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ISMP
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Acute Care
ISMP Medication Safety Alert!®
Educating the Healthcare Community About Safe Medication Practices

Total systems safety supports practitioners in partnering with families to protect patients

Problem: The National Steering Committee for Patient Safety[1] was developed and coordinated by the Institute for Healthcare Improvement (IHI) and the Agency for Healthcare Research and Quality (AHRQ), which includes representation from ISMP and ECRI. In its National Action Plan to Advance Patient Safety (www.ismp.org/ext/1359), the Committee describes four interdependent foundations that are essential to achieving total systems safety:

- Cultivating leadership, governance, and cultures that reflect a deep commitment to safety
- Engaging patients and families as partners in designing and providing care
- Fostering a healthy, safe, and resilient environment for the workforce
- Supporting continuous and shared lessons learned to improve safety and quality of care and reduce the risk of harm

This total systems approach to advancing safety includes the design and implementation of a proactive, coordinated strategy to establish healthcare safety processes that impact patients, families, visitors, and healthcare workers across the continuum of care (**Figure 1**).[2] While the concept of including patients as safety partners is not new, practitioners might be more familiar with different terminology such as patient- and family-centered care (www.ismp.org/ext/1388).



Figure 1. Total systems safety includes culture, leadership, and governance; patient and family engagement; workforce safety and wellness; and learning system.

When it comes to keeping patients safe, family members are often keen observers who are highly motivated to ensure that the right treatments are correctly provided to their loved ones. They can help detect harmful or potentially harmful critical events before injuries occur, or mitigate the duration and severity of harm. We wrote about this in our newsletter, *Partnering with families and patient advocates: another line of defense in adverse event surveillance* (www.ismp.org/node/10337). The article reflected on the numerous events that had been reported to ISMP in which a family member or patient advocate had noticed something unusual about their loved one and brought it to the attention of a healthcare practitioner who took action, thus avoiding a potentially catastrophic outcome. However, we continue to receive reports where practitioners did not seem to listen to patients, families, and caregivers when they voiced medication safety concerns, or critical information was not communicated to those who needed to take action, which resulted in harm.

Recent Event Reported to ISMP

Recently, the mother of a young teenager who has been receiving parenteral nutrition (PN) for several years, shared a story that highlights the struggles many patients and families experience

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SAFETY brief

HIGH-ALERT

Demo Dose updates forthcoming. When responding to a code, a pharmacist working at the bedside found two cartons labeled "DEMO DOSE **EPINEPH**rin Injection" (**Figure 1**) in an emergency medication box



Figure 1. A pharmacist found a demo product resembling **EPINEPH**rine in an emergency box during a code.

the pharmacy had provided. The pharmacist reported that these demonstration (or "demo") cartons and syringes (**Figure 2**) looked very realistic, with a warning on the carton stating, "For Educational Use Only. Not For Human or Animal Use." Also, inside the carton, the Demo Dose syringe label itself read, "INSTRUCTIONAL USE ONLY/ NOT FOR INJECTION," which could easily



Figure 2. Practitioners could easily mistake the demo syringe for real medication and administer it during a code.

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regularly, especially during transitions of care. The mom, who happens to be a patient advocate, detailed the sequence of events from her child's hospital room as follows:

Day 1

- **6 pm:** The 14-year-old patient presented to the emergency department (ED) with what was later diagnosed as a viral infection. His home PN infusion bag had started infusing at 5 pm.
- **10 pm:** The patient was admitted to the hospital, and his home PN was discontinued per the organizational policy. The mom provided the patient's nurse with his current home PN order. The mom specifically mentioned that her son had renal tubular acidosis and required very high doses of potassium. A basic metabolic panel (BMP) was drawn upon admission, and his potassium level was 3.5 mEq/L (normal range is 3.5 to 5.2 mEq/L).
- **11 pm:** The prescriber ordered "standard" intravenous (IV) fluids (e.g., dextrose 5% and sodium chloride 0.45% with 20 mEq/L potassium chloride). The mom was told by his nurse, "he will be fine on this until PN can be made." The patient's mom objected to not continuing his home PN, particularly due to his high potassium requirements, but was overruled. He received the ordered IV fluids which contained much less potassium than his PN.

Day 2

- **9 pm:** The prescriber ordered PN for the patient based on his BMP laboratory results from the previous day, and the PN infusion was initiated. It is unknown what the patient's potassium level was at the time the PN began infusing.

Day 3

- **1 am:** The patient's mom noticed her child was experiencing bradycardia with 55-65 beats per minute, while his typical heart rate range is 95-110 beats per minute while sleeping. She spoke up because this was quite a deviation from his baseline, and was assured by the nurse that this was not alarming.
- **3 am:** The patient was found lethargic and bradycardic. The mom insisted that electrolyte levels should be drawn early to check what his potassium level was. Due to the mom's persistence, the prescriber ordered a BMP to be drawn 5 hours earlier than originally planned.
- **3:30 am:** The patient's potassium level came back critically low (2.1 mEq/L). A potassium infusion was ordered and administered.
- **12:30 pm:** The patient began to wake up and return to his baseline status.
- **2 pm:** A BMP was ordered which showed that the patient's potassium level was back up to 3.6 mEq/L.

