HCPro

Vol. 3 No. 12
December 2005

Hospital Pharmacy Regulation Report

—INSIDE—

Due to a production error, *HPRR* subscribers received the wrong special report in the November issue. The correct special report, "Medication reconciliation: Tips, strategies, and tools to meet JCAHO requirements," is enclosed in this issue.

JCAHO standard of the month—MM.4.10

Include contrast media in monthly floor-stock unit inspections

Pharmacists do not need to review most oral contrast media orders, but they should apply other medication management principles and standards to meet JCAHO requirements.

Among the tasks pharmacists should perform regarding contrast media include inspecting expiration dates, labels, and security issues when conducting monthly floor-stock checks.

"[A monthly inspection] is something that should be an ongoing standard," says **Doug Wong, PharmD,** a senior executive consultant for the Grapevine, TX–based Pharmacy Healthcare Solutions. "That shouldn't be the exception. That should be the rule."

Meet six standards

JCAHO standard **MM.4.10** requires hospitals to review all prescriptions and medication orders for > p. 2

Experts: Isolators acceptable alternative for USP 797 compliance

Knowing the risk level of compounded sterile preparations and the proper environmental requirements will help determine whether a hospital can purchase barrier isolators to supplant a clean room and comply with U.S. Pharmacopeia (USP) Chapter 797.

USP 797 describes barrier isolators—sterile boxes with holes for staff to put their hands through to compound preparations—as an acceptable alternative to building a clean room. But they may only be acceptable if they meet certain requirements.

A well-designed barrier isolator can serve as an alternative to a laminar airflow workbench because it provides an ISO Class 5 environment for aseptic processing, USP spokesperson **Sherrie Borden** says.

The ISO class refers to the number of particles present in the air for the environment to be considered sterile. The basic equipment required to comply with USP 797 is an ISO Class 5 laminar airflow workbench, which is the hood under which staff prepare sterile compounds, says **Steve MacArthur,** a safety consultant with The Greeley Company, the Marblehead, MA–based consulting division of HCPro, this newsletter's publisher.

"When it comes to barrier > p. 6

appropriateness. Contrast media are considered medications, according to the commission.

But the accreditor does not require a pharmacist's prior review of oral contrast orders, according to an article in the June *Joint Commission Perspectives*.

According to the newsletter, organizations should adhere to the following standards and safeguards:

- The hospital adopts clinical practice guidelines or screening tools to address safe administration, and the medical staff and pharmacy approve those tools
- Trained staff retrieve the media from a limited set of medications
- A qualified professional reviews the appropriateness of the media
- The hospital has procedures to prevent retrieval errors
- A pharmacist is available to answer questions if necessary
- The hospital evaluates its system by sampling records of patients who received contrast media without prior pharmacy review

According to data from the U.S. Pharmacopeia MEDMARX error-reporting database for a five-year period ending in 2003, 912 reports listed radiology as the location of the error. Of those reports, 27% were wrong-dose errors, and 22% were the wrong drug.

Control it as a medication

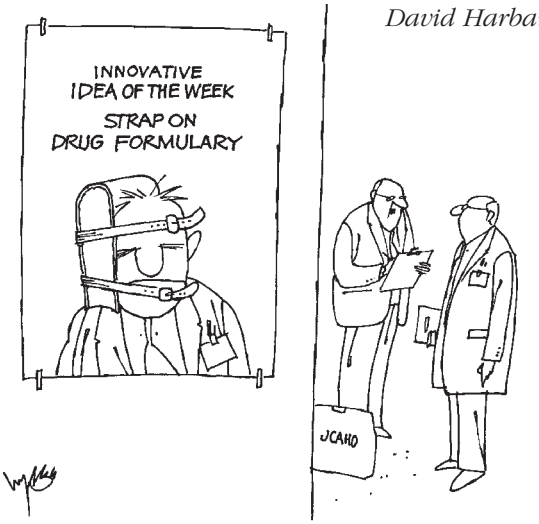
Although contrast media are considered medications, many hospital pharmacies do not control the media beyond the initial purchase, Wong says. Once the media are purchased, pharmacy usually transfers them to radiology, he says.

The materials management department at Tennessee Christian Medical Center in Madison purchases contrast media, says **David Kellogg, DPh, MS,** the hospital's pharmacy director. Pharmacy staff—mainly technicians—check labels, expiration dates, and security of the contrast media when conducting monthly inspections of the hospital's floor stock, he says.

