Healthcare Risk Control

Executive Summary
Risk and Quality Management Strategies 17

ECRI Institute
The Discipline of Science. The Integrity of Independence.

▶ SUPPLEMENT A
September 2009

Key Recommendations

- Assess the quality of communications in the organization to identify factors contributing to patient safety problems.
- Provide education and training in effective communication.
- Address authority gradient issues, and support open communication by all levels of personnel.
- Implement strategies to improve communication and teamwork, proactive process analysis, and use of effective communication techniques and tools such as checklists.
- Designate an interdisciplinary team to establish goals, guide improvement efforts, and monitor the effectiveness of communication improvement initiatives.

See page 16 for more Action Recommendations.

Supplementary Material

- Insurance Claims Involving Communication as a Risk Management Issue
- Resource List

For more tools on this topic, see the HRC *Members' Web site at http://www.ecri.org.*

Communication

Communication is central to the provision of safe, high-quality medical care. However, the increasingly complex healthcare environment can complicate the communication process and hinder information exchanges that are necessary for optimum care.

Communication breakdowns in healthcare can occur in various ways. There can be communication failures during patient handoffs (i.e., transfer of responsibility for patients between caregivers, such as during a change of shift or on patient discharge from the hospital), between a patient's attending physician and consulting physicians, or even between the physician and the patient.

WHAT HRC *FOUND*

Healthcare leaders have recognized the need to improve communication among caregivers and between caregivers and patients in their organizations as a key risk management strategy. Thus, effective communication and teamwork techniques are being used as a means of reducing medical errors and preventing adverse patient outcomes. Information technologies such as CPOE and EHRs can assist with goals to improve communications if systems are evaluated for inherent failures and/or interference with equipment and established work processes before implementation.

Healthcare providers are striving to implement highly reliable teams, one of the key characteristics of which is the ability to communicate effectively. This effort includes members of high-risk specialties operating in high-risk environments, in which effective communications are crucial to preventing adverse events.

Route To:

- ☐ Accreditation coordinator
- ☐ Chief medical officer
- ☐ Critical care
- ☐ Nursing
- ☐ OR/surgery
- ☐ Patient safety officer
- ☐ Quality improvement
- ☐ Staff education

Healthcare Risk Control

Risk Analysis
Risk and Quality Management Strategies 17

ECRI Institute
The Discipline of Science. The Integrity of Independence.

▶ SUPPLEMENT A
September 2009

Communication

Communication is the crux of safe healthcare. The ability to transmit information between patients and providers and among caregivers is central to the provision of quality medical care. However, the increasingly complex healthcare environment can complicate the communication process and hinder the information exchanges necessary for optimum care.

Communication breakdowns in healthcare can occur in various ways. For example, communication can fail during patient handoffs (i.e., transfer of responsibility for patients between caregivers, such as during a change of shift or on patient discharge from the hospital). Communication breakdowns can also occur within the team of caregivers treating a patient in a particular setting (e.g., the operating room [OR]), between a patient's attending physician and consulting physicians, or even between the physician and the patient. Sometimes, these communication lapses include the family members involved in the patient's care.

According to the Joint Commission, communication is cited as a root cause in nearly 70% of reported sentinel events, surpassing other commonly identified issues such as staff orientation and training, patient assessment, and staffing (Joint Commission International). As a result, goals aimed at improving the effectiveness of communication among caregivers have been included in annual National Patient Safety Goals (NPSGs), targeting issues such as verbal and telephone orders, confusing medical abbreviations, communication of critical test results, and handoff communications (Joint Commission "2009 Standards").

Drawing on research findings demonstrating that patient safety can be improved by better communication, a number of quality and safety agencies and organizations are also promoting communication and teamwork techniques as a means of reducing medical errors and preventing adverse patient outcomes. Some of these organizations include the Agency for Healthcare Research and Quality (AHRQ), the American Society for Healthcare Risk Management (ASHRM), the Institute for Healthcare Improvement, and the National Patient Safety Foundation (NPSF). Medical and nursing associations such as the American College of Surgeons, the American Medical Association (AMA), and the Association of periOperative Registered Nurses (AORN) have also contributed to publications, guidelines, and educational resources that promote the improvement of healthcare communications as a key means of achieving patient safety in healthcare.

Experts agree that communication breakdowns are also a leading cause of medical malpractice claims and lawsuits (Woods). They encourage caregivers to effectively discuss adverse outcomes, disclose errors, and apologize to patients and families. Thus, risk managers, patient safety officers, clinicians, and healthcare leaders have recognized the need to improve communication among caregivers and between caregivers and patients in their organizations as a key risk management strategy.

This Risk Analysis provides examples of communication breakdowns that can affect patient outcomes and patient safety and result in liability claims and other potential losses for healthcare organizations. It reviews strategies for improving communication and teamwork, suggests ways to comply with the Joint Commission's NPSGs related to communication, and provides action recommendations to improve communication and teamwork among healthcare providers and other staff. In addition, information on resources and toolkits is provided to assist risk managers in enhancing communications, improving patient safety, and reducing risk in their organizations. A list of communication-related resources available throughout the *Healthcare Risk Control* (*HRC*) *System* is provided in "Communication: *Healthcare Risk Control System* Tools."

