Survey results show medication safety information provided by ISMP is valued and acted upon by US hospitals

ISMP extends its sincere appreciation to the many readers who completed our survey regarding satisfaction and effectiveness of the ISMP Medication Safety Alert! Your input is highly valued and will be used to improve the newsletter and other services that ISMP provides to the healthcare community. What follows is a brief description of the overall survey results.

Reader Satisfaction

Overall satisfaction with the ISMP newsletter content was high among respondents (mean score of 4.53 on a scale from 1 to 5, with 5 reflecting the highest satisfaction). At least 90% of readers who took our survey agreed that the newsletter:
- Increases their understanding of the causative factors leading to medication errors (97%)
- Serves as a credible, respected, and reliable resource regarding medication safety (96%)
- Includes recommendations that are practical and helpful (95%)
- Increases their understanding of how to prevent errors (95%)
- Facilitates the identification of medication safety issues and implementation of potential solutions (93%)
- Has helped reduce or prevent harmful medication errors in their hospital (90%)

While most respondents (89%) reported making specific changes in their own practices based on information provided in the newsletters, the lowest scoring items dealt with spreading the newsletter recommendations throughout the organization. For example, only 73% reported using the ISMP Quarterly Action Agenda to facilitate hospital-wide change, and only 79% said that past newsletters were used as a resource when planning hospital-wide medication safety strategies.

Implementing Key Recommendations

Overall, approximately half of our readers told us that their hospitals had taken action to implement key ISMP recommendations, if applicable, that had been published in our newsletter during the past year (see Table 1 on page 2). Another 6% to 20% reported partial adoption of the recommendations, and anywhere from 8% to 32% of hospitals reported that the recommendations had already been implemented prior to publication in our recent editions of the newsletter. Therefore, the overall adoption rate of many of the medication safety recommendations in at least some areas of the hospital approaches two-thirds to three-quarters of respondents. However, between one-quarter and one-half of all respondents indicated that the key recommendations were “not applicable” to the hospital or that they “did not know” if action had been taken. The latter condition—not knowing whether action had been taken—is more plausible given the broad applicability of all but a few ISMP recommendations selected for the survey.

WorthRepeating...

Prevent 10-fold overdoses of IV acetaminophen

An earlier ISMP newsletter discussed the risk of 10-fold overdoses of IV acetaminophen (OFIRMEV) in children. Each mL of the currently available product contains 10 mg of acetaminophen. In the earlier article, a case was described in which acetaminophen injection 250 mg was prescribed for a 25 kg child (10 mg/kg). An infusion pump was programmed incorrectly to infuse 250 mL of a 1 g (100 mL) bottle. A mental slip led the clinician to program the pump to deliver 250 mL (2500 mg) instead of 25 mL (250 mg). The error was detected after an entire 100 mL bottle of acetaminophen had infused but before additional bottles were hung. Thus, the child was not seriously harmed.

Your Reports at Work

Important new FDA draft Guidance published. We were very happy to learn last week that the US Food and Drug Administration (FDA) has published a draft Guidance, “Safety Considerations for Container Labels and Carton Labeling Design to Minimize Medication Errors” (www.ismp.org/safetybriefs?scid=185). Comments are welcome within the next 60 days. As explained in the document, its purpose is to help prescription drug and biologic product manufacturers minimize medication errors associated with their products. This Guidance focuses on safety aspects and provides a set of principles and recommendations for ensuring that critical elements of a product’s label are easy to understand.

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week. Still, other computer systems may list it incorrectly, so please check to see if the drug is listed correctly as “DOXOribucin HCl liposome injection,” which is the FDA-approved generic name. Omission of “liposome injection” could lead to a potentially fatal drug error. For the past 15 years, ISMP has warned about mix-ups between liposomal and conventional forms of injectable medications, including DOXOribucin (www.ismp.org/hazardalerts/lipid.asp). In this case, a mix-up could lead to underdoses or overdoses that are off by a factor of 2.5- to 4-fold. The reporting hospital experienced a near miss and therefore was concerned enough to bring it to our attention. Incidentally, we are asking vendors to use only the approved name for this drug—DOXOribucin HCl liposome injection. We suggest using HCl rather than hydrochloride in order to place “liposome” closer to “DOXOribucin,” which will make it easier to read. The word “pegylated” or “peg-” (which sometimes precedes liposomal), seen in some listings, is unnecessary in formulary systems.

