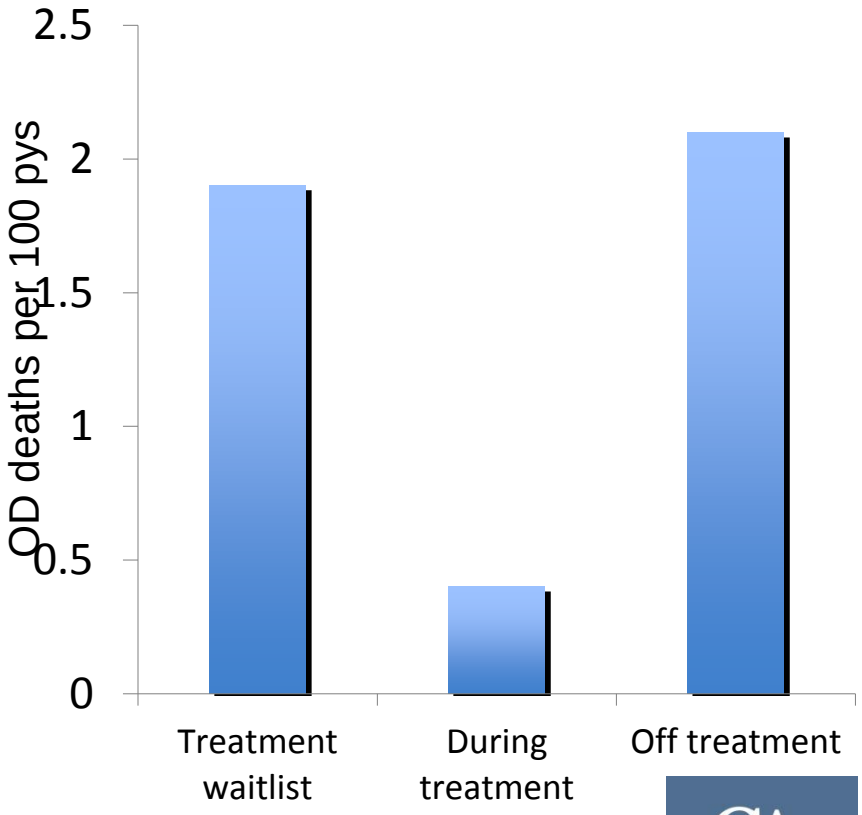
Methadone in Norway:

Clausen et al. Addiction 2009



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ASAM
American Society of Addiction Medicine

Public Policy Statement on the Use of Naloxone for the Prevention of Drug Overdose Deaths

ASAM Board of Directors April 2010

•"naloxone has been proven to be an effective, fast-acting, inexpensive and non-addictive opioid antagonist with minimal side effects... Naloxone can be administered quickly and effectively by trained professional and lay individuals who observe the initial signs of an opioid overdose reaction."

www.asam.org/docs/publicy-policy-statements/1naloxone-1-10.pdf

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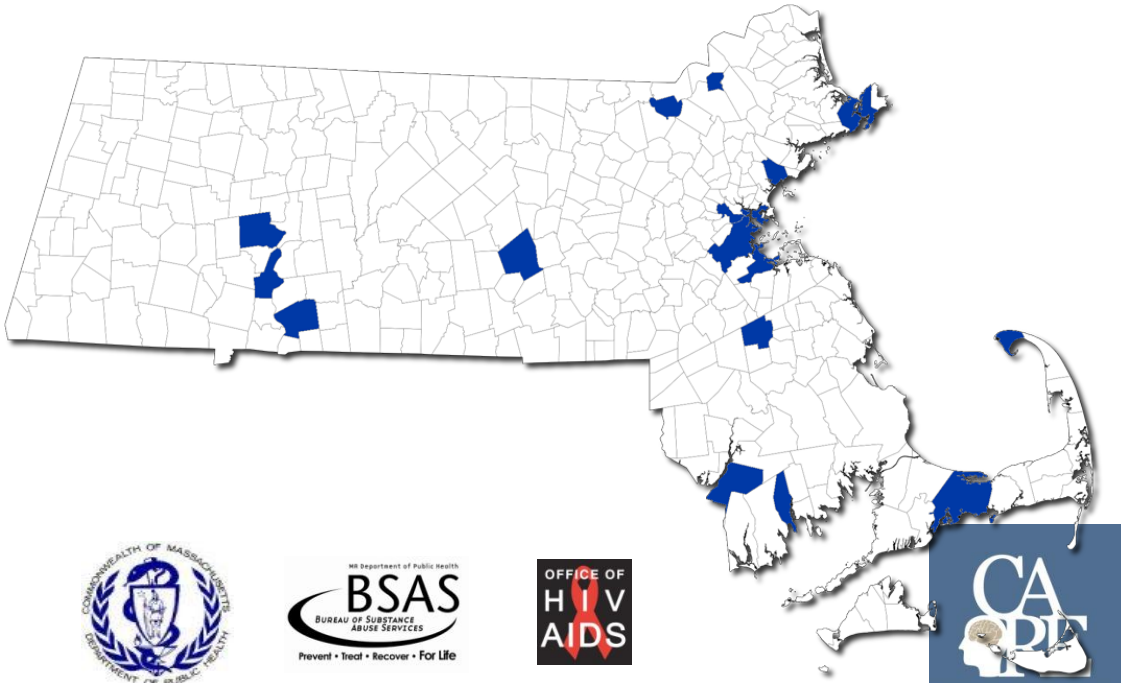
Massachusetts Department of Public Health Enrollments and Rescues: 2006-2013

- Enrollments
  - >22,000 individuals
  - 17 per day
- Rescues
  - >2,600 reported
  - 2.4 per day

- AIDS Action Committee
- AIDS Project Worcester
- AIDS Support Group of Cape Cod
- Brockton Area Multi-Services Inc. (BAMSI)
- Boston Public Health Commission
- Greater Lawrence Family Health Center
- Holyoke Health Center
- Learn to Cope
- Lowell House/ Lowell Community Health Center
- Manet Community Health Center
- Health Innovations
- Seven Hills Behavioral Health
- Tapestry Health
- SPHERE