Communication: *Healthcare Risk Control System* Tools

The following is a list of *Healthcare Risk Control* (*HRC*) *System* resources related to healthcare communication that provide additional tools and information on the various topics addressed in this Risk Analysis:

- Chain of command. 2004 Sep;Suppl A:Risk and quality management strategies 19.
- Chain-of-command training program. 2004 Nov;1:Education and training tools 11.
- Communication and disclosure training program. 2006 Jul;1:Education and training tools 15.
- Culture of safety. 2009 Jan;Suppl A:Risk and quality management strategies 21.
- Disclosure of unanticipated outcomes. 2008 Jan;Suppl A:Incident reporting and management 5.
- Disruptive practitioner behavior. 2009 Mar;Suppl A: Medical staff 8.
- Error-prone abbreviations, symbols, and dose designations. 2007 Nov;4:Pharmacy and medications 1.3.
- Failure mode and effects analysis. 2004 May;Suppl A:Risk and quality management strategies 18.
- Fostering linguistically and culturally competent care. 2004 Jan;2:Ethics 5.
- Informed consent. 2008 Jan;2:Laws, regulations, and standards 4.
- Measuring patient satisfaction, experiences, and perceptions of care. 2005 Jan;2:Patient support services 2.
- Medical abbreviations. 2006 Mar;2:Medical records 2.
- Patient safety. 2005 Nov;1:Self-assessment questionnaires 30.
- Risk management and patient safety in the ICU. 2006 Jan;4:Critical care 1.
- "Sample Policies and Tools" section of the *HRC* Members' Web site
  - — Guidelines for disclosing errors. 2008 Jan;Incident reporting and management.
  - — ICU patient safety: daily goals [checklist]. 2006 Jan;Critical care.
- Wrong-site surgery. 2008 Nov;Suppl A:Surgery and anesthesia 26.

COMMUNICATION BREAKDOWNS, MEDICAL ERRORS, AND LIABILITY

The quality of interprofessional communication between physicians, nurses, and other caregivers has been a long-standing issue in healthcare. Communication challenges that plague physician/nurse relationships can especially affect patient care in a negative manner. For example, a study of patient outcomes in intensive care units (ICUs) noted that the greatest determinant of severity-adjusted death rate was how well nurses and physicians worked together in planning and providing patient care (Baggs et al.).

The healthcare risk management and patient safety literature contains numerous accounts of medical errors caused by communication failures, and a high number of liability claims and malpractice lawsuits have been attributed, at least in part, to communication-related issues.

An analysis of medication-related liability claims in a New England malpractice insurance company database classified types of system failures responsible for medication errors and adverse drug events (ADEs) using human-factors analysis. Analysts concluded that most of the medication errors and ADEs in the claims study resulted from operational system failures, which included poor team communication (Rothschild et al.).

In a recent claims study by The Doctors Company/OHIC Insurance, an insurer of physician and surgeon medical liability, communication was the third most common risk management issue involved in all hospital-based claims. However, for high-risk medical specialties, communication was a contributing factor in claims even more frequently. For example, communication was the second most common risk management issue associated with the company's claims involving the hospital obstetrics department and obstetrics/gynecology specialty physicians. See "Insurance Claims Involving Communication as a Risk Management Issue" for more details on this claims study.

The following summary of a case involving a woman with an uncomplicated pregnancy until 38 weeks' gestation exemplifies the impact of a communication breakdown in a postpartum case (Lerch):

> [The patient] developed signs of preeclampsia, including 3+ protein in her urine and an elevated blood pressure of 144/90. The patient was admitted to the hospital and labor was induced. . . . The membranes were artificially ruptured seven hours prior to delivery. She delivered a healthy male infant. . . . Two days later . . . she

Insurance Claims Involving Communication as a Risk Management Issue

The Doctors Company/OHIC Insurance claims study focuses on communication issues and includes data from January 2000 to December 2008. Claims may be associated with more than one risk management issue. Percentages represent the number of claims coded as being associated with communication as a risk management issue compared to the total number of claims in the database.

Hospital claims. Communication was identified as a risk management issue in 30% of all claims in which a hospital was a defendant. It was the third most commonly identified issue after clinical judgment and administrative issues. Of the claims in which communication was an issue, 62% involved communication issues between the patient or family and the provider; 50% involved communication issues among providers.

Hospital claims involving the obstetrics department. Communication was identified as a risk management issue in 46% of all hospital obstetrics (OB) department claims (claims coded to the OB department as the responsible service). It was the second most common risk management issue after clinical judgment. Of hospital OB department claims involving communication issues, 55% involved communication issues among providers; 56% involved communication issues between the patient or family and the provider.

Physician claims. Communication was identified as a risk management issue in 32% of all claims in which a physician was a defendant. Communication was the second most common risk management issue after clinical judgment. Of the physician claims in which communication was identified as a risk management issue, 65% involved communication issues between the patient or family and the provider; 46% involved communication issues among providers.

Physician obstetrics/gynecology specialty claims. Following clinical judgment, communication was the second most common risk management issue in cases in which obstetrics/gynecology (OB/GYN) physicians were defendants. Communication was a risk management issue in 40% of all claims against OB/GYN physicians. Of these OB/GYN physician specialty claims involving communication issues, 64% involved communication issues between the patient or family and the provider; 62% involved communication issues among providers.

Source: Ranum, Darrell (Regional Vice President, The Doctors Company). E-mail to: ECRI Institute. 2009 Apr 24.

was diagnosed with myometritis and group B strep* in her urine. The patient was treated with antibiotics for an additional four days and was then discharged in good condition.

