Optimizing Safety in People with Addictions

CRIT/FIT program – April 2016

Alex Walley, MD, MSc
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
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.
  - Works as a waiter
  - Injecting heroin daily since age 23.
  - Uses cocaine on the weekends and drinks alcohol after work
  - Trades sex for drugs, when money is short
  - Prescribed clonazepam, clonidine and gabapentin for panic disorder and mood stabilization
  - Treated with methadone and buprenorphine in the past when pregnant
  - Intends to use again on discharge

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 risks:
  – Infection risk behaviors
    • Injection
      – New needle and syringe every time
      – Filters and Cooking
      – Clean solvent
    • 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
Optimizing safety
(aka Harm Reduction)

Optimising health and safety of people who inject drugs during transition from acute to outpatient care: narrative review with clinical checklist

Kinna Thakrar, Zoe M Weinstein, Alexander Y Walley
What is Harm Reduction?

- Practical strategies and ideas to reduce substance use consequences
  - A movement for social justice built on a belief in, and respect for, the rights of people who use substances.
    - Harmreduction.org

- Interventions guided by risk-benefit analysis
  - Abstinence is not a prerequisite to care
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
- Pre and Post exposure prophylaxis
- Housing first programs
- Shelter-based alcohol administration
- Bad date sheets

Needle Syringe Access

Slide from Sarah Wakeman
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)
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
## Change in HIV seroprevalence with and without needle-syringe programs

<table>
<thead>
<tr>
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<th>Cities with NSPs</th>
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<tr>
<td>All cities</td>
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<td>Cities with seroprevalence &lt;10%</td>
<td>-1.1% per year</td>
<td>+16.2% per year</td>
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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
Community Outbreak of HIV Infection Linked to Injection Drug Use of Oxymorphone — Indiana, 2015

Caitlin Conrad¹, Heather M. Bradley², Dita Broz², Swamy Buddha¹, Erika L. Chapman¹, Romeo R. Galang²,³, Daniel Hillman¹, John Hon¹, Karen W. Hoover³, Monita R. Patel²,³, Andrea Perez¹, Philip J. Peters², Pam Pontones¹, Jeremy C. Roseberry¹, Michelle Sandoval²,³, Jessica Shields⁴, Jennifer Walthall¹, Dorothy Waterhouse⁴, Paul J. Weidle⁵, Hsiu Wu²,³, Joan M. Duwel¹,⁵ (Author affiliations at end of text)

135 (129 confirmed, 6 prelim) infections in community of 4200 – Jan-April 2015
55% male, age range 18-57
80% acknowledge IDU, 3% deny IDU
  • All PWIDs report oxymorphone tablets as drug of choice
  • Other injection drugs include methamphetamine and heroin
84% co-infected with HCV
Up to three generations injecting together
Crushing and cooking 40mg tablets with frequent sharing of injection equipment
Number of injections per day range from 4-15
Injection partners range from 1 to 6

> Jan 2016 federal funding ban ended
Overdose prevention

Patient education videos and materials at prescribetoprevent.org
Rising morbidity and mortality in non-Hispanic Americans in the United States.

Anne Case and Angus Deaton

Woodrow Wilson School of Public and International Affairs and Department of Economics, Princeton University, Princeton, NJ 08544

Contributed by Angus Deaton, September 17, 2015 (sent for review August 22, 2015; reviewed by David Cutler, Jon Skinner, and David Wolz)

This paper documents a marked increase in the all-cause mortality of middle-aged white non-Hispanic men and women in the United States between 1999 and 2013. This change reversed decades of progress in the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE). The comparison is similar for other Organisation for Economic Co-operation and Development countries.

The Addiction Crisis

Fig. 1. All-cause mortality, ages 45–54 for US White non-Hispanics (USW), US Hispanics (USH), and six comparison countries: France (FRA), Germany (GER), the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE).

Fig. 4. Mortality by poisoning, suicide, chronic liver disease, and cirrhosis, white non-Hispanics by 5-y age group.
DEA Official Blames Fentanyl-Heroin Mixture from Mexico for Recent Fatal Overdoses

The fentanyl-laced dope plaguing the northeastern United States is being made south of the border, according to officials.

