Opioid Harm Reduction Strategies

Michael Lynch, MD
Medical Director, Pittsburgh Poison Center
Assistant Professor of Emergency Medicine, Toxicology, and Pediatrics

What is Harm Reduction?

• “Harm reduction is a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use.”
  - Harm Reduction Coalition, (www.harmreduction.org)

• In other words, focus on keeping people alive and as healthy as possible while actively using drugs

• In order to reduce harm, there must be harm. What is the harm associated with opioid use?

Current Illicit Drug Users

• 27.1 million people aged 12 or older who were current illicit drug users in 2015 represent 10.1 percent of the population aged 12 or older

Unmet Need for SUD Treatment

Healthcare Costs Associated with Misuse of Prescription Drugs

• Estimated Healthcare and Social Costs of PRESCRIPTION opioid abuse, dependence, and overdose (not including heroin):

  • $78.5 billion annually (in 2013 dollars)
    - Health care: $26,075,000,000
    - Substance Use Treatment: $2,820,000,000
    - Criminal Justice: $7,054,000,000
    - Lost Productivity: $20,441,000,000
    - Fatal Overdoses: $21,513,000,000

"Drug Deaths in America Are Rising Faster Than Ever"
The New York Times
Josh Katz
June 5, 2017

PA Overdose Deaths

- Reported Overdose Deaths
  - 2014: 2,742
  - 2015: 3,383 (~23.4% increase)
- PA Compared to National Statistics:
  - 2014 U.S. death per 100,000 people: 14.7
  - 2014 PA: 21/100,000 people
  - 2015 PA: 26/100,000 people
  - 2015 West Virginia: 41.5/100,000 people (highest in the U.S.)

PA Overdose Deaths - 2016

- 4,642 (37% increase from 2015)
- Death Rate: 36.5/100,000 people
- 13 overdose deaths per day
- ~85% involved a prescription or illicit opioid
- Statewide, fentanyl related deaths exceeded heroin related deaths for the first time
  - Fentanyl: 52% of deaths
  - Heroin: 45% of deaths

2016 Data from ACOME

- Allegheny County 2016:
  - 649 overdose deaths, up from 422 (>54% increase)
- Opioid Deaths
  - ~80% of deaths related to heroin and/or fentanyl
  - 62.25% of deaths included fentanyl or fentanyl analogue
  - 47.6% included heroin
  - 21.1% included prescription opioids
- Fentanyl was the leading cause of overdose deaths in the county
  - Heroin was the second leading cause
- 2017 Through 6/30/2017:
  - 249 deaths
  - 93% related to heroin and/or fentanyl
  - 89% of deaths with fentanyl present
  - 53% of deaths with heroin present

Opioid Harm Reduction Strategies

- Naloxone
- Needle Exchange
- Safe Consumption Facilities
  - Also called "Comprehensive User Engagement Sites"

Overdose Risk with High Dose Chronic Opioid Therapy

- Relative risk of overdose when compared to patients on <20MME/day
  - 50-100 MME/day: 1.9-4.6
  - >100 MME/day: 2-8.9
- Consider concurrent naloxone prescription for patients on >50-100 MME/day

**Naloxone (Narcan™)**

- Binds the same receptor as all opioids to block the effects
- There is no adverse effect in individuals who do not use opioids so it is very safe
- Dosing of naloxone necessary to reverse opioid toxicity can vary, but it is generally effective if given soon enough after an overdose
- Effects should be seen within minutes of administration

**Naloxone (Narcan)**

- Consider provision of naloxone to:
  - Patients who have survived an overdose
  - Patients requesting or having just completed detox/rehabilitation
  - Patients being released from prison
  - Patients demonstrating behavior concerning for an opioid use disorder
  - Patients concurrently prescribed benzos and opioids
  - Patients on high doses of chronic opioids (>50-100 MME/day)
  - Patients with obstructive sleep apnea on opioid therapy
- Family members should be encouraged to obtain naloxone under the PA standing order

**PA Act 139**

- Signed into law by Governor Corbett in September, 2014
- Act 139
  - Allows first responders including law enforcement, firefighters, and EMS to administer naloxone
  - Allows family and/or friends of individuals at risk of opioid overdose to obtain prescription for naloxone and administer it to someone who is experiencing an overdose
  - Provides immunity to individuals who administer naloxone in good faith as long as they have completed DOH training and called EMS
  - Good Samaritan Provision: Protects individuals from prosecution for witnessing or being present at the time of drug use when they activate EMS or call 911

**Naloxone Standing Orders**

- 6/10/2015: PA Standing Order DOH-001-2015
  - Signed by PA Physician General, Dr. Rachel Levine
  - Provides order and protocol for administration of naloxone by law enforcement and firefighter first responders following completion of training
  - Must contract with an EMS agency for refills of naloxone kits
  - Does not include EMS first responders (licensed through Bureau of EMS and individual agencies)
  - Does not include laypersons, drug users, or family members/friends
- 10/28/2015: PA Standing Order DOH-002-2015
  - Provides a standing order for naloxone to all Pennsylvanians

