



ISMP Medication Safety Alert! [®] Acute Care

January 26, 2012 ■ Volume 17 Issue 2

SafetyBriefs

 **Allergy listing in electronic database.** Because electronic health records (EHR) may share a common allergy database between drug prescribing and dispensing systems, you should investigate how your EHR identifies and incorporates allergies that aren't drug-related. A patient was seen in a physician practice that uses the same computer system as the hospital, so allergy information entered at the office is available when a patient is admitted to the hospital. During an office visit, a patient reported that she had seasonal allergies. The nurse typed 'seasonal' into the allergy database without realizing that the system converted it to the birth control pill "SEASONALE," (levonorgestrel ethinyl estradiol). When the patient was later admitted to the hospital, the medication reconciliation technician asked the patient about her allergy to the oral contraceptive and learned that the patient did not have a uterus and did not need the contraceptive, but that she did experience seasonal allergies. In this case, no harm occurred, but imagine a scenario where a patient's oral contraceptive or hormone replacement therapy is never prescribed, or is discontinued inappropriately, based on incorrect allergy information. The same patient also reported an allergy to cat hair, and the only choice from the drop-down menu was cat hair standard extract. Some computer systems are not designed to accept seasonal allergy, allergy to cat hair, or other non-drug allergies; you can only choose a drug from a drop-down list. When possible, add common allergies to the database, especially if one common EHR is used throughout the system. Some systems allow drug allergies to be separated from all other allergies.



 **OR nurses: "Stop using multidose vials"** The Association of periOperative Registered Nurses (AORN) recently released a set of recommended practices for medication safety in the association's 2012 edition of *Perioperative Standards and Recommended Practices* (<http://alturl.com/xapaa>). The standards include a recommendation to collaborate with pharmacists to procure and store single-dose vials

continued on page 2—SafetyBriefs ▶

Don't let the "tobacco stain" on pharmacies that sell cigarettes be a barrier to advanced pharmacy practice

Report to Surgeon General calls for recognition and compensation of pharmacists

Pharmacists, especially those in the ambulatory care setting, are on the brink of an extraordinary opportunity that promises to bring about a paradigm shift regarding how healthcare is delivered, while addressing many current challenges related to access to care, patient safety, quality of health outcomes, and healthcare costs. A December 2011 Report to the US Surgeon General, **Improving Patient and Health System Outcomes through Advanced Pharmacy Practice**, provides a compelling and evidence-based discussion in support of healthcare reform that recognizes and advances the role that pharmacists play in delivering patient care services that add value and improve health outcomes.¹ The report calls for recognition of pharmacists as healthcare providers via statute, legislation, and policy, which would remove barriers to compensating pharmacists for clinical services they provide. Beyond payment for a drug product or device, the report notes that pharmacists should be compensated for activities that promote health and prevent adverse drug events, such as conducting patient assessments; interpreting lab tests to monitor drug therapy; developing therapeutic plans of care; recommending drug therapy changes; education and follow-up with patients who have a complex drug regimen; coordination of care for disease prevention; and other monitoring activities.

Adapted from a poster at: SmokeFreeCapital.org
Capital District Tobacco-Free Coalition ▶

"Pharmacies should be places where people go to get better, not where people go to get cancer."
Mayor of San Francisco

As a longtime advocate of the issues brought forth in the report, the Institute for Safe Medication Practices (ISMP) will continue to provide our unwavering support for advancing the professional role of pharmacists and compensating pharmacists commensurate with the level of services provided by other practitioners providing comparable services. In light of this remarkable opportunity to improve health outcomes through advanced pharmacy practice, we feel compelled to speak frankly about an elephant in the room that has long loomed large and cast a shadow on the pharmacy profession: the selling of tobacco products in many community pharmacies.² According to the Centers for Disease Control and Prevention (CDC), tobacco is the leading preventable cause of death in the US—more than 433,000 deaths annually, and more than all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined.³



Which item doesn't belong in a pharmacy?



