Buprenorphine Order Set and Rapid Access Referral
Opioid Crisis in Canada

- Canada is facing a national opioid crisis
- Over recent years, there has been an alarming increase in the number of overdoses and deaths caused by opioids

Problem Identification

• CAMH provides Clonidine (comfort measure) as a treatment for individuals presenting to the Emergency Department (ED) with opioid withdrawal

• There is an additional treatment for opioid withdrawal (buprenorphine)

Why is this Important?

• CAMH identified new Health Quality Ontario opioid use disorder standards including:
  • Administration of opioid agonist therapy within 3 days of presentation
  • Opioid agonist therapy should be administered within 2 hours
  • Distribution of take-home naloxone kits

• As the leading academic mental health and addictions hospital, CAMH must lead the way with best-practice treatments

• Buprenorphine has a “ceiling effect” and slow action onset, meaning minimal overdose risk

• Patients on a maintenance dose may have a blunted analgesic and euphoric response if they take other opioids concurrently
Baseline Workflow

Patient presents to ED with opioid withdrawal

Decision to prescribe Clonidine

Clonidine order set selected

Symptoms relieved?

Yes

Refer to CAMH Medical Withdrawal Service, Addiction Medicine Service, or community non-medical detox

Discharge from ED

No

Continue treatment

Design and Implementation

Value Derived

How Health IT was Used
Baseline Data

<table>
<thead>
<tr>
<th></th>
<th>2015 Q4 – 2016 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine Initiations</td>
<td>20.8%</td>
</tr>
<tr>
<td>Buprenorphine Initiations</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

Percentage of Initiations for Opioid Withdrawal Patients

- **2015 Q4**
  - Suboxone Initiations: 5%
  - Clonidine Initiations: 20.8%

- **2016 Q1**
  - Suboxone Initiations: 5%
  - Clonidine Initiations: 20.8%

- **2016 Q2**
  - Suboxone Initiations: 10%
  - Clonidine Initiations: 15%

- **2016 Q3**
  - Suboxone Initiations: 15%
  - Clonidine Initiations: 10%
Objectives

- Standardize pathway and treatment protocol for buprenorphine
- Create barrier-free and timely access to continuing care
- Streamline ordering process to save clinician time and prevent errors
- Adhere to new Health Quality Ontario standards for opioid withdrawal and opioid use disorder
Solution Selection

CAMH identified a method to drive increased use of buprenorphine within the ED.

Options reviewed and selected by CAMH Addiction Medicine Service and ED management with staff consultation:

- Experience with other order sets showed positive practice change

- Clinician familiarity
- Dynamic reporting
- Communication tools
- Existing change management
- Tracking and feedback
- Standardized practice
- Existing governance
- Standardized documentation

I-CARE
Interventions

Addiction Medicine Service Partnership

- Partnership between CAMH Addiction Medicine Service and Emergency Department to build capacity for addictions treatments, including buprenorphine (Nov 2016 – Mar 2017)

Education Sessions

- Education sessions including benefits, initiation, and administration of buprenorphine for all ED staff (May – June 2017)

Order Set And Pathway

- Creation of an interdisciplinary buprenorphine pathway and buprenorphine order set (August 2017 go-live)
Strategic Governance

**Advisory / Working Groups established as required**
End-User Involvement

Integrated Health Record Committee
- Chairs: Dir. Interprofessional Practice, Dir. Medical Informatics
- Includes clinicians and other stakeholders
- Initial approval of need

Pharmacy & Therapeutics
- Co-chairs: Appointed Physician and Dir. Pharmacy
- Owners and approvers of Order Set
- Includes a minimum of 6 physicians, 4 pharmacists

Order Sets Sub-Committee
- Chairs: Dir. Medical Informatics, Pharmacist
- Assembled subject matter clinical experts for review of order sets

Medical Advisory Committee
- Chair: Physician in Chief
- High-level review and recommendations regarding the practice of medicine at CAMH
Revised Workflow

Patient presents to ED with opioid withdrawal

- Does patient agree to buprenorphine treatment?
  - Yes: Buprenorphine induction order set selected*
  - No: Proceed with Clonidine or alternative treatment

