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AUGUST 2008
VOL. 33, NO. 8 • (pages 101-112)

Look closely at processes to prevent these hospital-acquired infections

New 2009 NPSGs call for evidence-based practices

Health care-associated infections due to multiple drug-resistant organisms, central line-associated bloodstream infections, and surgical site infections. The Joint Commission's new National Patient Safety Goals (NPSGs) for 2009 require you to implement evidence-based practices to prevent all three of these.

"We are seeing the addition of three NPSG requirements and a multitude of IEs [implementation expectations], all related to reducing the risk of health care-associated infections," says **Kathleen Catalano**, RN, JD, director of health care transformation support for Plano, TX-based Perot Systems Corp.

The new NPSGs — 7C, 7D, and 7E — will definitely need to be implemented through the combined efforts of the infection control, patient care, and quality departments, says Catalano.

"I believe it is helpful that there is a one-year phase-in period," she says.

This means that during 2009, organizations will have the opportunity to meet milestones to assist them in going live with the NPSGs on Jan. 1, 2010. The milestones are set at three, six, and nine months, and are planning, development, and testing, respectively. The IEs spell out exactly what is expected at each phase.

First, you need to determine what your organization is currently doing to prevent health care-associated infections. "From there, the organization can determine what needs to be done," says Catalano. "Also, I would review any previous recommendations from the state or The Joint Commission findings regarding infection control, and see if any of these impact these goals."

Review your current policies and procedures pertinent to the new NPSGs and see "how far afield the policy is to what is soon to be required," says Catalano. Also, develop a plan on how the organization will meet the milestone deadlines.

"We welcome the additional focus on preventing hospital-acquired infections," says **Wayne Bohenek**, vice president of patient safety and pharmacy excellence at Catholic Healthcare Partners in Cincinnati, OH. The hospital is in the middle of a systemwide implementation of an electronic surveillance program for early identification and prevention of hospital-acquired infections.

"Each of the new goals requires a comprehensive approach, including

changes in practice, improved communication, and technology," says Bohenek. "Our infection control experts work together to identify best practices and spread the learnings."

Preventing deadly health care infections will be the most challenging of all the new NPSGs, says **Cynthia McNeill-McDonald**, vice president of quality at FirstHealth of the Carolinas. "This brings preventing hospital-acquired infections to a whole new level," she says.

For example, NPSG 7C — which calls for prevention of multiple drug-resistant organisms infections with a focus on methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile*-associated disease (CDAD), and vancomycin-resistant enterococci — has 13 IEs.

These include:

- education of health care workers, patients, and families;
- implementation of hand hygiene guidelines;
- contact precautions for patients with MRSA and CDAD;
- a MRSA surveillance program;
- implementation of a laboratory-based alert system that identifies new patients with MRSA;
- a CDAD surveillance program;
- effective cleaning and disinfection of both patient care equipment and the patient care environment.

However, currently most hospitals do not screen every patient for MRSA on admission — some screen only high-risk patients and some do not screen any, notes McNeill-McDonald. You also will have to determine which patients actually acquired MRSA in the hospital.

If a patient did acquire MRSA in the hospital, you must determine where it came from: Was the room not cleaned thoroughly? Did one nurse have a patient that carried MRSA, and did she give it to the next inadvertently?

"We are budgeting a system to be able to check all patients for MRSA on admission, at least high-risk patients," says McNeill-McDonald. "We will also track patients who have MRSA by room and check to make sure that the rooms are cleaned. If any patient acquires MRSA, we will double check to see where they have been exposed."

Data will have to be collected for the following, says McNeill-McDonald:

- hand-washing percentages;
- the percentage of MRSA patients with positive MRSA on admission;
- more detailed analysis on patients who acquire MRSA and other hospital-acquired infections.

NPSG 7E and its 12 IEs pertain to the perioperative areas and any other area in which invasive procedures are performed. "Here, the proposed goal is to implement best practices for prevention of surgical-site infections," says Catalano.

"Infection control, perioperative areas, and the quality department will need to work together to be certain that SSI rates are measured, compliance

Hospital Peer Review® (ISSN# 0149-2632) is published monthly, and **Discharge Planning Advisor**™ and **Patient Satisfaction Planner**™ are published quarterly, by AHC Media LLC, 3525 Piedmont Road, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: Send address changes to ***Hospital Peer Review***®, P.O. Box 740059, Atlanta, GA 30374.

AHC Media LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been approved for 15 nursing contact hours using a 60-minute contact hour.

Provider approved by the California Board of Registered Nursing, Provider #14749, for 15 Contact Hours.

This activity is valid 24 months from the date of publication.

The target audience for **Hospital Peer Review**® is hospital-based quality professionals.

