Implementation of a pilot program for medication-assisted treatment in the emergency department

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Implementation of a Pilot Program for Medication-Assisted Treatment in the Emergency Department

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The speaker has no actual or potential conflict of interest in relation to this presentation
The Opioid Epidemic

Fatal Opioid Overdoses in the United States per 100,000 people (2015)

Source: Kaiser Family Foundation analysis of Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released 2018.
Opioid Use Disorder Treatment

- Medication-Assisted Treatment (MAT)
  - Comprehensive treatment for substance use
    - Medication
    - Counseling
    - Behavioral Therapies
- Medications for Opioid Use Disorder (OUD)
  - Buprenorphine
  - Naltrexone
  - Methadone

Medication-Assisted Treatment (MAT). SAMHSA. https://www.samhsa.gov/medication-assisted-treatment
Drug Addiction and Treatment Act

- Drug Addiction and Treatment Act (DATA) of 2000
  - Waived practitioners can prescribe approved medications for the treatment of narcotic dependence
  - Requires additional training
    - Physicians – 8 hours
    - Nurse practitioners and physician assistants – 24 hours
Buprenorphine and Naloxone

- **Buprenorphine**
  - Partial mu receptor agonist
- **Naloxone**
  - Mu receptor antagonist
  - Inactive when taken orally, prevents misuse
- **Combination buprenorphine/naloxone**
  - Initiated when opioid withdrawal symptoms begin
  - Available in multiple formulations
  - Maximum dose of buprenorphine/naloxone sublingual tablets on initial treatment day is 8mg/2mg

Buprenorphine. SAMHSA. [https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine](https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine)
Test Your Knowledge

• What is the maximum dose of buprenorphine/naloxone sublingual tablets approved by the FDA on day 1 of treatment
  a) Buprenorphine/naloxone 4mg/1mg
  b) Buprenorphine/naloxone 8mg/2mg
  c) Buprenorphine/naloxone 16mg/4mg
  d) Buprenorphine/naloxone 24mg/6mg
Test Your Knowledge

What is the maximum dose of buprenorphine/naloxone sublingual tablets approved by the FDA on day 1 of treatment?

a) Buprenorphine/naloxone 4mg/1mg
b) Buprenorphine/naloxone 8mg/2mg

The correct answer is b) Buprenorphine/naloxone 8mg/2mg.
Clinical Opiate Withdrawal Scale (COWS)

- Increased Pulse
- Sweating
- Restlessness
- Dilated Pupils
- Bone and Joint Aches
- Piloerection
- Yawning
- Runny Nose
- Tearing
- Tremor
- GI Upset
- Anxiety

Mild withdrawal: 5-12  Moderate withdrawal: 13-24
Moderate/severe withdrawal: 25-36  Severe withdrawal: >36

Test Your Knowledge

• Which of the following is a potential sign of opioid withdrawal?
  a) Dry mouth
  b) Pinpoint pupils
  c) Yawning
  d) Bradycardia
Test Your Knowledge

Which of the following is a potential sign of opioid withdrawal?

a) Dry mouth
b) Pinpoint pupils
c) Yawning
d) Bradycardia
Gaps to Care

- Barriers to treatment
  - Stigma
  - Lack of DATA waived providers
  - Fragmented care
  - Insurance and cost
Treatment Strategies

- Induction strategies
  - Office based
  - Home based
  - ED based
## Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence

<table>
<thead>
<tr>
<th></th>
<th>Referral</th>
<th>Brief Intervention</th>
<th>Intervention and Buprenorphine/Naloxone</th>
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</thead>
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<tr>
<td><strong>Number</strong></td>
<td>104</td>
<td>111</td>
<td>114</td>
</tr>
<tr>
<td><strong>Male (%)</strong></td>
<td>81 (77.9)</td>
<td>84 (75.7)</td>
<td>86 (75.4)</td>
</tr>
<tr>
<td><strong>White (%)</strong></td>
<td>78 (75)</td>
<td>80 (73.9)</td>
<td>88 (77.2)</td>
</tr>
<tr>
<td><strong>Age (y)</strong></td>
<td>31.4</td>
<td>31.9</td>
<td>31</td>
</tr>
<tr>
<td><strong>Treatment at 30d (%)</strong></td>
<td>38 (37)</td>
<td>50 (45)</td>
<td>89 (78)</td>
</tr>
</tbody>
</table>