Tip: Keep contrast media locked if they are stored in an area where no staff are present. "All the different things you do with any medication, just apply them to contrast media," Kellogg says. "You have to interact with other departments involved. Make sure this process is in place."

That process includes making sure a policy outlines

Illustration by David Harbaugh



"What are you doing to keep your staff informed about the drugs currently available in your pharmacy?"

Questions? Comments? Ideas?

Contact Managing Editor Matt Bashalany

Telephone:
781/639-1872, Ext. 3726

E-mail:
mbashalany@hcpro.com

which personnel in the radiology department can handle contrast media—generally an x-ray technician or radiologist—and that the materials management department or others involved can document recall notices.

Tip: Keep all recall notices for contrast media in a notebook.

Some reviews may be necessary

Pharmacy should review a contrast order if it is for an area outside of radiology (e.g., on a patient care unit), Wong says. Pharmacists would want to look for drug-drug interactions, allergies, and other issues that would arise with other medications, he says.

But in the radiology department, radiologists generally control the ordering and administration, avoiding the need for a pharmacist's prior review, Wong says.

"Generally, the practitioner is always there [in radiology]," Wong says. "The ordering and administration processes during a surgical or medical procedure do not allow the pharmacist to review every order. The physician will generally perform a comprehensive assessment prior to the procedure."

Ensure practitioner oversight

The pharmacy department at Fairview and Lutheran hospitals in Cleveland tries to ensure pharmacy oversight when licensed independent practitioners (LIP) are not supervising the ordering and administration of contrast media, says pharmacy director **Michael Hoying, RPh, MS.**

For example, if a nurse on a floor administers contrast media, a pharmacist should review the order, Hoying says. The hospital created a protocol for echocardiograms to turn that process into a drug order, he says (see a sample order sheet and policy on pp. 4–5).

Hospitals also need to be aware of IV contrast, says Hoying. Pharmacists should review those orders if a an LIP does not oversee the process.

"The question that is always out there is, 'Is there a [LIP] reviewing the process?' " Hoying says.

The radiology department at Fairview and Lutheran hospitals maintains a protocol book listing the contrast media appropriate for use, and the pharmacy and therapeutics committee approves those protocols, Hoying says. ■

Standard MM.4.10

Hospitals review prescriptions or medications for appropriateness.

Elements of performance for MM.4.10

1. A pharmacist checks all medication orders before giving them out unless a licensed independent practitioner orders and gives out the drugs or any delay would cause harm to the patient
2. Not applicable
3. A qualified staff member reviews orders when an on-site pharmacy is not open 24 hours per day
4. The pharmacist reviews the order once he or she is available or the pharmacy opens
5. The hospital reviews all prescriptions for the following:
   - The dose, frequency, and administration methods
   - Therapeutic duplication
   - Allergies or sensitivities
   - Possible interactions between the drug and other medications, food, or laboratory values
   - Other impairments to treatment
   - Any variation from hospital policy regarding medication use
   - Other relevant issues
6. The person prescribing the medication addresses all concerns, issues, or questions before a pharmacist fills the order. ■

Sample contrast protocol order form

Physician's order record

Key for Destination — Encircle **R**- Requisitionmade and sent to proper disposition; **K**- Notation made on Kardex

Note → The generic formulary equivalent of a drug is authorized on these medication orders when filled by the hospital pharmacy.

