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

Ensuring competency and safety when onboarding newly hired professional staff–Part I

Problem: The academic curricula for many healthcare practitioners often do not sufficiently cover topics such as medication safety, medication-use systems, and basic medication prescribing, preparation, and administration. In addition, the recent nationwide surge of respiratory viruses coupled with staff resignations has left many healthcare organizations in a hiring frenzy. Newly hired healthcare practitioners strive to do their best, but certain safety practices require specific education and repeated practice. This is true for all healthcare practitioners, including physicians, nurses, pharmacists, pharmacy technicians, and other licensed practitioners. What happens when their risk monitors fire and tell them, "I don't know how to do that!"? Are organizations promoting a culture in which staff feel safe to stop and ask for help before getting in over their heads? Or do new healthcare practitioners find themselves in a position where they must troubleshoot issues on their own as they go, making assumptions and guessing to avoid the risk of losing respect? (See our previous publication, ***Be Wary of "Misspeakers" Who "Shoot from the Hip"*** [www.ismp.org/node/559].)

In **Part I**, we identify problems and make recommendations to best ensure competency and promote a safety culture during the onboarding process. This includes the importance of encouraging new hires to ask for help when a new or unfamiliar task arises. In **Part II**, which will be published in an upcoming issue, we will discuss the value of medication safety simulation during onboarding.

Not Having a Colleague Available to Answer Questions

Given the shortage of staff present during a given shift, part of the challenge is that there might not be anyone available for new staff to ask for help. This can occur if an individual has not been designated to oversee the new hire during their training period, or if the designated individual was not provided with dedicated time for training and is busy with other tasks.

New Staff Hesitant to Admit a Lack of Competency

When new practitioners want to make a good impression on supervisors and colleagues, they might be afraid to speak up and admit that they do not feel comfortable with or do not know how to complete a particular task. The pressure to impress others could result in medication errors that eventually reach patients. Consider why a healthcare practitioner might hesitate to ask for help in the following scenarios:

A new physician ordered a dose of propofol to be administered to a patient for procedural sedation. When the physician arrived at the bedside, they were told that due to limitations of the scope of nursing practice, nurses were not allowed to administer certain sedation medications, including propofol. Although the physician had no experience "pushing" medications, they were expected to draw up and administer the dose.

*A night pharmacist received a phone call from a nurse asking for an **EPINEPH**rine infusion to be sent STAT to the unit for a critically ill neonate. Since the sterile compounding technician had left earlier in the evening, the pharmacist asked a newly hired pharmacy technician to quickly compound the infusion. The technician had no prior experience working in a compounding room on*

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SAFETY brief

HIGH-ALERT

Incorrect lidocaine infusion option selected in smart pump drug library. An anesthesiologist inadvertently administered lidocaine at a rate of 30 mg/minute instead of 30 mcg/kg/minute. The patient then received 1,544 mg over 50 minutes rather than the intended dose of 85 mg. When the programming error was discovered, the patient was immediately treated with a lipid rescue infusion (www.ismp.org/ext/1082). No complications occurred as a result of the overdose.

In preparation for interoperability with the electronic health record (EHR), the organization's smart pump team had recently merged a separate profile for anesthesia providers with the main drug library. The

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IMPORTANT! Read and utilize the Acute Care Action Agenda

One of the most important ways to prevent medication errors is to learn about problems that have occurred in other organizations and to use that information to prevent similar problems at your practice site. To promote such a process, selected items from the **January – March 2023** issues of the ***ISMP Medication Safety Alert! Acute Care*** newsletter have been prepared for use by an interdisciplinary committee or with frontline staff to stimulate discussion and action to reduce the risk of medication errors. Each item includes a brief description of the medication safety problem, a few recommendations to reduce the risk of errors, and the issue number to locate additional information.

The **Action Agenda** is available for download as an Excel file (www.ismp.org/node/72820). **Continuing education** credit is available for nurses at: www.ismp.org/nursing-ce.

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their own. The technician previously heard the pharmacist expressing that they preferred to work with experienced technicians. Not wanting to make a bad first impression by asking how to prepare the infusion, the technician attempted to compound the infusion even though they were not sure what to do.