Even though the patient's family communicated the child's high potassium requirement in his PN, this critical information did not seem to influence the patient's care plan which resulted in harm. This event left us with several questions: Why was the mom's request to provide her child with his typical potassium requirement seemingly ignored? Why was action not taken sooner when the mom notified the practitioner that her child's heart rate was drastically below his normal range? What might have been the outcome if the mom had not insisted that the patient's potassium level be checked early? How might this story have had a better outcome if the practitioners had a method to evaluate and document the patient's unique needs so that the appropriate practitioners could act

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be overlooked during an emergency. The pharmacy did not purchase the demo products and did not know how they ended up in the pharmacy and inadvertently added to the emergency box. After the close call (i.e., good catch, near miss) was reported, a pharmacist checked the supply of **EPINEPH**rine in all storage locations (e.g., automated dispensing cabinets [ADCs], code trays, emergency boxes), and no additional demo products were located. The pharmacy later identified that the nursing education department had purchased this product for use during simulations. We wrote about a similar event in our April 4, 2024 newsletter article, *Demo product found in a code cart tray* (www.ismp.org/node/130167).



Figure 3. Prior to changes, the Demo Dose product (left) looked very similar to an actual **EPINEPH**rine (Hospira) carton (right).

In another hospital, a medication safety pharmacist also noticed that Demo Dose products used in the hospital's simulation laboratory (lab) looked similar to actual medications (**Figure 3**). The pharmacist contacted Pocket Nurse, who distributes Demo Dose products, to share concerns about the potential for mix-ups with actual medications. Pocket Nurse notified her of upcoming changes to differentiate demo products from actual medications. This involves updates

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upon the information that the family provided? Furthermore, while we advocate for standardization to minimize the risk of errors (e.g., "standard" IV fluid orders), how can hospitals also plan for deviation—the patient who requires something different or rare (e.g., high potassium requirement in home PN)? And how might a total systems safety approach be used?

Safe Practice Recommendations: Total systems safety intentionally includes patients and families with the ultimate aim of reducing preventable harm. To incorporate them into systems and processes, and to appreciate the benefit of their expertise, organizations should consider the following:

Culture, Leadership, and Governance

Safeguard unique patient needs. Develop a plan to care for patients who have medication needs that deviate from the "standard" therapy. Gather feedback from practitioners and leverage all members of the care team, considering their workflow to determine how to communicate (e.g., electronic health record [EHR] documentation, handoff) a patient's special needs (e.g., high potassium requirement) to all applicable practitioners as part of the total systems safety. Knowing that patients will be admitted at times when there are limited staff (e.g., night, weekend, holiday) to attend to complicated patient needs, prepare for circumstances when critical medications need to be addressed in a more timely manner and cannot wait until the following day (e.g., consider if there should be any exceptions for temporarily continuing home PN). Create a policy for continuing a home medication.

Reconcile medications including home PN. Add scripting to your medication reconciliation procedures that specifically asks patients about prescription medications, over-the-counter medications (including herbals and dietary supplements), non-enteral medications (e.g., infusions, including PN), and enteral nutrition. Obtain a copy of their home PN order and share this with the applicable practitioners (e.g., prescriber, pharmacist, dietician). If needed, follow up with the patient's primary care physician, specialty prescriber, outpatient pharmacy, and/or infusion pharmacy to ensure you have a complete and current medication list.

Patient and Family Engagement

Engage the patient and family. Patient advocacy begins by including the family or advocate in the patient's care and keeping them well informed so they know what to expect and can recognize if something is not right. Family members and patient advocates should be encouraged to speak up about any concerns or worries. They know the patient better than anyone on the medical team, so communication of their observations is extremely important. Many organizations have adopted bedside handoff processes for the nurses at change of shift. Some organizations invite family members to participate in medical rounds and include them on medication safety/quality committees or patient and family advisory councils. These inclusions acknowledge that the patient and the family are integral to high quality, safe and reliable care.

Listen to concerns and act when needed. When family members and patient advocates do speak up, practitioners should take the time to actually listen and understand their concerns and then act in a manner that fosters true collaboration and empowerment. Some hospitals have recognized the important role family members and patient advocates can play in detecting untoward events in their loved ones by allowing the family and advocates to call a rapid response team if they suspect something is not right.

Workforce Safety and Wellness

Educate staff. During orientation and annual competency assessments, educate practitioners about the role that patients, families, and caregivers can have in preventing medication errors. Share close calls (i.e., good catches, near misses) where patient harm has been prevented due to practitioners partnering with patients, families, and caregivers.