Date ordered	Time ordered	Physician's orders and signature	For nursing use only: Initial	Date & time	Disposition R	Disposition K
		Echocardiogram with contrast protocol order sheet			R	K
		Current patient weight: _____ kg			R	K
		Contraindications/precautions assessment			R	K
		(If contraindication or precaution exists, an order is needed from physician to proceed)			R	K
		☐ **Both products:** Patient has a known cardiac shunt, congenital heart defect			R	K
		☐ **Both products:** Patient is pregnant (patient interview)			R	K
		☐ **Both products:** Patient has severe emphysema, pulmonary vasculitis,			R	K
		history of pulmonary emboli, known or suspected liver disease, or ARDS			R	K
		☐ **Optison**: Patient has allergies to blood, blood products, or albumin			R	K
		☐ **Optison**: Patient is a Jehovah's Witness and doesn't have a durable power of attorney document authorizing use of blood fractions			R	K
		☐ **Definity**: Known hypersensitivity to octofluoropropane			R	K
		Establish peripheral IV access with 20 gauge angiocatheter or larger			R	K
		Methods of administration include a short extension tubing, saline lock,			R	K
		or intravenous line, all with a three-way stopcock.			R	K
		Before any drug administration, flush line with 10 ml 0.9% sodium chloride.			R	K
		☐ **Definity** _____ ml (10 microliters/kg) over 30 to 60 seconds			R	K
		RN may repeat dose, at technician's discretion, 30 minutes after initial			R	K
		dose, Do not exceed two bolus doses of Definity			R	K
		Follow each injection of Definity with a flush of 10 ml of 0.9% NaCl injection			R	K
		☐ **Optison** injection 0.5 ml IV push over no less than 1 minute			R	K
		May repeat 0.5 ml dose, at the technician's discretion, up to a			R	K
		total of 5 ml over a 10-minute period			R	K
		Do not exceed a dose of 8.7 ml for any one patient study			R	K
		Follow each injection of Optison with a flush of 10 ml of 0.9% sodium			R	K
		chloride injection.			R	K
		For nausea/vomiting: Compazine 10 mg IV one time			R	K
		Allergic reaction: Stop drug administration and inform physician immediately.			R	K
		If approved by prescriber, administer Benadryl 25 mg IV and			R	K
		dexamethasone 4 mg IV one time.			R	K
		Order set initiated in accordance with hospital policy			R	K
		Echocardiogram technician signature:			R	K
		Administering nurse signature: _____				

Send each order to pharmacy Use ball-point pen

Physician's orders

_____

_____

_____

Source: Fairview Hospital, Cleveland. Reprinted with permission.

Sample echocardiogram imaging policy

Policy:
Upon a physician's order to perform an echocardiogram, the echocardiogram technician can initiate the "Echocardiogram with Contrast Protocol Order Sheet" for contrast if the pictures taken in the absence of contrast are of poor quality and there are no contraindications.

A nurse from the unit or cardiac catheterization laboratory will administer the drug. Prior to administering the medication, the nurse must validate that the patient has no contraindications to receiving the medication and is educated regarding the drug being administered.

Procedure:

I. Prescribing

The physician orders the echocardiogram via a physician order sheet. The physician's order requesting an echocardiogram to be performed provides authorization to the echocardiogram technician to initiate the "Echocardiogram with Contrast Protocol Order Set" to request Definity or Optison from the pharmacy if required to provide a quality test.

A. Inpatient

1. Nursing personnel enter the physician's order into HealthLinc
2. The echocardiogram technician calls the unit to confirm the date and time of the test
3. If the test is a STAT order, the nursing unit orders the echocardiogram through HealthLinc and calls the biometrics department to confirm the time of the test

B. Outpatient

1. The physician's office calls the biometrics secretary to schedule an appointment time
2. The biometrics secretary provides the instructions for the patient to report to admitting 30 minutes prior to the appointment

C. Drug selection

1. If the echocardiogram technician determines the images are sub-optimal, the echocardiogram technician initiates an "Echocardiogram with Contrast Protocol Order Set"
   a. The echocardiogram technician will review contraindications and the test to be performed and select either Definity or Optison to be administered
   b. The order is faxed to the pharmacy for processing and dispensing
2. The unit nurse will provide a brief explanation of the contrast-agent indications and contraindications to the patient
   a. If the patient is a Jehovah's Witness, Optison is contraindicated. If the patient has a durable power of attorney (DPA) stating they will accept blood fraction products, then the administration of Optison can proceed. If the patient does not have a DPA, then the nurse should review the potential contraindication and determine whether the patient would like to proceed with Optison. If the patient provides verbal authorization to proceed with blood fractions (e.g., Optison) this should be documented in the integrated progress notes.
   b. Definity is not contraindicated for Jehovah's Witness patients.
   c. If any contraindication/precaution exists, the physician must be contacted and a verbal order to proceed with contrast must be obtained.

II. Indication

Optison/Definity are indicated for use in patients with suboptimal echocardiograms to opacify the left ventricle and improve the delineation of the left ventricular endocardial borders. ■

Source: Fairview Hospital, Cleveland. Reprinted with permission.

USP 797

< p. 1

isolators, they can be used as an alternative so long as they meet the ISO class specifications for environmental control," MacArthur says.

Head of the class

Isolators could cost between $25,000 and $55,000, but they pay for themselves over time, said **E. Clyde Buchanan, MS, FASHP,** senior director of pharmaceutical services at Emory Healthcare in Atlanta, in June during the American Society of Health- System Pharmacists Summer Meeting in Boston. For example, the energy needed to run one clean room can cost $13,400 per year, compared to three isolators at $525 total.