Increases in Fentanyl Drug Confiscations and Fentanyl-related Overdose Fatalities

This is an official CDC HEALTH ADVISORY

Table 1: Top 10 states by total fentanyl seizures, 2014, unpublished NFLIS data

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<th>Rank</th>
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<td>9</td>
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<tr>
<td>10</td>
<td>Indiana</td>
<td>133</td>
</tr>
</tbody>
</table>
Why a surge in overdoses?

• Prescription opioids for pain
• Transitioning to heroin
• Erratic and more deadly heroin supply
• Polysubstance use (including polypharmacy)
Strategies to address overdose

- **Prescription monitoring programs**
  - Paulozzi et al. Pain Medicine 2011

- **Prescription drug take back events**

- **Safe opioid prescribing education**

- **Opioid agonist treatment**
  - Clausen et al. Addiction 2009:104;1356-62

- **Supervised injection facilities**

- **Overdose Education and Naloxone Distribution**
Strategies to address overdose

• Prescription monitoring programs

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• Supervised injection facilities

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www.scopeofpain.com
www.opioidprescribing.com
www.pcss-o.org
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Boston Globe – December 27, 2015
Supervised Injection Facilities

• Definition: Legally sanctioned facilities where people who use injection drugs can inject pre-obtained drugs under medical supervision
  • Supervised injection facilities are designed to reduce the health and societal problems associated with injection drug use

• Objectives: Public Health + Public Safety
  • Reduce incidence of overdose
  • Reduce incidence of HIV, hepatitis C, and other injection-related infections
  • Improve access to substance use disorder treatment
  • Improve access to harm reduction and health care for high-utilizing, high-risk populations
  • Improve access to wraparound health, social services
  • Improve syringe and needle disposal
  • Reduce public drug use
  • Improve neighborhood security
  • Improve public safety-public health collaboration

• Existing Facilities
  • 86 facilities throughout Europe
  • Vancouver, Canada
  • Sydney, Australia

Source: European Monitoring Centre for Drugs and Drug Addiction, Updated June 2015
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- Overdose Education and Naloxone Distribution
Rationale for overdose education and naloxone distribution

• Most opioid users do not use alone

• Known risk factors:
  • Mixing substances, abstinence, using alone, unknown source

• Opportunity window:
  • Opioid overdoses take minutes to hours and is reversible with naloxone

• Bystanders are trainable to recognize and respond to overdoses

• Fear of public safety
Overdose Education and Naloxone Rescue

What people 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 breathing
   - Blue lips, pinpoint pupils

3. Response - What to do
   - Call for help
   - Rescue breathe
   - Administer naloxone, continue breathing
   - Recovery position
   - Stay until help arrives

Patient education videos and materials at prescribetoprevent.org
Evaluations of Overdose Education and Naloxone Distribution Programs

**Feasibility**
- Piper et al. Subst Use Misuse 2008: 43; 858-70.
- Walley et al. JSAT 2013; 44:241-7. (Methadone and detox programs)

**Increased knowledge and skills**

**No increase in use, increase in drug treatment**

**Reduction in overdose in communities**

**Cost-effective**
- $438 (best)
- $14,000 (worst) per quality-adjusted life year

Opioid Overdose Related Deaths: Massachusetts 2004 - 2006

Number of Deaths
- No Deaths
- 1 - 5
- 6 - 15
- 16 - 30
- 30+

OEND programs
- 2006-07
- 2007-08
- 2009

Towns without
Fatal opioid OD rates by OEND implementation

Naloxone coverage per 100K

Opioid overdose death rate

27% reduction
46% reduction

The AMA has been a longtime supporter of increasing the availability of Naloxone for patients, first responders and bystanders who can help save lives and has provided resources to bolster legislative efforts to increase access to this medication in several states.


APhA supports the pharmacist's role in selecting appropriate therapy and dosing and initiating and providing education about the proper use of opioid reversal agents to prevent opioid-related deaths due to overdose.