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Subscription rates: U.S.A., one year (12 issues), $469. Add $17.95 for shipping & handling. Outside U.S., add $30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions, multiple copies, site-licenses or electronic distribution. For pricing information, call Tria Kreutzer at 404-262-5482. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. **Back issues**, when available, are $78 each. (GST registration number R128870672.)

Editor: **Stacey Kusterbeck**, (631) 425-9760.
Senior Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@ahcmedia.com).
Associate Publisher: **Coles McKagen**, (404) 262-5420, (coles.mckagen@ahcmedia.com).
Managing Editor: **Jill Robbins**, (404) 262-5557, (jill.robbins@ahcmedia.com).

Editorial Questions

For questions or comments, call **Stacey Kusterbeck** at (631) 425-9760.

with best practices is monitored, and the overall effectiveness of prevention efforts are evaluated."

ICU infections cut 80%

NPSG 7D requires implementation of best practices for the prevention of catheter-associated bloodstream infections. "There are 17 IEs for this NPSG, and all should be the practice in hospitals today," says Catalano.

In 2002, University of Pittsburgh Medical Center recognized the need to focus on prevention of central line infections in its intensive care units (ICUs). "A multidisciplinary team of clinicians was successful in that effort," says **Kathy Hale**, director of patient safety. "We reduced central line infections across all the ICUs in our health system by more than 80%."

Data on all central lines in ICUs are presented to the hospital's infection control committee and to senior leadership each month. This is done as part of a clinical report card using a red, yellow, and green color scheme, with red indicating that the goal wasn't met, yellow indicating that the goal was close to being met, and green meaning that the goal was met or exceeded.

Included in the tracking data is the date, time, and location of insertion; the reason for the line; and patient-specific information on diagnosis and preexisting infections. The bedside staff complete a procedure note each time a line is placed and must include information on site prep and barrier use.

"Our infection rate is now less than one per 1,000 central line days," says Hale. "We took the things we learned from that experience and applied them to bringing down other types of infection rates."

For example, having "secret shoppers" do direct observation of staff hand hygiene and then letting the staff know what was observed, good or bad, has helped with compliance. "We all know how much hand hygiene can impact infection rates," says Hale.

Currently, a newly created multidisciplinary infection control expert team is working to assess compliance with best practices for prevention of CDAD infections, multiple drug-resistant organisms, ventilator-associated pneumonias, and catheter-associated urinary tract infections. "This is a long-term project whose impact we expect to see far into the future," says Hale.

In addition, Pennsylvania passed a law that went into effect on Jan. 1, 2008, requiring that hospitals recognize, track, trend, and report health care-associated infections to a statewide database and notify patients. "Our own project helped prepare us for the state reporting requirements and for this NPSG," says Hale.

The law requires the hospital to report health care-associated infections to the state's Patient Safety Authority. "We have opted to use an infection tracking software system, which interfaces with our laboratory system for consistency in identifying infections across our system," says Hale.

Reporting is done via the Centers for Disease Control and Prevention's National Healthcare Safety Network database, which has an interface with the state's Patient Safety Authority database.

"So our compliance with the law is accomplished via the interface," says Hale. "There was training needed for all the electronic data aspects of the reporting, but no additional staff was needed."

Hospital-acquired infections are also tracked in the hospital's incident reporting database so that trends can be identified by categories such as bloodstream infections or MRSA colonization. "I think being transparent and having our infection information readily available helps keep staff focused on the NPSGs," says Hale.

[For more information, contact:

***Wayne Bohenek**, VP Patient Safety and Pharmacy Excellence, Catholic Healthcare Partners, 615 Elsinore Place, Cincinnati, OH 45202. Phone: (513) 639-0115. E-mail: wsbohenek@health-partners.org.*

***Kathleen Catalano**, RN, JD, Director of Healthcare Transformation, Perot Systems, 2300 W. Plano Parkway, Plano, TX 75075. Phone: (972) 577-6213. E-mail: kathleen.catalano@ps.net.*

***Kathy Hale**, Director of Patient Safety, University of Pittsburgh Medical Center, 200 Lothrop Street, Pittsburgh, PA 15213-2582. Phone: (412) 647-3052. E-mail: halekm@upmc.edu.*

***Cindy McNeill-McDonald**, Vice President of Quality, FirstHealth of the Carolinas. Phone: (910) 715-1593. E-mail: CMcDonald@firsthealth.org.]* ■

Here are key changes for existing NPSGs

Perioperative team affected

In an effort to clarify the requirements of its Universal Protocol, The Joint Commission has made several revisions and additions, effective Jan. 1, 2009.

"These revisions and additions must be taken seriously by the perioperative team and by any other staff involved anywhere in the facility where procedures are performed," says **Kathleen Catalano**, RN, JD, director of health care transformation support for Plano, TX-based Perot Systems Corp.