While most small, independent pharmacies do not sell tobacco products, many chain pharmacies do, often placing these products at the cash register where they can be seen by customers.² Prominently displaying tobacco products alongside healthcare products normalizes their use, reduces the stigma associated with smoking, makes children and young adults believe it is acceptable, and furthers the smoking epidemic.⁴ It places pharmacists in a compromised environment: at one end of the pharmacy, cigarettes that destroy health are being sold; at the other

continued on page 2—Tobacco ▶

SafetyBriefs continued from page 1 rather than multidose vials due to evidence indicating that multidose vials pose a risk of cross contamination as well as administering too much medication. The organization based its recommendation on documented outbreaks associated with the use of multidose vials. The recommendation also notes that, when medications are supplied in quantities that exceed the amount typically given, practitioners may misinterpret the amount in the vial as a single dose, leading to overdoses. The new standards outline best practices in the operating room (OR) when procuring, prescribing, transcribing, dispensing, administering, and monitoring the effects of medications. Other key recommendations include: take a multidisciplinary team approach with pharmacists' involvement in perioperative medication management; develop systems to evaluate compliance with safe practices; assess patients before and after administering medication; and use aseptic technique when transferring medications to the sterile field and during incremental injections.

⚡ New OR medication safety video available. A new 18-minute video about medication safety in the operating room (OR) is now available from the Anesthesia Patient Safety Foundation (APSF). A four-pillar foundation is promoted: standardization, technology, pharmacy services, and culture. The video, *Medication Safety in the Operating Room: Time for a New Paradigm*, is intended for anesthesia professionals but anyone responsible for care of patients in the OR can benefit from a better understanding of safe medication use in this unique environment. Thanks to an unrestricted educational grant from CareFusion, a complimentary copy of the DVD is available at: http://apsf.org/resources_video2.php.

⚡ QuarterWatch™ report link. In the *QuarterWatch™* article in our last issue, we inadvertently left out a link to the full report on our website. The report can be accessed at: www.ismp.org/QuarterWatch/pdfs/2011Q1.pdf.

Last chance to participate! ISMP is keeping track of error reports where harm occurred due to the drug shortage crisis. If the drug shortage has contributed to harmful outcomes for any of your patients, we urge you to make a difference by participating in the ISMP survey at www.ismp.org/survey/newsletter/survey201110.asp before **February 29**. Your participation may contribute to much needed reform at a national level!

Tobacco continued from page 1 end of the pharmacy, prescriptions are being filled to promote health and, sometimes, to treat the devastating health consequences of smoking.⁵

Pharmacies are supposed to be dedicated to protecting and promoting health. They sell products and medications designed to prevent and treat illness; they offer health screenings and immunizations; some even provide health clinics.⁶ Although many sell a variety of products not related to health, pharmacies are considered among the most trusted sources of health information for the public.^{6,7} Pharmacies that promote and sell tobacco products still portray themselves as an important part of our healthcare system, but they also appear to be dead serious about maximizing tobacco sales.⁷ We would be horrified if we found a cigarette vending machine in a physician's waiting room; we should be just as horrified that cigarettes are promoted and sold in many of our chain pharmacies.

In 2009, the American Medical Association (AMA) approved a resolution calling for the stoppage of the promotion and sale of tobacco products in pharmacies.^{5,8} In 2010, the American Pharmacists Association (APhA) called for a stoppage of tobacco product sales in pharmacies (and facilities that include pharmacies).⁹ APhA policies urge the federal and state governments, state boards of pharmacy, colleges of pharmacy, and the Accreditation Council for Pharmacy Education (ACPE) to only allow pharmacies that do not sell tobacco products to participate in government-funded prescription programs, receive and renew pharmacy licenses, or serve as experiential sites for pharmacy students. Given that the sale of tobacco contradicts the pharmacist's code of ethics, the American Society of Health-System Pharmacists (ASHP) also strongly opposes the sale or distribution of tobacco products in all estab-

lishments where healthcare services are rendered.¹⁰ In June 2009, President Obama signed a new law that gives the FDA authority to regulate the manufacture, sale, distribution, and marketing of tobacco products.⁸ Some cities, including Boston and San Francisco, have enacted laws prohibiting tobacco sales at pharmacies, but not without legal challenges by a large chain pharmacy.¹¹ There are also a small number of pharmacists working within organizations that have taken on a mission to stop the sale of tobacco products in pharmacies.^{2,4,6,11-13}