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
Law that limits liability and promotes help-seeking, third party prescribing
Massachusetts - August 2012:

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.
Models for Prescribing Naloxone

**Prescriber writes prescription**
Patient fills at pharmacy

**Setting:** clinic with insured patients

**Pharmacies alerted to prescribing plans**

**May need to have atomizers on-site for intranasal formulation**

**Pharmacy provides naloxone directly to customer**

Without prescriber contact under a collaborative practice agreement (CPA) or standing order

Encourage naloxone co-prescribing

**Unsigned Orders: new orders, reorders, and modifications**

- nalOXone nasal solution kit
  - Rescue Kit: 22mg/2ml + 2 MADS + info sheet: For opioid overdose, spray 1ml in each nostril. Repeat if no response after 3min Normal, Disp-10 mL 1-0

**DO YOU OR SOMEONE YOU KNOW TAKE OPIOIDS?**

**NALOXONE (NARCAN) RESCUE KITS ARE AVAILABLE**

Opioids include hydrocodone, oxycodone, codeine, hydromorphone, morphine, fentanyl, buprenorphine, methadone, oxymorphone, and heroin.

Someone who has overdosed will be unresponsive, have trouble breathing, and can die without immediate help.

If someone overdoses, call for help and use Narcan.

**SAVE A LIFE. Visit the BMC Shapiro Pharmacy today at 725 Albany St. for a NARCAN kit.**
Polypharmacy
Overdose deaths in NYC 2006-2008

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

“Street pills”

- Benzodiazepines
  - Clonazepam (Klonopin) – “pins”
  - Alprazolam (Xanax) – “bars”
  - Diazepam (Valium)
  - Also Z drugs – ambien and lunesta
- Clonidine (Catapress) – “deans”
- Promethazine (Phenergan) – “finnegans”
- Quietiapine (Seroquel)
- Gabapentin (Neurontin) – “johnnies”
  - Pregabalin (Lyrica) – “super johnnies”
- Buproprion (Wellbutrin)
Benzos
Widespread Use – Uncommon drug of choice

• Due to their significant margin of safety and effectiveness
  • BZDs among the most prescribed psychotropic medications worldwide
  • Prescribed to women more than men
  • On WHO essential drug list that should be available in all countries

• In the lab, people self-administer benzos
  • but weak re-inforcers vs. alcohol, opioid, cocaine, and amphetamine
    • Jones et al. DAD 2012; 125: 8-18.

• Few drug treatment patients cite benzos as their drug of choice
Self-medication

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

  Used unsupervised benzodiazepines in the past year

Prescribers are ambivalent

On the one hand
- Rarely drug of choice
- Given the amounts prescribed, benzo abuse is “remarkably low”
- Work fast: few side effects
- Benefit maintained over time

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

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
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.

- Works as a waiter
- Injecting heroin daily since age 23.
- Uses cocaine on the weekends and drinks alcohol after work
- Trades sex for drugs, when money is short
- Prescribed clonazepam, clonidine and gabapentin for panic disorder and mood stabilization
- Treated with methadone and buprenorphine in the past when pregnant
- Intends to use again on discharge

Despite your best brief intervention and motivational interviewing...