These areas may include the intensive care units, emergency department, patient units, procedure rooms, and radiology. "These departments, in collaboration with the quality department, should work together to develop measures for tracking of these important revisions and additions," says Catalano.

Expect opposition

The revisions may meet with the same opposition as the current requirements of the Universal Protocol, warns Catalano. "That said, it will be imperative for the organization's leadership to truly endorse changes," she says. "At the root of the Universal Protocol is the desire for wrong site, wrong person, wrong procedure surgeries to be a thing of the past."

The verification process now requires a perioperative verification checklist be used to review and ensure availability of relevant documentation, images, diagnostic radiology test results. It should ensure that results are properly labeled and able to be appropriately displayed, and confirm the on-site availability of any required implants, devices, and/or special equipment for the procedure.

Several additions have been made to requirement 1B for marking the operative site. These include specifying the types of cases in which marking is required; requiring the initial marking of the site before the patient is moved to the area in which the procedure will be performed; marking by the licensed independent practitioner who will be involved directly with and present at the time of performing the procedure; use of a marker that is sufficiently permanent to remain visible after completion of the skin prep and sterile draping; final confirmation and verification of the site mark takes place during the "time out"; and a defined procedure for patients who refuse site marking or who are unable to be marked.

Requirement 1C, conducting of the final "time out" verification immediately before starting the procedure, also has several revisions and additions. An interactive verbal communication is now required between team members, with the ability for any team member to express concerns about the procedure verification, for instance.

"These changes in the Universal Protocol will make it harder for most organizations to comply, including the portion where you have to document that you have the right patient several times," says **Cindy McNeill-McDonald**, vice president of quality at FirstHealth of the Carolinas. "We will expand

Two new requirements for existing NPSGs

NPSG 1C:

This new requirement seeks to eliminate transfusion errors related to patient identification. The Implementation Expectations (IEs) involve matching the patient to the blood product and the blood product to the order with a two-person verification process, or an automated identification technology such as bar coding. The requirement also mentions that when the two-person verification process is used, both individuals must be qualified to perform the tasks at hand.

"I believe that this is already the policy in most facilities across the country and that tracking is being done by the laboratory in conjunction with the nursing service," says Catalano.

NPSG 8D:

This states that modified medication reconciliation processes can be performed in settings in which medications are not used, are used minimally, or prescribed for a short duration.

"In my mind, the addition of 8D is simply a requirement for medication reconciliation to take place in ambulatory care, urgent and emergent care, office-based surgery, outpatient radiology, and behavioral health care settings," says Catalano.

Here, when no changes are made to the patient's current medication list or when only short-term medications, such as five days of an antibiotic, are prescribed, the patient is provided a list containing the short-term medication additions.

If any long-term chronic medications are prescribed, and if it's a setting in which a complete, documented medication reconciliation process is required, a complete list of reconciled medications is provided to the patient, patient's family, and the patient's primary care provider or original referring provider.

It is likely that since the inception of NPSG 8, most organizations have set up a medication reconciliation task force, says Catalano.

"This task force could be resurrected with the charge of addressing the additions to the NPSG," she says. "The quality, pharmacy, and patient care departments, as members of the task force, should determine how these NPSG components will be measured." ■

our verification sheet to include all areas, with a sign off for the Universal Protocol." ■

You'll need this data on patient QI involvement

Include patients, families on committees

The national focus on patient-centered care isn't just about teaching patients to become more engaged in self-management of their care—it also means putting patients on committees and advisory boards to participate in the process of developing quality programs.

"Hospitals are involving patients in a variety of ways in quality and safety efforts," says **Kathryn K. Leonhardt**, MD, MPH, patient safety officer at Aurora Health Care in Milwaukee, WI.

However, this is a big paradigm shift. "Traditionally in health care, we felt that we were the experts in creating programs because we have the training," says Leonhardt. "But how can you create a system for patients without patients at the table? How do you create something to meet their needs if we don't know what their needs are?"

Including patients in quality improvement and patient safety efforts is a new process for health care, says Leonhardt. "Though it seems intuitive that patients should be included because they have the experiential knowledge, the health care system is just now learning how best to incorporate the 'patient perspective,'" she says.

The processes by which patients can participate in quality and safety programs are being developed now by various health systems around the world. These include advisory councils, membership on work teams, surveys and focus groups, and participation in event review committees. "However, both patients and health care providers need to be trained and educated prior to implementing these processes, to be sure they are comfortable and effective for all participants," says Leonhardt.

Outcomes data should be collected to demonstrate the impact of patient involvement, stresses **Erik Martin**, RN, MSN, clinical director of the pediatric intensive care unit at Cincinnati (OH) Children's Hospital.