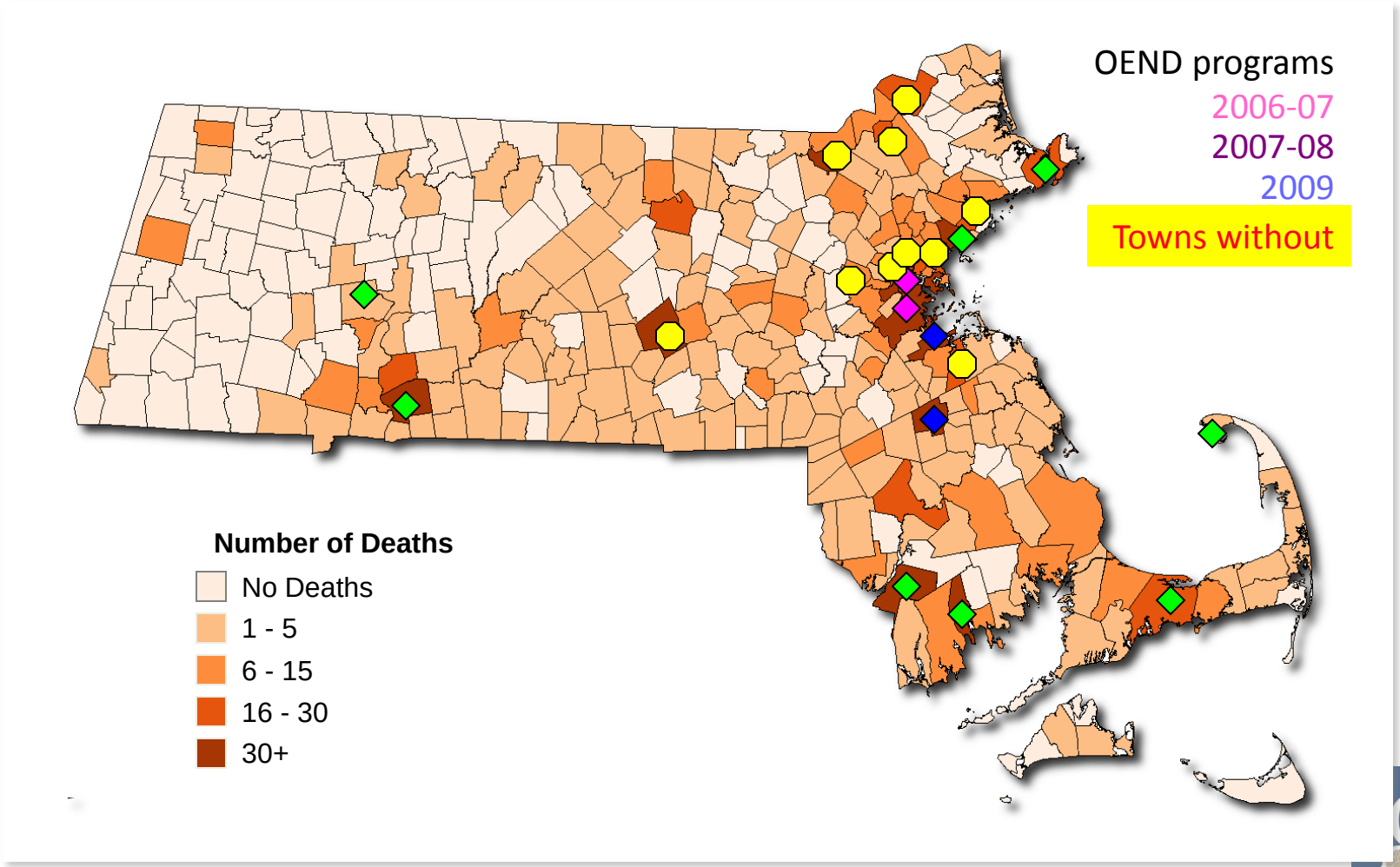
Commonwealth of Massachusetts Department of Public Health

MA Department of Public Health BSAS Bureau of Substance Abuse Services Prevent • Treat • Recover • For Life

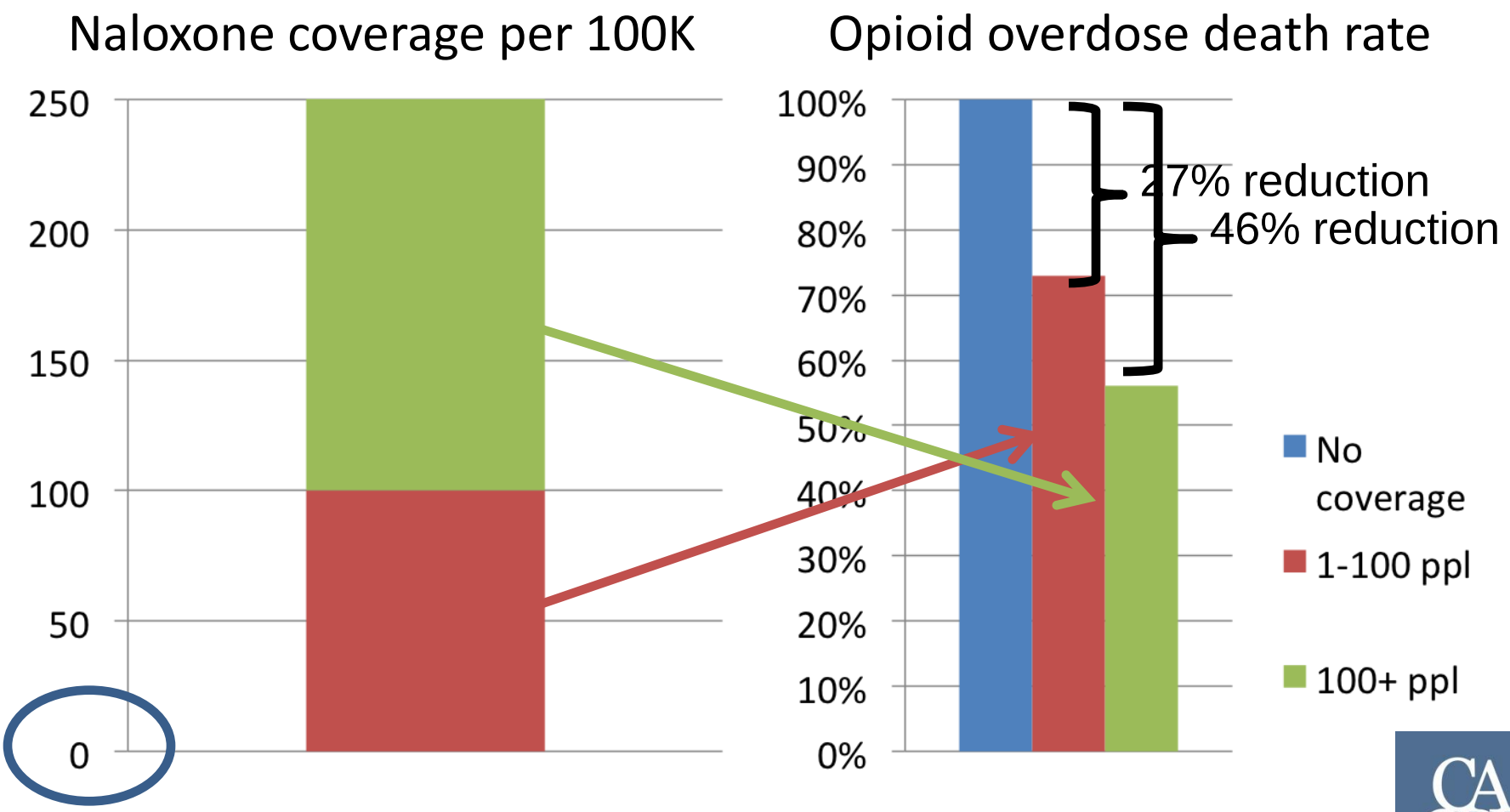
Office of HIV AIDS

CAPE Clinical Addiction Research and Education

Opioid Overdose Related Deaths: Massachusetts 2004 - 2006



Fatal opioid OD rates by OEND implementation



Walley et al. *BMJ* 2013; 346: f174.

