Overdose Prevention and Management in Opioid Treatment Programs

AATOD 2010
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Disclosures

• Melinda Campopiano is a Treatment Advocate for Reckitt Benckiser
• We have no additional commercial relationships to disclose
• Naloxone is FDA approved as an opioid antagonist
• Naloxone delivered as an intranasal spray with a mucosal atomizer device has not been FDA approved and is off label use
Session Agenda

Overdose Epidemiology - Opioid & Methadone

Overdose Physiology & Naloxone Pharmacology

Overdose Prevention Education and Training in an OTP

Standing Order Model

Summary of Key Findings & Expansion
Overdose Epidemiology- Opioid

- Overdose deaths are up 5-fold since 1990
  - 26,400 deaths in 2006
  - For ages 35-54, exceed MVA death rates
- Emergency department visits in 2008
  - 306,000 involved pharmaceutical opioids
  - 201,000 involved heroin
Unintentional drug overdose deaths by major type of drug, United States: 1999-2006
Drug Overdoses by State, 2006

CDC Issue Brief. March 2010
Overdose Epidemiology- Methadone Associated Mortality On the Rise

• 1999 to 2002= 213% increase in fatalities
• Opioid Treatment Program (OTP) patients not likely to be the source of increased opioid overdoses, compared to methadone prescribed for pain (though they are a group worthy of focus)
Reports of opioid analgesics from selected DAWN Medical Examiners 1997-2002
Reducing Overdose Has Many Interested Parties

• ONDCP
  – 2010 National Drug Control Strategy reduce OD deaths by 15%
  – Equip public safety w/ naloxone
• DEA, DOJ & EPA
  – Rx Drug Take Back
What puts people at risk for ODs?

- Changes in tolerance
- Polysubstance use- benzos, alcohol & cocaine
- Physical health
- Previous experience of non-fatal overdose
- Strength and content of ‘street’ drugs
• Blue skin tinge
• Body very limp
• Face very pale
• Pulse slow or not there at all
• Passing out
• Choking sounds or a gurgling/snoring noise
• Breathing is very slow, irregular, or has stopped
Progression of an Overdose

- Euphoria
- Pain relief
- Withdrawal relief
- Respiratory depression
- Death
- Full Agonist (Methadone)
- Antagonist (Naloxone)

SAMHSA/CSAT TIP #40 page13
Narcan has a stronger affinity to the opioid receptors than opioids like heroin or Percocet, so it knocks the opioids off the receptors for a short time. This allows the person to breathe again and reverses the overdose.
Intervening in Opioid Overdose

- ODs often witnessed, occur over time
- 911 is called <50% of the time
- Naloxone reverses opioid-related sedation and respiratory depression
  - Not psychoactive, no abuse potential
  - May cause withdrawal symptoms
Administering Naloxone

• Pure opioid antagonist
• May be injected in the muscle, vein or under the skin or sprayed into the nose
• Acts within 2 to 8 minutes
• Lasts 30 to 90 minutes, overdose may return
• May be repeated
• Narcan® = naloxone
• naloxone ≠ Suboxone ≠ naltrexone
### OD Education and Naloxone Distribution (OEND) Programs

<table>
<thead>
<tr>
<th>Number (#)</th>
<th>2007*</th>
<th>2010†</th>
</tr>
</thead>
<tbody>
<tr>
<td>States w/ OENDs</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Programs</td>
<td>42</td>
<td>131</td>
</tr>
<tr>
<td>People enrolled</td>
<td>20,950</td>
<td>?</td>
</tr>
<tr>
<td>Reported OD reversals</td>
<td>2,642</td>
<td>?</td>
</tr>
</tbody>
</table>

Three models: Prescription, Standing Order, Distribution

* Knox, 2008 † Unpublished NOPE data
Evaluations of OEND programs

- No increase in drug use
- No major medical side effects
- Possible increase in drug treatment
- Feasibility
  - Drug users & lay responders can recognize overdose and be trained to respond
Beginning OD Prevention in an OTP: Develop Awareness & Build Buy-In