"Data are awesome things because they provide objective information that cannot be debated," says Martin. "It proves that hard work and ongoing efforts pay off."

The data you collect should answer these questions, says Martin: How did parent/patient involvement improve our patients' care, quality of life, or outcomes? How did it shorten their length of stay? How did it decrease the amount of medication errors or serious safety events that occurred?

"This is something we are currently working on," says Martin. "We'd like to hardwire the system in all three critical care areas, obtain this data, and eventually roll this initiative out for all the inpatient and outpatient units."

Patient input was used to develop a quality initiative involving a parent of a chronic seizure patient. The parent raised a safety concern when the medical team wanted to do a septic workup on her son, including a spinal tap, which she thought was unnecessary. "The mother was concerned about causing undue painful procedures and exposing her son to a potential infection when it was his baseline to spike a fever after a seizure," says Martin.

Through the "Partnering with Parents" initiative, the mother was able to convey her concerns and prevent the septic workup. By the next morning, the patient had returned to baseline and was ready to be transferred out of the pediatric intensive care unit.

Demonstrating the association between patient involvement and patient safety outcomes can be shown through a variety of metrics. "During one project at Aurora HealthCare, we provided tools and education to help patients become more engaged in their own medication management by maintaining their own medication lists," says Leonhardt.

By increasing patient engagement, the accuracy of medication lists in the clinic charts increased by 17%, she reports. To measure the rate of accuracy of medication lists, the patient's medication list was compared to the clinic's, to identify any discrepancies.

"This type of measurement could be done in other settings, both inpatient or outpatient, to add to the evidence-based support for patient involvement in patient safety efforts," says Leonhardt.

At Cincinnati Children's, patients and families are involved in quality improvement and safety projects in many ways. "One of the first ways is to recognize the patient as the expert, or the parents as the expert in their child's care," says Martin. "Soliciting their input and utilizing it when developing a plan is vital to

the success of any quality improvement or safety project."

Here are some examples:

• **Family-centered rounds:** Families are invited to join the physicians, nurses, and respiratory therapist in discussing their child's condition and plan of care. The parent's input is welcomed and valued.

• **Family relations department:** If families feel their needs and concerns aren't being met, they are encouraged to contact this department so their voices can be heard. "Additionally, family relations is a neutral party who can facilitate communications for the common purpose of the patient," says Martin.

• **"Partnering with Parents":** This initiative began in September 2007 in the hospital's neonatal intensive care unit and has since been implemented in the hospital's three critical care areas. It is an extension of a collaborative that began on the medical-surgical floors to empower parents to call the Medical Response Team if they become concerned about their child's safety.

"The initiative engages parents in our organization's safety culture. It encourages parents to stop care if a safety concern arises," says Martin.

The staff member who is present when the concern arises contacts the "content expert," such as the pharmacist, physician, or respiratory therapist, to come to the bedside. "Care is resumed only if all parties are satisfied with the resolution to the concern," says Martin.

To make the most of patient involvement in QI initiatives, do the following:

• **Have clearly defined roles for patients.**

One pitfall is failing to have defined roles and processes for how patients will be involved in the QI process. Some patients may be concerned that their opinion won't be valued and respected because they aren't familiar with medical terminology, while staff may be worried about revealing problem areas to patients. "Make sure that everyone understands that this is a chance to work collaboratively and proactively on quality and safety initiatives. These are not intended to be complaint sessions, nor a peer review process," says Leonhardt.

• **Collect the right data.**

To measure the impact of the "Partnering with Parents" initiative, parent satisfaction surveys are used, which ask whether nurses were caring and compassionate, whether nurses listened to your opinion, and whether physicians answered questions thoroughly.

When a parent raises a concern, Martin follows up within 48 hours and uses a tracking sheet, which collects data in SBAR (situation, background, assessment, recommendation) format.

"My data collection is simple and mostly qualitative, but it helps to identify whether there are opportunities to improve our process," says Martin. "I inquire about how the process went, how satisfied the parent is with the outcome, and if they have suggestions for improvement."

• **Teach patients the benefits of adhering to guidelines and the ramifications of straying from guidelines.**

When patients remind health care providers to practice infection control measures, family members call for assistance when a patient's condition changes, and patient-friendly medication lists are provided at the time of hospital discharge. All of these measures help an organization to comply with regulatory goals, says Leonhardt.

For example, to prevent ventilator-acquired pneumonia, respiratory therapists or nurses at Cincinnati Children's involve parents in tasks such as mouth care or keeping the head of the bed elevated. Data on the hospital's process improvement work are posted all around the unit. An outcomes board clearly lists how many days it has been since the last central venous catheter infection, unplanned extubation or ventilator-acquired pneumonia. "We are very transparent with our data and speak openly to parents about it," says Martin.

