Naloxone Distribution in the Emergency Department: An Evidence Based Harm Reduction Strategy

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Continuing Education Activity Disclosure Statement

- No disclosures or conflict of interest
Objectives

- Analyze the significance of the opiate epidemic
- Recognize patient populations that may benefit from take home naloxone as a harm reduction strategy
- Demonstrate knowledge of an evidence-based naloxone distribution program to reduce opioid overdose among at risk patient populations
- Evaluate how a naloxone distribution program may be implemented within the learners emergency practice environment
Problem 1, 2, 4, 6, 7, 8

- The opioid epidemic has reached national significance.
- A large integrated hospital system in the Midwest was interested in exploring strategies to impact the opioid epidemic.
- Emergency Departments (ED) within the system discharge over 500 patients per year following an opioid overdose.
  - Over 170 of these overdoses presented to regional EDs in a rural setting.
- In 2018, 78% of drug overdose deaths within the surrounding community were attributed to an opiate.
The Epidemiology of the Opioid Epidemic\textsuperscript{1, 2}

- The number of annual opioid prescriptions written in the US is roughly equal to the number of adults in the country
- In 2015, 19,000 Americans died of an opioid overdose
- The death rate from all opioids (including heroin) now exceeds the death rate from motor vehicle accidents
Definitions

• Opiates/opioids/narcotics
  • Derived from the opium poppy or are synthetically manufactured
  • Differ in strength and half life
    • Long acting vs. short acting preparations

• Naloxone
  • Opiate antagonist
  • Used for decades
  • Good safety profile
Guiding Principles: Opioid Crisis

Reduce
Implementing standard prescribing protocols

Rescue
Providing the availability of rescue medications in the event of overdose

Remove
Taking opioids out of circulation in our communities

Recovery
Assuring that individuals have access to effective therapies to overcome addiction
Project Purpose

Provide opiate overdose prevention education and equip at risk individuals with a naloxone product prior to discharge with a vision to reduce opiate overdose rates within the local community.
Interdisciplinary Team

- Executive Sponsor
- ED Medical Director
- ED Clinical Nurse Specialist
- Addiction Specialist
- Physician Champion
- Clinical Pharmacy Specialist
- Financial Analyst
- Data Analyst
- Quality Improvement Specialist
- Social Worker
- ED Manager
Figure 1: PRISMA Flow Diagram

- Records identified through database searching PubMed, CINHAL, Cochrane Library (n = 93)
- Additional records identified through government websites? (n = 3)

- Titles and/or abstracts screened (n = 97)
- Full Articles Reviewed (n = 13)
- Full-text articles assessed for eligibility (n = 15)
- Studies included in synthesis (n = 15)

- Records excluded due inapplicability to project design (n = 1)
- Studies added by reference review of assessed articles (n = 2)
Synthesis of Evidence

- Naloxone distribution and education programs may decrease opiate-related mortality rates\(^1,6,7\)
- Community naloxone distribution programs are well established and now should expand to hospital-based distribution and prescribing for at risk patient populations\(^2\)
- Patient characteristics are available to identify patients at risk for opiate overdose that can be applied to hospital settings\(^1\)
- Cost-effective intranasal routes of naloxone can be safely administered in the event of a suspected opiate overdose by laypersons\(^8\)
- Cost and reimbursement for in hospital naloxone distribution programs may vary\(^6\)
- Organizations may consider the use of grants or other funding to offset costs incurred\(^1,8\)
Implications¹,⁶,⁷,⁸

- Hospital systems may decreased opiate overdose mortality rates by increasing the number of individuals educated on the risk of opiate overdose, trained to respond to an opiate overdose, and equipped with naloxone to reverse the respiratory depression incurred by opiate overdose.

- The Emergency Department is a prime setting to establish such programs and equip at risk individuals with a potentially live saving intervention.