- Discuss overdose in your community at staff meetings and provide referral resources
- Invite outside speaker
- Facilitate discussion of any concerns among staff
- Solicit staff input in development of Overdose Prevention Program at OTP
- Involve the patients
- Engage innovative partners/allies- law enforcement/public safety, parent or family groups, religious institutions
Allegheny Co Overdose Death in Comparison to MVA Fatalities and Homicides 1998-2007
Accidental Drug Overdose Deaths by Drug 2000-2006
Drug Use in Allegheny County by FY

Data from Pennsylvania Department Of Health
Collaborate with Community Agencies

- Prevention Point Pittsburgh (PPP)
- Overdose prevention since 2005
- 7,541 Overdose Prevention trainings 05-09
  - 5,342 in county jail
  - 1,722 community members
  - 477 syringe exchange clients

Personal Communication
Naloxone Prescriptions by PPP

- 477 persons who received prescriptions collectively reported at the time of their training
  - 570 overdoses (self)
  - 1,995 overdoses witnessed
  - 149 deaths

- 310 refills provided
  - 307 successful reversals
  - **173 required rescue breathing**
  - 2 deaths
  - 1 unknown outcome
Normalize in OTP Milieu

- Literature should be available and visible.
- Overdose risk should be routinely discussed in case consultations.
- Past Medical History should document history of overdose.
- Provide regular opportunities to process grief, anger, guilt and other strong feelings about overdose.
Patient Targeting Strategies

- All patients offered training and naloxone
- All *new* patients offered training and naloxone as part of orientation
- Provide on-demand
- Target those with additional risk factors (co-occurring mental health disorders, positive UAs, previous overdose, etc)
Gain Institutional Approval

• Present to any upper level medical and executive staff persons
• Develop a written policy/guideline
• Discuss with hospital pharmacy
• Present at Pharmacy and Therapeutics Committee meeting
• **Hint:** Don’t expect them to know much about overdose or your patients.
The OTP Patient

- Opiate users by definition
- Co-occurring mental health disorders
- Polysubstance use
- Reside in families and communities where substance use is widespread
- Treatment may end abruptly
OTP patients are more likely than the general population to have Axis I or II disorders.

Up to half of OTP patients have a co-occurring disorder in their lifetime.

OTP patient demographics put them at risk:
- Older age
- Urban area
- Homelessness
- Medical illness
- Incarceration
- Low socioeconomic status
### OPT Patients with Polysubstance Use and Co-Occurring Disorders

<table>
<thead>
<tr>
<th>Substance</th>
<th>With disorder</th>
<th>Without disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>31.5%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>21.8%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>48.5%</td>
<td>32.7%</td>
</tr>
</tbody>
</table>
Collect Data on Your Program

- Keep sign in lists
- Track naloxone prescriptions
  - Prescribed
  - Picked-up
  - Used
- Head Count a couple questions
  - How many have overdosed or witnessed one
  - How many have received overdose training before
- Consider a patient satisfaction survey
Achieving Sustainability

• Teach other staff to provide training to patients
• Hand over coordination of your overdose prevention program to one or more specific staff positions
• Present data on your program to staff, patients and management
Standing Order Model: Massachusetts Opioid-Related Poisoning Deaths in Massachusetts 1990-2007

Source: Registry of Vital Records and Statistics, MA Department of Public Health
Massachusetts Timeline

- Lessons learned from underground OEND in 2004
- Media coverage of fatal ODs in 2005
• BPHC BOD passes regulation in 8/06, naloxone availability through needle exchange program (NEP) begins 9/06
Massachusetts Timeline

- BPHC also operates OTP- in 2006, it became *the first* additional site beyond NEP
Implementing the Massachusetts Public Health Pilot: Standing Order Model

- Pilot program conducted under DPH/Drug Control Program regulations (M.G.L. c.94C & 105 CMR 700.000)
- Medical Director issues standing order for the distribution
- Naloxone may be distributed by public health workers
Data Collection

September 2006 to present:

• Enrollment form:
  – At time of training and naloxone distribution, program staff collect potential bystander demographics and OD risk factors

• Refill form:
  – Upon return to program, staff collect data on ODs reversed
Enrollee characteristics: 2006-2010