Tobacco sales in pharmacies raises ethical questions since tobacco is the only consumer product that will kill at least half of its long-term users.¹⁴

These efforts have yet to make a significant dent on a national level, nor have they erased the blemish on the pharmacy profession. Pharmacies that continue to profit from the sale of tobacco products make a mockery of pharmacists, who, surveys suggest, are largely disinclined participants.¹² Executives of chain pharmacies that sell tobacco products should be challenged, and the thousands of independent pharmacies and some chains, such as Target and Wegmans, that do not sell cigarettes, should be commended.¹²

Today, a new opportunity exists for health leadership and policy makers to support and implement evidence-based models of cost-effective pharmacist-delivered patient care, as detailed in the recent report to the Surgeon General.¹ If there has ever been an optimal time to promote a professional image of pharmacists as providers who improve health outcomes, it is now! We need to maximize the scope of pharmacy practice and eliminate any barriers to the provision of advanced pharmacy care. Don't let tobacco sales in pharmacies remain as one of those barriers. Take a stand by sending a letter to the executives of chain pharmacies who allow tobacco sales, and sign a national petition against tobacco sales in pharmacies at: <http://rxforchange.ucsf.edu/petition.php>. References appear on page 3—**Tobacco** ▶



Tobacco continued from page 2**References**

- 1) Giberson S, Yoder S, Lee MP. *Improving patient and health system outcomes through advanced pharmacy practice*. A report to the U.S. Surgeon General. Office of the Chief Pharmacist. U.S. Public Health Service. Dec. 2011. www.usphs.gov/corpslinks/pharmacy/comms/pdf/2011AdvancedPharmacyPracticeReporttotheUSSG.pdf
- 2) Hussar DA. Merchants of death. Chain pharmacy CEOs must stop the sale of cigarettes! *The Pharmacist Activist*. 2011;6(11):1-2. www.pharmacistactivist.com/2011/PDFs/November_2011.pdf
- 3) Centers for Disease Control and Prevention. Tobacco-related mortality. March 21, 2011. www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/
- 4) Daynard RA, Gerace TA Jr, Gerace TA Sr. Letter to Troyen A Brennen, CVS Caremark Corporation. *Breaking news*. Toxic-Tobacco Law. Oct. 8, 2009. www.toxic-tobaccolaw.org/13news.shtml#CVSNR
- 5) Elliott VS. AMA meeting: More to do on tobacco control. *Amednews.com*. June 29, 2009. www.ama-assn.org/amednews/2009/06/29/prse0629.htm
- 6) Cadman B. Activists target tobacco in pharmacies with 'CVS sells poison' campaign. *Change.org*. Feb. 17, 2011. <http://news.change.org/stories/activists-target-tobacco-in-pharmacies-with-cvs-sells-poison-campaign>
- 7) Americans for Nonsmoker's Rights. Why cigarettes and pharmacies don't mix: prescription for change. Oct. 3, 2008. *PRNewswire-USNewswire*. www2.prnwswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/10-03-2008/0004897726&EDATE
- 8) Wilson CB. Health system reform: what does the future hold? Aug. 5, 2009. American Medical Association. www.ama-assn.org/ama/pub/news/speeches/wilson-florida-hospital-hsr.page
- 9) American Pharmacists Association. APhA announces new policies adopted by House of Delegates. May 18, 2010. www.pharmacist.com/AM/Template.cfm?Section=News_Releases2&Template=/CM/ContentDisplay.cfm&ContentID=23367
- 10) American Society of Health-System Pharmacists. ASHP policy position 0713: tobacco and tobacco products. www.ashp.org/s_ashp/docs/files/BP07/HR_Positions.pdf
- 11) Madanick R. Tell pharmacies to stop selling tobacco products. *Change.org*. Dec. 2011. www.change.org/petitions/tell-pharmacies-to-stop-selling-tobacco-products
- 12) Hussar DA. Pharmacy cigarette sales must end. *Drug Topics*. May 1, 2009. <http://drugtopics.modernmedicine.com/drugtopics/Modern+Medicine+Now/Pharmacy-cigarette-sales-must-end/ArticleStandard/Article/detail/585685>
- 13) 100 reasons why CVS should stop selling cigarettes. *WhyQuit News*. May 20, 2011. <http://whyquit.com/pr/052011.html>
- 14) Prescription for change. New York pharmacy facts. *TobaccofreeNYS.org*. Adapted from CA Department of Public Health, CA Tobacco Control Program. 2010. www.smokefreecapital.org/pdf/PharmacyRXChange.pdf