**Obtaining Naloxone**

- Pharmacies carrying naloxone in PA:
  [http://www.overdosefreepa.pitt.edu/find-naloxone/](http://www.overdosefreepa.pitt.edu/find-naloxone/)
- Most insurance, Medicare, and Medicaid products cover with co-pays ranging from $0-$20
- Pricing without coverage:
  - IM: ~$55 for syringe and two doses of 0.4mg
  - IN:
    - Adaptor: 2x4mg+0.1 mL without assembly: $125 (F/F public interest)
    - Amphastar: 2x2mg/2mL prefilled syringes + nasal atomizer; requires assembly and administration of half each dose in each nostril: $67
    - Evzio auto-injector: ~$4,500 (think Epi-Pen)

**Nasal Atomizer Device**

- [Image of nasal atomizer device]
NARCAN® Administration: Summary

- Do not press plunger until ready for use
  - Tilt person’s head back
  - Insert nozzle into nostril
  - Push plunger all the way in to deliver entire dose
  - If no response within 1-2 minutes, administer second dose

Review of Available Data

- Review of 19 nonrandomized articles evaluating opioid overdose prevention programs with naloxone prescription and distribution
  - Educational programs in recognition and appropriate response to an overdose event
  - 1949 reported naloxone administrations
  - Reported survival rates of 83-100%
  - Administration unsuccessful in 12 known situations
    - 3 survived with standard emergency care
    - 9 died (unclear if they had performed prior to bystander naloxone administration)
  - Adverse events
    - 109 reports of vomiting or other symptoms of opioid withdrawal
    - 4 reports of seizure activity
  - No decrease in EMS activation, improved reaction to overdose situation
  - Surveys of users did not reveal greater confidence or desire to use higher doses of opioids

Effect on Overall Mortality?

- Comparison of 19 communities with state supported Overdose Education and Nasal Naloxone Distribution programs versus communities without the program
  - 2912 potential bystanders were trained and 327 rescues were reported
  - Statistically significant reduction in fatalities in communities where the program was implemented
    - Adjusted rate ratio of 0.73 (0.57-0.91) with 1-100 enrollments per 100,000 population
    - Adjusted rate ratio of 0.54 (0.39-0.76) with >100 enrollments per 100,000 population
  - No difference in rates of acute care hospitalization was found

Myths Regarding Naloxone

- Individuals will be emboldened to use more potent and higher doses of opioids because of a false sense of security
  - Published studies indicate that opioid users do not have more confidence when using opioids due to naloxone availability. Habitual opioid users DO NOT want to receive naloxone at any time.
- Individuals are less likely to go to Emergency Departments for treatment
  - Referral rates to EDs have been found to be the same with or without bystander naloxone administration. Good Samaritan laws protect bystanders from legal ramifications.
  - We are enabling individuals with substance abuse to continue using
    - We are enabling individuals to survive and receive treatment.

Provider Safety

- Scene assessment and responder safety
  - Fentanyl and its more potent analogs are not absorbed through the skin in sufficient quantities to cause toxicity following incidental contact
  - Primary risk is airborne exposure, but this would be very unlikely outside of unusual circumstances
  - Routine use of gloves and avoidance of direct contact will prevent exposure in typical circumstances
  - Unpackaged drug and powder should not be touched or disturbed
  - Consider masks only if in close contact with large amounts of unpackaged drug or if powdered drug has been agitated
  - Coordinate confiscation of drug samples with law enforcement
  - FEAR OF INCIDENTAL EXPOSURE SHOULD NOT PREVENT TREATMENT OF AN OVERDOSE VICTIM!

Syringe Services Programs (SSPs)

- Provide access to free sterile syringes and other injection equipment, safe disposal of used syringes, and syringe exchange
- Provide other health and supportive services
  - Comprehensive risk reduction counseling
  - HIV and viral hepatitis screening and referral to treatment
  - Referral to substance use disorder treatment
  - Referral to medical and mental health care
- Also known as syringe exchange programs (SEPs), needle-exchange programs (NEPs), needle and syringe programs (NSPs)
Effectiveness of SSPs in Reducing HIV Risk

• First established in late 1980s in response to the HIV epidemic
  • 204 known SSPs in the US in 2013
• Compelling evidence of SSPs effectiveness, safety and cost-effectiveness for HIV prevention among PWID
  • Reduction in injection-risk behavior
  • Reduction in HIV incidence
  • No increase in drug use (e.g., no increases in initiation, duration or frequency)
  • Additional benefits (e.g., enrollment in substance use disorder treatment, higher HIV treatment retention, reduced needle stick injuries among first responders)
• Reach beyond enrolled SSP clients through secondary exchange and peer outreach


Safe Consumption Sites

Pittsburgh Poison Center

• Specialists in Poison Information available 24/7 to assist in evaluation and treatment, identification of drugs or toxins, and follow the patient in the hospital
• Call 1-800-222-1222 any time with drug or poison-related questions.