Opioid addiction and Naloxone

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I have no relevant financial relationships to disclose
Addiction in the United States

- Opioid use is becoming more prevalent in the United States
- While prescription opioids are necessary for treatment of chronic pain, abuse rates are also rising
- In 2008, approximately 36,450 people died from drug overdose
  - 20,444 of these deaths involved prescription drugs
  - 14,800 of the deaths due to prescription drugs involved opioid analgesics

Death from Opioid Overdose is on the Rise

Increase in Unintentional Overdose Deaths Involving Opioid Analgesics, 1999–2008

Unintentional Overdose Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
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<th>2002</th>
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<td>2,901</td>
<td>3,140</td>
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<td>5,547</td>
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<td>7,547</td>
<td>8,541</td>
<td>10,986</td>
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<td>11,882</td>
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Source: Centers for Disease Control and Prevention, National Center for Health Statistics, accessed through CDC WONDER Online Database, released 2011.

RI has the 7th highest fatal overdose rate in the country.
MORE PEOPLE IN RI DIE FROM OVERDOSE THAN MURDER, ARSON AND CAR ACCIDENTS COMBINED
Drug overdose is the leading cause of accidental death in Rhode Island.

The number of accidental drug overdose deaths have already reached 90 in 2014:
- Shows an increase in 23% over the same time period last year.

In 2010, non-medical use of prescription pain medications in Rhode Island ranked third in the country.

Approximately $\frac{1}{3}$ of Rhode Islanders received a prescription for an opioid in the last year.

Prescription opioids have passed marijuana as first illicit exposure in adolescence.

Accidental Overdose Fatalities in RI due to Prescription Drugs (2009-2012)

Who do you think uses heroin?
80% of new heroin users started by using prescription drugs
Most abused opioids come from family or friends
The average fatal overdose victim is between 40 and 60 years of age.
People who have been exposed to opioids
80% of people who try an opioid will not “like” it, but 20% will
As opioid prescribing has risen over the last two decades, we’ve seen a parallel rise in iatrogenic addiction
Allowing for Naloxone in Rhode Island

- Rules and Regulations Pertaining to Opioid Overdose Prevention
  - May be purchased by anyone who believes they will be present during an opioid overdose
- Access still limited to behind the pharmacy counter at some Walgreens pharmacies
  - No prescription is necessary
- Rhode Island recently signed emergency order allowing any pharmacist in Rhode Island to dispense naloxone
- State troopers also carry naloxone

Role of naloxone in the event of opioid overdose
Naloxone in Opioid Overdose

- Naloxone works to prevent or reverse the effects of opioids – this includes difficulty breathing, sedation, and low blood pressure
- Naloxone works in about 5 minutes
- Death from an opioid overdose usually does not occur for several hours, allowing for a window for naloxone use while waiting for responders to arrive

Using Naloxone

- Naloxone is an antidote for a variety of opioids
  - Fentanyl
  - Morphine
  - Buprenorphine
  - Codeine
  - Hydromorphone
  - Hydrocodone
  - Oxymorphone
  - Methadone
  - Oxycodone
  - Heroin
Symptoms of opioid over-dose

- Decreased level of consciousness
- Pin-point pupils
- Decreased breathing
- Cyanosis (blue tint of lips, fingernail beds, etc)
- Low blood pressure
- Slow heart rate
- Hypothermia

- Sedation usually preceeds respiratory depression
Who is most at risk for OD?

- “Doctor shopping”
- High daily dose (>100 morphine equivalents/day)
- Multiple controlled substances
- Low income
  - Medicaid enrollees are prescribed opioids at twice the rate of non-Medicaid patients and are at 6 times higher rate of overdose
- Co-morbid mental illness
- Prior history of substance abuse
Advantages of Naloxone

- Not scheduled or controlled
  - Cost about $40 – 50 if not billed to insurance
- Cannot be abused
  - No euphoria, and no effect if opioids not present in system
- Since police in Quincy, MA began carrying naloxone to respond to overdose emergencies, overdose deaths have decreased by 70%

Risks with Naloxone Use

- Could precipitate acute withdrawal syndrome
  - Includes vomiting, and increased risk of choking on vomit
  - Withdrawal could last 2 to 3 weeks with symptoms similar to the flu
- Naloxone could wear off too early, causing the patient to return to experiencing difficulty breathing
- Naloxone has risk of causing fluid in the lungs and dangerous changes in heart rhythm

Symptoms of Opioid Withdrawal

Objective signs:
- vomiting,
- lacrimation,
- rhinorrhea,
- pupillary dilatation,
- piloerection,
- sweating,
- diarrhea,
- yawning,
- fever,
- elevated pulse and blood pressure

Subjective symptoms
- dysphoric mood,
- agitation
- insomnia,
- muscle aches and cramps,
- abdominal pain and colic
How to administer naloxone to treat opioid overdose
How is Naloxone Administered?

- Naloxone can be conveniently administered intranasally
  - Just as effective as injection, without the risk of needle stick and exposure to blood-borne pathogens
  - Easy to educate patient on administration
  - 2 mg/2 mL prefilled syringes
  - 1 mL (half of the syringe contents) sprayed into each nostril
- Naloxone can also be administered by injection – administration more complex

Kit contains 3 parts

- Nasal atomizer
- Applicator
- Luer-Jet Luer Lock prefilled naloxone syringe

Intranasal Naloxone

- Nasal adapter means needless delivery
- Naloxone absorbed into blood through blood vessels on skin inside the nose

Pharmacist should demonstrate to purchaser how to use intranasal system using these steps:

- Remove the yellow cap from ends of the applicator
- Twist nasal adapter onto tip of applicator
- Remove red cap from naloxone
- Twist naloxone onto other side of applicator
How Can Patients or Family Members Receive Naloxone?

- Available without a prescription at Walgreens
- Does not need to be purchased by the person for whom the emergency naloxone is intended
- Billed to insurance provider of purchaser
  - Cost typically same as other drugs in first tier
- Pharmacist counsels purchaser on how to administer intranasal naloxone
- Purchaser receives handout on proper administration

R.I. State Police will carry Narcan to fight overdose ‘epidemic’
Police, rescue crew in Hopkinton help revive man who apparently overdosed
When Jonathan Goyer, right, overdosed on heroin last June, Mike Rossi, left, happened to be on hand — with a supply of the drug naloxone (also known as Narcan). The injection Goyer received saved his life. Now that Rhode Island State Police will soon be carrying Narcan, Goyer says his mother will be spared yet another drug overdose.
Inpatient or outpatient treatment programs
Methadone Clinics
Buprenorphine (Suboxone or Subutex)
Naltrexone IM