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Medication Prescribing as a Key Area for Safety Improvement in Ambulatory Care

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Medications are a cornerstone of patient care and treatment, and the medication process involves various steps from initial patient assessment to ongoing monitoring. One of the first steps in the medication process is prescribing (or ordering), which — by itself — is complex, particularly as the number of prescription drugs on the market has increased.

Although measuring prescribing errors in ambulatory care is somewhat tricky because of certain variables, research has suggested that these errors are not uncommon and can lead to adverse outcomes.[1] Additionally, a CRICO Strategies analysis of more than 28,500 malpractice cases showed that prescribing errors occurred in about one-third of medication-related claims in the ambulatory setting.[2]

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Technologies such as electronic health records (EHRs) and computerized provider order entry (CPOE) have shown promise in reducing some prescribing errors, like those linked to illegibility and harmful drug interactions. However, technology does not eliminate all errors, and lapses can still occur — for example, in relation to clinical judgment and decision-making. A study that examined 3,850 computer-generated prescriptions found that about 1 in 10 included at least one error, of which more than a third had potential for harm.[3]

CRICO's aforementioned malpractice analysis also points to the possibility of technology eroding interpersonal communication and teamwork:

> Medication safety requires a balance of efficiency in routine processes and teamwork to support each other's decisions and actions. The tools (e.g., CPOE) employed to reduce ordering errors are effective, but they incorporate features (e.g., forcing functions, alerts) which instill confidence at the cost of peer engagement.[4]

With prescribing identified as a key area for safety improvement, this article aims to provide an overview of several aspects of the prescribing process — including reconciling patient medications, prescribing new medications and refills, and managing patients on high-alert medications — and offer helpful risk management tips and strategies.

Medication Reconciliation

In ambulatory care settings — just as in inpatient care settings — careful evaluation of patients' medical histories and health status is an essential element of high-quality care and an important initial step for safe prescribing. Gathering and maintaining detailed and accurate information "is the first priority in medication safety, as it guides physicians to choose the appropriate medication, dose, route, and frequency."[5]

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A vital factor in patient evaluation is medication reconciliation. Given that an estimated 8 out of 10 Americans take at least one medication and almost a third take five or more medications,[6] it is reasonable to assume that patients are receiving prescriptions from more than one provider — such as family physicians, specialists, and dentists — and taking any number of over-the-counter (OTC) drugs, supplements, or herbal remedies. Further, patients who have been hospitalized might have had additions or adjustments to their medication regimens.

Comprehensively reviewing and reconciling all medications and products that patients use, as opposed to only the medications prescribed at a single practice, and keeping up-to-date health records can help practitioners make informed treatment decisions and reduce the risk of dangerous or undesirable medication interactions and suboptimal treatment outcomes.

The following risk management tips offer strategies for managing and improving the medication reconciliation process.

Risk Management Tips for Medication Reconciliation

- At each office visit, review all medications that the patient is taking, including prescription drugs, OTC medications, herbal products, dietary supplements, vitamins, and alternative therapies.
- To assist with reconciliation, ask the patient to bring his/her medications, a written list of medications, or digital pictures of his/her medication bottles to the appointment. Patients who take multiple medications might have difficulty remembering drug names, dosages, etc., from memory.
- Document all information related to drug, material, or food allergies in a prominent and consistent location in the patient's health record. List the name of the allergen, the date the allergy was identified, and the patient's reaction.
- Consider recommending medication management tools to help patients keep track of their medications. Examples of these tools include apps, wallet cards, or forms, which can ultimately assist with the reconciliation process. Various organizations offer these types of resources, including the Agency for Healthcare Research and Quality (AHRQ) and the Institute for Safe Medication Practices (ISMP).
- Do not rely solely on health information technology to facilitate medication reconciliation. AHRQ explains that research has found that "electronic tools often lacked the functionality to accurately reconcile medications, perhaps explaining why medication discrepancies persist even in organizations with fully integrated electronic medical records."[7]

- Use a medication flow sheet to document all medication orders, including refills, in the patient's health record. Ensure this information is located in a prominent place. Flow sheets should include ample information, such as drug name, dose, administration route, frequency, and purpose.
- When transferring or "handing off" patient care to another provider outside of the practice, send a thorough and detailed list of the patient's medications to the new provider.

New Prescriptions, Refills, and Samples

Writing prescriptions, handling requests for medication refills, and providing sample medications are routine aspects of patient care in healthcare practices. Yet, even routine activities can be vulnerable to errors and oversights in busy clinical settings. Implementing standardized protocols and thorough prescribing guidelines can help address these vulnerabilities, improve patient safety, and potentially minimize liability risks.

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Prescribing guidelines should clearly establish which staff members in the practice are authorized to prescribe medications, order refills, and dispense samples. Prescribing privileges vary by state and might also vary by drug classification (e.g., controlled substances), so knowing whether your state limits or restricts prescribing by certain professions is important.

Prescribing guidelines also should establish policies for handling requests for new prescriptions, managing medication refills, standardizing prescription writing through accepted and agreed-upon terminology and abbreviations, and educating staff about potential errors and adverse drug events (ADEs) that can occur during the prescription process, such as problems with "look-alike/sound-alike" drug names and variations in dose designations.

The following risk management tips offer strategies for developing effective prescribing guidelines and managing processes associated with new prescriptions, refills, and samples.