The nursery nurses and pediatrician were not informed that the mother had a positive culture for group B strep. . . . The infant was discharged home, in spite of the fact he had a temperature of 100.4. The pediatrician . . . was not aware of the infant's elevated temperature. The nursery nurse did not call the pediatrician prior to discharge with the temperature since . . . she did not know the mother had been treated for group B strep. Two days later, the infant was admitted to a children's hospital with a diagnosis of group B streptococcal meningitis. He suffers from seizures, developmental delays, and partial blindness due to the infection.

COMMUNICATION PROBLEMS AND MEDICATION ERRORS

In a U.S. Pharmacopeia (USP) report on the analysis of medication errors reported to MEDMARX®, an Internet-accessible database for the anonymous reporting of medication errors, communication issues and knowledge deficit were cited as the causes of medication errors most often leading to patient harm (Hicks et al.).

A 2006 report by USP on medication errors occurring in ICUs and radiologic services noted that communication problems frequently contributed to errors in those locations (USP). While communication problems were cited as a leading cause of medication errors in both locations, they were ranked as the second most frequent cause of medication errors in the cardiac catheterization section of radiologic services when all communication-related issues, such as verbal orders, illegible handwriting, and abbreviations, were combined. The following is a case described in the USP report (USP):

> A patient became hypotensive after percutaneous transluminal coronary angioplasty/stenting. During the procedure, the patient received morphine, adenosine, and nipride. The physician gave a verbal order for phenylephrine 0.5 mg intravenous (IV), but a nurse understood the order to be 5 mg (an appropriate amount for subcutaneous or intramuscular administration). A vial of phenylephrine 10 mg was retrieved and 5 ml (5 mg) withdrawn and pushed into the IV tubing. Realizing the mistake, the nurse soon disconnected the IV tubing and drained the residual fluid onto the floor. The patient soon became tachycardic and hypertensive, requiring intubation and cardiopulmonary resuscitation.

* Group B streptococcus is a coccobacillus that colonizes the female genitourinary tract and can be transmitted from mother to baby during pregnancy, labor, or delivery. It is a leading cause of neonatal sepsis and meningitis.

The patient went into ventricular tachycardia and ventricular fibrillation and was transferred to the cardiac surgery ICU.

In addition to errors in communication during patient procedures, a lack of communication regarding a patient's current medication treatment or medication history can also contribute to adverse outcomes and sentinel events. This type of error was noted in another case described in the USP report in which a patient who was already receiving heparin, a powerful anticoagulant drug, was also given enoxaparin (another anticoagulant medication) because the physicians and nurses failed to communicate with each other regarding what medications were being given and failed to follow relevant established policies. The patient received both drugs for 15 hours, leading to a drop in blood levels of hemoglobin and hematocrit, shortness of breath, and abnormal lung sounds. The patient was given a blood transfusion and placed on a ventilator. The causes of error were reported as failures in communication and in following procedures and protocols.

A lack of communication regarding a patient's current medication treatment or medication history can contribute to adverse outcomes and sentinel events.

NATIONAL PATIENT SAFETY GOALS AND COMMUNICATION

Several *Sentinel Event Alerts* published by the Joint Commission highlight communication breakdowns that were involved in reported sentinel events and offer recommendations for preventing future occurrences. The Joint Commission defines effective communication as that which is timely, accurate, complete, unambiguous, and understood by the recipient (Joint Commission "Accreditation Program"). Thus, effective communication is a necessary prerequisite for meeting many Joint Commission NPSGs. For example, a goal to improve the effectiveness of communication among caregivers includes expectations to improve the safety of verbal and telephone orders, critical test reporting, medication reconciliation, and handoff communications. Achieving effective communication is an important means of meeting these expectations. Although the NPSGs can change from year to year and may be incorporated into accreditation requirements, the recommendations are good safety practices to follow. For example, incorporation of the Universal Protocol for Preventing Wrong Site, Wrong Procedure and Wrong Person Surgery™ into routine practice makes patient safety sense regardless of whether it is a requirement for accreditation. The recommendations discussed in this Risk Analysis are those that support patient safety, even if they are not among the current NPSGs.

Medical Abbreviations

Most medical abbreviations, acronyms, and symbols originated before healthcare providers and organizations realized that certain abbreviations, although time-saving, can be misinterpreted and can cause errors that lead to adverse outcomes or death. For example, when "U" is used as an abbreviation for units, it can be mistaken for a zero. An incident occurred in which a patient died when "20 U" of insulin was interpreted as "200 U" (U.S. FDA). Another problematic abbreviation is "µg" (for micrograms). It can be mistaken for "mg" (i.e., milligrams), causing a 1,000-fold error (Joint Commission "Medication").

The Institute for Safe Medication Practices (ISMP), an organization dedicated to improving medication safety, has been alerting healthcare facilities for decades to the dangers of using error-prone abbreviations. A list of error-prone abbreviations that should be avoided is available online at the ISMP Web site at http://www.ismp.org. The Joint Commission published a *Sentinel Event Alert* on the topic in September 2001, and in 2004 established a requirement for accredited facilities to standardize a list of prohibited abbreviations as one strategy for improving communication among caregivers. However, compliance with this requirement has been a challenge for many organizations—especially acute care facilities—with rates of compliance by hospitals ranging between 61% in 2005 and 76% in 2007 (Joint Commission "National"). The Joint Commission published "Implementation Tips for Eliminating Dangerous Abbreviations" to assist facilities in this endeavor. These tips are available online at http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/abbr_tips.htm.

