Creating a Continuum of Care For Opioid Use Disorder

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Adapt
Opioids, Pain + Addiction, May 18, 2018
DISCLOSURES

No disclosures
Learning Objectives

• Compare three FDA approved medications for OUD and how to select the appropriate care plan
• Describe the settings, levels of care, and key components of a full continuum of treatment for OUD
Mu (µ) receptors stimulated by opioids causing the full range of opioid effects.

Adapted from slides at vivitrol.com
Opioid Agonist Effects

Progressive CNS Depression

Action

Pain

Relax

Euphoria

Nod

Coma

Death

Dose
Dependence vs. Addiction

- **Dependence**
  - Increased tolerance
  - Withdrawal

- **Addiction**
  - Craving
  - Loss of control
  - Impairment & distress in important life areas
Differing Strengths & Durations of Action Opioid Agonist Half-Lives

- Heroin, codeine, morphine – 2-4 hours
- Methadone – 24 hours
- Buprenorphine – 24-60 hours

Adapted from NIDA/ATTC Blending Product
Acute Opioid Withdrawal Symptoms

- Pupillary dilation
- Watery eyes
- Runny nose
- Muscle spasms ("kicking")
- Yawning, sweating, chills, gooseflesh
- Stomach cramps, diarrhea, vomiting
- Restlessness, anxiety, irritability

Usually result in further use to quiet symptoms
## Three Types of Medication for Opioid Use Disorder

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agonist</strong></td>
<td>Morphine-like effect (methadone)</td>
</tr>
<tr>
<td><strong>Partial</strong></td>
<td>Maximum effect is less than a full agonist (buprenorphine)</td>
</tr>
<tr>
<td><strong>Agonist</strong></td>
<td>No effect in absence of an opiate or opiate dependence (naloxone/naltrexone)</td>
</tr>
</tbody>
</table>
Methadone: Full Agonist

Progressive CNS Depression

Dose

Action

Pain

Relax

Euphoria

Nod

Coma

Death
Methadone: OTP Only

www.methadoneaddiction.net/m-pictures.htm
Methadone maintenance therapy versus no opioid replacement therapy

Mattick RP, Breen C, Kimber J, Davoli M

Published Online: July 8, 2009

- Authoritative review of 11 randomized clinical trials with 1,969 patients
- Conclusion methadone is superior to placebo in:
  - Retaining patients in treatment
  - Reducing illicit opioid use
Advantages of Methadone

- >70% or more treatment retention at 1 year
- Treats craving and is reinforcing
- Blocks illicit opioid use
- Over 40 years of research and treatment experience demonstrating effectiveness
- Significantly reduces risk for addiction related death and health problems
- Medication cost is minimal
Limitations of Methadone

- Full agonist with abuse potential
- Potential for dangerous interactions with other drugs when misused
- Strict regulated reduces access
- Strong physical dependence results in difficult withdrawal
- Significant stigma in the community
- Heavy burden on patients for compliance
Buprenorphine: Partial Agonist

Opioid Effect

Dose

Partial Agonist
Buprenorphine: A Partial Agonist

- Buprenorphine: 2, 4, 8, 12mg
- Buprenorphine naloxone 4:1 ratio: 2/.5, 4/1, 8/2,12,3mg

- Sublingual Film
- Sublingual tablets
- Rapid absorption
- Extended release

- High mu receptor affinity reduces illicit opioid use
- Some risk of inducing sudden acute withdrawal during induction
- Partial agonist action makes higher doses safe and well tolerated
- Extended half-life
- Mildly reinforcing
Cochrane Summaries
Independent high-quality evidence for health care decision making

Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence

Mattick RP, Kimber J, Breen C, Davoli M
Published Online: July 16, 2008

- Review of 24 randomized clinical trials with 4,497 patients
- Conclusion buprenorphine is superior to placebo and to moderate dose methadone:
  - Retaining patients in treatment
  - Reducing illicit opioid use
BUP/NX Office-Based Practice

- DATA 2000 physicians office-based prescription BUP for opioid use disorder
- CARA 2016 (7/22/16): increase patient # limits; NP & PA to prescribe
- Retention rates about 48% at 6 months
- Requires ability to refer for behavioral treatment
- Diversion and other problems are common and require close monitoring & intervention
Advantages of Buprenorphine

- OBOT greatly increases access to medication
- Less severe dependency allows for easier transitions between recovery with and without medication
- High receptor affinity reduces illicit opioid effects
- Partial agonist is safer with less overdose potential
- Lower abuse potential than full agonist
- People live a normal life free from craving and withdrawal
Limitations of Buprenorphine

- Lower patient retention than full agonist¹
- Has diversion potential and may be misused
- Impact of diversion is not well understood²
- Medication is expensive and access is limited particularly in rural areas
- Stigma in the recovery community


Loss of tolerance and overdose mortality after inpatient opiate detoxification: follow up study

John Strang, Jim McCambridge, David Best, Tracy Beswick, Jenny Bearn, Sian Rees, Michael Gossop

In many countries opiate overdose remains the main source of the 10-fold excess mortality among opiate addicts, notwithstanding the effects of HIV/AIDS. Treatment reduces mortality but can sometimes increase mortality transiently—for example, during the first few weeks of methadone maintenance treatment and among former opiate addicts after their release from prison. The increase in mortality among released prisoners who were formerly opiate addicts has been attributed to loss of tolerance and erroneous judgment of dose when they returned to opiate use.

