September 21, 2017

ECRI Institute PSO Deep Dive: Opioid Use in Acute Care

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Moderator

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Speakers

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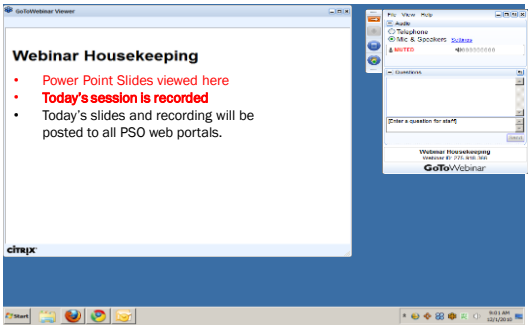
- Christina Michalek BS, RPh, FASHP
  ISMP Medication Safety Specialist



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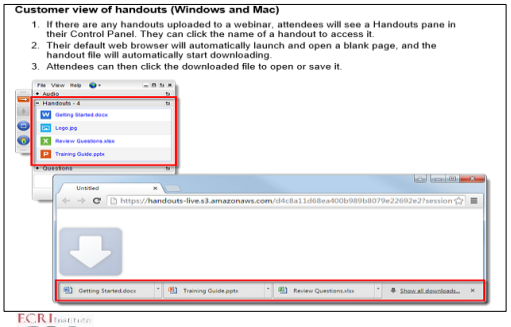

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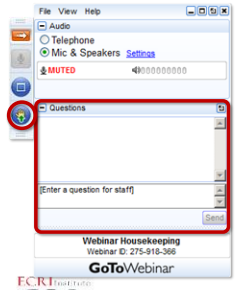
How to Ask Questions



Remember…

- Please submit your text questions and comments using the Questions Panel

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Disclosure Announcement

This activity has been approved for 1.0 California State Nursing contact hour by the provider, Debora Simmons, who is approved by the California Board of Registered Nursing, Provider Number CEP 13677.

All faculty members involved in this September 21, 2017 live webinar have disclosed in writing that they do not have any relevant conflicts or financial affiliations.

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To Qualify for Credit:

- Credit will only be issued to individuals who are registered, log on, and attend the entire program.
- To assure credit for attendance, individual participants ***must log on at the start of the program and remain on for the entirety of the program***. This is how your attendance is verified.
- In addition you ***must complete an attestation included in the post webinar evaluation.*** Once all the information is verified a certificate will be e-mailed to you.

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Objectives

- Understand the event analysis process utilizing the taxonomy developed to classify events related to opioid use
- Identify failure modes in medication practices involving opioids
- Recognize errors related to the use of opioids when they occur
- Identify strategies to improve practices around the use of opioid medications

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Acknowledgements

- To our PSO collaborating members organizations for sharing their opioid policies, order sets, events, and improvement projects.
- To our many reviewers whose comments and questions helped improved the final document.

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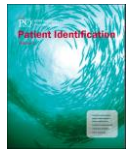
Our Previous Deep Dive Reports



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Why Opioid Use in Acute Care?

- ECRI Institute identified over 11,000 events reported that were related to opioid use between 1/1/2014 and 11/30/2016
- Adverse events related to opioid use have been included in our Top 10 Safety Concerns as well as our Top 10 Technology Hazards for 2017

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Methodology

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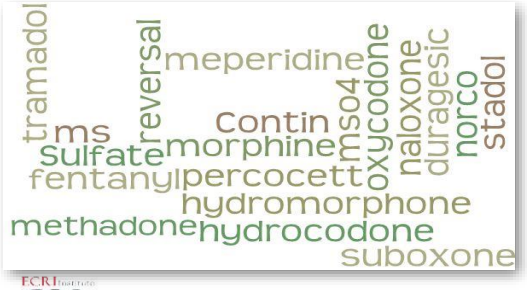
Methodology



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Data Analysis

- Initial return – 63,551 events
- Initial data inclusion
  - Event occurrence dates between 1/1/2014 – 9/30/2016 for 18,652 events
  - All event types
- Final data inclusion
  - Event Types - Medication, Falls, Device or Medical/Surgical Supply/HIT, Surgery or Anesthesia and Other
    - *Events related to End of Life Care were excluded*
- 11,386 events reviewed by analysts for relevance
- 7,218 deemed relevant and further classified

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Taxonomy

Taxonomy/Categories I

The first level of the taxonomy captured broad categories of medication processes in the hospital:

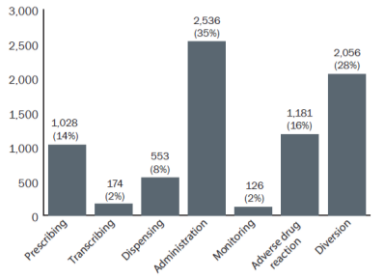
- Prescribing
- Transcription
- Dispensing
- Administration
- Monitoring
- Adverse Drug Reaction
- Diversion

Taxonomy/Categories II

The next levels of the taxonomy were developed to identify specific processes and failure modes associated with each category.