David Bates honored. On April 26, world renowned patient safety expert and ISMP trustee David W. Bates, MD, MSc, received the Society of General Internal Medicine’s highest award, The Robert J. Glaser Award. The award is given to an individual for outstanding contributions to research, education, or both, in generalism in medicine. Dr. Bates has been a prolific author in the fields of health information technology and prevention of adverse drug events. The award was presented last week in Denver during the Society’s annual meeting. Congratulations, Dr. Bates!

Your Reports at Work continued

Table 1. Adoption of Key ISMP Recommendations

<table>
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<tr>
<th>ISMP Safety Recommendations</th>
<th>Percent (%) of Adoption (N = 556)</th>
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<tbody>
<tr>
<td></td>
<td>Full Adoption</td>
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<tr>
<td>Revise policies on the timing of medication administration after the Centers for Medicaid and Medicare Services (CMS) revised the “30-minute rule”</td>
<td>56</td>
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<td>Document all patients’ weights in kilograms, not pounds</td>
<td>53</td>
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<td>Reduce the IV starting dose of HYDROMORPHINE to 0.2-1 mg (previous labeling suggested 1-2 mg)</td>
<td>46</td>
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<td>Establish low concentration alerts (hard stops) when using custom concentrations of solutions infused via smart pumps</td>
<td>49</td>
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<tr>
<td>Educate patients discharged on warfarin, insulin, oral anticoagulant agents, oral antihypoglycemic agents</td>
<td>48</td>
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<td>Require a time-out procedure and an independent double-check just prior to administering intrathecal medications</td>
<td>49</td>
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<tr>
<td>Transition away from or re-evaluate the use of insulin pens in the hospital (allowing for a few reasonable exceptions)</td>
<td>34</td>
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<td>Avoid multiple-dose vials in the OR</td>
<td>49</td>
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<tr>
<td>Review policies for safe disposal of used fentaNYL patches</td>
<td>65</td>
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<tr>
<td>Establish a team/process to safely manage drug shortages</td>
<td>63</td>
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<tr>
<td>Establish a process to verify that changes are made in computers/automated dispensing cabinets/technology for alternative products used during a shortage</td>
<td>47</td>
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<tr>
<td>Avoid the use of pharmacy bulk packages of contrast media in radiology unless discarded after a single patient use</td>
<td>52</td>
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<tr>
<td>Educate staff during orientation about accidental injection of oral liquids and the purpose of oral syringes</td>
<td>56</td>
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Join ISMP in celebrating National Nurses Week: May 6-12, 2013
Unique 2-day program
Attend ISMP’s Medication Safety INTENSIVE workshop, an interactive program that provides hands-on experiences with risk assessment, event investigation, error analysis, and action planning. You will also engage in group discussions on a variety of topics, including Just Culture, Lean, and the role of the medication/patient safety officer. The workshop will be held in Philadelphia, PA, on June 13-14. For details, please visit: www.ismp.org/educational/MSI.

ISMP webinars
Join us on May 9 for: Unsafe Injection Practices Are Placing Patients at Risk: Take Action Now. Speakers will present the growing concern with infection control lapses that have led to bloodstream pathogen exposures for a large number of patients, and action to take now to promote safe injection practices.

Join us on June 20 for: Understanding the Finer Points of The Joint Commission Medication Management Standards for Hospitals: An Update for 2013. Participants will hear directly from The Joint Commission staff about Medication Management standards and medication-related National Patient Safety Goals that have proven to be the most difficult for hospitals and health systems, along with examples of how to achieve compliance.

For details on both webinars, please visit: www.ismp.org/educational/webinars.asp.