Special Announcement...

Join ISMP on **February 15** for our webinar on **Challenges in Oncology Medication Safety: Identifying Risk and Opportunity**. For details, visit: www.ismp.org/educational/webinars.asp.

Does the CMS standard to store medications according to manufacturer's directions impact drug shortages and increase waste?**Please take our survey and let us know about your experiences**

A healthcare organization's ability to manage drug shortages and reduce waste may be compromised by the way the Centers for Medicare & Medicaid Services (CMS) and Joint Commission surveyors apply statements in CMS interpretive guidelines (www.cms.gov/manuals/Downloads/som107ap_a_hospitals.pdf) related to stability, expiration dating, and storage of parenteral medications before and after they are manipulated to prepare injections. On the one hand, the interpretive guidelines associated with CMS standard §482.25(a) state, in part, that accepted professional principles must be followed as well as standards or recommendations promoted by nationally recognized organizations like FDA, the National Institutes of Health, the American Society of Health-System Pharmacists, and others. In conflict with these statements, the interpretive guidelines also state, "Drugs and biologicals are stored in accordance with *manufacturer's directions* and State and Federal requirements." Strict adherence to this means that professional standards or official compendia recommendations for stability information do not apply.

There are several factors that make following only the *manufacturer's directions* difficult and needlessly wasteful, particularly during an ongoing drug shortage crisis:

- Complete information on dilution, compatibility with diluents, stability, storage, and beyond use dating (BUD) is often not provided by manufacturers in the official prescribing information.
- Information from the innovator manufacturer is often not provided to the generic manufacturers.
- For information on storage, compatibility, stability, and BUD, manufacturers often refer practitioners to official compendia such as the American

Hospital Formulary Service (AHFS) *Drug Information*, *Trissel's Handbook on Injectable Drugs*, and/or studies published in peer reviewed journals.

- Conflicts may exist between the *manufacturer's directions* in official labeling and more recent evidence-based compatibility/stability data and BUD published in official compendia endorsed by pharmacy organizations.

Examples of injectable drugs with evidence-based extended dating not mentioned in the manufacturer's labeling include: succinylcholine (vial), **LOR**azepam (vial), **niCAR**dipine (IV admixture), famotidine (IV admixture), and norepinephrine (IV admixture). Hospitals may unnecessarily discard these drugs, all subject to recent shortages, when following the *manufacturer's directions* in order to comply with CMS rules.

According to a recent analysis by Shane et al. at Cedars-Sinai Medical Center in Los Angeles (personal communication), among 50 randomly selected drugs on the current national drug shortage list, the package insert for only 68 % of them included information on compatibility with diluents, and only half provided information on stability, storage, and BUD after dilution of the drug to a final form. When the manufacturers were contacted, half referred practitioners to published compendia for needed storage and information on BUD.