[For more information, contact:

***Kathryn K. Leonhardt**, MD, MPH, Patient Safety Officer, Aurora Health Care, 12500 West Bluemound Road, Suite 301, Elm Grove, WI 53122. Phone: (262) 787-2748. Fax: (262) 787-2788. E-mail: Kathryn.Leonhardt@aurora.org.*

***Erik Martin**, RN, MSN, Clinical Manager, Pediatric Intensive Care Unit, Cincinnati Children's Hospital, Cincinnati, OH 45229. Phone: (513) 803-0683. E-mail: Erik.Martin@cchmc.org.*

Researchers from the Agency for Healthcare Research and Quality (AHRQ) have developed a guide for hospital leaders on how to get patients and families to partner with health care providers on community-based patient safety advisory councils. Developing a Community-Based Patient Safety Advisory Council *can be downloaded free of charge on the AHRQ web site (http://www.ahrq.gov/). Click on "Quality & Patient Safety," "Medical Errors & Patient Safety," "Tools & Resources," and under "Implementation & Transformation," click on the publication title.]* ■

Are you getting patients involved in their care?

Baylor addresses patient involvement

If a patient noticed a health care provider didn't wash his hands, or suspected she was being given an incorrect dosage of medication, would she hesitate to speak up about her concern?

"The majority of patients do not push back on caregivers, unless they have a medical background," says **Terri Nuss**, MS, director of patient centeredness at Baylor Health Care System in Dallas. "We need to open the patients' hearts and minds to be brave enough to stop us if they think we're doing something wrong."

The Joint Commission recognizes the importance of patient involvement with its National Patient Safety Goal requirement to "encourage patients' active involvement in their own care as a patient safety strategy."

At Baylor, this has been a major initiative with its Partners program, standing for participation, ask questions, request results, time you need with the health care provider, notes and questions, educate yourself, respect your dignity, and speak up.

Resistance from staff, at first, was "significant," says Nuss. "When you tell a staff member it's important to have a spouse in the room during a test, we have to first change our mentality within from not wanting 'outsiders' in the room," she says. "It is a long and arduous road, and you may find resistance in 100 different ways."

The solution is to "explain the 'why' of involving patients, and then show them a ton of data," says Nuss. "We use process measurements as well as outcomes measures."

Here are some of the things that were implemented at Baylor:

• Patients are given a pad and pen to write down any questions they have during their hospital stay.

In patient rooms, staff write their names on a white board and encourage patients and family members to put their questions on the board, so that staff can write down the answer if they are not in the room.

• Staff now explain the reason for practices such as checking the patient's ID band multiple times.

"Staff are taught to tell patients, 'I know we know each other, but I'm checking your ID band for safety before I give you this medication,'" says Nuss.

• The hospital's patient satisfaction survey includes the questions: How informed were you with your care? Did we include you with decisions about treatment and tests?

"We've got a solid year now of data on this, and we are nowhere near where we want to be, because this is a significant training issue," says Nuss. "Results are steadily climbing, but we are still not where we want to be. We want to do this well the first time, every time, with every patient."

• Data are collected on how often nurses are rounding, to see whether they are meeting the 90% threshold goal.

"Because this is a significant practice change for many clinicians, new habits must be formed that take time and diligent attention," says Nuss.

Rounding is tracked by "logs" that are posted in patient and exam rooms, which are collected and assessed by supervisors and managers. Nursing staff who are not participating are coached by their managers on the importance of rounding in caring for patients.

"Ultimately, the success of the team is measured in volumes of patient falls, patient satisfaction, and number of call light requests from patients," says Nuss.

• Point-of-service interviews are done.

Directors and managers routinely ask patients "What could we have done better?" In outpatient areas, patients are asked "What is the one thing we can do for you?" at the point of admission. For example, a patient going in for a computerized tomography scan who fasted all night for a contrast study might ask for food the minute the study is done, or a patient going in for a mammography might ask for her husband to be present the whole time.

• Data are collected on physicians, including physician-specific outcomes.

"This has been very humbling for physicians," says Nuss. "For example, in order for a patient to really understand the plan of care, it's helpful to spend enough time with the physician. The physicians thought they were doing that, but the data showed otherwise. Thankfully, once the data tell the story, it is easy to solicit the physician's help with changing the outcome."

As a result of the data's findings, physicians and staff are being offered training on "the basics," such as sitting down with the patient to give instructions and allow for questions, and how to elicit questions from the patient.

"Physicians are increasingly hungry for their own data," says Nuss. "When we put out data for the first time, we put it out blinded. But their immediate response was, 'It needs to be transparent — we need to see what's happening.' With attitudes like these, we'll be achieving all our targets very soon.'"