There may be cases in which clean rooms are the only option for compliance.

But debate has cropped up as to what ISO class standards are appropriate for compounding, MacArthur says. Some believe ISO Class 8 standards are not sterile enough for compounding and think the process would be better served with a Class 7 environment, he says.

Tip: Identify the ISO class and the proper needs for your facility when purchasing barrier isolators.

Involve someone with an understanding of heating, ventilation, and air conditioning construction when determining the proper ISO class environments, MacArthur says.

Evaluate needs carefully

Isolators can also be placed outside a clean-room setting, but they should not be placed in a dirty area or hallway, Buchanan said. This would allow staff to compound admixtures outside of the pharmacy, in areas such as an operating room suite, he said.

However, there may be cases in which clean rooms are the only option for compliance, MacArthur says. Those cases would include when the hospital compounds high-risk preparations, including medications that will not be used for several days.

Regardless of hospitals' needs, the JCAHO will require them to have completed construction of USP 797-compliant facilities by July 31, 2008. A three- to six-month wait exists for isolators from many manufacturers, Buchanan cautioned, meaning that hospitals should not hesitate to place orders if they want to go this route.

Tip: Make sure barrier isolators are suited for your facility's needs to avoid spending more money than necessary during the process. ■

Editor's note: See which JCAHO standards relate to portions of USP 797 on p. 12.

Book excerpt

Eight expert tips for medication labeling success

Cases of unintentional medication and solution swaps are covered widely in the media. Unfortunately, many of these cases are devastating and result in fatal complications. They include the following:

- High-concentration epinephrine mistaken for low-concentration epinephrine
- Formalin mistaken for spinal fluid
- Prep solution mistaken for radiocontrast dye
- Muscle relaxant mistaken for antibiotic

Despite the frequency of these cases, the Institute for Safe Medication Practices reports that in a 2004 survey of 1,600 hospitals, only 41% reported that they consistently label medication containers (e.g., syringes and basins) on the sterile field. Although it has increased from the 25% reported in its 2000 survey, 41% is a far cry from even half of hospitals reporting.

A new JCAHO National Patient Safety Goal addresses this topic and will take effect January 1. The goal requires hospitals to label all medications, medication containers (e.g., syringes, medicine cups, basins), or other solutions on and off the sterile field in perioperative and other procedural settings.

Extension of the five rights of medication use

This goal reaffirms the five "rights" of medication use. That is, staff always ensure that they have the right

- patient
- medication
- dose
- time
- route

However, the following pitfalls occur and lead to poor habits:

- Assuming that the medication is correct
- Submitting to production pressure
- Relying on memory
- Normalizing deviance

Tips for compliance

Following are eight tips for medication labeling:

1. **Make it easy on yourself.** Make sure that sterile markers, preprinted and blank labels, and nonsterile markers are readily available in the perioperative area. Consider placing markers and labels in your sterile packs.

   Hint: Conduct usability testing before final purchase of your markers and labels (i.e., check to make sure that labels will stick on basins and that markers don't smear too much). Also, notify your purchasing department so it knows that the markers and labels you have selected have undergone usability testing and that changing buyers will require new usability testing prior to purchase.

2. **Create an explicit policy and process for drawing up medications in the perioperative setting.** A frequent failure point is when a medication is poured into a medicine bowl or cup and then drawn up into a syringe. The two-step process can lead to one of the two containers not being labeled.

   Redesigning the process to remove the extra step (e.g., drawing the drug directly into the syringe) reduces the potential for harm and error.

3. **Have an explicit process to cross-check and verify.** All medications and solutions handed over to the sterile field should have a two-person verification process. The process should involve verbal read-backs and include the drug, concentration, dose, and expiration date.

   During each hand-off (e.g., relief break, shift change), all solutions and medications should be cross-checked and verified between staff.

4. **Use friendly competition within your procedural areas and operating rooms to** > p. 8

Med labeling

< p. 7

provide constant awareness, feedback, and goals for compliance. With the huge number of policies, procedures, and documentation requirements in healthcare facilities, providing constructive competition in a nonpunitive manner can encourage compliance.