Dangerous abbreviations, acronyms, and symbols are not prohibited from use only on medication orders. The less-than (<) and greater-than (>) symbols have been mistaken for the letter "L" and the number seven (7), respectively. These and other symbols and abbreviations have been identified by the Joint Commission as problematic and are listed for possible future inclusion on

the "do not use" list. Organizations should also ensure that their list of prohibited abbreviations applies to all clinical documentation—including all types of orders, progress notes, consultation reports, and operative reports—and is consistent throughout the organization.

Critical Tests and Critical Results and Values

Patient treatment delays and failures to follow up on important abnormal diagnostic tests have occurred because of communication delays or breakdowns in the reporting of critical test results and values. Delays, failures, and inaccuracies in reporting test results place patients at risk for treatment delays, omissions, and errors and put providers and facilities at risk of facing liability claims. The Joint Commission established an NPSG to improve the effectiveness of communication among caregivers that requires accredited organizations to measure, assess, and, if needed, take action to improve the timeliness of reporting and the timeliness of receipt of critical tests and critical results and values by the responsible licensed caregiver (Joint Commission "Accreditation Program").

According to the Joint Commission, critical tests are tests that will always require rapid communication of the results, even if the results are normal. On the other hand, critical results (also known as critical values) are test results that fall significantly outside the normal range and may represent life-threatening values, even if they are from routine tests. (Joint Commission "Critical")

In order to improve the timeliness of reporting, each diagnostic and clinical area in the facility, in conjunction with the physicians who provide care in each area, should first identify which tests and results are critical. One definition of "critical" that has been used is any test or test result that would immediately change the course of care. Specific tests and results are defined by each facility; designation of a test as critical usually involves some consideration of the associated clinical condition. An example of a critical test could be a computed tomography head scan to rule out subdural hematoma following head trauma. Conversely, while an electrocardiogram (ECG) in itself may not be a critical test, an ECG result that reveals a cardiac arrhythmia requiring immediate intervention would be a critical result. Some facilities allow the physician to specify that a test is critical when ordering it (Spath).

The second part of improving the communication of critical tests and results involves determining turnaround times and establishing targets for critical test reporting. The time interval should be measured from the time the test is ordered to the time the result is reported to a clinician who can act on the result. The Joint Commission requires accredited hospitals to define the following (Joint Commission "Accreditation Program"):

- The acceptable length of time between ordering critical tests and reporting the results of these tests, whether normal or abnormal
- The acceptable length of time for reporting the results of routine tests with critical abnormal values or findings
- The acceptable length of time between the availability of critical tests and critical results and values and receipt by the responsible licensed caregiver

If timeliness needs to be improved based on assessment of current practices, actions must be taken to reduce turnaround times and the actions must be measured for effectiveness.

A case study in AHRQ's "WebM&M," an online case study review, serves as an example of how a failure to communicate critical test results contributed to a delay in treatment of an elderly patient who had frequent loose stools and tested positive for *Clostridium difficile*, causing her to experience a decline in functional status and an extended length of stay. Her physician ordered the *C. difficile* test on a Friday and left for the weekend before the test result came back positive. The on-call physician was not notified of the positive test result because the caregivers assumed that the physician was aware of the results and because the patient was already receiving intravenous vancomycin for an infection in her heel. *C. difficile* infection is treated with oral vancomycin, which the patient did not receive until the attending physician returned on Monday. (Astion)

The process of test ordering, blood sampling and testing, and results reporting involves multiple steps, multiple departments (e.g., the nursing unit, the laboratory), and communication by many different personnel. Such a complex process can be analyzed to identify potential communication failures, as well as other problems, that affect the timeliness of critical test results reporting.

One method currently being used to proactively analyze complex healthcare processes is failure mode and effects analysis (FMEA), an analytic tool used to identify where human actions, equipment, supplies,

information, systems, and processes can break down and to prevent breakdowns from occurring (Krasker). The Joint Commission's accreditation standards require that facilities select at least one high-risk process for proactive risk assessment, based in part on the most frequent sentinel events and risks reported by the accreditor. Because reporting of critical test results and values could be considered a high-risk process in which communication breakdowns may frequently contribute to sentinel events, and since FMEA is accepted by the Joint Commission as a valid method to perform a proactive risk assessment, facilities can use the method to conduct a proactive risk assessment of critical test results reporting and concurrently assist with improving timeliness of results reporting. For more information on FMEA, see the Risk Analysis "Failure Mode and Effects Analysis," elsewhere in this section of the *HRC System*.