We would like to hear from pharmacists and other healthcare practitioners about their experiences with this issue. **We urge hospital pharmacists to complete a short ISMP survey** at www.surveymonkey.com/s/ismp-bud so we can learn more about any unintended consequences of the CMS directive. If change is warranted, we plan to further pursue the issue with CMS officials.

ISMP Medication Safety Alert! Acute Care (ISSN 1550-6312) ©2012 **Institute for Safe Medication Practices (ISMP)**. Permission is granted to subscribers to reproduce material for internal communications. Other reproduction is prohibited without permission. Report medication errors to the ISMP National Medication Errors Reporting Program (MERP) at **1-800-FAIL-SAFE** (E). Unless noted, published errors were received through the MERP. ISMP guarantees confidentiality of information received and respects reporters' wishes as to the level of detail included in publications. **Editors:** Judy Smetzer, RN, BSN, FISMP; Michael R. Cohen, RPh, MS, ScD; Russell Jenkins, MD. **ISMP, 200 Lakeside Drive, Suite 200, Horsham, PA 19044.** Email: ismpinfo@ismp.org; Tel: 215-947-7797; Fax: 215-914-1492. This is a peer reviewed publication.



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

THE INSTITUTE FOR SAFE MEDICATION PRACTICES (ISMP) IS NOW ACCEPTING APPLICATIONS FOR

THREE 2012-2013 FELLOWSHIPS

ISMP SAFE MEDICATION MANAGEMENT FELLOWSHIP
FDA/ISMP SAFE MEDICATION MANAGEMENT FELLOWSHIP
STEPHEN R. LEWIS, MD, FELLOWSHIP

ISMP SAFE MEDICATION MANAGEMENT FELLOWSHIP

SUPPORTED BY MEDCO FOUNDATION

Location and Term: The 12-month Fellowship commences summer 2012 at the Pennsylvania (near Philadelphia) office of ISMP. Relocation to the Philadelphia area is required.

Description: The Fellowship offers a **nurse, pharmacist, or physician** an unparalleled opportunity to learn from and work with some of the nation's experts in medication safety. Now in its 20th year, the Fellowship allows the candidate to work collaboratively with practitioners in every kind of healthcare setting to develop, implement, and assess interdisciplinary medication error-prevention strategies.

FDA/ISMP SAFE MEDICATION MANAGEMENT FELLOWSHIP

Location and Term: The 12-month Fellowship commences summer 2012. The Fellow will spend 6 months at the Pennsylvania (near Philadelphia) office of ISMP and 6 months at the Maryland (near Washington, DC) office of the US Food and Drug Administration (FDA). Relocation to the Philadelphia and Washington, DC, area is required.

Description: The Fellowship, **open to a healthcare professional with at least 1 year of postgraduate clinical experience**, is a joint effort between ISMP and FDA's Center for Drug Evaluation and Research, Office of Surveillance and Epidemiology, and Division of Medication Error Prevention and Analysis. The Fellowship allows the candidate to benefit from ISMP's years of experience devoted to medication error prevention. At the FDA, valuable regulatory experience is gained by working with the division focused on medication error prevention.

STEPHEN R. LEWIS, MD, FELLOWSHIP

SUPPORTED BY CAREFUSION FOUNDATION

Location and Term: The 12-month Fellowship commences summer 2012. The Fellow will spend time at the Pennsylvania office of ISMP and at Abington Memorial Hospital (AMH) (both near Philadelphia). Relocation to the Philadelphia area is required.

Description: The Fellowship, **open to a physician currently entering PGY4 of his or her residency program**, is a joint effort between ISMP and AMH. The Fellow will have an opportunity to develop expertise in patient and medication safety through experiences at ISMP, external patient safety venues, and AMH. Medication safety is the key focus, however, knowledge and skills acquired will be applicable to global quality and patient safety work. The Fellowship is designed to be comprehensive, yet flexible, and may be adapted to take advantage of emerging opportunities that present during the Fellowship.

A generous stipend, 2 weeks paid vacation, and full health benefits are provided with all Fellowship Programs.



