Opioid Prescribing Practices Improvement Project

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Disclosures

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  • No conflicts of interest or disclosures

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  • No conflicts of interest or disclosures
Overview

1. Background
2. Accomplishments
3. Upcoming Interventions
4. Q & A
Background
The U.S. Opioid Epidemic

- US opioid prescriptions nearly quadrupled between 1999 and 2014\(^1\).
- More than 42,000 Americans died by opioid overdose in 2016; 40% of those deaths were caused by prescription opioids\(^1\).
- Between 2000-2015, there were almost 190,000 poison center calls for opioid exposures\(^2\).
- Pediatric opioid related hospital admission more than doubled in the past decade\(^3\).
- In 2015, 276,000 adolescents were current nonmedical users of pain reliever, with 122,000 having an addiction to prescription pain relievers\(^4\).
U.S. Opioid Prescribing Rates (2016)\(^5\)

Prescribing rate per 100 people
U.S. = 66.5%  
CO = 58.8%
Colorado Non-Medical Use of Pain Relievers in past year – by Age Group and Region - (2012-2014)\textsuperscript{6}

<table>
<thead>
<tr>
<th>Age Group (in years)</th>
<th>Region 2</th>
<th>CO</th>
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</thead>
<tbody>
<tr>
<td>12-17</td>
<td>6.4%</td>
<td>6.4%</td>
</tr>
<tr>
<td>18+</td>
<td>4.8%</td>
<td>4.9%</td>
</tr>
<tr>
<td>18-25</td>
<td>9.8%</td>
<td>9.8%</td>
</tr>
<tr>
<td>26+</td>
<td>4.1%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Total</td>
<td>5.0%</td>
<td>5.0%</td>
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Colorado ED Visits Related to Prescription Opioids and Heroin – By Age Group (2011-2015)
IHI Driver Diagram: Reversing the Opioid Crisis in a Community

Reverse the opioid crisis in a community
Measures:
- Overdose rate
- Fatal overdose rate
- Individuals in treatment
- Prescription opioid rate

Limit supply of opioids
- Prescribing practices
- Dispensing practices
- Diversion
- Pharmaceutical production
- Availability of alternative pain management treatment

Raise awareness of risk of opioid addiction
- Identification and education of patients at greater risk for addiction
- Provider education
- Adolescent education
- Adult education
- Reducing stigma around substance abuse

Identify and manage opioid dependent population
- Compassionate, consistent care
- Tapering
- Pain management education
- Availability of alternative pain management treatment
- Education of patients and families

Treat opioid-addicted individuals
- Identification of opioid addicted individuals
- Availability of detox facilities
- Availability of long-term ongoing, comprehensive addiction treatment
- Availability of supportive social services
- Prevention of fatal overdose
**Recommendation #6:**
Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the **lowest effective dose of immediate-release opioids** and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. **Three days or less will often be sufficient; more than seven days will rarely be needed.**
CHCO’s Initial Efforts

• A multidisciplinary team convened in 2016, recognizing an opportunity to optimize pediatric opioid prescribing.
• Initial efforts aimed to compile evidence and education/training materials.
• In mid-late 2016, the team directed their efforts toward the development of a new clinical pathway and development of a measurement system to understand discharge prescribing patterns.
Business Case

Situation
• There is variability in providers’ opioid prescribing practices when discharging patients with acute pain, which has led to concern for inappropriate dosing and risk for patient harm.

Background
• Opioid prescribing practices are a key driver of the current US opioid epidemic.
• There is a paucity of evidence and data to inform discharge prescribing for pediatric patients with acute pain.
• Current discharge prescribing practices are varied and inconsistent, with the potential to contribute to opioid misuse or diversion.
• New Joint Commission pain standards require hospitals to have leadership, data, and PI processes in place to optimize opioid prescribing.

Assessment
• A process improvement project is needed to validate and analyze data on discharge prescribing.

