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Safe Medication Prescribing 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, which can be complex because of the number of prescription drugs on the market, lack of care coordination, and patients who require various treatments for comorbidities.

Although measuring prescribing errors in ambulatory care is tricky because of certain variables, research has suggested that these errors are common and can lead to adverse outcomes.[1] An 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]

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. The 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.[3]

With prescribing identified as a key area for safety improvement, this article aims to provide an overview of several aspects of the prescribing process and offer helpful risk management tips and strategies.

Medication Reconciliation

In ambulatory care settings, careful evaluation of each patient's medical history 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."[4]

Medication reconciliation plays a crucial role in patient evaluation. Given that more than 60 percent of Americans take prescription medications, and more than a quarter take four or more,[5] 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 strategies provide guidance for managing and improving the medication reconciliation process:

- At each office visit, verify all medications that the patient is taking, including prescription drugs, OTC medications, herbal products, dietary supplements, vitamins, and alternative therapies.
- To assist with verification, ask the patient to bring in their medications, a written list of their medications, or digital pictures of their medication bottles. Patients who take multiple medications might have difficulty remembering drug names, dosages, etc.
- Verify that the patient is taking each medication/product as prescribed or per its instructions. It is not uncommon for patients to deviate from treatment recommendations for various reasons.

- Reconcile all verified medications and products against the medication list in the patient's health record. Document the reconciliation during or immediately following the patient encounter to ensure accuracy.
- 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 — such as apps, wallet cards, or forms — to help patients keep track of their medications and to assist with the reconciliation process.
- Do not rely solely on health information technology to facilitate medication reconciliation. 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."[6]
- 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 prescriber name; start/stop dates; drug name, dose, administration route, frequency, and purpose; and refill dates.
- When transferring 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 tasks in ambulatory care. 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.

Prescribing guidelines should clearly establish which staff members in the practice are authorized to prescribe medications, order refills, and dispense samples. Prescribing authority varies by state and might also vary by drug classification (e.g., controlled substances).

Organizations that offer virtual care services also should be aware of online prescribing risks associated with telehealth.

Additionally, prescribing guidelines 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 in relation to the prescribing process, such as problems with “look-alike/sound-alike” drug names and variations in dose designations.

The following risk management strategies provide guidance for developing effective prescribing guidelines and managing processes associated with new prescriptions, refills, and samples:

- 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.
- Stay within your scope/expertise and follow evidence-based guidelines and accepted treatment principles when prescribing medications.
- Stay current on federal and state laws and regulations related to online prescribing as part of telehealth services (if applicable).
- Consider frequency of use, medication cost, and patient lifestyle and personal factors when prescribing new medications. All of these circumstances might affect patient adherence to treatment plans.
- Maintain adequate and current drug references and resources, and make these resources easily accessible within the practice.
- Determine 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 they will receive new medications or refills.

- Set clear parameters for when prescribing in the absence of a medical evaluation is appropriate, and define limitations and restrictions (e.g., providing only a limited quantity of medication until the patient can come in for evaluation).
- Establish a list of potentially problematic abbreviations, symbols, and dose designations to use in the practice. Reference the list when communicating medical information to patients, pharmacists, and other providers. The Institute for Safe Medication Practice's (ISMP's) List of Error-Prone Abbreviations is a helpful resource.
- Implement strategies to address potential problems with drug names and dosages. For example, 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 can support these safety processes.
- Ensure processes are in place to guide storage, labeling, dispensing, and documentation related to sample medications.

High-Alert Medications

High-alert medications pose special risks and challenges for ambulatory care facilities 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."[7]

Although medication errors are not necessarily more common with high-alert drugs, they are more likely to lead to severe outcomes.[8] ISMP has compiled a helpful 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, facilities can incorporate specific safeguards into their prescribing processes. The following risk management strategies provide guidance on developing effective policies and protocols to manage patients on high-alert medications.

- Create a list of the high-alert medications that are prescribed, stored, and/or administered in your organization to serve as a reference for providers and 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 results, communicating results to patients, and documenting patient follow-up.
- Define and communicate each healthcare team member's role relative to medication management, especially when high-alert medications are involved. Ensure your organization offers adequate medication management education.
- Adhere to conservative prescribing principles to help ensure safe and appropriate use of medications.
- 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 (e.g., a warfarin clinic) or implementing one of your own.
- Enable pertinent medication alerts in your EHR system. Determine how best to use your EHR system to track pending test results, patient notifications, and other elements of your standard medication safety protocols.
- Use computerized provider order entry paired with a clinical support decision system to help prevent medication ordering, transcribing, and dispensing errors.
- 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 discussions, 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 agreements for patients who take high-alert medications. Agreements should indicate appropriate medication use and expectations. Have the patient sign the agreement 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, and use strategies that support patient comprehension when educating patients about their medication regimens.
- Design a process for tracking ADEs (e.g., using data from your EHR system). Debrief “near misses” and actual events with your team to learn from each occurrence and to prevent future ADEs from happening.

In Summary

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

To avoid potentially harmful ADEs that result from prescribing errors, ambulatory care facilities 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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