5. Take the time to review other safe medication practices. Implementation of this policy is a good opportunity to recheck the other parts of the National Patient Safety Goal for improving medication safety:

- Look-alike, sound-alike solutions and medications—Your prior reviews may not have considered chemicals and solutions, but we now understand how misidentifying these non-IV solutions can be a significant risk for patients. Colored solutions that look dangerously alike may need to be reviewed for purchasing through a different vendor. Tinting solutions (e.g., cocaine solutions) may help differentiate them, but it does not remove the requirement for consistent labeling.
- Standardizing medication concentrations—Review if multiple concentrations and dosage containers of medications/solutions even need to be in the procedure rooms. Some examples of standardization are as follows:

  – *Epinephrine:* Multidose vials of epinephrine can be standardized to 1 cc unit-dose ampules or vials. Opening three to five ampules for a case may take a few more seconds, but it removes the risk of mistaking a multidose vial of epinephrine for another drug.

  – *Heparin:* Another common standardization is limiting the number of heparin solutions available in the hospital and perioperative areas.

6. Don't forget the solutions that look like medications. This goal is not limited to medications. Therefore, don't forget solutions that look like medications (e.g., irrigation solutions, formalin solutions, and other pathology-fixating preparations). These solutions should be marked and labeled. The only rare exception in which a solution need not be marked and labeled is when it is poured, immediately used, and discarded without a break by one person.

7. Better to be safe than sorry. Your policy should adhere to and articulate several other practices as well. Implement and practice the following:

- When in doubt, throw it out—If there is any question as to the contents of a solution, discard it.
- Even if it's the only one—Using only one medication in the field does not justify failing to label it. The case of the prep solution being mistaken for radiocontrast dye is an example of something other than a drug being mistaken for a drug.
- Keep all containers until the end of the case—both the original and the labeled containers should be accessible for review until the end of the case. At that point, discard all of them.

8. Don't forget the areas outside the operating room. Medications and solutions in procedure areas are just as vulnerable as they are in the operating room setting. Thus, this goal applies to all those areas. Remember to include such areas as invasive radiology and the cardiac catheterization laboratory. ■

About the book

Ensure your facility's compliance with **The 2005 and 2006 JCAHO National Patient Safety Goals: *Successful Strategies for Compliance,*** by Glenn D. Krasker, MHSA, and Della Lin, MD, ©2005 HCPro, Inc. For more information, call our Customer Service Department at 800/650-6787.

Just culture helps establish blame-free model

Despite a movement to a blame-free culture, organizations must take actions against reckless behavior and hold those employees accountable, a workplace safety expert said October 27.

A "just culture" model allows hospitals to act based on the intent of staff actions, **David Marx, JD,** said during an Institute for Safe Medication Practices (ISMP) teleconference. Managers can coach individuals to prevent future errors, and organizations can take disciplinary actions if the behavior was reckless.

"This is a learning opportunity for the organization," Marx said. "It's also [about], 'What does this tell us about the risks in our institution?' "

Expect three behaviors

The just culture model takes into account the reliability of systems and humans, knowing that neither will be perfect, Marx said.

For example, taking action with system reliability in the case of needlesticks would mean purchasing needleless devices, he said. Human reliability includes coaching staff and learning from mistakes.

Hospitals can expect three behaviors from staff, Marx said, including

- human error, which is usually an inadvertent action or mistake
- at-risk behavior, which increases risk that is not recognized or an action that staff believe to be justified
- reckless behavior, which is a conscious choice to disregard protocol

At-risk behavior could include cutting corners to simplify a process, which could weaken existing safety mechanisms, Marx said. Reckless behavior could include a nurse intentionally not identifying a patient when administering medications, he said.

"We turn a blind eye to behaviors until we hurt somebody," Marx said. "Your choices do count."

Identify the source

Managing actions with a just culture can help hospitals determine the source of errors. If repeat errors occur—and multiple staff members contribute to the errors—perhaps the source is somewhere in the system, which would require a look at policies and procedures.

"The first question is, 'Where is the source?' " asked ISMP Vice President **Judy Smetzer, RN, BSN.** "Does it lie in the system?"

If all but one staff member appear to comply and follow proper procedure, the system issues have been addressed, Marx said. The problem most likely rests with one employee.

Managers would then need to look at why the employee continues to commit mistakes and take appropriate actions, be it education or discipline, Marx said.