Recommendation
• In conjunction with development of a clinical pathway, the opioid team should refine a measurement system and engage in process improvement to determine and help providers achieve prescribing recommendations.
Accomplishments
Accomplishments (2017-present)

1. New clinical pathway
2. Measurement system & baseline data
3. Key drivers & target interventions
4. Deployed Ortho improvement project
5. Received Opioid Stewardship Grant
Clinical Pathway: Overview

Target population:
- Patients with acute pain in the ED/UC, inpatient and ambulatory settings
- Excludes chronic pain, cancer, sickle cell, BMT, hospice, palliative care & ICU patients

Primary outcome measure: Compliance with discharge prescribing recommendations:
- Inpatient: ≤ 7 days of opioid therapy
- ED/UC: ≤ 3 days of opioid therapy
- Ambulatory: 3-7 days of opioid therapy
Clinical Pathway: Overview

The pathway provides recommendations on several topics, including:

1. Initial evaluation and risk assessment
2. Opioid prescribing recommendations
3. Multi-modal and non-pharmacologic acute pain management
4. Titration and weaning of opioids
5. Patient & caregiver education
Opioid Prescribing Measurement System

- Built a measurement system in Clarity (Epic’s database) from the ground up
- Iterative validation process over 1.5 year period
- Developed v1 of a Tableau dashboard
- Currently working with the Analytics Resource Center to develop a data mart of opioids and multi-modal analgesia
  - In house
  - Outpatient
Orthopedic Surgery Improvement Project
Defining & Scoping

• The clinical pathway has a broad focus, including inpatient, ED/UC, and ambulatory settings.

• Focus of the improvement project was Orthopedic Surgery inpatients:
  • Ortho leadership support and readiness
  • Engaged clinical pharmacist on Level 6
  • Baseline data showed greater variability and opportunity for impact in Ortho Surgery inpatient
    • ED/UC compliance already at ~80%
  • Competing priorities/multiple initiatives in ED/UC and Hospital Medicine
Orthopedic Surgery Improvement Project
Defining and Scoping

Scope:
Process start: Provider evaluation of anticipated, acute post-discharge pain
Process stop: Discharge opioid prescription order signed

Boundaries:
In: Patients with acute pain who are prescribed an opioid when discharged from Ortho Surgery.

Out: Patients with chronic pain, cancer, or sickle cell disease, ICU and CCBD patients, outpatients, and inpatients with acute pain who are discharged from a CHCO unit/department other Ortho Surgery.
Challenges

- Getting baseline data
  - Analyst vacancy
  - Highly complex data query
  - Long validation process
- Clinical pathway development process improvement project
  - Large team
  - Scope
  - Prioritizing limited meeting time
Opportunities

- Focused, engaged team representing key areas
- Senior, Division, and Department Leadership support
  - Associate Medical Director, PI, and Analyst Resources
- Strong support from Orthopedic Leadership
- Alignment with new Joint Commission pain standards
- Data!
Orthopedic Surgery Improvement Project

**Project Aim:** By June 30, 2018, increase compliance with discharge opioid prescribing recommendations for Orthopedic Surgery inpatients with acute pain from 56.1% to 75.0%.

**Interventions:**
1. Publish clinical pathway
2. Meeting with Ortho Surgery providers
3. Add recommendations to discharge order sets that include opioids (clinical decision support at the point of care)
Clinical Decision Support

Discharge Medications

Recommendation:
Limit discharge opioids to a maximum of 7 days – excludes cancer, BMT, sickle cell, and chronic pain patients.
- Link to Clinical Pathway - Opioid Prescribing Practices

- oxyCODONE (ROXICODONE) 5 MG/SML Solution
- oxyCODONE 5 MG Tab
- oxyCODONE-acetaminophen (ROXICET) 5-325 MG/SML Solution
- oxyCODONE-acetaminophen (PERCOCET) 5-325 MG Tab
- OxyCODONE HCI ER (OXYCONTIN) 10 MG Tablet Extended Release 12 hour Abuse-Deterrent
- morphine (MS CONTIN) 15 MG Tab CR
- acetaminophen (TYLENOL) 160 MG/SML Suspension
- acetaminophen (TYLENOL) 325 MG Tab
- naproxen (NAPROSYN) 250 MG Tab
- naproxen (NAPROSYN) 375 MG Tab
- naproxen (NAPROSYN) 500 MG Tab

- ibuprofen (MOTRIN/ADVIL) 100 MG/SML Suspension
Discharge prescribing patterns over time

P chart of inpatient Orthopedic Surgery compliance with recommendation to limit discharge opioids for acute pain to 7 days or less
(1/1/17-7/5/18)