1. Prescribing	
1.1 Opioid risk assessment inadequate	
	1.1.1 Assessment not performed
	1.1.2 Assessment incorrect
	1.2.3 Assessment not documented
1.2 Failure to determine opioid tolerance	
	1.2.1 Tolerance not assessed
	1.2.2 Tolerance assessed incorrectly
	1.2.3 Tolerance not documented

Event Breakdown by Taxonomy Category



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Most Common Failure Modes in the Data Set

Administration	• Wrong medication administered • Wrong rate or frequency • Wrong dose • Incorrect or omitted documentation • Administration of opioids without an order • Inadequate patient assessment at administration
Dispensing	• Stocking or storage errors
Diversion	• Unsecured controlled substances • Discrepancies in opioid counts • Removal of opioids without documentation of administration • Failure to witness or document wastage
Prescribing	• Polypharmacy* • Wrong dose* • Duplicate order

*Failure modes associated with high frequency and high harm

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Most Common Failure Modes Associated with Harm

Administration	• Patient-controlled analgesia (PCA) by proxy • Unavailability of a reversal agent • Failure to remove a used fentanyl patch
Monitoring	• Failure to monitor analgesic effectiveness • Failure to monitor sedation level
Prescribing	• Inadequate risk assessment before prescribing • Polypharmacy* • Failure to determine opioid tolerance • Wrong dose* • Wrong rate or frequency • Wrong route

*Failure modes associated with high frequency and high harm

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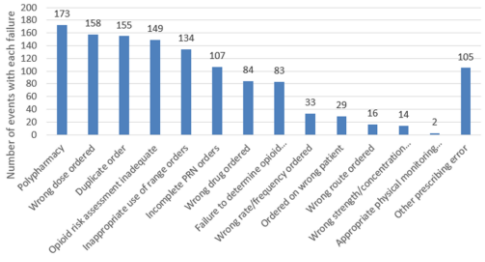
Prescribing

Prescribing-Related Failure Modes



n = 1,028 events with at least one prescribing-related failure mode

Prescribing Events

- A patient was found unresponsive. Naloxone and oxygen were administered, and the patient responded. The patient had been prescribed many sedating medications, including large doses of opioids, although she had no history of taking opioids at home.
- Two sets of post-C-section orders were entered for the same patient. One set was ordered by anesthesia, and one set was ordered by obstetrics/gynecology. Each set contained orders for hydromorphone and at least one other opioid. The pharmacist noticed and discontinued all the duplicate orders.

Action Recommendations: Prescribing

- Patient Assessment: Comprehensively assess all hospital patients for pain, risk of pain, and risk factors for opioid-related adverse events.
- Care Planning: Develop individualized pain management plans that consider the patient's needs from the beginning of treatment though discharge and beyond.
- Therapy Selection and Dosing
  - Favor a multimodal approach to pain management, incorporating nonpharmacologic, nonopioid pharmacologic, or opioid-sparing modalities when appropriate.
  - Educate prescribers and develop clinical tools to support safe selection and dosing of opioid therapy.

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Action Recommendations: Prescribing

- Order Sets: Standardize pain management options.
- PRN Therapy and Range Orders: Ensure that range orders are written in a clear and unambiguous manner.
- Patient-Controlled Analgesia: Enact systems and practices to improve the safety of PCA prescribing.
- Clinical Decision Support: Leverage clinical decision support functions to improve opioid prescribing.
- Order Review and Consultation:
  - Institute mechanisms to support effective pharmacist review of medication orders.
  - Consider making specialists (e.g., pain management specialists) readily available for consultation and referral.

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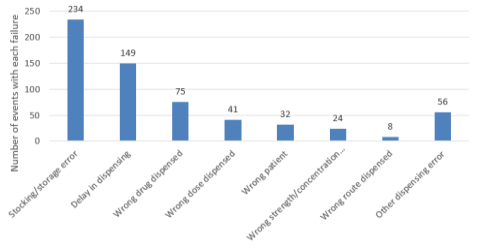
Dispensing-Related Failure Modes



n = 553 events with at least one dispensing-related failure mode

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Dispensing Events

- Percocet 10 mg loaded into Percocet 5 mg bin in Pyxis.
- During a rapid response, the ADC on the unit did not have enough naloxone. The nurse had to go to another unit to retrieve the medication.