The Massachusetts Coalition for the Prevention of Medical Errors (MA Coalition), a collaborative formed to increase patient safety in that state, developed tips and safe practices for improving critical test values reporting based on lessons learned from hospital improvement efforts. Some MA Coalition safe practices include the following (Hanna et al.):

- Educate staff on the communication of test results. If a physician cannot be reached or does not respond to notification efforts regarding critical test results, staff must know how to take the next step to ensure patient safety. Reinforce the chain of command, and use a multimedia approach to train staff members that "information cannot stop with you."
- Audit reporting and response times. It is important to know how long it actually takes to report critical test results and whether any problems are encountered related to clinician response to notification of results so that improvement efforts can be implemented.
- Institute a backup system for provider notification. Design a fail-safe system for staff to use when the responsible care provider cannot be reached within an acceptable time frame. An effective backup plan allows staff to locate an alternative provider who can assume responsibility for the patient.
- Standardize documentation regarding communication of test results. Include the name and credentials of the individual reporting the test results, the name and credentials of the person receiving the results, the name of the test, the test value and interpretation, and the date and time.
- When feasible, automate the reporting of test results. Technology exists that automatically pages the physician when test results become available. Automated intervention has been shown to be effective because the physician receives the results directly.

Verbal and Telephone Orders and Test Result Communication

Whenever possible, medical orders and critical test result reports should be made in writing because giving orders and test results verbally or over the telephone has a high potential for error. Consider the environment of a busy clinical setting—caregivers coming and going, multiple conversations being held concurrently, the sounds of clinical and nonclinical equipment operating, and the noise of pages, telephones ringing, and alarms sounding. All these factors contribute to the possibility that orders or test results communicated verbally or by telephone will be heard incorrectly or misunderstood.

This is particularly true with orders for medications that have sound-alike drug names. For example, ISMP has reported mix-ups involving telephone orders for the following generic drugs (ISMP "ISMP"):

- Valacyclovir (Valtrex) was confused with valganciclovir (Valcyte) in one reported case. The generic (and brand names) sound very much alike and are easily confused, and both have uses associated with cytomegalovirus.
- In another case, anakinra (Kineret), an interleukin 1 blocker, was prescribed but amikacin (Amikin), an antibiotic, was dispensed.

In its *Sentinel Event Alert* on look-alike and sound-alike drugs, the Joint Commission recommended that healthcare facilities develop policies for taking verbal and telephone orders (Joint Commission "Look-Alike"). The alert became the basis for verification of verbal and telephone orders as part of an NPSG on communication, applicable to all types of verbal and telephone orders, not just medication orders. The Pennsylvania Patient Safety Authority outlined safe practices for facilities to consider when verbal orders are used. See "Safe Practices for Verbal Orders" for a summary of these practices. The Authority has also made available a sample policy on verbal orders on its Web site at http://www.patientsafetyauthority.org/EducationalTools/PatientSafetyTools/verbal_orders/Documents/sample_policy.pdf.

Verbal orders should be avoided when possible. In particular, experts recommend that verbal orders for chemotherapy be banned because of their complexity and potential for tragic errors (ISMP "ISMP"). When it is highly impractical or impossible for the prescriber to write down orders or enter orders into a computerized provider order-entry (CPOE) system at the time they are given, verbal or telephone orders may be the only available alternative. Similarly, critical test results often must be reported by telephone. However, steps to reduce errors can be taken before implementing the orders or acting on critical test results, including the following (Joint Commission "Accreditation Program"):

- The receiver should write down the verbal/telephone orders or test results (or enter them into a computer) as they are given.
- The orders or results should be read back to the prescriber or the individual reporting the test results, who should confirm that they are correct.

Methods to demonstrate that these steps are being taken vary among healthcare organizations. Some opt to have the receiver of the orders document "verbal order read-back" in the patient medical record, while others use forms designed to capture the verbal order read-back process with a checkoff and signature. In the case of electronic records, a keystroke or additional screen notation can be used. It is important that compliance with the read-back process be monitored through observation and/or record audits.

Situations will arise in which personnel are unable to follow a facility's verbal order policy because doing so could jeopardize patient safety. In certain situations or areas, such as during a code or in the OR, it may not be feasible to do a formal read-back. In such cases, according to the Joint Commission, "repeating back" the information is acceptable (Joint Commission "Read").

Based on reports of misheard drug names and errors involving other orders, as well as information in the literature on errors stemming from incorrect verbal and telephone orders, the Authority published "Verbal Orders Toolkit" in the *Pennsylvania Patient Safety Advisory* to assist facilities in assessing practices involving verbal orders, developing policies and procedures, and educating frontline staff on safe practices related to verbal orders. The toolkit can be downloaded from the Internet at http://www.patientsafetyauthority.org/EducationalTools/PatientSafetyTools/verbal_orders/Pages/home.aspx. See "Safe Practices for Verbal Orders" for additional recommended practices for verbal orders.

Safe Practices for Verbal Orders

The following safe practices, although not feasible in all facilities, can help facilities evaluate current practices regarding verbal orders.

- Require that the verbal order be clearly communicated. For example, the name of a drug can be spelled out; use "'D' as in 'David,'" "'B' as in 'bravo,'" and so forth.
- Provide brand and generic names of a medication, and include the purpose of the drug in the order.
- Avoid confusion with spoken numbers by pronouncing digits separately (e.g., 50 mg should be enunciated as "fifty milligrams, five-zero milligrams" to avoid confusion with 15 mg).
- Include the mg/kg dose along with the patient-specific dose for all verbal neonatal and pediatric medication orders.
- Have a second person listen to the verbal order whenever possible.
- Record the verbal order directly onto an order sheet in the patient's chart. Do not transcribe it from a scrap of paper.
- Make sure that the verbal order includes the patient's name, age, and weight; the drug name; the dosage form; the exact strength or concentration; the dose, frequency, and route; the quantity and/or duration of medication; the purpose or indication; specific instructions for use; the prescriber's name and telephone number, when appropriate; and the name of the individual transmitting the order (if that individual is different from the prescriber).
- Require the receiver to provide the date and time and his or her signature with the order and to document it according to procedure.
- Limit the number of personnel who may receive telephone orders.
- Limit verbal orders to orders for formulary drugs.
- Whenever possible, have a pharmacist receive verbal orders for medications.