Mean = 56.65%

Mean = 86.34%

Clinical Pathway Released Nov ‘17
Meeting w/ Ortho Providers Dec ‘17
Clinical Decision Support Mar ‘18

## Project results

<table>
<thead>
<tr>
<th>Key Measures</th>
<th>Definitions</th>
<th>Baseline</th>
<th>Goal</th>
<th>Progress</th>
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<tr>
<td><strong>Outcome</strong></td>
<td>Percent of opioid discharge prescriptions that are in compliance w/ ≤ 7 day recommendation</td>
<td>56.65% (801/1414) 1/1/17-3/31/18</td>
<td>75.0%</td>
<td>86.34% (177/205) 4/1/18-7/5/18</td>
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| **Process**  | Mean and median days’ supply of opioids prescribed at discharge | Mean = 7.30 1/1/17-3/31/18  
Median = 6.67 1/1/17-3/31/18 | ≤ 7 | Mean = 4.91 4/1/18-7/5/18  
Median = 4.17 |
| **Balancing** | Percent of patients with an additional opioid prescriptions filled within 10 and 30 days of discharge | 10 days = 6.1% (6/99) 1/30/18-3/20/18  
30 days = 8.1% (8/99) 1/30/18-3/20/18 | Maintain | 10 days = 6.3% (8/127) 3/21-5/4/18  
30 days = 10.2% (13/127) 3/21-5/4/18 |
Upcoming Interventions
Intervention Timeline

1. Updated Ortho order sets (March 2018)
2. Education on CO SB 22 (Aug 2018)
3. Pilot opioid stewardship program (Aug 2018)
4. Provider-level reporting (Fall/Winter 2018)
5. PDMP/Epic integration (Early 2019)
Opioid Stewardship Program Pilot

- Pilot with Orthopedic Surgery
- Modeled after anti-microbial stewardship program
- Consultation partnership between clinical pharmacy and anesthesia
- Grant/pilot period: 8/1/18-7/31/19
- Focus on use of multi-modal therapy for acute pain in inpatient setting, compliance with discharge prescribing guidelines/laws, and patient/parent education
PDMP/Epic Integration

• Partnership between CHCO, the state public health department, and third-party vendor
• Slated to begin in winter 2018
• Provides IT solutions and analytics to support the integration of Prescription Drug Monitoring Program data within electronic health record
• Aim: to facilitate risk assessments and assist providers in complying with a new CO law
Global AIM: Reducing unnecessary variation in opioid prescribing at discharge through developing and implementing standardized practices related to opioid prescribing for CHCO patients with acute pain.

Detailed Aim: Increase the compliance to discharge opioid prescribing recommendations for patients with acute pain that are discharged from Orthopedic Surgery from 54% to 75%.

**Clinical Pathway Education & Implementation**
- Knowledge of recommendations and risks
- Knowledge about efficacy of multi-modal/non-pharmacologic options
- Over-reliance on habit/historical practice
- No direct access to the recommendations/pathway
- Substance use screening

**Clinical Decision Support/Epic Tools**
- Unable to autocalculate duration
- Rounding to tabs or mLs
- Difficult to review MAR
- PDMP access
- Substance use risk

**Feedback Loop**
- No feedback or data on prescribing practices
- Do not know how they compare to the recommendation
- Do not know how much patients use post-discharge

**Primary Drivers**

**Interventions**
- Develop and disseminate clinical pathway outlining prescribing recommendations
- Integrate the recommendations and clinical pathway into order sets
- Re-education about multi-modal therapy
- Opioid Stewardship
- Integrate the recommendations and clinical pathway into order sets
- TBD: PDMP/Epic Integration
- TBD: Modify discharge order sets to auto-calculate # days prescribed
- Opioid stewardship
- Provider-level reporting
Dissemination

- Clinical pathway available on CHCO website (intranet)
- Disseminated the clinical pathway to community-based pediatric practices and hospitals in our 7-state region
- Poster presented at Colorado Hospital Association’s Opioid Safety Summit in January
- Two posters were presented at the Pediatric Academic Society conference in May
- Presentation at Kaiser CME event
- ASPMN poster and presentation
- Manuscript under review
Questions?
References