## Background

Retrospective analysis of newly initiated ED-based buprenorphine/naloxone induction at a single center

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>219</td>
</tr>
<tr>
<td><strong>Male (%)</strong></td>
<td>123 (56.2)</td>
</tr>
<tr>
<td><strong>White (%)</strong></td>
<td>189 (86)</td>
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<tr>
<td><strong>Age (y)</strong></td>
<td>35</td>
</tr>
<tr>
<td><strong>Buprenorphine/naloxone induction dose (mg)</strong></td>
<td>7.7</td>
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<tr>
<td><strong>MAT intake within 72h of induction</strong></td>
<td>162 (74)</td>
</tr>
<tr>
<td><strong>Treatment at 30d (%)</strong></td>
<td>108 (49.3)</td>
</tr>
</tbody>
</table>

## Dosing Protocols

### Substance Abuse and Mental Health Services Administration

- **Day 1**
  - Buprenorphine/naloxone 4mg/1mg when withdrawal symptoms present
  - Observe 2+ hours and redose up to 8mg/2mg in 24 hours
- **Day 2**
  - If no symptoms since last dose, continue Day 1 dose
  - If symptoms returned from Day 1, add 4mg/1mg

### American Society of Addiction Medicine

- **Day 1**
  - Start with buprenorphine/naloxone 2mg/0.5mg to 4mg/1mg
  - Reassess in 60-90 minutes
  - Repeat doses of 2mg/0.5mg to 4mg/1mg to effective dose

### American College of Emergency Physicians

- **Day 1**
  - Start with buprenorphine/naloxone 2mg/0.5mg to 4mg/1mg
  - Reassess in 1-2 hours
  - Give additional 4mg/1mg if no precipitated withdrawal
Parkview Health
MEDICATION-ASSISTED TREATMENT IN THE ED
Purpose

- Initiate MAT for OUD in the ED
- Remove barriers to treatment
- Standardize referral process
- Improve patient outcomes
**Intended Population**

**Eligible**
- Active withdrawal
- Willing to initiate treatment
- Adults 18 years of age and older

**Ineligible**
- Pregnancy
- Uncontrolled psychiatric condition
- Requiring opioids for pain
- Currently maintained on methadone
- Moderate to severe hepatic impairment
Implementation Timeline

- **September 2019**
  - Physician champion established
  - Initial meetings with important stakeholders

- **October 2019**
  - Dosing protocol developed
  - Create patient information

- **November 2019**
  - Consult and order set development
  - Address legal roadblocks

- **December 2019**
  - Financial barriers and implications
Implementation Timeline

January 2020
- Pharmacy workflow
- Outpatient pharmacy involvement

February 2020
- Finalization of dosing and order sets
- Build order sets in electronic medical record system

April /May 2020
- Provider education
- Patient handout approval

June 2020
- Go live
- Troubleshooting
Order Sets

• ED orders
  • Labs
  • Consults
    • Peer Support
    • Psychiatry
    • Pharmacy
  • Medication

• Outpatient orders
  • Buprenorphine/naloxone kit
  • Naloxone
  • Comfort medications
Dosing Protocol

• Day 1
  • Dosed entirely while patient is in ED
  • Buprenorphine/naloxone 4mg/1mg when COWS ≥13
  • Re-evaluate COWS 1 hour after initial dose
    • Repeat buprenorphine/naloxone 4mg/1mg if COWS ≥ 5
  • Maximum buprenorphine/naloxone dose on day 1 is 8mg/2mg
Dosing Protocol