Source: Improving the safety of telephone or verbal orders. PA PSRS Patient Saf Advis [online] 2006 Jun [cited 2009 May 14]. Available from Internet: http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2006/Jun3%282%29/Pages/01b.aspx.

Handoff Communications

The Institute of Medicine noted in its report *Crossing the Quality Chasm* that when information necessary for the care of a patient is missed, forgotten, or lost during transitions (i.e., handoffs), safety is compromised (IOM). Poor communication of medical information at transition points may be responsible for as many as 50% of all medication errors and nearly 20% of ADEs in hospitals (ISMP "Building"). Communication issues also contribute to other types of events during transitions in hospitals. Of the 2,390 patient-transport-related incidents (or near misses) and serious events reported by hospitals from May 2004 through September 2008 to the Authority, 280 involved problems with communication, IV lines, monitoring, or other issues; more than 40% of these reports indicated the need for improved communication between healthcare providers ("Safe Intrahospital").

Accurate and complete reconciliation of medications across the continuum of care is another NPSG that is dependent on effective communication. The requirements under this goal, first implemented in 2005, include the need to communicate a complete list of the patient's medications to the next provider of service when the patient is transferred to another setting, service, practitioner, or level of care within or outside the healthcare organization (Joint Commission "Accreditation Program"). The medication reconciliation process is discussed further in "Reconciling Medication across the Continuum of Care," in the October 2004 issue of the *Risk Management Reporter*.

Due to the difficulties encountered by organizations in meeting the intent of the goal to reconcile medications, the Joint Commission decided to evaluate and refine the expectations surrounding this goal in 2009. Although it stated that survey findings from the goal would not be factored into accreditation decisions until improvements in the goal and its implementation expectations are released in 2010, the Joint Commission notes that organizations should continue to address medication reconciliation within their organizations and that on-site surveys would continue to evaluate processes intended to meet the goal (Joint Commission "Accreditation").

The transfer of responsibility between physicians caring for hospitalized patients, routinely referred to as a "sign out" procedure, is a handoff in which communication failures can lead to uncertainty in patient care decision making, potentially resulting in patient harm. For example, the failure of providers to communicate anticipated changes in the patient's condition or pending test results or even to discuss the patient's code status (full resuscitation versus a do-not-resuscitate order) can lead to omitted information during sign-outs and uncertainty and delays in treatment decisions. Failure-prone communications such as communication without face-to-face contact emerged as a major type of communication breakdown between medical interns surveyed about sign-out procedures at U.S. teaching hospitals. Written sign-out procedures can assist in preventing the omission of pertinent content, and face-to-face communications are preferred in verbal sign-out scenarios. (Arora et al.)

The transfer of responsibility between physicians caring for hospitalized patients, a "sign out," can lead to uncertainty in patient care decision making, potentially resulting in patient harm.

As part of an NPSG to improve the effectiveness of communication among caregivers, the Joint Commission includes a requirement for facilities to implement a standardized approach to handoff communications. According to the Joint Commission, standardizing handoff communications means that information about patient care is communicated in a consistent manner; this standard approach should identify the following (Joint Commission "Hand-Off"):

- Who is, or should be, involved in the communication
- What information should be communicated, for example,
  - the current condition of the patient and recent changes in condition or treatment,
  - any anticipated changes in condition or treatment, and
  - what to watch for in the next interval of care
- Opportunities to ask and respond to questions, ideally in person
- When to use certain techniques (e.g., repeat-back, SBAR*)

* SBAR (*S*ituation, *B*ackground, *A*ssessment, *R*ecommendation) is a situational briefing and common communication technique that can be used among all professionals on the healthcare team, especially during patient handoffs. See the discussion Caregiver Education for more information on SBAR.

- What print or electronic information should be available

Interruptions during handoffs should be limited to minimize the possibility that information will not be conveyed or will be forgotten. Handoffs can involve the use of a repeat-back and/or read-back process for verification of the received information. The receiver of the information should have an opportunity to review relevant patient history information.

Sometimes, more than one high-risk set of circumstances occurs and contributes to communication failures that result in adverse outcomes or sentinel events. This was the situation described in a recent case involving both a shift change and handoff from one hospital department to another.

A patient with changes in mental status, severe anemia, and a history of fever and urinary tract infection was seen in the emergency department (ED) and admitted to the hospital following a shift change in the ED (Beach). The communication between the ED physicians going off duty and coming on duty was vague and incomplete, consisting of a report that the patient was "admitted," with care transferred to the internal medicine service. A platelet count had been ordered, but the result was pending at the time of transfer from the ED. The result, which was critically low (4,000/mm^3), was telephoned to the ED secretary four hours later, but it was unclear whether this information was ever relayed to either the ED physician or the internal medicine physician. Eighteen hours later, during morning rounds, the low platelet count was noted by the internist, and the patient was transferred to the ICU with a diagnosis of thrombotic thrombocytopenic purpura. Plasma exchange was undertaken; however, the patient's condition deteriorated, and she died. The lack of adequate communication about the patient's clinical condition during the shift change and subsequent departmental handoff, as well as the breakdown in the reporting of her critical test results, contributed to this sentinel event.