[For more information, contact:
Terri Nuss, *MS, Director of Patient Centeredness, Baylor Health Care System, 8080 N. Central Expressway, Suite 500, Dallas, TX 75206. Phone: (214) 265-3612. E-mail: terrin@baylorhealth.edu.]* ■

Joint Commission focuses on pediatric drug errors

Many errors 'don't ever reach the light of day'

Medication errors harm roughly one out of 15 hospitalized children, according to a new study. Researchers reported an 11.1% rate of adverse drug events in pediatric patients. Of those, 22% were deemed preventable, 17.8% could have been identified earlier, and 16.8% could have been mitigated more effectively.[1]

The Joint Commission has issued a Sentinel Event Alert with recommendations to prevent pediatric medication errors. There wasn't one specific event that led to the alert being issued, according to **Peter Angood**, MD, The Joint Commission's vice president and chief patient safety officer.

"We consider medication safety in general to be one of our high-priority focus areas. We recognized that the awareness in pediatric patients wasn't there to the same level as it is for adult patients. So we brought the alert forward to draw attention to the importance of this issue," says Angood.

Although the recommendations in the alert aren't part of the survey process, The Joint Commission's standards are currently being revised, including its medication management standards.

"We are making efforts to address this for all age groups," says Angood. "From cradle to grave, everyone needs proper medication management. The extremes of age — the very young and very old — are well recognized as vulnerable populations for medication errors. So we do encourage organizations to look critically at those age groups and how they manage them."

Facilities with dedicated pediatric care units and pediatric-trained personnel already have expertise in these issues. A bigger concern is the general community hospitals that occasionally look after pediatric patients. "That is part of the reason we brought the alert forward," says Angood. "If this is a problem, then organizations should do something about it. And if they aren't doing something about it, they should start mobilizing the resources to do it."

The alert recommends that organizations take steps to be "transparent" when errors do occur. "Historically, there has been an approach that professionals knew best. As health care has become more complicated and more sophisticated, that paternalistic approach just doesn't hold anymore," says Angood. "But it remains to some degree, and it is very much under the microscope."

If errors do occur, they should be recognized, and providers should apologize for them and learn from them, says Angood. "That is where we are headed with the issue of transparency," he says. "That's what we are trying to push. Many errors occur every day that don't ever reach the light of day. People need to be able to recognize and report errors comfortably, in an environment that views them as a learning experience. That requires a cultural shift."

There is a "groundswell of concern" around the safety of the medication management processes for hospitalized children recently, according to **Paul J. Sharek,** MD, MPH, one of the above study's authors and chief clinical patient safety officer at Lucile Packard Children's Hospital in Stanford, CA.

The Joint Commission's standards currently do not address pediatric patients specifically. "This Sentinel Event Alert represents a recognition by The Joint Commission that medication management is quite different between adult and pediatric patients, with children posing several unique challenges," says Sharek. "Whether the Sentinel Event Alert may be the start of something new for The Joint Commission remains to be seen."

However, Sharek notes that only about 15% of hospitalized patients in the United States are children, which may be one reason that resources devoted to the quality of pediatric care lag far behind adult care.

"To some degree, it's our own fault," says

Sharek. "Research has been largely focused on the quality and safety needs of adult patients. The science regarding quality and safety in the pediatric setting is emerging quickly, however — so we are catching up."

Reference

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[For more information, contact:
***Paul Sharek**, MD, MPH, FAAP, Medical Director of Quality Management/Chief Clinical Patient Safety Officer, Lucile Packard Children's Hospital, 725 Welch Road, Palo Alto, CA 94304. Phone: (650) 736-0629. Fax: (650) 497-8465. E-mail: psharek@lpch.org.]* ■

Use proven strategies for error disclosure to patients

Answer the questions foremost on patients' minds

A growing number of organizations are disclosing errors to patients, but this can be disastrous if handled poorly.

"We need to train physicians and other health care professionals how to do this well," says **Gregg Meyer**, MD, Boston-based Massachusetts General Hospital's senior vice president for quality and safety. "This is a growing trend, but we need to prepare our workforce, just like we would for any critically important procedure or intervention."

At Massachusetts General, situation management training prepares senior clinical and administrative staff to serve as disclosure "coaches." Disclosure is built into the patient care assessment process. "We are seeing this happen much more routinely," says Meyer. "This is a good development for patients *and* providers."

At Virginia Mason Medical Center in Seattle, a policy requires the attending physician to disclose unanticipated outcomes, says **Cathie Furman**, senior vice president of quality and compliance. "We do not differentiate between errors and unanticipated outcomes," she says.

The policy was developed after a provider tried to disclose an error, but did not have the skills and handled it less than optimally, says Furman.

Physicians are given a two-and-a-half-hour workshop on communication of unanticipated outcomes, given by a trained consultant. "We have a specific role titled a 'situation facilitator' who has received additional training and coaching by the same consultant," says Furman.