Risk Management Tips for New Prescriptions, Refills, and Samples

- Stay within your scope/expertise and follow evidence-based guidelines and accepted treatment principles when prescribing medications.
- Ensure that accountability for writing prescriptions, handling refill requests, dispensing sample medications, and administering medications is designated to healthcare professionals who are (a) legally permitted by state law to perform these activities and (b) are properly trained and credentialed.
- Consider a patient's lifestyle, frequency of use, and cost when prescribing new medications. These factors might affect patient adherence to treatment plans.
- Maintain adequate and current drug references and resources, and ensure staff members have easy access to these resources.
- Consider how health technology, such as clinical decision support, can assist in the prescribing process. Also, be aware of the limitations of such technology when devising guidelines and protocols.
- Make sure prescribing guidelines clearly establish when patients must have medical evaluations, testing, or follow-up before healthcare providers will prescribe new medications or refill existing prescriptions.
- Set clear parameters for when prescribing in the absence of a medical evaluation is appropriate and define limitations and restrictions, such as only providing a limited quantity of medication until the patient can come in for evaluation.
- Establish a list of potentially problematic abbreviations, symbols, and dose designations for your practice. Consider using ISMP's *List of Error-Prone Abbreviations, Symbols, and Dose Designations*.
- Ask staff to reference the list of error-prone abbreviations, symbols, and dose designations when communicating medical information to patients, pharmacists, and other providers.

- Establish policies that target potential problems with drug names and dosages. For example, require staff to always include the indication for use on prescriptions, use leading zeros as the standard format for writing out dosages, and use commas for dosing units at or higher than 1,000. Consider how technology in your practice can support these safety processes.

MedPro Resource

Use MedPro's checklist *Medication Inventory Management for Healthcare Practices* to address key safety precautions and identify areas for improvement.

- Ensure processes are in place to guide storage, labeling, dispensing, and documentation related to sample medications. For example, expiration dates on medication samples should be routinely audited, and a careful review of patient allergies should take place prior to providing sample medications.

High-Alert Medications

High-alert medications pose special risks and challenges for healthcare practices striving to implement medication safety measures. "High-alert" refers to medications that "have a propensity to cause serious harm when used in error" and that "require extra precautions when administered, prescribed, dispensed, or refilled."[8]

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Although medication errors are not necessarily more common with high-alert drugs, they are more likely to lead to severe outcomes. ISMP has compiled a list of high-alert medications used in community/ambulatory settings that includes classes of medications (e.g., opioids) and specific medications (e.g., warfarin).

To minimize the risks associated with high-alert medications, healthcare practices can incorporate specific safeguards into their prescribing processes. An initial step in establishing safeguards involves determining which high-alert medications are prescribed, stored, and/or

administered in the practice. Once a list has been generated, specific strategies can be developed and implemented to ensure patient safety.

The following risk management tips offer strategies for developing effective policies and protocols to manage patients on high-alert medications.

Risk Management Tips for High-Alert Medications

- Identify which high-alert medications are prescribed, stored, and/or administered in your organization, and share the list with staff members.
- Ensure your organization has a standard written procedure and reliable system for tracking test/lab results. The procedure should include guidance for timely review of test/lab results and patient follow-up.
- Develop standard protocols for monitoring patients receiving high-alert medications. At a minimum, standard protocols should include frequency of assessment and blood monitoring, guidance for adjusting medications, and standards for patient/family education. Consider using a medication monitoring service or implementing one of your own (e.g., a warfarin clinic).
- Define and communicate each healthcare team member's role relative to medication management, especially when high-alert medications are involved. Provide staff with medication management education.
- If you have an EHR system, enable pertinent medication alerts and track pending test results, patient notifications, and other elements of your standard medication safety protocols.
- For patients who take high-alert medications, thoroughly document in their health records complete information about prescriptions and refills, any necessary medical follow-up, lab work and results, informed consent conversations, special instructions, and the provision of patient education.
- Use data obtained from prescription drug monitoring programs when prescribing narcotics, or refer patients to pain specialists as appropriate.

- Consider using medication contracts for patients who take high-alert medications. Contracts should indicate appropriate medication use and expectations. Have the patient sign the contract and keep a copy in the patient's record.
- Establish a policy that requires patients to have a medical evaluation before refills of high-alert drugs are authorized.
- Include full and detailed instructions on prescriptions for high-alert medications, as well as the indication for use. Avoid using "as directed" in place of specific instructions.
- Allow ample time to discuss high-alert medications with patients and answer questions. Explain how and when the patient should take the medication, and discuss any monitoring or follow-up.
- Consider patients' health literacy when providing educational materials. Ask patients to "repeat back" the purpose of their medications and how they should take each drug to ensure they have a firm understanding of appropriate use.
- Design a process for tracking ADEs. Debrief "near misses" and actual events with your team to learn from each occurrence and to prevent future ADEs from happening.

MedPro Resources

MedPro offers healthcare providers numerous resources related to opioid prescribing and pain management:

- *Checklist: Pain Management*
- *Risk Resources: Opioid Prescribing and Pain Management*
- *Opioid Prescribing: Navigating Through a Crisis*
- The Opioid Epidemic: Implications to Managing Care (CME/CDE program)
- *Data Insight: Opioid Treatment — Liability Risks in the Office Setting*

Conclusion

Although errors can occur at various stages in the medication process, the complex nature of prescribing opens the door to a number of potential safety issues. The risk of errors and oversights can increase in the absence of clearly defined processes and protocols for safe prescribing.

To avoid possibly harmful ADEs that result from prescribing errors, ambulatory care organizations should develop strategies and implement safeguards that target key areas of the prescribing process for safety improvement. When staff members who are authorized to write prescriptions are aware of these safeguards and in compliance with organizational policies, the risk of serious, but preventable errors is minimized.

Endnotes

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[2] CRICO Strategies. (2017). *Medication-related malpractice risks: CRICO 2016 CBS benchmarking report*. Retrieved from www.rmf.harvard.edu/Malpractice-Data/Annual-Benchmark-Reports/Risks-in-Medication

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[8] Jenkins, et al., Simple strategies.