Facilities should standardize shift-to-shift and unit-to-unit reporting. A consistent format helps staff members accurately record and recall information. It is helpful to organize the data with a sign-out checklist, a script, or an "at a glance" status display that everyone is familiar with and understands. See "Strategies for Improving Handoff Communications" for recommendations on improving communication during handoffs.

AORN developed a perioperative toolkit to assist facilities in making handoffs involving the surgical patient safer. The AORN perioperative patient handoff toolkit is available online at http://www.aorn.org/PracticeResources/ToolKits/PatientHandOffToolKit.

Strategies for Improving Handoff Communications

The World Health Organization's Centre for Patient Safety Solutions has published recommendations on improving handoff communication that include the following:

- Consider using common language for communicating critical information. An example of this is the SBAR (*S*ituation, *B*ackground, *A*ssessment, *R*ecommendation) technique.
- Allocate sufficient time for communicating important information and for staff to ask and respond to questions without interruptions whenever possible (repeat-back and read-back steps should be included in the handoff process).
- Provide information regarding the patient's status, medications, treatment plans, and advance directives and any significant status changes.
- Limit the exchange of information to that which is necessary to providing safe care to the patient.
- Implement systems that ensure—at the time of discharge—that the patient and the next healthcare provider are given key information regarding discharge diagnoses, treatment plans, medications, and test results.
- Provide training on effective handoff communication for healthcare professionals.
- Explore technologies and methods that can improve handoff effectiveness, such as electronic medical records, electronic prescribing systems, and automated medication reconciliation, to streamline information access and exchange.
- Establish procedures to ensure that processes that use electronic technology are interactive and effective, and allow time for questions or updates regarding the care of the patient.

Source: Collaborating Centre for Patient Safety Solutions. World Health Organization. Communication during handovers [online]. 2007 May [cited 2009 Apr 21]. Available from Internet: http://www.ccforpatientsafety.org/common/pdfs/fpdf/presskit/PS-Solution3.pdf.

Other NPSGs Depend on Effective Communication

The NPSG to prevent wrong-site, wrong-procedure, and wrong-person surgery is supported by requirements for use of the Universal Protocol, a preoperative verification process, and patient participation during marking of

the surgical site (when feasible). All these requirements involve communication among caregivers and between caregivers and the patient. For more information on the Universal Protocol and wrong-site surgery, see the Risk Analysis "Wrong-Site Surgery," in the *Surgery and Anesthesia* section of the *HRC System*.

Use of the Universal Protocol for Preventing Wrong Site, Wrong Procedure and Wrong Person Surgery necessarily involves active communication between all those involved in the procedure. The protocol includes a consistent preprocedure verification process that involves the use of a checklist and a "time out" that must occur just before the procedure. The time out should involve the entire operative team in validating patient identity, the site of operation, the procedure to be done, patient position, the availability of relevant documentation and information, and necessary equipment. (Joint Commission "2009 FAQs")

Because instances of wrong-site, wrong-procedure, and wrong-person surgery continue to occur in accredited facilities (although the Universal Protocol has been a requirement since 2004), specific requirements for the Universal Protocol continue to evolve. A "stop the line" mentality, which empowers anyone on the operative team to speak up and communicate with the rest of the team when he or she suspects or notices that something is not right, has been identified as one necessary strategy for the reduction of the incidence of these events (Joint Commission "2009 Standards"). Such a mentality stems from a broader culture of safety.

The ability to speak up, voice concerns, and report near misses and errors without fear of reprisal has much to do with how well safety is embedded in the culture.

COMMUNICATION, TEAMWORK, AND CULTURE OF SAFETY

As healthcare organizations strive to create a culture of safety to increase patient safety and reduce risk, one of the key areas they focus on is communication. Frequent and candid communication between caregivers and across organizational levels has been set forth as a key characteristic of a culture of safety (Singer et al.). Communication has also been identified as one of the key components of effective teamwork in healthcare (Weinger and Blike). Organizations assessing safety culture typically use survey instruments designed to elicit feedback on the quality of communications in their facilities. At least six items related to communications at the unit level are included in AHRQ's hospital survey on patient safety culture. The survey questions ask hospital staff about the quality of communication based on the following (AHRQ "Hospital"):

- Feedback on changes made based on event reports
- Ability to speak up about something that may negatively affect patient care
- Ability to question the decisions or actions of someone in authority
- Provision of information about errors that occur in their work unit
- Discussion of the prevention of errors in the future
- Ability to ask questions when something does not feel right

For more detailed information about assessing and implementing a culture of safety, see the Risk Analysis "Culture of Safety," elsewhere in this section of the *HRC System*.

Impact of Work Environment and Behaviors

Several important aspects of communication affect the safety culture. The ability to speak up, voice concerns, and report near misses and errors in a healthcare organization without fear of reprisal has much to do with how well safety is embedded in the culture. In a 2005 survey of nurses, physicians, and other healthcare workers, more than half said that they witnessed rule breaking, mistakes, lack of support, incompetence, poor teamwork, disrespect, and micromanagement in their work, but fewer than 10% raised the issues or fully communicated their concerns (VitalSmarts).