An emergency department (ED) physician asked a per diem nurse who was new to the organization to enter a verbal order for an insulin infusion in the electronic health record (EHR) for a patient experiencing diabetic ketoacidosis. The nurse had been taught how to document orders on the medication administration record (MAR), but not how to enter medication orders into the EHR. Being a team player was important, so the nurse attempted to show that by entering the verbal order into the EHR. Since it was a titratable insulin infusion, the nurse was prompted to enter required patient parameters to titrate the insulin infusion that were not relayed by the ED physician, so the nurse entered what was thought to be correct.

Healthcare practitioners are expected to speak up about patient safety concerns to help intercept errors and avoid adverse patient outcomes. This was discussed in a previous ISMP publication, ***Speaking Up About Patient Safety Requires an Observant Questioner and a High Index of Suspicion*** (www.ismp.org/node/12708). But what if the healthcare practitioner's patient safety concern is related to their own lack of knowledge? Without discounting the courage it may take for healthcare practitioners to admit they are unskilled to complete a task, open communication within a safe learning environment can protect patients from harm or even death.

Safe Practice Recommendations: Recognizing that every organization has limited resources, consider incorporating the following recommendations into your new hire onboarding, competency assessments, and organizational culture:

Explain how the organization handles errors. The healthcare educator or individual who oversees new practitioner onboarding should explain to the new hire that the organization is transparent with employees about medication errors. Ask how they would like to be alerted to errors that they have made. Help them to understand that feedback about errors is not intended as an attack, but rather an opportunity to learn and grow. Provide new hires with information about medication errors that have occurred and strategies that have been implemented to prevent them.

Invest time to "train the trainer." As the onboarding process can sometimes feel overwhelming due to the vast amount of information being shared, develop orientation guides, training manuals, and checklists to ensure consistent guidance and to document completion of the required tasks. Avoid treating the new hire as an extra pair of hands while they are still in training.

Set up the new hire for success. Standardize the orientation process and provide medication safety-specific education to new hires for tasks that are deemed critical to their role. Designate superusers and give them time to help with onboarding to make sure the new hires are competent in the areas and systems in which they are assigned to work.

Assess competency. To understand new hire's baseline knowledge and experience, create self-assessments and ask them, "How many times have you done this?" Observe the new hire a designated number of times completing a task to validate competency. Provide annual competency assessments for skills and knowledge on tasks that are expected of an employee, including those that may not be performed often (e.g., low-volume/high-risk duties).

Encourage open dialogue. It is important for the new hire to develop a questioning attitude regarding medication safety during orientation and throughout their career. Encourage orientees to take notes and ask questions to help enhance understanding and learn from mistakes. Staff who are overseeing this process should have an open attitude towards questions and be skilled to

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smart pump team provided educational modules including live demonstrations using the pump to prepare the anesthesia team for the transition. After the smart pump team released the single-profile drug library, the anesthesiologist selected the anesthesia mode and searched the letters "K to O" for lidocaine but only saw one option on the screen (**Figure 1**). However, there were additional options that would have been seen had the anesthesiologist scrolled to the next page. This included the "lidocaine ANES" option with a dose rate of mcg/kg/minute intended for perioperative infusions. The "lidocaine ANES" option had a soft maximum dose alert of 35 mcg/kg/minute without a hard maximum dose limit. However, the lidocaine option that the anesthesiologist inadvertently selected was intended for ventricular tachycardia with a dose rate of mg/minute. Although there was a hard maximum limit (5.5 mg/minute) with this option, since the pump was running in anesthesia mode, the hard stop feature was not available to protect end users from a potentially catastrophic programming error.