How to Apply: Information and applications can be found at: www.ismp.org/profdevelopment/. Physician applicants for the **Stephen R. Lewis, MD, Fellowship** should send an email message to ismpinfo@ismp.org to express their desire to learn more about the program. Applications can also be requested by calling 215-947-7797.

The application deadline for all Fellowship Programs is **March 30, 2012.**

ISMP 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, the following selected items from the **October-December 2011** issues of the *ISMP Medication Safety Alert!* have been prepared for an interdisciplinary committee to stimulate discussion and action to reduce the risk of medication errors. Each item includes a description of the medication safety problem, recommendations to reduce the risk of errors, and the issue number to locate additional information as desired. Look for our high-alert medication icon under the issue number if the agenda item involves one or more medications on the **ISMP's List of High-Alert Medications** (www.ismp.org/tools/highalertmedications.pdf). The Action Agenda is also available for download in a Word format (www.ismp.org/newsletters/acutecare/articles/ActionAgenda1201.doc) that allows expansion of the columns in the table designated for organizational documentation of an assessment, actions required, and assignments for each agenda item. Many product-related problems can also be viewed in the *ISMP Medication Safety Alert!* section of our website at: www.ismp.org. Continuing education credit is available for nurses at: www.ismp.org/newsletters/acutecare/actionagendas.asp.

Key: ▲ – ISMP high-alert medication

Issue No.	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
Centers for Medicare & Medicaid Services (CMS) revises its policy on the “30-minute rule”					
(24)	The CMS interpretive guidelines that required all scheduled medications to be administered within 30 minutes has led to unsafe practices and errors. Nurses often felt pressured to take potentially dangerous shortcuts to comply, which sometimes led to errors, some harmful. In many cases, administering scheduled medications within 30 minutes is unnecessary from a clinical perspective.	CMS has eliminated the requirement that all scheduled medications must be administered within 30 minutes of their scheduled time (www.ismp.org/docs/updated_lgs.pdf). Hospitals are expected to establish their own policies for the timing of medication administration that appropriately balances patient safety with the need for flexibility in work processes. ISMP guidelines to assist with this can be found at: www.ismp.org/tools/guidelines/acutecare/tasm.pdf .			
US Food and Drug Administration (FDA) approves HYDROmorphone labeling revisions and lower starting dose					
(21) ▲	FDA and ISMP have received reports of harmful errors involving HYDROmorphone injection. Many have been associated with dose conversions from morphine to HYDROmorphone, packaging confusion, and high starting doses for opioid-naïve patients.	FDA approved revisions to the <i>Prescribing Information</i> (www.purduepharma.com/PI/precription/DilaudidInjectionsPI.pdf), container labels, and carton labeling for DILAUDID and DILAUDID-HP , which will also affect generic parenteral HYDROmorphone. Alert prescribers that the IV starting dose has been reduced to 0.2-1 mg (previously 1-2 mg), and that a dose conversion table is in the <i>Prescribing Information</i> to help convert from other opioids to HYDROmorphone.			
Differences in trace elements					
(21)	During a shortage of American Regent's pediatric trace elements (Trace Elements Injection 4, USP-Pediatric) in 10 mL multiple-dose vials, the pharmacy ordered the company's MULTI-TRACE-4 PEDIATRIC in 3 mL single-dose vials. Both products are labeled as Trace Elements Injection 4, USP, but the 3 mL vial has 0.5 mg more zinc and 5 mcg less manganese per mL.	When you order and receive new or alternative products due to drug shortages, check that the products are equivalent to previously used products.			