How do you incorporate overdose education and naloxone rescue kits into medical practice?

1. Prescribe naloxone rescue kits
   - PrescribeToPrevent.org

2. Work with your overdose education and naloxone distribution program

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Overdose Education in Medical Practice

What they need to know:

1. Prevention - the risks:
   - Mixing substances
   - Abstinence- low tolerance
   - Using alone
   - Unknown source
   - Chronic medical disease
   - Long acting opioids last longer
2. Recognition
   - Unresponsive to sternal rub with slowed or absent breathing
   - Blue lips, pinpoint pupils
3. Response - What to do
   - Call for help
   - Rescue breathe
   - Deliver naloxone and wait 3-5 minutes
   - Stay until help arrives

Patient education videos and materials at prescribetoprevent.org

Video by Overdose Prevention Education Network (6min22sec)

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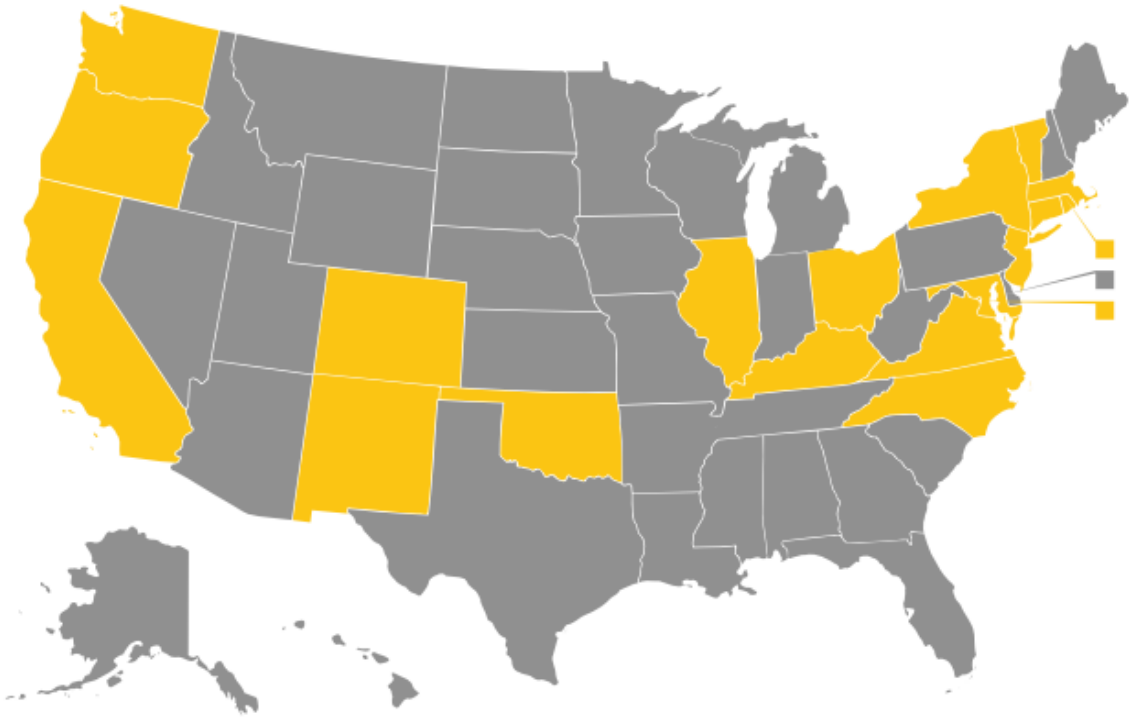
States with naloxone laws - 2014



Network for Public Health Law
www.networkforphl.org

Prescribetoprevent.org

Naloxone for Overdose Prevention

patient name

date of birth

patient address

patient city, state, ZIP code

Rx

prescriber name

prescriber address

prescriber city, state, ZIP code

prescriber phone number

Naloxone HCl 1 mg/mL
2 x 2 mL as pre-filleld Luer-Lock needless syringe
(NDC 0548-3369-00)

Refills: _____

2 x Intranasal Mucosal Atomizing Device (MAD 300)

Refills: _____

For suspected opioid overdose, spray 1mL in each nostril.
Repeat after 3 minutes if no or minimal response.

Pharmacist: Call 1-800-788-7999 to order MAD 300.

prescriber signature

date

Detach for patient

How to Avoid Overdose

- Only take medicine prescribed to you
- Don't take more than instructed
- Call a doctor if your pain gets worse
- Never mix pain meds with alcohol
- Avoid sleeping pills when taking pain meds
- Dispose of unused medications
- Store your medicine in a secure place
- Learn how to use naloxone
- Teach your family + friends how to respond to an overdose

Are they breathing? → Call 911 for help

Signs of an overdose:
- Slow or shallow breathing
- Gasping for air when sleeping or weird snoring
- Pale or bluish skin
- Slow heartbeat, low blood pressure
- Won't wake up or respond (rub knuckles on sternum)

All you have to say:
"Someone is unresponsive and not breathing."
Give clear address and location.

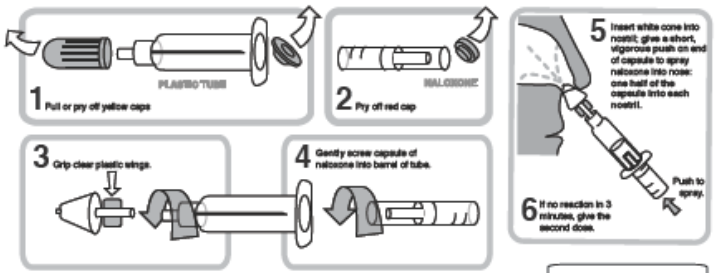
Airway → Rescue breathing

Make sure nothing is inside the person's mouth.

Oxygen saves lives. Breathe for them.
One hand on chin, tilt head back, pinch nose closed.
Make a seal over mouth & breathe in
1 breath every 5 seconds
Chest should rise, not stomach

Prepare Naloxone

Are they any better? Can you get naloxone and prepare it quickly enough that they won't go for too long without your breathing assistance?