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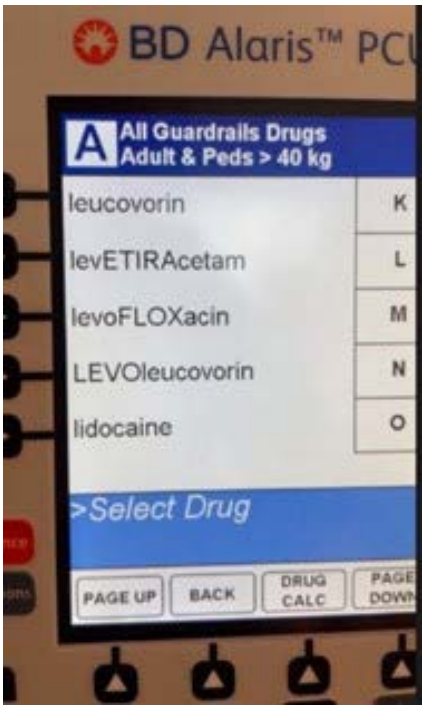

Figure 1. The smart pump screen displays a lidocaine option, but unless the end user scrolls to the next page (Page Down) in the drug library, they cannot see that there are additional lidocaine options for different indications.

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explain the "whys" behind the way certain things are done; avoid a "this is how we've always done things" mentality. Staff who onboard new hires should expect some challenging questions, even silly ones now and then, so encourage them to be patient and react to questions with thoughtful responses. Everyone was a new hire at some point and should appreciate that they too relied on others to get acclimated to the new environment.

If a new hire finds that what they are being taught significantly deviates from the orientation guide, they should be encouraged to escalate this to their supervisor for clarification. Inconsistencies during onboarding can be a contributing factor to medication errors and should be resolved upfront. Also, insights from orientees who are unfamiliar with processes or have experience with a different way of doing things, can help improve longstanding and potentially outdated ones, or identify problems or workarounds not apparent to current longtime staff.

Conduct audits and direct observation. Do not rely solely on the completion of orientation checklists to evaluate competency. Instead, to track how new hires are progressing, assess their proficiency with essential tasks by auditing their work. For example, utilize direct observation to assess dose preparation, automated dispensing cabinet (ADC) refiling, and smart pump programming. Any deviation from the intended processes, including workarounds or medication errors, should be discussed and addressed promptly. The plan to audit and directly observe tasks should be disclosed to the new hire during the initial onboarding process so that they are not surprised. Explain that this is another way to help the staff member improve and that the response will not be punitive if they "get something wrong."

Check in frequently. Set up regular meetings with new hires to maintain a "finger on the pulse" on how they are performing and feeling. Even though they may be competent in the necessary areas, they still may need reassurance. Provide positive feedback on tasks they have mastered and constructive feedback on areas in which they need to improve. Focus coaching efforts on these particular tasks and situations, allow for additional practice time, and set up a plan to reassess.

Provide a mentor. Consider pairing the new hire with a friendly face who can help them navigate the hospital. Resources are available to set up a formal mentoring program, such as those provided by the American Society of Health-System Pharmacists (ASHP), including ***Developing a Structured Mentorship Program*** (www.ismp.org/ext/1084) which is designed for students, residents, and practitioners. There are also other programs practitioners can access, such as the one offered through the American Nurses Association (ANA) Mentoring Programs (www.ismp.org/ext/1129).

Address intimidation. It is critically important for the orientation program to include how to respond when there is disagreement over what the new employee has been asked to do and what the new employee feels is safe. Healthcare practitioners have a responsibility to question processes that do not align with their knowledge or experience. Even though there may be a rational explanation, educate orientees that it is better to question a deviation from what they were taught, or ask for help with an unfamiliar task and to learn something new, than to proceed with something that might not be safe. Incorporate the following resources into the orientation process:

- ***Resolving Human Conflicts When Questions About the Safety of Medical Orders Arise*** (www.ismp.org/node/868)
- ***Survey Suggests Disrespectful Behaviors Persist in Healthcare: Practitioners Speak Up (Yet Again) – Part I*** (www.ismp.org/node/29916)
- ***Addressing Disrespectful Behaviors and Creating a Respectful, Healthy Workplace–Part II*** (www.ismp.org/node/30320)

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When the anesthesiologist programmed a dose of "30," the soft maximum alert (greater than 5 mg/minute) fired, but they overrode the warning without noticing the mg/minute dose rate.