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to the name on the product packaging to state "DEMO-**EPINEPH**rine," with a red banner warning stating, "SIMULATED," and "FOR INSTRUCTIONAL USE ONLY, NOT FOR HUMAN OR ANIMAL USE," on the carton (**Figure 4**). Pocket Nurse also plans to add tape to the shipping packaging that states, "Not for human use," and has added safety information on their website.



Figure 4. The updated demo product states, "DEMO-**EPINEPH**rine," with a red banner warning "SIMULATED," and "FOR INSTRUCTIONAL USE ONLY, NOT FOR HUMAN OR ANIMAL USE" on the carton.

The medication safety pharmacist, Mara Weber from OhioHealth, presented this topic during a March 2024 Medication Safety Officers Society (MSOS) member briefing (www.ismp.org/ext/1390). She provided a website resource, the *Foundation for Healthcare Simulation Safety* (www.healthcaresimulationsafety.org), which shares simulation-related close calls and mitigation strategies so others can learn from these scenarios.

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Learning System

Encourage error reporting. Certainly, the presence of family members and patient advocates during a loved one's hospitalization is not possible in all circumstances, but perhaps more could be done to encourage family members and/or patient advocates to be present and speak up to prevent errors. Engaging family members and patient advocates as partners in identifying and reporting otherwise unrecognized errors and adverse events is a potentially promising approach for enhancing safety surveillance. Besides reporting at the hospital level, encourage patients to also report to external organizations including the following:

- ***ISMP Consumer Medication Errors Reporting Program (ISMP CMERP)*** (www.ismp.org/ext/1382)
- FDA's consumer reporting program (www.ismp.org/ext/1389)

Share resources. Share resources with practitioners and patients including the following:

- ISMP consumer website articles (www.ismp.org/ext/1384, www.ismp.org/ext/1385, www.ismp.org/ext/1386)
- The Joint Commission's Speak Up Campaigns (www.ismp.org/ext/1356)
- AHRQ's *Engaging Patients and Families in Their Health Care* (www.ismp.org/ext/1361)
- The World Health Organization (WHO) *Global Patient Safety Action Plan 2021–2030* (www.ismp.org/ext/1362)
- WHO advocacy brief, *Engaging patients for patient safety* (www.ismp.org/ext/1287)

References

1) Institute for Healthcare Improvement. National Steering Committee for Patient Safety. IHI. Accessed May 20, 2024. www.ismp.org/ext/1387
2) Davila S. ECRI's top 10 patient safety concerns for 2024. *ECRI* blog. March 12, 2024. Accessed May 20, 2024. www.ismp.org/ext/1360

Special Announcements

Nominations open for CHEERS AWARDS

Each year, ISMP honors various healthcare disciplines that have demonstrated an exemplary commitment to medication safety through innovative projects with an ISMP **CHEERS AWARD**. Nominations for this year's **CHEERS AWARDS** are now open and will be accepted through **August 2, 2024**. Please refer to the information provided on our website when submitting a nomination. For details, visit: www.ismp.org/node/123.

ISMP's on-demand library

Educational programs available on ISMP's on-demand library webpage are a convenient way for practitioners to stay ahead of new trends in medication safety and access ISMP's collection of webinars and symposia. Some programs provide continuing education credits for pharmacists and technicians. For additional details, please visit: www.ismp.org/node/22.

Virtual MSI workshop

Join us for our next ***ISMP Medication Safety Intensive (MSI)*** workshop on **August 8 and 9, 2024**. During the 2-day virtual program, learn how to use data to identify risk at your organization and how to use that information for continuous improvement. For more information and to register, please visit: www.ismp.org/node/127.

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Manufacturers should package demo products to look distinctly different than the actual product, and they should not have a scannable barcode. Schools, teaching facilities, or staff educators should be the only ones that purchase the demo products. Store demo products used in simulation training separately in a classroom/training area and not in patient care areas where they can be confused as actual medications. Pharmacy should never order these products or bring them into the pharmacy where students, technicians, or pharmacists might get confused. Affix auxiliary labels on all simulation supplies (e.g., Not for human use, Education only). Educators must account for every demo product used during training.

If you suspect that any training products may have been or were almost administered to a patient, please report it to ISMP, even if the event did not harm the patient.



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Editors: Shannon Bertagnoli, PharmD; Ann Shastay, MSN, RN, AOCN; Rita K. Jew, PharmD, MBA, BCPPS, FASHP; Editor Emeritus, Michael R. Cohen, RPh, MS, ScD (hon), DPS (hon), FASHP. ISMP, 5200 Butler Pike, Plymouth Meeting, PA 19462. Email: ismpinfo@ismp.org; Tel: 215-947-7797.