Evaluate + support

- Continue rescue breathing
- Give another 2 sprays of naloxone in 3 minutes if no or minimal breathing or responsiveness
- Naloxone wears off in 30-90 minutes
- Comfort them; withdrawal can be unpleasant
- Get them medical care and help them not use more opiate right away
- Encourage survivors to seek treatment if they feel they have a problem

Poison Center
1-800-222-1222
(free & anonymous)

For More Info
PrescribeToPrevent.com

v01.2012.2

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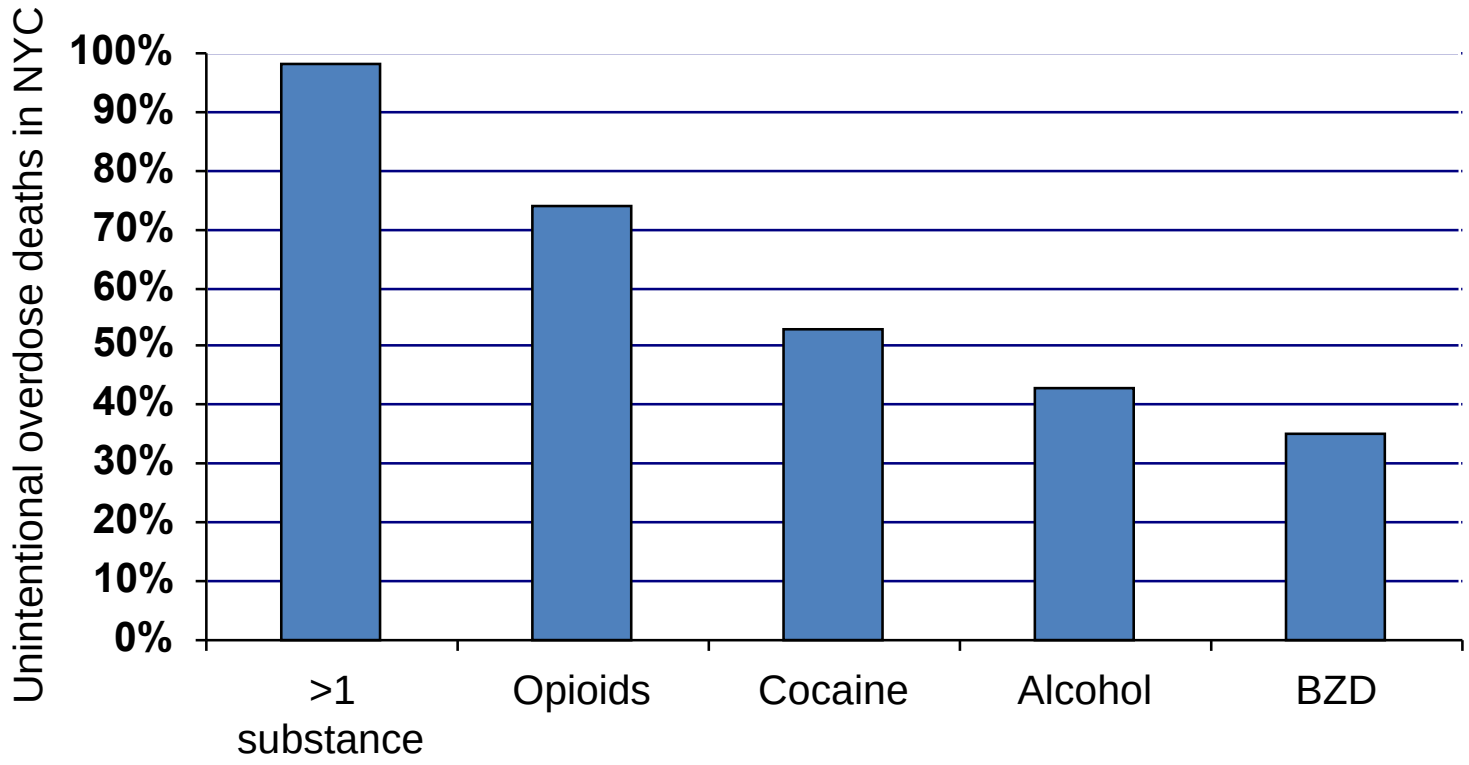
Bathrooms are injection facilities
How to make them safer?

Make your bathrooms safer
- outfit bathrooms with:

- Secure biohazard boxes
- Good lighting
- Mirrors
- Doors that open out
- Call button
- Intercomm system
- Safer injection equipment
- Naloxone rescue kit

Polypharmacy

Overdose deaths in NYC 2006-2008



NYC Vital Signs. NYC DPMH. 2010

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Street pills

- Opioids
- Stimulants
- Benzodiazepines – “pins” “bars”
- Clonidine – “deans”
- Promethazine (phenergan) – “finnegans”
- Gabapetin (neurontin) – “johnnies”
- Quietiapine (seroquel)

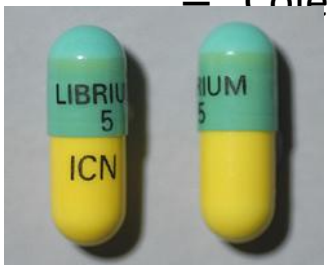
DEA NFLIS 2006 Report

- Prescription drugs seized by law enforcement and analyzed forensics labs: 2001-2005

Drug	Rx Dispensed	Items seized per 10k Rx Dispensed
Diazepam	65M	6.06
Alprazolam	169M	5.96
Morphine	23M	5.80
Oxycodone	161M	5.29
Clonazepam	82M	3.55
Hydrocodone	550M	1.63
Codeine	165M	1.06

Benzos
Widespread Use – Uncommon drug of choice

- Due to their significant margin of safety and effectiveness
  - BZDs are among the most prescribed psychotropic medications worldwide
  - Prescribed to women more than men
    - Lagnaoui *Eur J Clin Pharmacol* 2004; **60**: 523–9.
  - On WHO essential drug list that should be available in all countries
- In the lab, people self-administer benzos, but they are weak re-inforcers compared to alcohol, opioid, cocaine, and amphetamine.
  - Jones et al. DAD 2012; 125: 8-18.
- Few patients entering drug treatment cite benzos as their drug of choice
  - Cole and Chiarello. J Psychiatr Res. 1990; 24 Suppl 2: 135-44.



Self-medication

- One physician survey reported that:
  - 26% of psychiatrists
  - 11% of other physcians

  Used unsupervised benzodiazepines in the past year

Principles of Addiction Medicine, 4th edition p.535.

Prescribers are ambivalent

On the one hand

- Rarely the abuse drug of choice
- Given the amounts prescribed, benzo abuse is “remarkably low”
- Benzos work fast with few side effects
- Benefit maintained over time

Schenck CH; Mahowald MW Am J Med 1996 Mar;100(3):333-7.

On the other hand

- Non-medical use very common
- Concerning subgroups
  - Other sedating meds
  - Elderly
  - Other addictions
- Hard to discontinue
- Does not improve long-term course of PTSD
- Co-morbid depression may worsen

Stevens, Pollack. J Clin Psychiatry 2005; 66s2: 21-27

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What should be done about pills with a street value?