Valued continued from page 2
The least common barriers to implementing the ISMP recommendations were associated with the validity of the recommendations. Only 6% of respondents felt that the ISMP recommendations were not always consistent with the safety literature (1.64 mean score), and only 11% felt there was insufficient scientific evidence of effectiveness for some recommendations to support system-wide change (2.15 mean score). Also, only 11% of respondents believed ISMP did not agree with some of the ISMP recommendations (2.17) or felt some recommendations did not provide sufficient details to implement them in their organizations (2.25). Although these barriers should be addressed, they are less concerning than the finding that 11% of respondents also thought the errors addressed by the ISMP recommendations could never happen in their facilities (1.98).

Conclusions
ISMP applauds all healthcare organizations that routinely use the ISMP Medication Safety Alert! and other literature as a lens to examine their own medication practices and to proactively implement risk-reduction strategies. Please keep in mind that ISMP recommendations are built upon the continuous learning that accompanies thorough analysis of a wide variety of medication error reports sent to the ISMP National Medication Errors Reporting Program, ongoing literature review to ensure the application of scientific evidence when available, and an expert peer review process. Again, we thank our readers who provided us with a glimpse of how the newsletter is being used to support medication safety. Your input helps us ensure that the newsletter remains an important vehicle for medication safety improvements.

WorthRepeating... continued from page 1
A recent article in the February 2013 issue of the French journal Prescrire International describes several additional errors.2 The article notes that the British drug regulatory agency analyzed 23 cases of overdoses (mostly 10-fold) in children younger than 1 year, and that the Spanish authority monitored 29 cases of overdoses worldwide. (The drug has been used for children outside the US for several years, and although the drug is not approved in the US for children younger than 2 years, off-label use is possible.) Although we are aware of only a few similar overdoses in the US, the risk is WorthRepeating in light of the ongoing problem of 10-fold overdoses worldwide.

In 2012, the European Medicines Agency sent a communication calling for healthcare professionals to prescribe all doses by volume (www.ismp.org/se/?id=62). As stated in our earlier newsletter, prescribing by the mL dose alone is an at-risk behavior that has led to serious closing errors if more than one strength of the product is available or thought to be available by the prescriber. Although acetaminophen injection is only available in one strength at this time, we cannot support a recommendation to prescribe the drug using a mL dose alone. Prescribing IV acetaminophen doses in mg amounts is recommended. All doses in mL alone should be verified with the prescriber before dispensing and administering the drug.

Infants, children, and low-weight adults are at greatest risk of 10-fold overdoses of IV acetaminophen since the 10-15 mg/kg dose requires a calculation to determine the volume to infuse. These patients will need less than the full 100 mL (1 g) bottle. The risk of serious liver injury can be avoided if an overdose is detected and acetylcysteine is administered within several hours. However, an IV overdose of acetaminophen doesn’t produce identifiable symptoms in the patient apart from nausea and vomiting, which may cause the error to go unrecognized. Thus, orders for IV acetaminophen in infants and children should include the mg/kg weight-based dose along with the total calculated dose, and product labels and medication administration record (MAR) entries should include both the mg dose and the total volume of product to be infused. The order should include both the weight-based dosing (mg/kg) and the total calculated dose to provide a redundancy that facilitates an independent double-check to verify the prescribed dose. For the product label and MAR entries, including both the mg dose and volume to be infused can help prevent programming errors and accidental overdoses.

Additionally, pharmacists should prepare pediatric doses of 600 mg or less in a syringe, and nurses should administer the drug via a “smart” syringe infusion pump with maximum dose settings installed and active in the drug library. For adult infusions, smart pump use is also advised. As we noted earlier, this may be an issue if 24-hour pharmacy service is not available in settings such as the post-anesthesia care unit (PACU) or the emergency department (ED), where doses may not be started by pharmacy review. In these instances, an independent double-check of the drug, dose, volume to be infused, and infusion pump settings should occur prior to drug administration. As a final precaution, please keep in mind that IV acetaminophen should not be used when the oral route is available.

References

Please encourage your patients and staff to visit www.consumermedsafety.org often. It may save a life!