- For every 7 naloxone products dispensed, it is estimated that 1 will be used within 30 days for an overdose event.
Intervention Implementation Plan

- Identify patient characteristics that increase the risk of opiate overdose
- Select naloxone product
- Develop a kit for home distribution
- Develop a clinical guideline to direct best practice distribution strategies
- Formulate an education plan (patient/clinicians)
- Implement at urban sites
- Evaluate metrics/review lessons learned
- Expand intervention throughout the system
Work Breakdown Structure

1. Design Naloxone-Take-Home Kit
   - Determine route of naloxone (FDA approved, cost effective)
   - Complete IN Naran 4mg approved
   - Identify contents of kit (e.g., nasules, nasal spray, etc.)
   - Complete custom kit
   - Establish cost of products
   - Mock up sample kit for service line leaders and patient advisors
   - Present final product to project team for approval

2. Create Overdose and Naloxone Education for Patients
   - Evaluate resources publicly available (government, professional bodies)
   - Submit selection to copyright library to obtain copyright permissions (if applicable)
   - Submit selected materials to patient education and site building
   - Present draft to project team for final review
   - Integrate materials into the Electronic Health Record (EHR) and create paper versions for order by departments
   - Educate clinicians on best practice

3. Synthesize Best Practice Strategies for Naloxone Distribution and Overdose Education
   - Establish criteria to identify patients at risk for opiate use
   - Synthesize all recommendations into clinical guideline
   - Formally review guideline
   - Educate clinicians on best practice

4. Cost Analysis of Naloxone Distribution
   - Identify reimbursement rates for naloxone take-home product based on payer mix
   - Identify hospital cost for products (naloxone and kit contents)
   - Estimate ED patient volume based on ICD-10 codes for opiate overdose
   - Estimate cost impact from patient volumes, product cost, and anticipated reimbursement
   - Obtain approval from executive team
   - Obtain training and education from vendors
   - GR Pilot

5. Complete Naloxone Product Build
   - Approve Narcan 4mg concentrated intranasal spray at P&T
   - Submit build for Epic
   - Stock/order product for Pyxis

6. Disseminate to Regions
   - Pilot at flagship site/evaluate lessons learned
   - Add recommendations for the adolescent population
   - Evaluate technology needs in regions
   - Develop provider/nursing/education plan
   - Expand guideline to other regions/adolescent
   - Stock kit/suppliers
Characteristics that Increase the Risk of Opiate Overdose$^{1,2,6,7,8}$
Naloxone Product Selection$^{1,2,8}$

- Naloxone has a good safety profile
- Two FDA approved naloxone products for distribution to laypersons
  - Studies demonstrate greater acceptance of intranasal (IN) preparations
  - Cost is a significant factor
    - 575$ for the Evzio® auto-injector
    - 100$ for the Narcan® Naloxone IN Spray
- Intranasal Narcan® (Naloxone) was chosen after completion of a cost benefit analysis

Photo Credit: Adaptapharma
Development of a Naloxone Kit

- Intentional labeling and packaging strategy
- Space for two naloxone doses and the quick reference pamphlet
- QR code for shared education
Patient & Clinician Education$^{1,2,8}$

- Provide education to the patient, and any representatives that the patient approves to participate
- The literature supported that brief education was sufficient for IN naloxone products
- The more individuals who are trained in how to prevent, recognize and respond to an opiate overdose in the community the greater impact on opiate related mortality
Naloxone Standing Order

• Family members or friends who request naloxone should be referred to local pharmacies observing the State of Michigan standing order for naloxone distribution (HB.5326 Sec. 17744e)

• Pharmacies authorized to dispense naloxone can be identified through the Michigan Department of Health & Human Services Website
Protection for Prescribers

- House Bill No. 5407, Sec. 17744b protects from civil action for prescribing naloxone
- Michigan Legislature also allows for individuals to obtain naloxone through a standing order at many participating pharmacies throughout Michigan
- Encourage friends/family to go to the pharmacy to obtain their own kit
  - You can even pick up your own naloxone to carry!
  - Traditional insurance co-pays will apply
Project Deliverables

