Missteps in Medication Management

Shari Moore, RN, BSN

Objectives

- Recognize the impact of medication errors in professional liability claims
- Discuss examples of medication related events leading to patient harm
- Identify strategies to address medication errors
Medication-related Malpractice Risks
CRICO 2016 CBS BENCHMARKING REPORT

1 in 9 malpractice cases involves a medication-related problem

We examined 28,527 cases asserted from 2010–2014 and identified 3,067 in which medication issues contributed to patient harm.

The most commonly identified categories were:

- 18% analgesics
- 17% anticoagulants
- 13% antibiotics
- 8% cardiovascular

N=2,187 cases in which the specific medication was identified
 RESPONSIBLE SERVICES

Services responsible for most medication errors
THE TOP TEN SERVICES IN 1,007 MEDICATION CASES

- general medicine: 32%
- nursing: 11%
- orthopedic surgery: 8%
- emergency medicine: 5%
- cardiology: 4%
- anesthesiology: 4%
- psychiatry: 4%
- hospitalist: 2%
- general surgery: 2%
- ophthalmology: 1%

Services most vulnerable to medication errors
FOR SELECTED SERVICES, THE PROPORTION OF ALL THEIR CASES
ALLEGING A MEDICATION ERROR

- 82% of all pharmacy cases
  (N=175)
- 29% of all psychiatry cases
  (N=615)
- 21% of all general medicine cases
  (N=2,005)
- 17% of all cardiology cases
  (N=824)
- 15% of all nursing cases
  (N=824)

Where?

CARE SETTING

Medication errors occur in all care settings and, within each setting, problems arise at different points in the medication process.

- 50% ambulatory setting
- 42% inpatient setting
- 8% emergency department

- ordering: 33%
- dispensing: 4%
- administering: 12%
- managing: 63%

- 45% inpatient setting
- 53% emergency department

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The Medication Process

- **Ordering**
  - From the point a decision is made to order/prescribe a medication until that order is received by the pharmacy or other dispensing service

- **Dispensing**
  - From the point the order is received by the dispensing service until it is administered to the patient

- **Administering**
  - The act of delivering the right medication to the right patient in the right dose via the right route at the right time

- **Monitoring and Managing**
  - From the point the patient receives a medication, including refills, until he or she is no longer taking it

Breakdowns in the Medication Process

- **Ordering**
  - The clinician ordered the wrong medication for the patient’s condition
  - The clinician ordered a medication contraindicated by:
    - a patient’s known allergy
    - a patient’s concurrent medications
    - a patient’s underlying comorbidity
  - The clinician’s order included a wrong dose or route

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A patient’s exposure to the risk of a medication ordering error varies by the service entering that order and where that service is based.

Inadequate assessment of hospitalized patients prior to medication ordering increases the likelihood of severe injuries or death.
Ordering Errors

Among 1,073 ordering cases...

**TOP MEDICATION CATEGORIES**
- 15% antibiotics
- 13% anticoagulants
- 10% analgesics
- 5% cardiovascular drugs

**TOP CONTRIBUTING FACTORS**
- 31% a necessary medication was not ordered
- 26% a medication inappropriate for the patient's medical condition was ordered
- 23% the most appropriate medication was not ordered

**INJURY SEVERITY**
- 33% resulted in death
- 19% resulted in a high-severity injury (excluding death)

**Opportunities for improving ordering safety:**
- Robust medication reconciliation
- Pharmacist-managed allergy registries
- Medication-related decision support tools
- Standardized assessment of inpatients prior to medication ordering

Dispensing

- The pharmacy dispensed the wrong medication, dosage or composition
- The pharmacy incorrectly prepared the medication
- The pharmacy failed to recognize and flag an allergy or an intolerance to a dispensed medication

Breakdowns in the Medication Process

3% DISPENSING
87 of 2,700 CASES

Cardiovascular | Pharmacy
---|---
Where they occur

60% ambulatory
38% inpatient
2% emer.
Dispensing Errors

57% of dispensing cases have pharmacy as the primary responsible service.

Among 87 dispensing cases...

- **Top medication categories**
  - 17% cardiovascular drugs
  - 11% antibiotics
  - 9% anticoagulants
  - 8% hormones & synthetic substitutes

- **Top contributing factors**
  - 85% pharmacy dispensing error
  - 31% policy/protocol not followed
  - 23% administration of incorrect/ inappropriate dose

- **Injury severity**
  - 17% resulted in death
  - 6% resulted in a high-severity injury (excluding death)

Breakdowns in the Medication Process

- **Administering**
  - Wrong patient
  - Wrong time
  - Wrong medication
  - Wrong dose
  - Wrong route

14% administering

392 of 2,720 cases

- Analgesics
- Nursing

WHERE THEY OCCUR

- 44% ambulatory
- 44% inpatient
- 12% emer.
Administering Errors

MISCOMMUNICATION AMONG CLINICIANS WAS A CONTRIBUTING FACTOR IN

32%

OF CASES WITH A MEDICATION-ADMINISTRATION ERROR

Among 382 Administering cases...