- Prescribe with caution
- Educate patients
  - Safety first – Teens, mixing meds, safe storage
  - Function over feelings
  - Risk of tolerance to benefits and withdrawal
- Communicate between prescribers
- Discontinue if risks outweigh the benefits

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Case

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  - She works as a waitress and has been injecting heroin daily since age 23. She also uses cocaine on the weekends and drinks alcohol after work. She sometimes does sex work, when she does not have enough money.
  - She is prescribed clonazepam, clonidine and gabapentin for panic disorder and mood stabilization.
  - She tried methadone and buprenorphine in the past when she was pregnant. She intends to continue using again when she leaves the hospital. Despite your best brief intervention and motivational interviewing…
  - ***She is not interested in treatment at this time.***

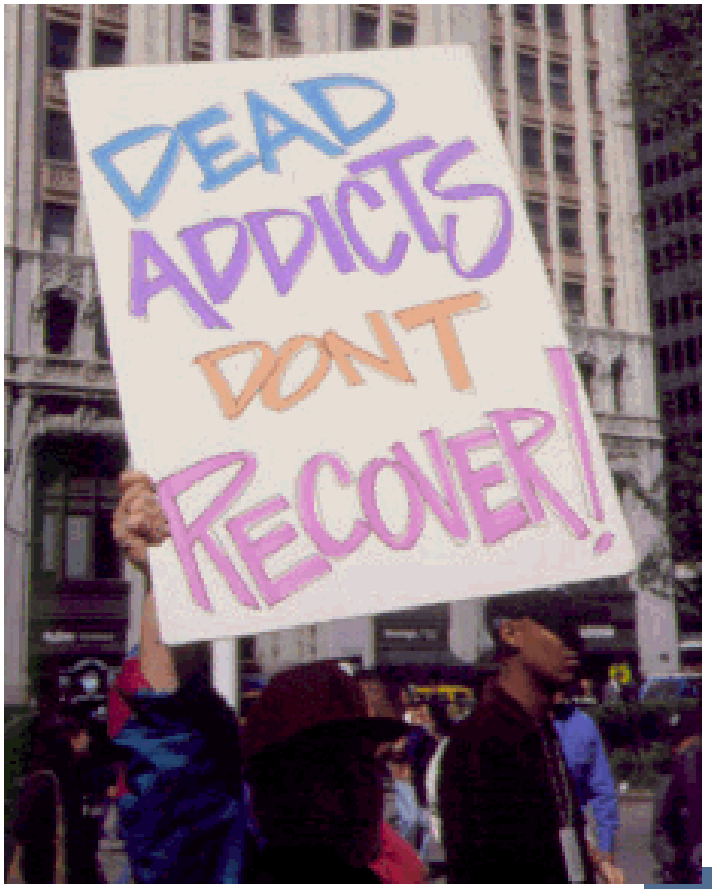
Case

1. Discuss her treatment options – conduct a brief intervention
    - Residential treatment, intensive outpatient, pharmacotherapy, 12-step groups
2. Review her injection and other drug use routine to assess her knowledge and readiness
    - Educate/ re-enforce safer use strategies
        - NSP, keeping substances safe from others, not using alone, tester shots
3. Ask her about her overdose experience
    - Make a plan with her to reduce her own overdose risk and how she will respond to others
    - Prescribe naloxone rescue kit if available
4. Screen her for interpersonal violence.
    - Offer IPV and sex worker services info
5. Express concern about her polypharmacy and polysubstance use and discuss strategies to reduce
    - Speak to the prescriber of her clonazepam, clonidine, and gabapentin so the prescriber is aware of the overdose
    - Encourage closer monitoring and a risk-benefit analysis for safety

Learning objectives

At the end of this session, you should be able to:

1. Define harm reduction and apply it to patient care
2. Teach overdose prevention strategies
3. Minimize the risk of polypharmacy among patients



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Thanks!

Alex Walley, MD, MSc
awalley@bu.edu

Acknowledgments:
Sarah Wakeman for several harm reduction slides

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Benzos in Methadone Patients

Upon MMT entry in Israel

- 47% of patients abusing benzos ceased after 1 year
- 27% of patients not abusing benzos had started by 1 year
- Reasons for abuse included:
  - 87% to improve emotional state
  - 41% to boost other drugs
  - 40% for sleep
  - 24% to get high on benzos alone
  - 23% for withdrawal
  - 19% to reduce the effects of stimulants

Gelkopf et al. DAD 1999; 55: 63-68.

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If prescribing…

Consider when prescribing pills with a street value

- Intent –
  - Are you treating a diagnosed medical problem?
- Effect –
  - Does the medication improve the patient's functional status or worsen it?
- Monitoring –
  - Are you assessing the patient at the peak or trough effect of the medication?

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Example of overdose-naloxone law: Good Sam, limited liability for patients/prescibers and 3rd party prescribing

Good Samaritan provision:

•Protects people who overdose or seek help for someone overdosing from being charged or prosecuted for drug possession

- Protection does not extend to trafficking or distribution charges

Patient protection:

•A person acting in good faith may *receive a naloxone prescription, possess naloxone and administer naloxone* to an individual appearing to experience an opiate-related overdose.

Prescriber protection:

•Naloxone or other opioid antagonist *may lawfully be prescribed and dispensed to a person at risk of experiencing an opiate-related overdose or a family member, friend or other person* in a position to assist a person at risk of experiencing an opiate-related overdose. For purposes of this chapter and chapter 112, any such prescription shall be regarded as being issued for a legitimate medical purpose in the usual course of professional practice.

Massachusetts - Passed in August 2012:
An Act Relative to Sentencing and Improving Law Enforcement Tools

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Prescribetoprevent.org

Naloxone for Overdose Prevention

patient name

date of birth

patient address

patient city, state, ZIP code

Rx

prescriber name

prescriber address

prescriber city, state, ZIP code

prescriber phone number

Naloxone HCl 0.4 mg/mL (Narcan)
1 x 10 mL as one fliptop vial (NDC 0409-1219-01) OR
2 x 1mL single dose vials (NDC 0409-1215-01)

Refills: _____

Intramuscular (IM) syringe, 23 G, 3cc, 1 inch

Qty: _____ Refills: _____

Sig: For suspected opioid overdose,
inject 1mL IM in shoulder or thigh.
Repeat after 3 minutes if no or minimal response.

prescriber signature

date

Detach for patient

Are they breathing?

Signs of an overdose:

- Slow or shallow breathing
- Gasping for air when sleeping or weird snoring
- Pale or bluish skin
- Slow heartbeat, low blood pressure
- Won't wake up or respond (rub knuckles on sternum)

Call 911 for help

All you have to say:
"Someone is unresponsive and not breathing."
Give clear address and location.