Issue No.	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Complete
(23) 	<p>With the current shortage of fentaNYL, some hospitals may resort to using SUFFentaniL. Serious dosing mix-ups are possible in situations where people using SUFFentaniL instead of fentaNYL are not familiar with the differences between these drugs. The risk of confusion is high because both drugs are potent analgesic/anesthetic products with similar generic names. Such mix-ups happened in 2001 during a similar fentaNYL shortage.</p>	<p>Since SUFFentaniL is approximately 10 times more potent than fentaNYL, educate staff about the difference in potency and include visual reminders wherever the drug is stored. Design mnemonics for these products carefully, and avoid the use of “su” alone to select the medication since the brands SUFFENTA (SUFFentaniL) and SUBLIMAZE (fentaNYL) may come up on the pick list. A check system should be in place prior to administering such potent opioids.</p>			
Safety issues with “ketofol” (combination of ketamine [KETALAR] and propofol [DIPROVAN])					
(21) 	<p>While studies show that “ketofol” may be effective and safe for procedural sedation, some concerns linger. Admixture often occurs on units where sterility may be difficult to maintain; practitioners may be unfamiliar with the contrived name and not find it in any reference; little information is available regarding compatibility with other drugs; ratios for combining the two drugs varies; and a syringe containing “ketofol” looks like a syringe containing just propofol.</p>	<p>Conduct a failure mode and effects analysis to assess risks before using this combination product. Take steps to promote sterility during admixture. Establish a standard ratio to guide the mixing process. Refer to the product using each drug’s official name, not “ketofol.” Include both drug names and an expiration date on syringes of the product. An article detailing the use of “ketofol” was published recently (Thomas MC, et al. Combination of ketamine and propofol versus either agent alone for procedural sedation in the emergency department. <i>AJHP</i>. 2011;68:2248-56).</p>			
Conservative prescribing needed to improve medication safety					
(23)	<p>Wrong drug errors often arise when medications are prescribed inappropriately or overused, sometimes leading to significant harm. These errors suggest that an important facet of medication safety is making sure the <i>right drug</i> is prescribed <i>only</i> when indicated. In the September 2011 issue of the <i>Archives of Internal Medicine</i>, Schiff and colleagues provided a set of principles to guide more conservative prescribing of medications intended to help ensure that patients receive the right drug only when indicated.</p>	<p>To instill more thoughtful, evidence-based prescribing attitudes and behaviors, the authors identified the following principles: (1) Think beyond drugs—focus on disease prevention and consideration of underlying causes of conditions before prescribing a medication; (2) Practice more strategic prescribing—use a limited personal formulary of drugs so that familiarity with dosing, adverse effects, drug interactions, etc., is increased; (3) Exercise caution and skepticism regarding new drugs—avoid the rush to prescribe; wait for evidence of actual beneficial clinical outcomes.</p>			

Issue No.	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
(23, 24)	<p>The new 160 mg/5 mL infants' acetaminophen concentration has been arriving in hospitals, although manufacturers may not be providing notification about the change. Supplies of the former 80 mg/0.8 mL product have been available up until now, and hospitals (and parents) may still have the older concentration in stock. Some acetaminophen products do not have the new strength listed on the front panel of the carton.</p>	<p>Exhaust or remove all supplies of the 80 mg/0.8 mL product before circulating the new one. Alert all clinical staff, especially pediatricians and pediatric nurses, to create awareness of the concentration change and establish a release date for transition from the older product to the newer product. Also be certain that parents understand how many mg to give their child and that they have the new product that corresponds to instructions from their healthcare provider.</p>			
<p>Infant acetaminophen available in new concentration</p>					
(24)	<p>ISMP first reported confusion between teaspoonfuls and mL in 2000. In 2009, we called for practitioners to move to sole use of the metric system for measuring oral liquid medication doses. However, ISMP continues to receive reports of mL-teaspoonful mix-ups, some resulting in hospitalization. Mistakes have also been reported when converting weights from pounds to kg or weighing a patient in pounds and entering it as kg.</p>	<p>ISMP issues statement on use of metric measurements</p> <p>Use only metric units for all dosing instructions, including directions incorporated in prescribing and pharmacy computer systems. Express doses for oral liquids using only metric weight and volume. Measure and express patients' weights in kilograms. Ensure patients have an appropriate measuring device and can demonstrate understanding regarding how to measure a dose of medication.</p>			
<p>Dosing errors with LUGOL'S solution (potassium iodide and iodine)</p>					
(21)	<p>Dosing errors associated with prescribing, dispensing, or administering mL doses of Lugol's solution have occurred when just a few drags were indicated. Contributing factors include unfamiliarity with the drug, which is infrequently prescribed, and unexpected dosing units, as adult doses are typically expressed in mL, not drops.</p>	<p>Provide protocols for managing acute hyperthyroidism, protecting the thyroid during exposure to radioactive iodine, and preoperative use of iodine solutions. Include iodine solution dosing information in protocols and order entry systems. Dispense each dose of iodine solution in a prefilled syringe. If a bulk bottle must be dispensed, affix a warning: <i>"The total volume in the container would be toxic if taken as a single dose."</i></p>			
<p>Differentiating penicillin from penicillamine (CUPRIMINE)</p>					
(20)	<p>An electronic prescription for the chelating agent penicillamine was ordered for a young boy, but the prescriber intended to order penicillin. The drugs have similar names and appeared sequentially on the order entry screen.</p>	<p>Consider using tall man letters for penicillamine on order entry screens, labels, shelf talkers, medication administration records, and other media for communicating the drug name. Incorporate the brand name and the purpose of the medication on the prescription.</p>			