- Clinical Opiate Withdrawal Scale completed *

- Re-assess in 2 hours

- Result >12? *
  - Yes: Administer buprenorphine
  - No: Re-assess in 2 hours *

- Symptoms relieved?
  - Yes: Total daily dose established
  - No: Administer additional dose

- Does patient agree to buprenorphine treatment?
  - Yes: Discharge from ED
  - No: Refer to CAMH Addiction Medicine Service, prescribe total daily dose, provide Naloxone kit and information *

Health IT used within intervention*
# Suboxone Order Set

## Clinical Opiate Withdrawal Scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mild symptoms, treatable with reassurance</td>
</tr>
<tr>
<td>2</td>
<td>Moderate symptoms, may require simple medication</td>
</tr>
<tr>
<td>3</td>
<td>Severe symptoms, may require supervised treatment</td>
</tr>
</tbody>
</table>

## Administration guidelines

- **Assessment & Monitoring**
  - Note: Suboxone may be initiated for opioid use disorder treatment even after acute withdrawal symptoms have resolved.
  - For pregnant women, Methadone has historically been the preferred choice, but Suboxone is also a possibility. Suboxone may be initiated in ED after discussion of risks and benefits.
  - For other patients, Suboxone should be initiated only if indicated, and a pregnancy test should be ordered. Treatment may be modified by the AMS physician if pregnancy test is positive.

- **Medications**
  - **DO NOT order buprenorphine to control opioid withdrawal**
  - Administer buprenorphine/naloxone if:
    - COWS score more than 12
    - Client/Patient is on methadone or buprenorphine/naloxone
  - Administer buprenorphine/naloxone 2 mg if:
    - Client/Patient is on high buprenorphine dose
    - if not sure that Client/Patient is in withdrawal
  - COWS score not needed for second dose

- **Laboratory Services**
  - **Immunoscreen Drug Screen (Urine Drug Screen)**
  - **Beta HCG Qualitative (urine) (Pregnancy Test Urine)**

- **Consults/Referrals**
  - Provide Client/Patient with flyer to obtain Naloxone kit.
  - Note: Physician should write the name of the pharmacy on the Suboxone prescription.
  - Referral to Addiction Medicine Service/Request to:

## Buprenorphine Order Set

- Standardized Lab orders
- Vital signs
- Clinical Opiate Withdrawal Scale
- Rapid Access Referral
- Distribution of Naloxone kits
- Patient education materials

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**Value Derived**

- Standardized Lab orders
- Vital signs
- Clinical Opiate Withdrawal Scale
- Rapid Access Referral
- Distribution of Naloxone kits
- Patient education materials
Clinical Opiate Withdrawal Scale (COWS)

<table>
<thead>
<tr>
<th>Tremor</th>
<th>Observation of outstretched hands</th>
</tr>
</thead>
<tbody>
<tr>
<td>No tremor (0)</td>
<td></td>
</tr>
<tr>
<td>Tremor can be felt, but not observed (1)</td>
<td></td>
</tr>
<tr>
<td>slight tremor observable (2)</td>
<td></td>
</tr>
<tr>
<td>Gross tremor or muscle twitching (4)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yawning</th>
<th>Observation during assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>No yawning (0)</td>
<td></td>
</tr>
<tr>
<td>Yawning once or twice during assessment (1)</td>
<td></td>
</tr>
<tr>
<td>Yawning three or more times during assessment (2)</td>
<td></td>
</tr>
<tr>
<td>Yawning several times per minute (4)</td>
<td></td>
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<table>
<thead>
<tr>
<th>Anxiety or Irritability</th>
<th>Observation during assessment</th>
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<tbody>
<tr>
<td>None (0)</td>
<td></td>
</tr>
<tr>
<td>Patient reports increasing irritability or anxiety (1)</td>
<td></td>
</tr>
<tr>
<td>Patient obviously irritable or anxious (2)</td>
<td></td>
</tr>
<tr>
<td>Somatic, anxious participation in assessment difficult (4)</td>
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<table>
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<th>Gooseflesh Skin</th>
<th>Observation during assessment</th>
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<tr>
<td>Skin is smooth (0)</td>
<td></td>
</tr>
<tr>
<td>Fluctuation of skin can be felt or hair standing on arms (3)</td>
<td></td>
</tr>
<tr>
<td>Prominent piloerection (5)</td>
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**COWS**