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Action Recommendations: Dispensing

- Purchasing, Compounding, and Labeling
  - Ensure purchasing and labeling support easy identification of medications and minimize the potential for mix-ups.
  - Purchase parenteral opioids in ready-to-administer form whenever possible, and whenever opioids must be prepared, limit their preparation to the pharmacy.
- Storage and Stocking
  - Implement standardized, redundant procedures for storage and stocking of opioids and other medications.
- ADC Functions, Placement, and Integration
  - Implement ADC features to minimize risk of medication errors.
  - Ensure an appropriate number and placement of ADCs in care areas, and integrate ADCs with other systems as needed.

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Action Recommendations: Dispensing

- ADC Setup
  - Establish criteria for choosing which medications to stock in ADCs, what quantities to stock for each medication, and where, within the ADC, to stock each medication.
- Overrides
  - Permit ADC overrides only for preapproved medications, and consider implementing retrospective review of overrides.
- Surveillance and Quality Assurance
  - Conduct periodic monitoring of the entire ADC system, addressing concerns as needed.

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Administration

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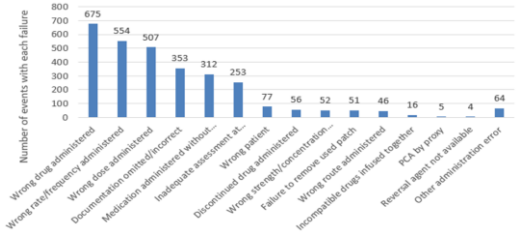
Administration-Related Failure Modes



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n = 3,025 events with at least one administration-related failure mode

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Administration Events

- The patient was administered 40 mg oxycodone in error. BCMA was not used as required. The nurse assumed that the tablets were 10 mg each but later discovered that they were 20 mg.
- When a patient was transferred from telemetry to the ICU, it was noted that the patient's level of consciousness had decreased; the order for a fentanyl patch was discontinued as a result. Four days later, two patches were found on the patient: one had no date, and the other was dated the day before the order was discontinued.

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Action Recommendations: Administration

- Assess work systems and processes in order to identify and analyze hazards in opioid administration and design safety into the system.
- Engage patients and family members in developing their pain management plan.
- Conduct a pre-administration assessment before giving patients opioids.
- Consider implementing bar-code scanning technologies and ADCs in any clinical location where medication is administered.
- Review policies and procedures on medication administration

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Action Recommendations: Administration

- Ensure that practitioners who administer opioids interpret range orders appropriately.
- Promote the safe administration of parenteral opioids by implementing evidence based processes.
- Monitor documentation practices to ensure that there is complete and accurate documentation of opioid administration.
- Ensure that practitioners who administer opioids possess the necessary skills for safe administration.

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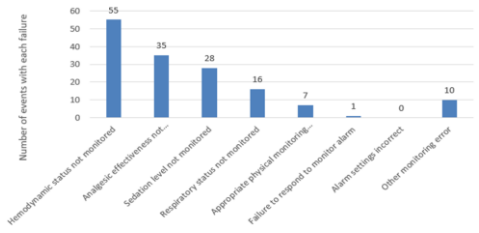
Monitoring

Monitoring-Related Failure Modes



n = 152 events with at least one monitoring-related failure mode

Monitoring Events

- In the early-morning hours, the patient asked for the nurse to come to the room. When the nurse entered the room, the patient, who was feeding her newborn, started to cry. She told the nurse that she didn't think she should have acetaminophen/oxycodone at night. She said, "I was holding him and the next thing I knew, he was crying on his belly on the floor beside the bed." The baby's vital signs were recorded and he was taken for assessment.
- An ED patient was given IV hydromorphone and discharged 23 minutes later—before the 30 minutes required by protocol. While walking out, the patient fell in the waiting room.

Action Recommendations: Monitoring

- Choose appropriate modalities, durations, intensities, and frequencies of monitoring for each individual patient.
- Continually evaluate patients in the PACU, and ensure that patients are not discharged from the PACU before standardized criteria are met.
- Ensure that patients receiving opioids in general inpatient care areas are appropriately monitored.
- Implement continuous monitoring, using transcutaneous minute ventilation monitoring or capnometry, for patients at heightened risk for respiratory depression.

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Action Recommendations: Monitoring

- Ensure that patients receiving opioids are adequately monitored during transport off of the clinical unit.
- Ensure appropriate monitoring of patients receiving opioids during moderate and deep sedation.
- Implement procedures, protocols, and systems for effective response to opioid-related adverse effects.

