Inpatient Medication Safety - Quick Hits

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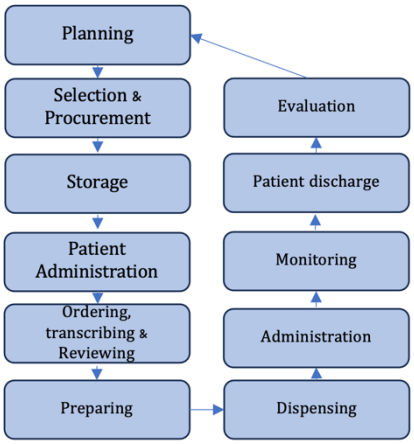

- Patient Safety and a Just Culture are the cornerstones of high-quality health care.
- Medication safety is relevant throughout the entirety of the patient care process. Therefore, medication errors are possible at every step.
- This list is not exhaustive and will focus primarily on provider experience.
- **What are some areas where error prevention is key?**
    1) High-alert medications → increased risk of causing serious patient harm when used in error.
    2) "Look-alike/sound-alike" (LASA) medications → easily-confused drug names or product packaging.
- **Where should hospitals start?** Start with what works: evidenced-based risk-reduction strategies, expert recommendations, successes in other hospitals.
- **Tactics for safely ordering High-alert medications:**
    - Clinical decision support tools that minimize alert fatigue and maximize just-in-time education. *(ex: alerts, best practice notifications, order sets, documentation templates, reference information)*.
    - Standardizing medication concentrations and the use of premixed IV solutions *(avoiding error prone calculations)*
    - Evidence-based standardized order sets and protocols *(ex: heparin order set)*
- **Tactics for safely ordering "look-alike/sound-alike" medications.**
    - Using both brand + generic names when appropriate
    - Differentiate using different color, font, or uppercase.
    - Include the indication for use on orders.
    - Limiting the use of verbal orders.
    - Using read-back processes.
    - Avoiding abbreviating drug names
- **Patient Admission**
- Obtaining a medication history and performing medication reconciliation on admission are crucial. Pharmacy should be involved when possible/appropriate, standardization of the process is key!
- **Common ordering errors**: omission, incomplete and unclear orders, wrong drug, wrong time, wrong dose, wrong dosage form, patient allergy, and wrong patient.
    - Make sure indication + intent of medication is clear.
    - Avoid unapproved abbreviations. *For example, "daily" rather than "q.d." (which could be misinterpreted as q.i.d.) or "units" rather than "U" (which could be misinterpreted as a 0)*
    - Do not use vague or blanket instructions *(ex: "take as directed" or "resume preop meds").*
    - PRN meds: limit the number of orders for the same therapeutic indication; provide clear directions regarding symptom hierarchy and the order of use when multiple orders are necessary.
    - Specify exact dosage **strengths** (*milligrams, milliliters*) rather than dosage form **units** (*1 tablet, 1 vial).*
    - Avoid coined names (e.g., Dr. Doe's syrup), chemical names (e.g., 6-mercaptopurine could result in a 6-fold overdose if misinterpreted [instead of mercaptopurine]), abbreviated drug names (e.g., "AZT" could stand for zidovudine, azathioprine, or aztreonam)
    - Always use a leading 0 before a decimal expression of <1 (e.g., 0.5 mL), and never use a trailing 0 (e.g., 5.0 mL)
    - Avoid use of decimals when possible *(e.g., prescribe 500 mg rather than 0.5 g)*
    - **For unclear orders, the hospital's patient safety culture should require nursing and pharmacy staff to stop processing the order until clarification is provided by the prescriber.**
    - Avoid verbal medication orders unless necessary (*ex: emergency situations, involved in a sterile procedure).*
- **Medication administration**

    - Use independent double checks when indicated (institution-specific)
    - Verify two patient identifiers + communicate indications, duration, and potential adverse effects with the patient.
    - Barcode-assisted medication administration can improve medication safety by verifying the right drug and right patient but is still prone to error if not executed properly.
  - While nurses are most often the practitioners administering medication, other health professionals may also administer medications/are present for the administration of medications.
- **Types of medication monitoring errors**
    - Incorrect transcription of lab values - if a value seems out of place, double check it.
    - Incorrect interpretation of results due to distractions, interruptions, workload, lack of training, confusing protocols, and/or incorrect documentation.
    - Examples of monitoring errors: not taking blood glucose (BS) level at the right time, not giving the right dose of sliding scale insulin in response to a BS level, not adjusting insulin orders based on patient response.
        - Opportunities for improvement: clear and detailed monitoring protocols, automatic provider alerts for critical values.
    - Monitor for adverse drug reactions and report events according to institutional policy/procedure.
- **Patient Discharge** is a valuable opportunity to prevent potential medication errors!
    - Ensure patients are able to obtain their medications at discharge *(availability, transportation, or insurance coverage),* ensure follow-up appointments and laboratory tests are scheduled.
    - Check that all medications and associated equipment are prescribed (e.g., blood glucose monitors).
    - Educate the patient about which pre-hospitalization medications should be discontinued, changed, or continued.
- **Patient Education = important!**
    - Encourage patients to take an active role in their drug therapy (ex: allow them to question/learn about their treatment regimens)
        - Ex: Were they educated on drug–food interaction, INR monitoring, and adherence for anticoagulation? How a glucometer works?
    - Effective communication = better adherence to treatment plans
    - Communication techniques: asking open-ended questions, reflecting patient comments back to them, using the teach-back method, and employing active listening.
    - **Instruct patients to maintain a list of all home medications** (including nonprescription drugs, home remedies, and medical foods) **and bring the list with them to future doctor appointments/hospital visits.**
    - Having time (or additional help from pharmacists/other staff) to educate and counsel patients is key!
    - Review using a written medication list in addition to checking verbal understanding.
- Take-Home Tips for Providers:
    - As mentioned, pay special attention to Admission and Discharge, as these are vulnerable times for medication errors.
    - Review a patient's medication list for accuracy each day, or every encounter.
    - Limit the number of charts you have open at one time while writing orders.
    - Validate and verify: ensure all team members have a shared mental model of treatment plan
    - Discuss medications (especially high-risk therapies) with patient and nurse.
- Tools:
    - Are these medications IV compatible? Trissels IV Compatibilty
    - Do these two medications interact? Drug Interaction Analysis
    - Is this safe in pregnancy? For each drug, Lexicomp has “Reproduction, Pregnancy, Lactation section”
    - Check your institution’s guidelines, policies & procedures

Citation: (1) https://www.ashp.org/-/media/assets/policy-guidelines/docs/guidelines/preventing-medication-errors-hospitals.ashx