<table>
<thead>
<tr>
<th>Enrollments (N=7490)</th>
<th>People in treatment, in recovery, or using</th>
<th>Family and Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5351</td>
<td>2589</td>
</tr>
<tr>
<td>Mean age (SD)</td>
<td>34 (11)</td>
<td>43 (13)</td>
</tr>
<tr>
<td>Gender: Male</td>
<td>64%</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Race: White</td>
<td>81%</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>Black/ AA</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other race</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Ethnicity: Hispanic</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>Witnessed OD ever?</td>
<td>78%</td>
<td>47%</td>
</tr>
</tbody>
</table>
Enrollee past 30 day opioid use: 2006-2010

Data only from people with current or ever substance use N= 5351
Enrollment Locations: 2008-2010

- Detox
- Needle Exchange
- Drop-In Center
- Community meeting
- Methadone Clinic
- Other SA treatment
- Inpatient/ ED/ Outpatient
- Home visit/ shelter

Number enrolled

- Opioid Users
- Non Users
## Overdose Experience of OTP Patients and Staff

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Witness OD?</th>
<th>Personal OD? †</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total enrollment</td>
<td>7940</td>
<td>68%</td>
<td>50%</td>
</tr>
<tr>
<td>OTP Patients*</td>
<td>887</td>
<td>82%</td>
<td>53%</td>
</tr>
<tr>
<td>Non-patients (staff)</td>
<td>54</td>
<td>43%</td>
<td>-</td>
</tr>
</tbody>
</table>

* Patients = people enrolled at a methadone clinic + people enrolled elsewhere who report daily methadone use
† only current or ever substance users N=5351
### Overdose Reversals

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Reverse OD?</th>
<th>Heroin use?</th>
<th>Benzo use?</th>
<th>Methadone use?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total enrollment</td>
<td>7940</td>
<td>755</td>
<td>97%</td>
<td>26%</td>
<td>1%</td>
</tr>
<tr>
<td>OTP Patients</td>
<td>887</td>
<td>114</td>
<td>94%</td>
<td>25%</td>
<td>3%</td>
</tr>
<tr>
<td>Non-Patients</td>
<td>53</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Possible that rate of methadone involvement is actually that low. Also, possible under reporting due to:

- OD bystanders may tend to only name “primary” drug
- Methadone’s long half-life = OD bystander might not know
<table>
<thead>
<tr>
<th>Clinic staff train and distribute</th>
<th>Clinic staff train, refer to OEND for distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 OTP clinic using this model</td>
<td>6 OTP clinics</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>OEND staff regularly come on site to train and distribute</td>
<td>OEND staff recruit from clinic without collaborative agreement</td>
</tr>
<tr>
<td>3 OTP clinics</td>
<td>7 OEND programs using this model</td>
</tr>
</tbody>
</table>

*Standing Order Allows Varied Models to Emerge*

*many people are on methadone and choose to separate OEND and methadone svcs= 5th model*
OTP patients also access:
– Needle exchanges
– Other HIV prevention services
– Homeless services

Top 3 most common sites for OTP patient naloxone refills:
1. Needle Exchange Program  (40%)
2. Drop-in Center  (30%)
3. Methadone Clinic  (9%)
Summary of Findings - General

• Participants commonly witness ODs
• Participants can recognize ODs and use intranasal naloxone successfully
• OD prevention programs can train and distribute without a medical provider encounter
Summary of Findings – Methadone-related

- Methadone patients commonly have OD history
- OD training and naloxone distribution is feasible at OTPs
  - Several models are available
- Daily methadone users are enrolled at needle exchange, drop-in centers and community sites near methadone clinics
- Heroin and heroin mixed with other drugs are the most common drugs involved in overdose
  - Methadone is unusual (3%)
Expansion

- Advocate for overdose prevention at any local provider meeting.
- Approach local or state chapters of AMA or ASAM to adopt policy in support of overdose prevention.
- Consider coprescription of naloxone with all opioids for pain or addiction.
- Support Good Samaritan & Overdose Reduction legislation.
Acknowledgements

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