• Day 2
  • Start with total dose from day 1
    • If 3 or more withdrawal symptoms present, take additional buprenorphine/naloxone 4mg/1mg
  • Reassess in 2 hours
    • If still having symptoms take additional buprenorphine/naloxone 4mg/1mg
    • If no symptoms present take no additional medication
  • Maximum buprenorphine/naloxone dose on day 2 is 16mg/4mg
Dosing Protocol

• Day 3
  • Start with total dose from day 2
    • If 3 or more withdrawal symptoms and total dose from day 2 was not buprenorphine/naloxone 16mg/4mg, take an additional 4mg/1mg
  • Reassess in 2 hours
    • If still symptomatic take additional buprenorphine/naloxone 4mg/1mg if maximum dose not reached
    • Maximum buprenorphine/naloxone dose on day 3 is 16mg/4mg

• Day 4 follows the same protocol as day 3
Medication Kits and Distribution

- Buprenorphine/naloxone kit
  - Three day supply of buprenorphine/naloxone
    - Self-titratable
    - Provide coverage for delay in initial follow-up visit
  - Dispensed by pharmacist
- Pharmacist provides counseling and education to patient prior to discharge
  - Titration of medication
  - Signs and symptoms of overdose
Starting treatment with buprenorphine-naloxone sublingual tablets

Treatment Day 1 Summary
You have had one day of treatment in the emergency department so far. Your total dose on day 1 was ___ mg. Doses are based on the buprenorphine part of the medicine.

Treatment Day 2
Your day 2 dose depends on how much buprenorphine you took on day 1 and how you feel today. If you are having withdrawal symptoms, you may need a higher dose of medicine to start the day.

If you still feel good and do not have feelings of withdrawal, take the same dose as day 1.

If you took 4 mg on day 1, take 4 mg

If you took 8 mg on day 1, take 8 mg

If you took 12 mg on day 1, take 12 mg

If you are having 2 or more of withdrawal symptoms, take an extra 4 mg with your dose from day 1.

Withdrawal symptoms are feelings like:
- Anxiety or restlessness
- Tearing up or runny nose
- Chills or sweating
- Diarrhea or stomach cramps
- Goosebumps
- Twitching or shaking
- Yawning
- Bone or joint aches

Wait 2 hours after your dose. If you feel good, you do not need any more medicine today. If you feel like you are still having withdrawal, take an extra 4 mg. You may repeat this step until you take 16 mg. Do not take more than 16 mg on day 2.

Visit 2 hours after your dose

If you have 3 or more symptoms take an extra 4 mg

Day 2 total dose ___ mg

How to Take Your Medicine:
- Do not swallow the medicine or it will not work.
- Place the tablet under your tongue.
- Allow the medicine to dissolve for 10 minutes.
- Do not eat or drink during the 10 minutes.
Staff Education

- **Prescribers**
  - DATA waivers
  - Availability of program
- **Nursing**
  - Clinical Opiate Withdrawal Scale (COWS)
  - Scheduling follow-up appointment with MAT Clinic
- **Pharmacy**
  - Patient counseling
  - Dispensing medication kit
Challenges

• Coordination of multiple specialties
• Variability between hospitals within the system
  • Processes and staffing
  • Outpatient pharmacy availability
• Specific patient population
• Provider unfamiliarity
• Timeline
Future Directions

- Implementation of kit process at other locations within the health system
- Expand services to patients not encompassed by this program
- Improve provider comfort in treating opioid use disorder and prescribing buprenorphine/naloxone
- Post-implementation study
Conclusions

• Creation of an ED-based MAT program is an multidisciplinary undertaking

• The pharmacist was involved in multiple roles in this pilot program
  • Development of dosing strategies and order sets
  • Addressing legal dispensing requirements
  • Creating and providing patient education
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- Dr. Tom Gutwein, MD, FACEP
References

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