**TOP MEDICATION CATEGORIES**
- 12% analgesics
- 8% antibiotics
- 8% cardiovascular drugs
- 7% anticoagulants

**TOP CONTRIBUTING FACTORS**
- 35% administration of incorrect/ inappropriate dose
- 32% administration of incorrect/ inappropriate drug
- 27% policy/protocol not followed

**INJURY SEVERITY**
- 23% resulted in death
- 13% resulted in a high-severity injury (excluding death)

Dispensing and Administering Errors

Opportunities for improving dispensing and administering safety:
- Monitor adherence to policies and procedures
- Structured practice for dispensing cabinets
- Question atypical medication orders/deliveries
- Identify and improve faulty systems
  - Look-alike packaging
  - Easy overrides
  - EHR challenges
- Communication
  - Provider to provider
  - Patient to provider
**Breakdowns in the Medication Process**

- **Managing**
  - Inadequate monitoring or assessment of:
    - A patient’s adherence to his/her medication regimen
    - A patient’s physiological response to new, changed or short-term medications
    - A patient’s physiological response to long-term medications
    - Abrupt or temporary alterations in a patient’s medication regimen
  - Inadequate education to patient/family about the risks related to taking, incorrectly taking or ceasing to take medication

**the “Non-Compliant” Patient**

- Spectrum
  - Diabetes Misunderstanding
    - Patient in hospital taught to inject insulin by injecting an orange
    - Patient readmitted to hospital with dangerously high blood sugar
    - Patient was injecting insulin into the orange, then eating it

- $2700
  - Average daily cost for hospital admission
Opportunities for improving monitoring and management safety

- Medication-specific patient education
- Standardized outreach (i.e., phone call) to recently discharged or non-adherent patients
- Systematic reconciliation with change of status/care transitions/discharge
Managing Errors

Concurrent Breakdowns in Patient Care in Monitoring & Managing Cases Involving High-severity Injury & Death

- Improper selection or management of therapy: 71%
- Inadequate patient monitoring: 59%
- Incomplete patient assessment: 47%
- Patient nonadherent with treatment plan: 39%
- Delayed or inaccurate documentation: 29%
- Miscommunication: provider-patient: 26%
- Miscommunication: provider-provider: 24%
- Clinical system breakdown: 9%

Managing Errors-Antibiotics

- Opportunities for improving antibiotic management:
  - Monitor drug-drug interactions, allergies
  - Antibiotic stewardship

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Managing Errors-Anticoagulants

- Opportunities for improving anticoagulant management
  - Assess competence of patient (or family member) as a partner in care
  - Anticoagulant clinics

Managing Errors-Analgesics

- Risks beyond malpractice
  - Regulatory Agencies
    - DEA
    - OBNDD
  - Licensure Boards
    - Oklahoma State Board of Osteopathic Examiners
    - Oklahoma Medical Board
    - Oklahoma Nursing Board
  - Criminal charges
Another physician is indicted for opioid overdose deaths—and the DEA warns it’s ‘sending a message’

In 2015, Hsiu-Ying "Lisa" Tseng, M.D., faced a trial on murder charges for writing painkiller prescriptions that led to the death of three young men and was sentenced to 30 years in prison.

U.S. Attorney General Jeff Sessions, said his department will not let up on efforts to go after doctors and other medical professionals who overprescribe opioids. The government is expanding efforts of its Opioid Fraud and Abuse Detection Unit, which is designed to combat the overprescribing of opioid painkillers that have contributed to the country’s opioid epidemic, and has assigned 12 prosecutors to focus solely on opioid-related fraud cases in a dozen hot-spot locations around the country.

Unprecedented prosecution: Doctor charged with murder after prescribing ‘excessive’ opioids

According to court documents, prosecutors allege that between January 2010 and October 2014, Nichols prescribed more than three million doses of controlled dangerous substances. Five people who died were prescribed more than 1,800 opioid pills in the same months of their deaths.
Managing Errors - Analgesics

Things to Consider

- Sustained pain relief over time not established
- Improved function and quality of life uncertain
- Serious risks associated with opioids

3 Pillars

- Determining when to initiate or continue opioids for chronic pain
- Opioid selection, dosage, duration, follow-up and discontinuation
- Assessing risk and addressing harms of opioid use
Determining When to Initiate or Continue Opioids for Chronic Pain

- Nonpharmacological therapy and nonopioid pharmacologic therapy are preferred for chronic pain.
- Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients.
- Before starting and periodically during opioid therapy, clinicians should discuss known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy.