For more information about just culture, visit *www.justculture.com.*

Upcoming events

Audioconferences:

December 14—Proven Strategies to Reduce Ventilator-Associated Pneumonia (Q121405)
January 17—The JCAHO's National Patient Safety Goal on Hand-Off Communications (Q011706)
January 19—Off-label: A Discussion of Changes, Regulatory Risks, and Impact under Part D
January 26—JCAHO Primary Stroke Center Certification (A012606)

For more information, call 800/650-6787 and mention the source code for the show.

Medicare notebook

Reimbursement to cover both acquisition, overhead

Varying slightly from the proposed rule, the final 2006 Outpatient Prospective Payment System (OPPS) Part B reimbursement formula will include both acquisition and overhead costs at a rate of average sales price plus 6%, the Centers for Medicare & Medicaid Services (CMS) announced in November.

CMS originally proposed to have a separate ambulatory payment classification provide a 2% reimbursement for pharmacy overhead costs, including labor, transportation, and supplies.

Medicare claims data have shown that the average sales price plus 6% will adequately cover both acquisition and overhead costs, **Joan Sanow** of the CMS Center for Medicare Management said during a November 8 conference call.

The Medicare Payment Advisory Commission noted in a June report to Congress that overhead accounts for 25%–28% of a pharmacy's direct costs. The Medicare reforms of 2003 required CMS to determine a reimbursement rate for overhead costs.

"CMS has had nearly a year's experience with this payment method for drugs administered in physician offices," Medicare Administrator Mark McClellan, MD, said in a statement. "During that time, we have found that drug prices generally have been stable and Medicare's payment rates now more accurately reflect market prices."

Code transition

CMS will send hospitals instructions on new codes to bill for drug administration as the agency transitions from Q codes to current procedural terminology codes, Sanow said. Hospitals will be able to use temporary C codes to bill for outpatient drug administration during the transition period, she said.

CMS is also deferring its proposal to implement new codes to collect data on drug overhead costs after hospitals said the process would have created an added burden for billing and coding, the agency said.

No rush to pick plans

Make sure patients understand the implications on their current drug coverage if they are considering enrolling in Part D coverage, experts said during a November 1 Kaiser Family Foundation roundtable.

"If they have drug coverage now, they may not have to enroll," said **Juliette Cubanski,** a senior policy analyst at the Kaiser Family Foundation.

Enrolling in Part D could jeopardize coverage for medications patients already take, Cubanski said. Patients should check out prospective Part D plans at *www.medicare.gov,* using the formulary finder tool to see which medications are covered under each plan, she said. Patients may also call 800/MEDICARE to get information about a drug plan.

"If people are taking medications that are very important to them, these sources of information will let them know which plans will cover these drugs," Cubanski said. "These are the things [about which] people need to make decisions."

Healthcare providers should tell patients to conduct thorough research when determining whether a Medicare plan is right for them, said **Vicki Gottlich,** an attorney at the Center for Medicare Advocacy, Inc., in Willimantic, CT. Enrollment began November 15, and the initial enrollment period will end May 15, 2006. "People need to take their time," Gottlich said.

"That's the important message. Do your research very, very carefully." ■

As a hospital pharmacist, what concerns you the most about the Medicare prescription drug benefit? Contact Managing Editor Matt Bashalany at *mbashalany@ hcpro.com.*

Safety experts address adverse drug events in the ICU

The intensive care unit (ICU) is busy, with nurses and physicians responsible for the care of the sickest of hospital patients.

Imagine having the added burden of needing to know how to operate eight different infusion pumps.

That problem presented itself in one organization, and it is one of a number of issues contributing to adverse drug events in ICU patients every year, patient safety experts said during a November 4 teleconference sponsored by the Cardinal Health Center for Medication Safety and Clinical Improvement.

A 1995 study in the ICU at Brigham and Women's Hospital and Massachusetts General Hospital, both in Boston, found 6.5 adverse drug events for every 100 admissions, said **David Bates, MD, MSc,** chief of general medicine at Brigham and Women's. Of those 246 adverse drug events, 28% were considered preventable, and 49% occurred at the ordering phase of the medication process.

A few studies conducted since 1995 show adverse drug events still occur. "It's clear to everybody that the ICU is still an inherently risky place and it's going to remain a risky place," Bates said. "We still don't have as much epidemiologic data to prioritize our efforts."

Risk has increased

The number of ICUs in the United States has increased steadily throughout the years, especially as a large chunk of the population ages, said **Jeffrey Rothschild, MD,** an assistant professor of medicine at Harvard and associate physician at Brigham and Women's. There are approximately 6,000 ICUs in the United States, and the average daily census nationwide for ICUs is around 55,000, he said.