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Diversion

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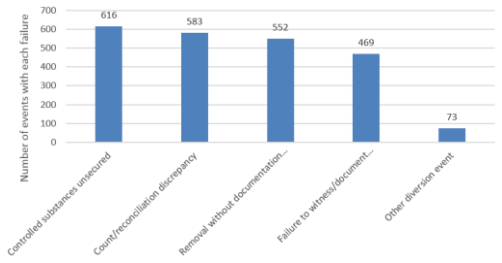
Diversion-Related Failure Modes



n = 2,056 events with at least one diversion-related failure mode

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Diversion Events

- 40mg of oxycodone was found at pt's bedside (2 tablets of 15mg and 2 tablets of 5mg). all 4 tablets were still in original packaging from pyxis. Pt is ordered for 20mg oxy PRN and that dose is dispensed from pyxis as one 15mg and one 5mg tablet
- An audit of controlled substance pulls from ADCs in 24 hours identified a nurse whose number of pulls deviated substantially from the mean. For one patient, the nurse pulled two hydromorphone syringes, eight minutes apart, but documented administration of only one of the syringes. For another, the nurse pulled acetaminophen/hydrocodone from the ADC but never documented administration.

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Action Recommendations: Drug Diversion

- Organizational Strategies
  - Implement a program to prevent and address diversion of controlled substances.
- Human Resources and Occupational Health
  - Implement policies and procedures regarding background checks, substance use and diversion, recovery and support systems, and return to work.
- Storage, Access, and Chain of Custody
  - Ensure tracking of, responsibility for, and controlled access to opioids and other controlled substances from their point of entry into the hospital through their final disposition.

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Action Recommendations: Drug Diversion

- Medication Use Continuum
  - Take steps to minimize the risk of drug diversion throughout the medication use continuum.
- Surveillance and Reporting
  - Implement robust systems for surveillance and reporting of potential drug diversion.
- Investigation and Response
  - Create a team and processes to guide investigations of and response to suspected drug diversion.
- Patients and Visitors
  - Take steps to prevent, identify, and respond to drug diversion by patients or visitors.

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INsight® Assessment

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Why an Assessment

- Why?
  - Provides a multidisciplinary perspective for identifying risks related to opioid practices
  - Measures staff perceptions related to opioid practices and risks
  - Provides benchmarked reports that can be used to develop an action plan
- Key Areas
  - Prescribing
  - Dispensing
  - Administration
  - Monitoring
  - Quality

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Assessment Feedback

- Summary Report by Key Area
- Key Area Comparative Graph
- Key Area Comparative Analysis by Question
- Key Area Comparative Analysis by Job Class
- Key Area Comparative Analysis by Job Class by Question – Lowest Scoring 3 Key Areas
- Comment Report

Sample - Summary Report by Key Area

Area Facility: Sample Hospital
Survey: Opioids

Participation

Passwords Issued: 53 Surveys Submitted: 10 Participation Rate: 18%

Job Class	Surveys Submitted	Percent of Submitted
Pharmacist	3	30%
Physician	6	60%
RiskMgt/Safety/Quality	1	10%

Key Area	Your Facility N	Your Facility Average % Positive	All ECRI Data Average % Positive	Your Facility Quartile Ranking	Your Facility's Distribution % Negative	% Neutral	% Positive
Prescribing	10	69%	66%	2	18%	14%	68%
Dispensing	10	77%	55%	1	13%		77%
Quality	10	78%	62%	1	22%		78%
Monitoring	7	93%	68%	1	7%		93%
Administration	10	98%	83%	1	2%		98%

To assure respondent anonymity, data are not shown if there were fewer than 3 responses. NR indicates no responses; -- indicates too few responses.

Coming Soon

6th Annual Deep Dive Web Site
It's More than a book!

- Infographics
- Example cases
- Action recommendations
- Self-check tools
- Interview-based case studies
- Supplementary articles
- Videos
- Interactive education

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Stay tuned for more!

American Society for Healthcare Risk Management
ASHRM 2017
ANNUAL CONFERENCE
October 15-18, 2017 Seattle, Washington

ASHRM 2017 Keynote Panel: Prescriptions for Safer, More Effective Opioid Use - An ASHRM and ECRI Institute Expert Panel

8:30-10:00 AM
Level 6, Ballroom 6AC

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Conclusion: One Step at a Time

ECRI Institute PSO encourages all healthcare organizations to consider the recommendations from this "Deep Dive" in order to support safe opioid use in hospitalized patients

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Upcoming Webinars

- The Safe Use of Health IT: Optimizing the Benefits and Reducing the Risks
  - Tuesday, September 26, 2017, 1:30-2:30pm EDT
- Antibiotic Stewardship: Solutions to Turn the Tide Against the Threat of Antibiotic Resistant Bacteria
  - Thursday, October 19, 2017, 1:30-2:30pm EDT

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