- Used in ED for patients presenting with opiate withdrawal symptoms
- Recommended for use during buprenorphine induction
- <2 minutes for completion
Rapid Access Referral

### Details for Referral to Addiction Medicine Service

<table>
<thead>
<tr>
<th>Date/Time:</th>
<th>EDT</th>
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#### *Area of Concern:*
- Rapid Access

#### Special Instructions:
- Alcohol
- Benzodiazepine
- Opioid
- GHB
- Pain and Chemical
- ICP - Major Depression & Alc. Dep. (18 wk)
- MWS Follow-up
- **Rapid Access**
- Other

#### *Priority:*
- Routine

#### *Referral Reason:*
- Treatment for Opioid Use

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Rapid access auto-populates
Effect of Interventions on Data

**Intervention**
- Partnership between CAMH Addiction Medicine Service and Emergency Department to build capacity for addictions treatments, including buprenorphine (Nov 2016 – Mar 2017)
- Education sessions including benefits, initiation, and administration of buprenorphine for all ED staff (May – June 2017)
- Creation of an interdisciplinary buprenorphine pathway and buprenorphine order set (August 2017 go-live)

**Effect**
- Created clinical awareness
- Generated familiarity and comfort with prescribing opioid agonist therapy
- Created practice guidelines to educate staff about buprenorphine and its use within opioid withdrawal and maintenance therapy
- Created clinical awareness and enforced regulations to standardize practice for buprenorphine patients
- Provided rapid access referral option to support evidence-based practice
Post-Implementation Adherence Data

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<td>28.4%</td>
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Percentage of Initiations for Opioid Withdrawal Patients

- **AMS Partnership**
- **Education**
- **Order Set**

Pre-implementation

Post-implementation
Repeat ED Visits for Opioid Withdrawal Patients

<table>
<thead>
<tr>
<th>Calendar Quarter</th>
<th>2015 Q4 – 2016 Q3</th>
<th>2017 Q3 – 2018 Q2</th>
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<tr>
<td>Repeat ED Visits within 7 days</td>
<td>5.31%</td>
<td>3.96%</td>
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Repeat ED Visits Within 7 Days

Pre-implementation: 5.1% (2015 Q4 - 2016 Q3), 5.0% (2016 Q4)
Post-implementation: 4.8% (2018 Q2)

- AMS Partnership
- Education
- Order Set
Post-Implementation Outcome Data

Average wait time between ED and CAMH AMS rapid access service for Opioid Withdrawal patients

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<td>Average Wait Time (Days)</td>
<td>9.3</td>
<td>4.8</td>
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Return on Investment

Cost of Treating Patients Presenting in ED with an Opioid Diagnosis who were Admitted to Inpatient

Pre Order Set & Rapid Access Referral (August 1, 2016 - July 31, 2017) $628,028

Post Order Set & Rapid Access Referral (August 1, 2017 - July 31, 2018) $490,566

Savings = $137,462

Twenty-four fewer patients with opioid withdrawal diagnoses were admitted to inpatient after improvements in care due to buprenorphine initiations.

(Cost of ED visit * # ED visits) + (# admitted to IP * LOS * IP day cost)
Return on Investment

- Able to treat opioid withdrawal on-site in a safe and effective manner
- Adhere to Health Quality Ontario guidelines for opioid agonist therapy
- Reduce repeat ED visit rates for opioid withdrawal patients presenting to ED
Lessons Learned

Streamlining the ordering process has been beneficial to clinicians while emergency volumes increase.

Ongoing efforts are required to ensure residents and clinicians are confident initiating treatments.

Buprenorphine is the most supported treatment through research, but other medications are appropriate for some patients.
Thank You