Airway

Make sure nothing is inside the person's mouth.

Rescue breathing

Oxygen saves lives. Breathe for them.
One hand on chin, tilt head back, pinch nose closed.
Make a seal over mouth & breathe in
1 breath every 5 seconds
Chest should rise, not stomach

Evaluate

Are they any better? Can you get naloxone and prepare it quickly enough that they won't go for too long without your breathing assistance?

Prepare naloxone

- Remove cap from naloxone and uncover needle
- Insert needle through rubber plug, with bottle upside down
- Pull back on plunger and take up 1 cc into the syringe
- Don't worry about air bubbles (they aren't dangerous in muscle injections)

Muscular injection

Inject 1cc of naloxone into a big muscle (shoulder or thigh)

Evaluate + support

- Continue rescue breathing
- Give another shot of naloxone in 3 minutes if no or minimal breathing or responsiveness
- Naloxone wears off in 30-90 minutes
- Comfort them; withdrawal can be unpleasant
- Get them medical care and help them not use more opiate right away
- Encourage survivors to seek treatment if they feel they have a problem

v01.2012.1

How to Avoid Overdose

- Only take medicine prescribed to you
- Don't take more than instructed
- Call a doctor if your pain gets worse
- Never mix pain meds with alcohol
- Avoid sleeping pills when taking pain meds
- Dispose of unused medications
- Store your medicine in a secure place
- Learn how to use naloxone
- Teach your family + friends how to respond to an overdose

For More Info
PrescribeToPrevent.com

Poison Center
1-800-222-1222
(free & anonymous)

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Harm Reduction

Summary

- Injection drug use involves several steps, each with risks of infection
- Engaging with patients can help prevent harm
- Encourage users to:
  - Find a clean setting
  - Use sterile water
  - Cook
  - Dental pellets for filter if possible
  - Clean, fresh syringe
  - One-Wipe alcohol swipe
  - Needleless syringes for sharing
  - Vitamin C for solids

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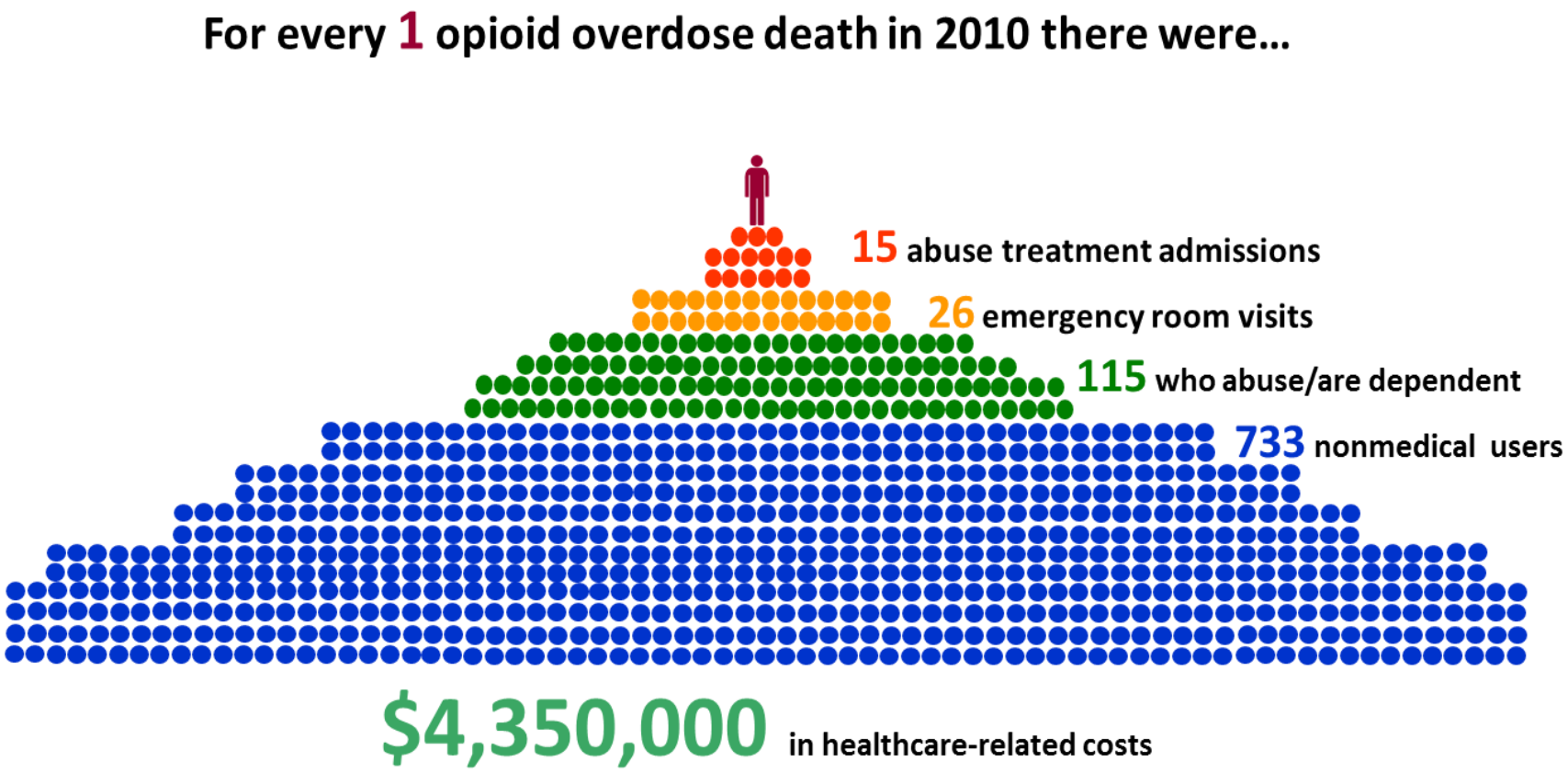
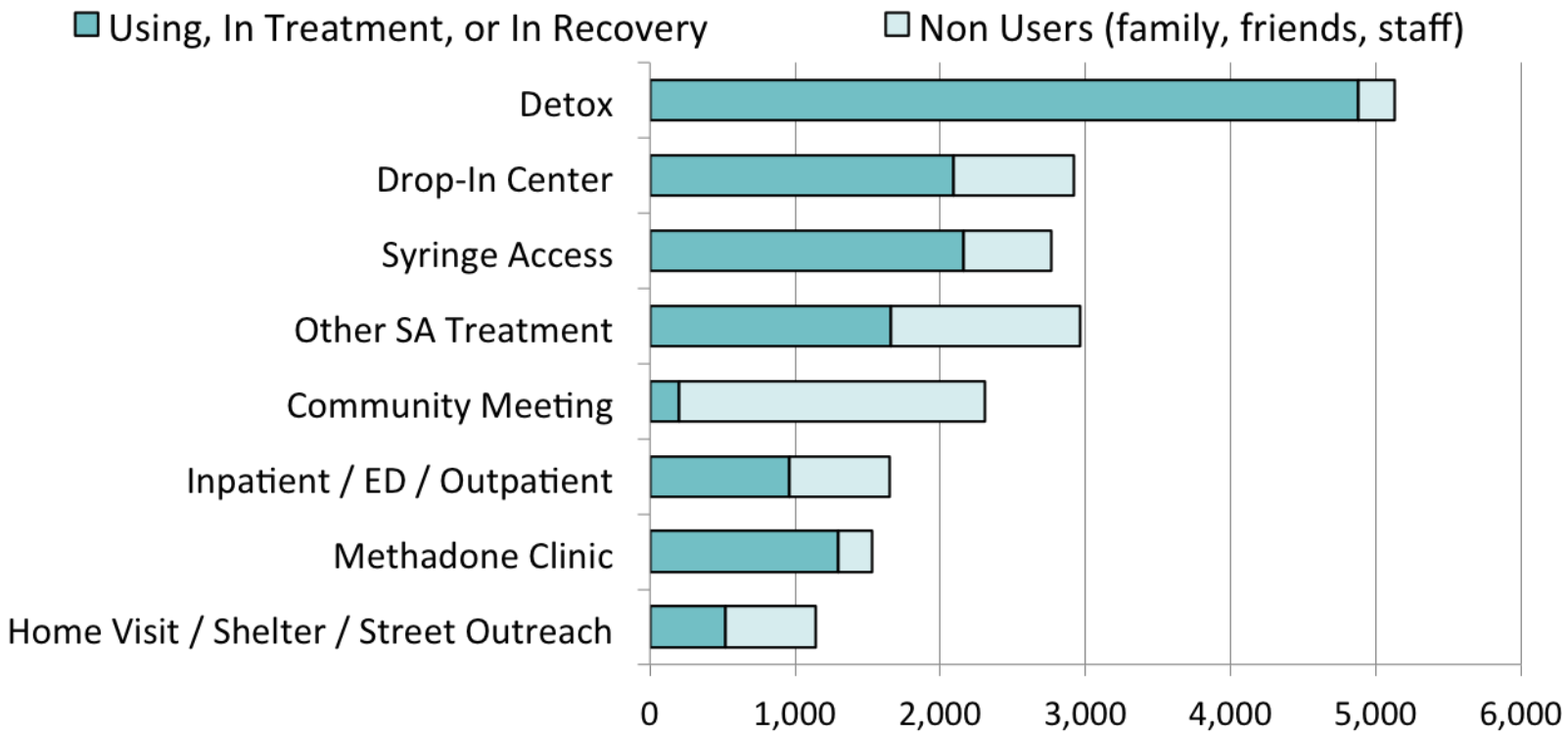
Deaths are the tip of the iceberg