We wished to investigate whether opiate addicts who have undergone inpatient detoxification might have a similarly increased mortality after detoxification, for follow up patients who received detoxification, looked for evidence of mortality, and investigated the characteristics of patients who died.

Participants, methods, and results

Over 20 months we recruited 137 addicts who were receiving opiate part of a 28 day inpatient treatment who consented to be followed up within 12 months after their detoxification. About 4% 12-month mortality risk positively correlated with longer abstinence.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Patients who died (n=5)</th>
<th>Other patients (n=132)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age in years (SD)</td>
<td>31.4 (7.5)</td>
<td>32.6 (7.3)</td>
</tr>
<tr>
<td>Male sex</td>
<td>5 (100)</td>
<td>99 (75)</td>
</tr>
<tr>
<td>Previous inpatient treatment</td>
<td>4 (80)</td>
<td>92 (70)</td>
</tr>
<tr>
<td>Ever overdosed</td>
<td>1 (20)</td>
<td>50 (39)</td>
</tr>
<tr>
<td>Was prescribed methadone</td>
<td>5 (100)</td>
<td>92 (70)</td>
</tr>
<tr>
<td>Mean dose (mg) of prescribed methadone (SD)</td>
<td>51.0 (20.7)</td>
<td>29.2 (23.1)</td>
</tr>
<tr>
<td>Mean number of days heroin use (SD)</td>
<td>14.4 (14.4)</td>
<td>24.5 (10.2)</td>
</tr>
<tr>
<td>Living alone</td>
<td>4 (80)</td>
<td>211 (16)</td>
</tr>
<tr>
<td>Physical health (MAP† score) (SD)</td>
<td>58.6 (10.2)</td>
<td>20.9 (12.3)</td>
</tr>
<tr>
<td>Mean length of stay (days) in unit (SD)</td>
<td>24.6 (7.6)</td>
<td>15.6 (8.1)</td>
</tr>
<tr>
<td>Completed detoxification</td>
<td>5 (100)</td>
<td>89 (67)</td>
</tr>
<tr>
<td>Completed full treatment programme</td>
<td>4 (80)</td>
<td>33 (25)</td>
</tr>
</tbody>
</table>

*In the month before admission.
†Maudsley Addiction Profile (see www.ntors.org.uk/map.pdf).

Antagonist, e.g., naloxone

Opioid Antagonist

Opioid Effect

Dose
Gluteal Intramuscular Injection of extended release naltrexone

Adapted from slides at vivitrol.com
Advantages of Extended Release Injectable Naltrexone

- No abuse potential
- Blocks the effects of opioids
- Reduces danger of accidental overdose
- No physical dependence
- Little or no stigma in the recovery community
- Patient’s report reduced cravings
Limitations of Extended Release Injectable Naltrexone

- Less research and clinical experience
- No reinforcing effects to support retention in treatment
- No withdrawal symptoms to prevent treatment drop-out
- High cost limits access
- May not control cravings
- Must be opioid free for induction, indication is for relapse prevention
- Difficulties with induction requirements may decrease effectiveness\(^1\)

Continuum of Care for OUD

• Detoxification
  – Residential
  – Initial MAT

• OBOT
  – Buprenorphine
  – Extended Release Naltrexone

• Opioid Treatment Program (OTP)
  – Buprenorphine
  – Methadone
Contributions of each Level of Care to the Continuum of Care

- Detox is commonly accessed for OUD offers rapid stabilization, may increase risk of OD without extended release naltrexone\(^1\)
- OBOT offers access to MAT in least restrictive setting and retains more patients than detox
- Methadone is only available in OTPs and has benefit of retaining more patients, observed dosing, intensive services, and diversion control

Why Offer All Three Medications?

• Severity of use disorder
• Patient preference
• Treatment compliance burden
• Invasiveness of intervention
• Differential effectiveness in retaining patients in treatment
  – XBOT compares 24 week relapse for BUP (57%) and extended release naltrexone (65%)
  – Start study retention in treatment BUP 46% vs Methadone (74%)
Adapt MAT Continuum

- BUP detoxification taper followed by extended release naltrexone for relapse prevention
- Office-based Opioid Treatment
  - BUP + Motivational Stepped Care
  - Extended release naltrexone
- Opioid Treatment Program
  - Methadone or Buprenorphine
  - Motivational Stepped Care
Adapt MAT Model

- Patients can access at any level of care: Detox, OBOT, OTP
- Patients are stepped up in intensity of care within each level of care based on response to treatment
- Patients are stepped up or down in level of care based on response to treatment
Lessons Learned

- Continued high levels of methamphetamine & marijuana use has challenged our recovery model
- It is difficult for staff to maintain patient accountability without close auditing
- Providing clear expectations upfront helps reduce patient bargaining and objections
- Objective measures of patient compliance are critical (UA for illicit & presence of medicine, pill counts, program compliance)
- Full continuum of care retains and benefits more patients than any single level of care
Acknowledgements

- Umpqua Health Alliance for grant support for Douglas County OTP
- Advanced Health for grant support of Coos County OTP
- OHA & SAMHSA for grant support to establish Douglas & Coos County Opioid Treatment Programs