Issue No.	Problem	Recommendation	Organization Assessment	Action Required/Assignment	Date Completed
Ingestion or aspiration of foreign objects or toxic substances					
(22)	A hospitalized surgical patient developed a postoperative cough that continued for a couple of weeks after discharge. During a strong coughing spell, the patient coughed up a small white cap. The patient had accidentally ingested or aspirated a 0.9 % sodium chloride syringe cap, which the hospital used for IV flushes.	Staff who enter patient care areas need to keep the patient's room and/or immediate care area free of clutter that could result in accidental ingestion or inhalation of unintended products—even when patients are fully alert and oriented. Never leave syringe caps, fixatives, developer solutions, cleaning agents, topical antiseptics, or other topical liquid products at the bedside.			
Replace child-resistant caps after measuring liquid doses using an oral syringe and adapter					
(25)	In the home, adapters that fit on bottles of oral liquid medications make it easier for parents to withdraw the medication into an oral syringe. After use, some parents have left the adapter in the bottle rather than replacing the child-resistant safety cap. Children can access the liquid medication by easily removing the adapter, which has led to accidental poisonings that require hospitalization.	Dispense oral liquid medications with an oral syringe adapter that allows the child-resistant bottle cap to be replaced without removing the adapter. Even with adult liquid medications, this precaution is critical to prevent a child from accessing adult medications. Join the Up and Away and Out of Sight Campaign (www.upandaway.org/), and help remind consumers about safe medication storage.			
Drug names that end with the letter “L” can contribute to overdoses					
(25)	Drug names that end with the letter “L” have occasionally contributed to overdoses. The lower case “l” has been misread as the numeral “1” and misread as part of the dose. For example, lisinopril 2.5 mg can be misread as lisinopril 12.5 mg if there is inadequate space between the last letter of the drug name and the numerical dose (i.e., lisinopril2.5 mg).	Advise prescribers, pharmacists, and nurses to leave sufficient space between the numeric dose and the drug name. This recommendation also applies to electronic prescribing and standard order sets since typed drug names and doses can also result in errors if sufficient space is not provided between the drug name and dose/strength.			
PCN-200 may be an erroneous choice when entering allergies to penicillin					
(21)	A discontinued nutritional supplement “PCN-200” may still be an option if “PCN” is typed when entering a penicillin allergy into the computer. If “PCN-200” is selected in error, no warning would appear if a penicillin order was entered for a penicillin-allergic patient.	If PCN-200 is still listed as an option when you enter “PCN” in your allergen pick list, remove it manually or work with your computer system vendor to remove it. Be sure to check all information systems where allergy entries may occur.			