Consider the following resources and recommendations to prevent programming errors when using smart pump drug libraries:

- ***ISMP Guidelines for Optimizing Safe Implementation and Use of Smart Infusion Pumps:*** Standardize dose/dose-rate nomenclature and dosing limits for intravenous (IV) medications and fluids (www.ismp.org/node/972).
- ***ISMP Targeted Medication Safety Best Practices for Hospitals*** (*Best Practice #*8): Ensure drug library content is consistent with the drug information and nomenclature (e.g., drug name, dosing units, dosing rate) in the EHR (www.ismp.org/node/160).
- ***ISMP Guidelines for Safe Medication Use in Perioperative and Procedural Settings:*** Utilize smart infusion pump technology with an engaged dose error-reduction system (DERS) in all perioperative and procedural settings, including intraoperatively by anesthesia providers and other practitioners (www.ismp.org/node/31601).
- ***Safety considerations for challenges when using smart infusion pumps*** *(October 20, 2022 Featured article):* If different indication-based library entries are needed for certain medication infusions, determine whether the infusion is only used for a single indication in a specific location and limit the drug library for that location to only one option, when possible. Otherwise, let end users know about the infusions that have multiple indication-based options. If possible, clearly include the indication in the drug name selection on the pump for all library options. For medication infusions with two options in the drug library based on the indication, make it obvious to end users which option to select, or this could

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Recognize new orientees. Emphasize that the organization values a culture of safety and encourages medication error reporting and sharing lessons learned. Consider implementing a program that includes "weekly shout-outs" or "good catches" to acknowledge new staff who exemplify values in safety. This is a way for staff and leaders to recognize new colleagues who speak up for patient safety and to encourage a safe learning culture. Be transparent with staff about the error that occurred without identifying individuals, and, when appropriate, make sure the hospital's medication safety committee reviews reported errors to consider prevention measures.

Continually reassess. To identify areas for improvement, ask for feedback from the new hire, those helping with the onboarding process, and peers working with them. Consider more training time if the new hire needs additional support. With the rapid changes that healthcare organizations face, ensure competency assessments and onboarding materials are updated regularly to reflect current policies and practices. Better onboarding ultimately leads to increased workplace satisfaction, reduced turnover, and a safer learning environment.

Up Next

Be on the lookout for **Part II** on this topic in an upcoming newsletter, which will discuss the role of simulations in medication safety education.

We thank Grace Lee, PharmD, BCPPS, Pharmacy Educator at the Children's Hospital of Orange County (CHOC) for assistance with this article.

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lead to unintended downstream effects or programming errors. Review the drug library on a test pump and, if necessary, modify the library so that similar entries are on the same screen when scrolling. Review the naming convention used for each indication in the drug library with end users as well as the associated workflow to ensure it is intuitive to select and switch between the two options (www.ismp.org/node/44254).

- ***Do you know what doses are being programmed in the OR? Make it an expectation to use smart infusion pumps with DERS*** *(March 12, 2020 Featured article)*: Consider limiting the use of smart pumps in "anesthesia mode," which reduces all hard stops to soft stops. The use of hard stops can serve as a forcing function and dramatically reduce the incidence of incorrect infusion pump programming (www.ismp.org/node/14839).

Special Announcement

Virtual MSI workshops

Don't miss the opportunity to register for one of our unique 2-day, virtual ***ISMP Medication Safety Intensive (MSI)*** workshops. Learn how to identify risks before they cause harm and how to use data for continuous improvement. The virtual program dates for 2023 are as follows:

- **June 8-9, 2023**
- **August 3-4, 2023**
- **October 4-5, 2023** (later start time for West Coast participants)

For more details about the program, please visit: www.ismp.org/node/127.

To subscribe: www.ismp.org/node/10

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Editors: Michael Cohen, RPh, MS, ScD (hon), DPS (hon), FASHP; Shannon Bertagnoli, PharmD; Ann Shastay, MSN, RN, AOCN; Kelley Shultz, MD. ISMP, 5200 Butler Pike, Plymouth Meeting, PA 19462. Email: ismpinfo@ismp.org; Tel: 215-947-7797.