- Naloxone-take-home-kit for distribution to at risk ED patients utilizing naloxone (Narcan®) Nasal Spray 4mg
- Comprehensive data reports for urban sites
- Comprehensive education for patients
  - Custom video
  - Education pamphlet in two languages
  - System clinical guideline to for naloxone dispensing and prescribing for ED, inpatient and outpatient
- Cost-analysis of the financial impact of the ED naloxone-take-home kit
  - Securement of 20k in philanthropic funding for educational and kit materials
Naloxone Initiative Timeline

- Project Kick Off: November 2017
- Implementation of Initial Pilot at Urban Quaternary Care Site: May 2018
- Implemented at Regional Sites and Adolescent Populations: September 2018
- Spread to ED Observation Specialty Unit: October 2018
- Inpatient Naloxone Prescribing: In Progress
Outcomes

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Pre-Intervention</th>
<th>Goal</th>
<th>Current State (5 months post)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of ED within the system dispensing naloxone</td>
<td>0</td>
<td>11/11</td>
<td>11/11</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of ED patients discharged with an opioid overdose and ordered a naloxone-take-home kit (urban sites)</td>
<td>0</td>
<td>80%</td>
<td>73%</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of take home kits dispensed throughout the system/number of naloxone prescriptions written</td>
<td>0</td>
<td>500</td>
<td>101/24</td>
</tr>
<tr>
<td><strong>Watch Metric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual cost of naloxone distribution program</td>
<td>0</td>
<td>Less than 5k</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Watch Metric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opioid overdose mortality rates within the local community</td>
<td>14.6</td>
<td>Reduction</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*Note: Mortality rates for 2018 are not inclusive of the entire calendar year.*
Lessons Learned

- Cost of naloxone products
  - System
  - Patients
- Resources for comprehensive data reports
- Clinical decision support needed to identify at risk patients
- Clinician bias
Opioid Stigma Reflective Exercise

What does an overdose victim look like to you…
Who is at Risk of Opioid Overdose\textsuperscript{1,2,6,7,8}

Who is at Risk of Opioid Related Overdose

- 45 year old male. Occasionally drinks. Taking extended release oxycodone for greater than 5 years. Recently acquired a prescription for transdermal fentanyl for acute low back injury.
Who is at Risk of Opioid Related Overdose\textsuperscript{1,2,6,7,8}

- Opiate-related overdose can occur for a variety of factors
  - Deliberate misuse of illicit or prescription opioids
  - Taking prescribed opiates as directed but have other factors that contribute to an overdose (multiple medications, co-morbidities, depression, history of depression)
  - Dosing errors or patient misunderstanding the instructions for medication use
Opioid Stigma\textsuperscript{11,14}

Stigma among healthcare workers can have significant impact on patient outcomes
Opioid Stigma\textsuperscript{11,14}

Impacts include:

- Lowers the rate of patients who will seek help/treatment
- Patient’s feeling scared, depressed, angry and upset
- Inadequate pain management
- Lack of caring conversations and relationship building
- Premature discharge and neglect
Reflection and recognition of your own bias is the first step in eliminating stigma\textsuperscript{11,14}
Personal Impact Opioid Crisis

Don't Be Ashamed Of Your Struggles. It Will Inspire Others.

Photo Credit: Bing.com
Summary of Recommendations¹,²,⁶,⁷,⁸

- Patients at risk of opiate overdose should receive interventions to decrease the risk of opiate overdose mortality.
- Prevent, recognize, respond, and administer naloxone for a suspected opiate overdose
- Increased access to naloxone within the community decreases opioid overdose mortality rates
- Emergency Departments can effectively distribute naloxone to at risk patient populations
Questions

NALOXONE SAVES LIVES.

Photo Credit: Bing.com
References