SAMHSA NSDUH, DAWN, TEDS data sets

Coalition Against Insurance Fraud. Prescription for Peril. http://www.insurancefraud.org/downloads/drugDiversion.pdf 2007.

Massachusetts DPH program Enrollment locations: 2008-2013



Data from people with location reported: Users:13,775 Non-Users: 6,618

Program data

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We can't arrest our way out of this problem

NATIONAL DRUG CONTROL STRATEGY

D. Equip Health Care Providers and First Responders To Recognize and Manage Overdoses

In 2012, the FDA, NIDA, SAMHSA, and the Centers for Disease Control and Prevention (CDC) worked together to develop approaches to reduce opioid overdose fatalities and identify issues related to more widespread availability of and access to naloxone A detailed discussion of the Administration's overdose prevention and intervention efforts is included under "Policy Focus: Preventing Prescription Drug Abuse."

2013

CHAPTER 4: BREAK THE CYCLE OF DRUG USE, CRIME, DELINQUENCY, AND INCARCERATION

Advocate for Action: Lieutenant Detective Patrick Glynn

With the implementation of the Overdose Education and Naloxone Distribution program by the Massachusetts Department of Public Health Bureau of Substance Abuse Services, the Commonwealth has become a nationwide leader in overdose education, prevention, and intervention. Lt. Det. Patrick Glynn directs the naloxone program in Quincy, Massachusetts, which is credited with reversing more than 100 potentially fatal drug overdoses—giving individuals a second chance to change their lives for the better. Lt. Det. Glynn is a staunch advocate for wider adoption of the program after all Quincy law enforcement officers were trained in 2010 to use naloxone to reverse opioid overdoses. As many communities see increased rates of heroin abuse, younger ages of initiation, and continuing challenges related to opioid pain reliever abuse, it is increasingly important to spread awareness that overdoses can be prevented and that simple-to-use medicines are available to reverse overdoses. Overdose education and naloxone availability are important parts of our efforts to decrease abuse of opiates (pharmaceutical or heroin) and save lives. As Lt. Det. Glynn has stated:

I believe we have spread the word that no one should fear calling the police for assistance and that the option of life is just a 911 call away. We have also reinforced with the community that the monster is not in the cruiser, but indeed the officer represents a chance at life.

Det. Glynn exemplifies how the law enforcement and public health communities can partner to reduce drug use and save lives.

	2010	2011	2012	2013	Total
Quincy Police	2	46	85	70	203
Revere Fire	8	25	37	44	114
Weymouth Fire	0	0	0	50	50
Saugus Fire	0	0	0	12	12
Gloucester Police	0	1	0	1	2
Gloucester Fire	0	0	2	0	2
Total	10	72	124	177	381