The situation facilitators come from multiple disciplines and include nursing leaders and quality professionals. "Their role is to provide coaching to an attending physician who has not had much experience with disclosure," she says.

The facilitator can be physically present when the error is disclosed or can coach the physician on the phone prior to disclosure, says Furman.

Good communication between clinical staff and patient/family is important for all aspects of care, says **Donald Kennerly**, MD, vice president of patient safety and chief safety officer at Baylor Health Care System in Dallas. The hospital system won the Leapfrog Patient-Centered Care Award in 2007 for its patient-centered practices, including having a policy in place for disclosing medical errors to patients and their families.

When an unexpected outcome takes place, whether or not it involves an error, the clinical team is expected to let the patient and family know what is happening and what is being done about it.

"When a serious outcome is encountered that is unexpected, we continue to emphasize the value of timely communication with the patient and family about what we do know at the time," says Kennerly. The staff also commit to follow-up communications when more information is identified as the result of any investigation that might take place. The patient's physician is most often the best person to make these disclosures, says Kennerly. "When that is not possible, then a hospital executive will do this," he says.

In either case, these professionals have "just in time" training given by risk management to help them anticipate the type of questions they are going to receive from the patient and family.

Answer these questions

The key to success is to answer the questions that are always on patients' minds, says Kennerly:

- What happened? "If this isn't clear at the time, it is very effective to provide some information to the patient and commit to returning when

more information is known," says Kennerly.

• What does this event mean, if anything, to my health? What can I expect in terms of any change in care or expected outcome?

• A commitment on the hospital's part to understand why the event happened, even if this information is not shared with the patient, and to use this information to try to prevent future similar events from happening.

Any time there is a serious adverse event, an investigation takes place. A hospital expert in quality or patient safety reviews the chart, talks to other health care professionals, and determines the specific things that took place before and during the event. "The patient and family rarely want to know all of this," says Kennerly. "So the disclosing professional will summarize the more important aspects of the situation."

If the event involves errors and/or inadequate systems of care, an apology is often both appropriate and very important to the patient. "It is controversial, however, since some states allow an apology to be used in court as an implied acknowledgement of responsibility," says Kennerly.

Improve systems

Quality, safety, and risk management professionals at Baylor's hospitals are involved with disclosure of an adverse event in several ways. First, they are at the center of the investigation to understand the facts of the incident. This information is communicated to whomever will do the disclosure, and that individual is usually coached on the most effective way to disclose what will be important for patients to know.

"Second, the quality professional's role is to begin the process of organizational learning to determine why the adverse event took place, and what can be done to prevent it from recurring in the future," says Kennerly.

As part of the investigation, the quality professional will try to understand why the event occurred by checking into potential contributing factors such as a poorly designed process of care, communication problems, a high workload, equipment problems, ambiguous policies, training issues, or distracting events occurring at the same time.

The information is then used to design and implement improved processes that together constitute an improved system. "Since the vast majority of adverse events are due to suboptimal systems, the improvement of the system is key to improving care in a durable way," says Kennerly.

CNE *questions*

5. Which of the following was implemented at the University of Pittsburgh Medical Center to reduce central line infections in intensive care units (ICUs)?

A. Data on all central lines placed in ICUs are presented to the hospital's infection control committee and to senior leadership each month.
B. Data are tracked on patient-specific information regarding diagnosis and pre-existing infections.
C. The bedside staff complete a procedure note each time a line is placed including information on site prep and barrier use.
D. All of the above.

6. Which of the following does The Joint Commission's National Patient Safety Goal 8D require?

A. Modified medication reconciliation processes cannot be utilized in any setting.
B. Modified medication reconciliation processes can be performed in settings in which medications are not used, are used minimally, or prescribed for a short duration.
C. Medication reconciliation is not required to be performed in ambulatory care settings.
D. Patients only need to be provided a list of reconciled medications if short-term medications are prescribed.

7. Which is recommended when involving patients in quality improvement initiatives?

A. Avoid discussing specific core measure requirements with patients.
B. Collect data to show how patient involvement improved care and outcomes.
C. Give patients very loosely defined roles.
D. Advise staff against revealing problem areas to patients.

8. Which is recommended if errors are disclosed to patients?

A. No additional training should be given to staff who disclose errors.
B. Physicians should not be the ones to disclose errors.
C. Facilitators should not be physically present when the error is disclosed.
D. Specially trained facilitators, including quality professionals, should provide coaching to physicians on disclosure.

Answer Key: 5. D; 6. B; 7. B; 8. D.