- **She is not interested in treatment at this time.**
Case

1. Discuss her addiction treatment options – conduct a brief intervention
   - Residential treatment, intensive outpatient, pharmacotherapy, 12-step groups
2. Review her injection and other drug use routine for knowledge and readiness
   - Educate/re-enforce safer use strategies
     - NSP, keeping substances safe from others, not using alone, tester shots, PrEP
3. Ask her about her overdose experience
   - Make a plan with her to reduce her own overdose risk and how to respond to others
   - Prescribe naloxone rescue kit if available
4. Work to reduce sexual risk
   - Condoms
   - PEP and PrEP
5. 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
Thank you awalley@bu.edu
<table>
<thead>
<tr>
<th></th>
<th>Injectable (and intranasal- IN) generic&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Intranasal branded&lt;sup&gt;2&lt;/sup&gt;</th>
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<td>8 mg/ 0.2 mL</td>
<td>0.8 mg/2 mL OR 4 mg/10 mL</td>
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<td><strong>Storage requirements</strong></td>
<td>Store at 59-86 °F Fragile: Glass.</td>
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<td>Store at 68-77 °F Breakable: Glass.</td>
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<td>#2 2 mL Luer-Jet™</td>
<td>#1 two-pack of two</td>
<td>#2 single-use 1 mL</td>
<td>#2 single-use 1 ml</td>
<td>#1 two-pack of two 0.4</td>
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<td></td>
<td>Luer-Lock needleless syringe plus #2 mucosal atomizer devices (MAD-300)</td>
<td>4 mg/0.1 mL intranasal devices</td>
<td>vials OR #1 10mL multidose vial PLUS #2 3 mL syringe w/ 23-25 gauge 1-1.5 inch IM needles</td>
<td>vials PLUS #2 3 mL syringe w/ 23-25 gauge 1-1.5 inch IM needles</td>
<td>mg/0.4 mL prefilled auto-injector devices</td>
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<td><strong>Sig. (for suspected opioid overdose)</strong></td>
<td>Spray 1 mL (1/2 of syringe) into each nostril. Repeat after 2-3 minutes if no or minimal response.</td>
<td>Spray 0.1 mL into one nostril. Repeat with second device into other nostril after 2-3 minutes if no or minimal response.</td>
<td>Inject 1 mL in shoulder or thigh. Repeat after 2-3 minutes if no or minimal response.</td>
<td>Inject 1 mL in shoulder or thigh. Repeat after 2-3 minutes if no or minimal response.</td>
<td>Inject into outer thigh as directed by English voice-prompt system. Place black side firmly on outer thigh and depress and hold for 5 seconds. Repeat with second device in 2-3 minutes if no or minimal response.</td>
</tr>
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<td><strong>How supplied</strong></td>
<td>Box of 10 Luer-Jet™ prefilled glass syringes</td>
<td>Two-pack of single use intranasal devices</td>
<td>Box of 10 single-dose flip-top vials (1 mL) OR Case of 25 multi-dose flip-top vials (10 mL)</td>
<td>Box of 10 single-dose flip-top vials</td>
<td>Two pack of single use auto-injectors + 1 trainer</td>
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<td><strong>Web address</strong></td>
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<td>Teleflex.com</td>
<td>Narcanasalspray.com</td>
<td>Hospira.com</td>
<td>Mylan.com</td>
</tr>
</tbody>
</table>
Active overdose prevention advocacy efforts

- Pharmacy access to naloxone rescue kit
- Insurance coverage for naloxone rescue kits regardless of opioid using status
- Integrating naloxone training into Basic Life Support education
- Integration of addiction treatment and harm reduction education into the curriculum
- Safe spaces, drug consumption rooms, supervised infection facilities, heroin maintenance
Overdose and Opioid Crisis Advocacy ideas

• Surveillance system that integrates public health, public safety, and law enforcement data
• Public health-public safety rapid response team that deploys treatment and harm reduction services
• Full coverage for methadone maintenance without daily co-pay requirements
• Mandate that all inpatient facilities (medical, psychiatric, detox, addiction residential, correctional) provide evidence-based medication for their patients and have cooperative agreements with methadone, buprenorphine and naltrexone providers that will allow for direct admissions and transfers to facilitate induction and maintenance on addiction medications.
• Fund addiction medicine fellowship training and faculty development
• Fund expansion of the OBOT nurse care manager model to all state-supported community health centers
• Expanded state funding for evidence-based harm reduction - needle-syringe access and overdose prevention with naloxoneSafe spaces, drug consumption rooms, supervised injection facilities, heroin maintenance (legalization)
The Addiction Crisis
Methods: Population-based overdose mortality rates were examined in the 500m surrounding the SIF before and after its opening and compared with before and after rates in the rest of the city of Vancouver.

Results: In the area around the SIF overdose mortality decreased 35%, compared with a 9.3% reduction in the rest of the city.
Common Risks for Opioid Overdose

Mixing Substances/Polypharmacy
Alcohol, stimulants, marijuana, prescribed and non-prescribed medications

Previous Overdose

Opioid Dose and Changes in Purity

Addiction History
- Release from incarceration
- Completion of detoxification
- Relapse

Chronic Medical Illness
- Lung, liver, and kidney compromise

Social Isolation
Using alone

Abstinence
- Release from incarceration
- Completion of detoxification
- Relapse
Legal and Logistical Barriers to SIF

1. **Federal** crack house statutes make it a crime to maintain a facility for the purpose of using substances
2. **State** laws would have to shield programs from local and state law enforcement
3. **Local** law enforcement, neighborhoods, and business community would need to support it
4. Adequate **funding** is needed to ensure the program is implemented correctly
5. An **empowered group of people who use drugs** is needed to ensure this works
Enrollment locations: 2008-2014

- Using, In Treatment, or In Recovery
- Non Users (family, friends, staff)

Program data from people with location reported:
- Users: 19,694
- Non-Users: 10,250

Currently > 40,000 enrollees (16 per day) and
> 6000 overdose rescues documented (5 per day)