Add to that the number of drugs an ICU patient may take—those at Brigham and Women's may take up to 25, Bates said—and errors are more likely to occur.

Several solutions exist, and regulators may force hospitals to implement them. JCAHO standard **MM.6.20** requires hospitals to respond to actual or potential adverse drug events and medication errors. Standard **MM.8.10** requires hospitals to evaluate the safety of their medication management systems and identify areas in which to improve.

Mind the infusion pumps

A common error in the ICU is entering the wrong dose into a patient's infusion pump, Rothschild said. Most involve tenfold errors (e.g., accidentally entering 70 mcg/kg/minute of dopamine instead of 7, or 1 unit/minute of vasopressin instead of 0.1).

Many "smart" pumps allow hospitals to preprogram limits that nurses cannot override, Rothschild said. The hospital can evaluate data from the pumps to understand nursing practice when using a pump.

From that data, hospitals can conduct education if necessary to improve infusion practices, Rothschild said.

Standardizing the models of infusion pumps at an organization can streamline operations, reducing the number of errors staff could make by having to operate each pump differently, Rothschild said.

Think low-tech

Other safety techniques are rather low-tech. For example, involving pharmacists in ICU rounds could allow another view on a patient's plan of care, Bates said.

"Very commonly, when pharmacists participate in rounds, their recommendations are accepted," Bates said.

Also, stressing the importance of reading back orders and critical test results—a National Patient Safety Goal—and improving communication among members of the care team will help improve safety, Bates said.

"At the end of the day, if you want to see a major benefit in your ICU, you will have to implement a combination of these [solutions]," Bates said. ■

USP Chapter 797, related JCAHO med standards

USP Chapter 797	MM standards
Written compounding procedures, including quality control checks for proper ingredients and visual inspection of final product	MM.4.20 (safely preparing medications)
Sterilizing nonsterile products	MM.4.20 (safely preparing medications)
Testing product for sterility, potency, etc.	MM.4.20 (safely preparing medications)
Expiration labeling according to the risk level	MM.4.30 (labeling medications)
Medication packaging and transportation	MM.4.40 (safely dispensing medications)
Re-dispensing compounded sterile preparations	MM.4.80 (managing returned medications)
Watching patients and reporting adverse events	MM.5.10 (reporting), MM.6.10 (monitoring)

Source: Adapted from the April 2004 Joint Commission Perspectives. *For more information, see the story on p. 1. For additional resources, visit* www.usp.org, www.jcaho.org, *or* www.ashp.org/sterilecpd.

Hospital Pharmacy Regulation Report

We want to hear from you . . .

For news and story ideas:
Contact Managing Editor Matt Bashalany
- Phone: 781/639-1872, Ext. 3726
- Mail: 200 Hoods Lane, Marblehead, MA 01945
- E-mail: *mbashalany@hcpro.com*
- Fax: 781/639-2982

Group Publisher: Paul Amos
Senior Managing Editor: Jay Kumar

Online resources:
- Web site: *www.hcpro.com*
- Access to past issues: *www.hcpro.com/onlinepubs*

Subscriber services and back issues:
New subscriptions, renewals, changes of address, back issues, billing questions, or permission to reproduce any part of **Hospital Pharmacy Regulation Report,** please call customer service at 800/650-6787.

Hospital Pharmacy Regulation Report is published monthly by HCPro, Inc., 200 Hoods Lane, P.O. Box 1168, Marblehead, MA 01945. Subscription rate: $299/year or $598/two years • Copyright 2005 HCPro, Inc. All rights reserved. Printed in the USA. Except where specifically encouraged, no part of this publication may be reproduced, in any form or by any means, without prior written consent of HCPro, Inc. or the Copyright Clearance Center at 978/750-8400. Please notify us immediately if you have received an unauthorized copy. • For editorial comments or questions, call 781/639-1872 or fax 781/639-2982. For renewal or subscription information, call customer service at 800/650-6787, fax 800/639-8511, or e-mail *customerservice@hcpro.com.* • Occasionally, we make our subscriber list available to selected companies/vendors. If you do not wish to be included on this mailing list, please write to the Marketing Department at the address above. • Opinions expressed are not necessarily those of **HPRR.** Mention of products and services does not constitute endorsement. Advice given is general, and readers should consult professional counsel for specific legal, ethical, or clinical questions.