CNE instructions

Nurses participate in this continuing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue. Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing this semester's activity with the **December** issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided to receive a credit letter. ■

[For more information, contact:

***Cathie Furman**, Senior Vice President, Quality and Compliance, Virginia Mason Medical Center, 1100 Ninth Avenue, Seattle, WA 98101. Phone: (206) 223-6182. E-mail: cathie.furman@vmmc.org.*

***Donald Kennerly**, MD, Vice President, Patient Safety and Chief Patient Safety Officer, Baylor Health Care System, 8080 N. Central Expressway, Suite 500, Dallas, TX 75206. Phone: (214) 265-3621. E-mail: donaldk@baylorhealh.edu.*

***Gregg Meyer**, MD, Senior Vice President, Quality and Safety, Massachusetts General Hospital, 55 Fruit Street, Boston, MA 02114. Phone: (617) 724-8098. E-mail: gmeyer@partners.org.]* ■

Bar codes help improve safety in operating room

System helps identify additional miscounts

Researchers at Brigham and Women's Hospital (BWH) in Boston have shown that using bar-code technology to augment the counting of surgical sponges during an operative procedure increases the detection rate of miscounted and/or misplaced sponges. Their research is published in the April 2008 issue of the *Annals of Surgery*.[1]

Lead author **Caprice Greenberg**, MD, MPH, a surgeon at the BWH Center for Surgery and Public Health and the Dana-Farber Cancer Institute Center for Outcomes and Policy Research, and her colleagues found that the bar-code system detected more counting errors than traditional counting methods — both in cases where sponges were misplaced and counted incorrectly. Researchers also report that although the technology introduced new difficulties in the operating room, clinicians felt confident that the technology was effective and easy to use.

"I had done a study in 2002 where we collaborated with experts from human factors engineering to see what had the biggest impact on safety, and we identified communication and workloads with competing tasks," Greenberg recalls. "We found that [sponge] counts were really disruptive to surgical flow. So, we wanted to do an observational study to see what goes on with counts, and if there were any technological solutions out there."

The idea of using bar codes in surgery, says Greenberg, grew out of the success that bar-coding technology had in reducing medication

CNE objectives

To earn continuing education (CNE) credit for subscribing to *Hospital Peer Review*, CNE participants should be able to:

- Identify a particular clinical, legal, or educational issue related to quality improvement and performance outcomes.
- Describe how the issue affects nurses, health care workers, hospitals, or the health care industry in general.
- Cite solutions to the problems associated with those issues based on guidelines from The Joint Commission or other authorities and/or based on independent recommendations from clinicians at individual institutions. ■

COMING IN FUTURE MONTHS

- Use safety culture data as powerful tools to drive change
- Avoid charges that your peer review process is malicious
- Review your policy for managing disruptive physicians
- How to make sure your electronic systems aren't *causing* errors
- What medical staff wish quality managers would do differently

errors. It works like this: An individual data matrix code is embedded onto the same sponges the team would otherwise use. They are scanned by a handheld computer before they are put on the operative field and after surgery is completed. "Since each sponge has a unique identifier code, we can not only tell the count, but which one is not accounted for," says Greenberg.

Manual counting vs. 'machine'

The study was a randomized controlled trial funded by Surgicount Medical, the manufacturer of the technology used. A total of 300 patients were studied; 150 were randomized to a traditional manual count and 150 to manual counting with the bar coding as an adjunct.

"We actually identified significantly more miscounts and misplaced sponges," notes Greenberg. The researchers reported that a total of 32 discrepancies were found (miscounted or misplaced sponges) with the second method, but only 13 found using the traditional manual method.

One specific error the scanning system avoids, Greenberg continues, is double-counting sponges. "You can't double-scan a sponge; the system will alert you," she explains. "That's a nice example of how the system can really help."

Members of the surgical team are not yet at the point where they feel comfortable relying totally on the new system, she adds. "They've been counting manually for so long," Greenberg notes. "For now, it should be viewed as an adjunct for counting."

Greenberg says there are a couple of different new approaches to improving surgical safety. "One is bar coding, and then there is also RFID [radio frequency]," she says. "Bar-coding has already been proven to work in meds; as RF technology improves and we learn more about it, it may end up being the one used most, but now both are feasible and commercially available, and a number of institutions are using them."

In fact, Greenberg notes, her team is evaluating two available systems. Meanwhile, she says, "our results are kind of hard to ignore. At this point we are pretty convinced our data show one of these technological solutions should be implemented."

Reference

1. Greenberg C, Diaz-Flores R, Lipsitz SR, Regenbogen S, et al. Bar-coding Surgical Sponges To Improve Safety: A Randomized Controlled Trial. *Ann Surg*, April 2008; 247(4):612-616.

[For more information, contact:
***Caprice Greenberg**, MD, MPH, BWH Center for Surgery and Public Health, Boston, MA. Phone: (617) 632-2076.]* ■