www.whitehouse.gov/ondcp/2013-national-drug-control-strategy

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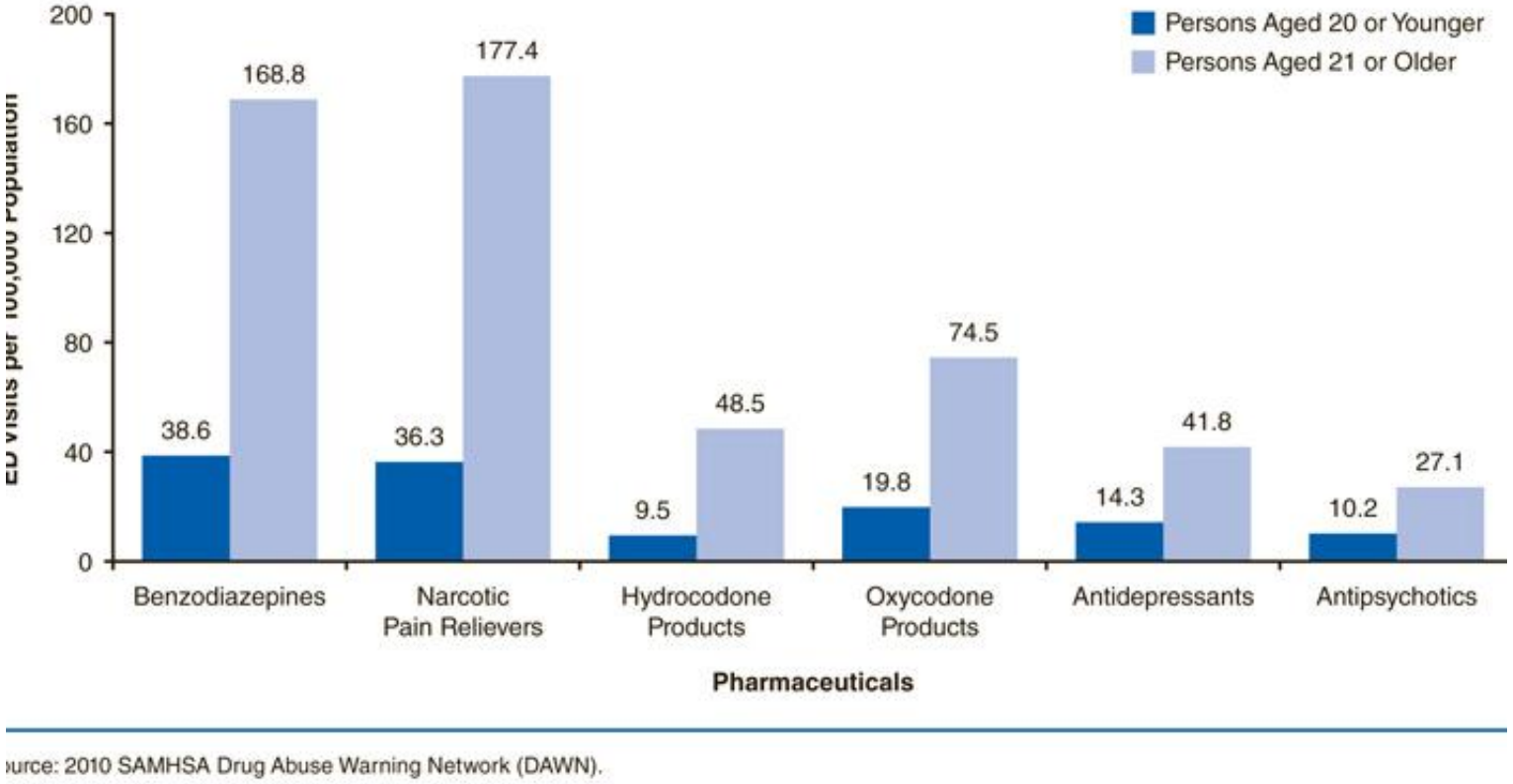
Rates of ED visits involving misuse or abuse of select pharmaceuticals per 100k, by age and drug: 2010



ource: 2010 SAMHSA Drug Abuse Warning Network (DAWN).

http://www.samhsa.gov/data/2k12/DAWN096/SR096EDHighlights2010.htm

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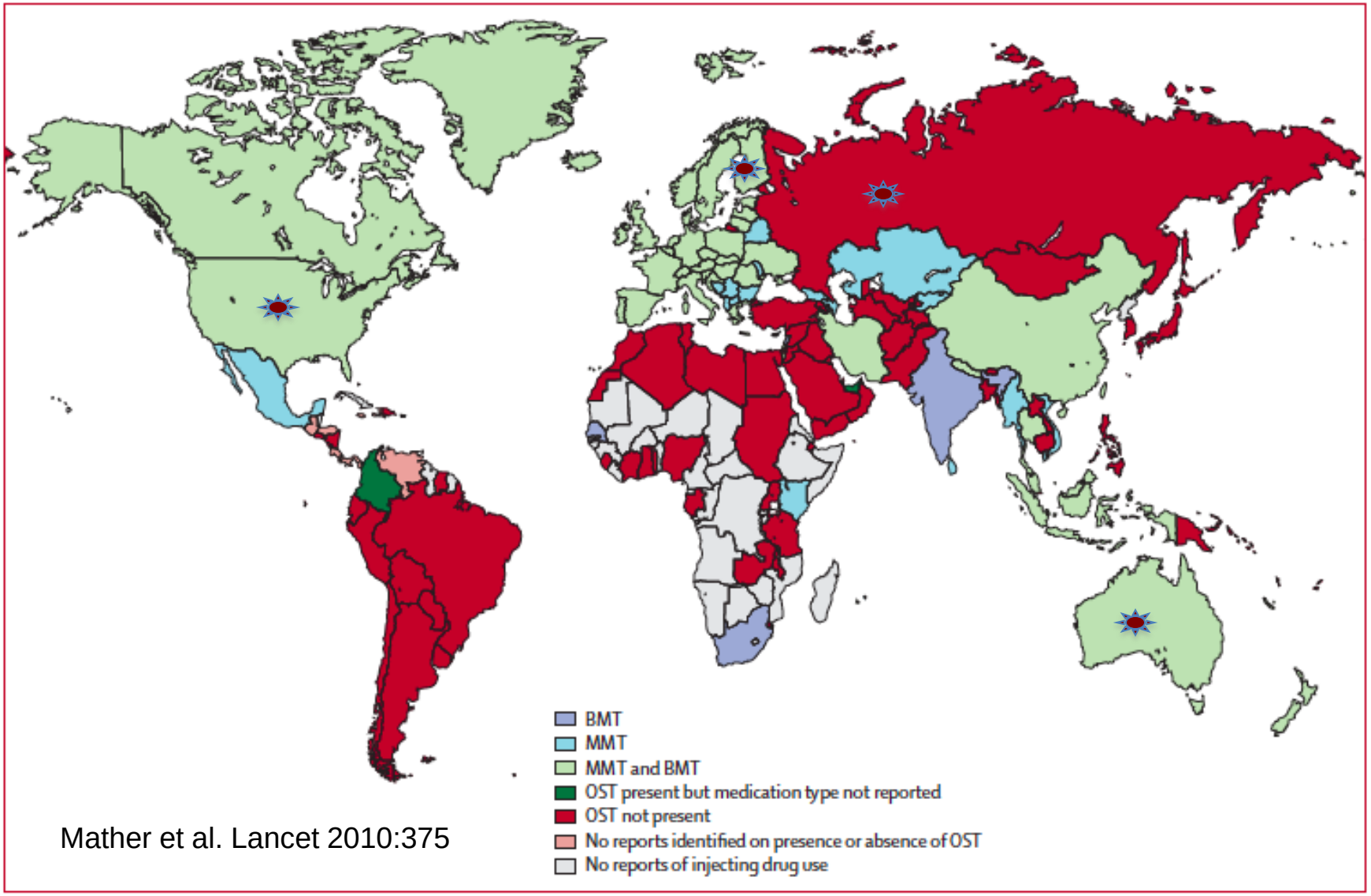
Availability of methadone and buprenorphine maintenance



Mather et al. Lancet 2010:375