Opioid Selection, Dosage, Duration, Follow-Up and Discontinuation

- When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting opioids.
- When opioids are started, clinicians should prescribe the lowest effective dosage. (carefully reassess when increasing dosage ≥50 MME/day and justify a decision to titrate a dosage to ≥90 MME/day)
- Long-term opioid use often begins with treatment of acute pain. It should be the lowest effective dose of immediate-release opioids for only the expected duration of pain severe enough to require opioids. (3 to no more than 7 days)
- Evaluate benefits and harms within 1 to 4 weeks of starting opioids. For continued therapy, evaluate benefits and harms at least every 3 months. If benefits do not outweigh harms, clinicians should work with patients to taper opioids to lower, taper and/or discontinue opioids.
Assessing Risk and Addressing Harms of Opioid Use

Before starting and periodically during continuation of opioid therapy, evaluate risk factors for opioid-related harms. Incorporate strategies to mitigate risk (i.e. offering naloxone) when factors increase risk for overdose, such as history of overdose, history of substance use disorder, higher dosages (>50 MME/day) or concurrent benzo use, are present.

Review the PMP

Use urine drug testing to assess for prescribed medications as well as other controlled and illicit drugs

Avoid prescribing opioid pain medication and benzos concurrently whenever possible.

Offer or arrange evidence-based treatment for patients with opioid use disorder.

Managing Errors - Analgesics

House Bill 1948, effective November 1, 2015

Mandatory PMP check for new patients or after 180 days elapsed since PMP check for patient prior to physician prescribing one of the following:

- Opiates, synthetic opiates, semi-synthetic opiates
- Benzodiazepine
- Soma
- Exclusions for Hospice or end-of-life, or patients residing in nursing facility

Physicians may designate a staff member to run the patient PMP on the physician’s behalf

Physicians may include a copy of the patient’s PMP in the medical record

Oklahoma restricts prescribing of Schedule II drugs by APRNs and PAs
Managing Errors-Analgesics

- Opportunities for improving analgesic management
  - Provider education on post-operative pain management
  - Vigilance re: polypharmacy and medication reconciliation

Which factors affect the probability of patient death?

To identify the strongest predictors that a medication-related malpractice claim would involve a patient who died, 3,067 cases asserted from 2010–2014 were assessed.

+163%

Analgesic-related errors increase the odds of a case involving a patient death by 163%.

Consequences

Medication cases involve a higher proportion of patient deaths when compared with other malpractice cases.

<table>
<thead>
<tr>
<th>SEVERITY OF PATIENT INJURIES</th>
<th>Medication cases involve a higher proportion of patient deaths when compared with other malpractice cases.</th>
</tr>
</thead>
<tbody>
<tr>
<td>cases with medication issues</td>
<td>cases without medication issues</td>
</tr>
<tr>
<td>SEVERITY</td>
<td>cases with medication issues</td>
</tr>
<tr>
<td>low</td>
<td>6% low</td>
</tr>
<tr>
<td>medium</td>
<td>45% medium</td>
</tr>
<tr>
<td>high</td>
<td>17% high</td>
</tr>
<tr>
<td>excluded death</td>
<td>32% death</td>
</tr>
</tbody>
</table>

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Driven by an above average injury severity profile, medication-related cases are more likely to close with an indemnity payment.

<table>
<thead>
<tr>
<th></th>
<th>Medication Cases</th>
<th>All Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases Closed</td>
<td>5,279</td>
<td>43,521</td>
</tr>
<tr>
<td>Closed with Payment</td>
<td>41%</td>
<td>32%</td>
</tr>
<tr>
<td>Closed with Payment &gt; $1M</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Average Indemnity</td>
<td>$453K</td>
<td>$354K</td>
</tr>
</tbody>
</table>

Consequences

Administering and dispensing errors—though lower in volume—increase the odds of a case closing with an indemnity payment. (see page 35)

- Ordering: 1,917 cases, 47% closed with payment
- Dispensing: 163 cases, 53% closed with payment
- Administering: 666 cases, 58% closed with payment
- Managing: 2,687 cases, 35% closed with payment

N= 4,762 cases closed 2005-2014 with a medication process error. A case may involve errors in more than one step.
Final Thoughts

- Medication-related treatment encompasses the vast majority of patients and virtually every healthcare service area. This study validates that the risk of medication error is universal.
- When compared with non-medication events, medication-related malpractice cases:
  - Involve a larger percentage of deaths
  - More frequently close with an indemnity payment
  - Close with considerably higher average payments
- A commitment to communication and coordination is essential to preventing medication errors, patient harm and allegations of malpractice.
- Medication errors are a top patient safety failure in the outpatient setting making it a prime area of opportunity for improvement.

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Resources

Institute for Safe Medication Practices [www.ispm.org](http://www.ispm.org)

*CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016*
[https://www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6501e1er.pdf](https://www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6501e1er.pdf)


MedPro Medication Inventory Management for Healthcare Practices Checklist
[https://www.medpro.com/documents/10502/2899801/Checklist_Med+Inventory+Mgt.pdf](https://www.medpro.com/documents/10502/2899801/Checklist_Med+Inventory+Mgt.pdf)

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MedPro Risk Q&A High-Alert Medication Monitoring
Thank you!

Shari Moore, RN, BSN
Vice-President, Risk Management
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