Improving work environments and team functions so that caregivers do not remain silent about such issues goes a long way in fostering safe cultures and enhancing communications among caregivers. For example, the empowerment of nurses to speak up and stop the insertion of a central venous catheter (CVC) when contamination is suspected was one key practice implemented at Johns Hopkins Hospital that, along with other measures, resulted in significant reduction in the number of CVC-related bloodstream infections in a surgical ICU ("Improving Patient Safety").

Behaviors that intimidate or belittle staff members and prohibit open communication are also

counterproductive to a team environment and a culture of safety. Healthcare organizations must strive to prevent or correct intimidating or disrespectful behaviors of physicians or others because these behaviors have a negative effect on the communication and collaboration necessary for safe patient care (ISMP "Intimidation"). For more information, see the Risk Analysis "Disruptive Practitioner Behavior," in the *Medical Staff* section of the *HRC System*.

Other at-risk behaviors identified by ISMP as problematic that are associated with the prescribing, dispensing, and administering of medications include a number of communication-related behaviors. Some of these behaviors, which also apply to other healthcare processes, include the following (ISMP "At-Risk"):

- Rushed communication with the next shift or a covering colleague
- Intimidation or failure to speak up when there is a question or concern about a medication
- Use of error-prone abbreviations, apothecary designations, or dangerous dose designations
- Provision of incomplete orders (e.g., omitting full drug name, route, strength, or frequency)
- Failure to communicate important patient information to the pharmacy (e.g., allergies, height, weight, chronic and acute diagnoses)
- Failure to question incomplete orders
- Use of illegible handwriting
- Writing of multiple prescriptions in one prescription blank

Lines of communication can vary among departments or patient care units depending on their structure and organization. Because of this, it is important to provide specific guidance on the most direct means of communication in making decisions regarding patient care. For instance, conflicts may arise in clinical practice or the responsible provider may be delayed or unable to intervene when a patient's condition urgently requires it. In order to address these situations, which invariably arise in today's complex medical environment, healthcare facilities should have chain-of-command policies in place. Chain-of-command policies give providers and staff clear lines of authority and paths of communication to follow for situations that may place patients at risk. For more information, see the Risk Analysis "Chain of Command," elsewhere in this section of the *HRC System*.

Patient and Family Communication

Effective communication and collaboration with patients and their families can also be considered characteristic of a culture of safety. Certainly, the patient and his or her family have a key role in promoting their own safety. Many of the ways in which patients and/or family members can fulfill this role center on open communication with clinicians. This is part of the rationale for the Joint Commission's Speak Up campaign, which encourages patients to become involved in preventing errors in their care by ensuring the accuracy of their health information and questioning care on their own behalf (Joint Commission "Speak Up").

According to the National Family Caregivers Association, positive outcomes of good communication among providers and family caregivers include better patient care, reduced stress for the caregiver, more efficient use of providers' time and organization resources, lower costs, and higher patient satisfaction. Times when patient and family communications should be formally initiated by providers include the following (Joint Commission "Strategies"):

- When a patient's condition changes
- When treatment decisions need to be made
- When it becomes clear that patient or caregiver expectations are unrealistic
- When it becomes clear that that a patient's diagnosis has become terminal

Difficulty in obtaining medical attention in an emergency or the inability to get the attention of a caregiver when the patient has an urgent concern prompted the development of a special communication system for hospitalized patients and their families. Condition H was developed at the University of Pittsburgh Medical Center Shadyside (Pennsylvania) to serve as a helpline for patients and families. By dialing a special telephone number (7-HELP), a patient or family member can immediately reach an operator and provide patient information. The operator activates Condition H. A healthcare team is alerted and arrives in the patient's room to make an assessment and respond accordingly. Condition H can be triggered by the following (Stein):

- A noticeable medical change in the patient occurs, but the healthcare team is not recognizing the concern.
- There is a breakdown in how care is being given and/or confusion over what needs to be done for the patient.

Communication breakdowns between physicians or other clinicians and the patient not only can lead to errors in care, but also can cause patient mistrust, dissatisfaction, and anger—all having a negative impact on patient/provider relationships and increasing the potential for malpractice claims. Inadequate communication of patient information among providers was the second most frequent allegation asserted between 1997 and 2006 in a study of medical malpractice claims by the Controlled Risk Insurance Company, a professional liability insurance carrier for Harvard-affiliated physicians (LaValley).

Accuracy in providing patients with information about their care is also important to safety. In an event analysis report, ISMP Canada describes how the provision of inaccurate information regarding the type of medication administered to an ED patient—in addition to several other errors in the case—contributed to the patient's death several hours after discharge from the ED. An investigation revealed that miscommunication between the ED staff and the patient's family was a contributing factor in the event; through a series of mix-ups, the family thought the patient had been given meperidine while in the ED when in fact he had been given hydromorphone. When the patient began to experience distress on the way home, the family drove him to the nearest hospital and told the new ED staff that he had been given meperdine, causing the new ED physician to misdiagnose the cause of the cardiac arrest. (ISMP Canada)

Because miscommunication due to language barriers between healthcare providers and patients can have dangerous consequences, organizations such as the U.S. Department of Health and Human Services (HHS) and the Joint Commission require that healthcare facilities implement policies to handle patients with limited English proficiency. The Joint Commission's information management standards require that information about language and communication be included on each patient's medical record. HHS publishes guidance on serving persons with limited English proficiency and indicates that failure to accommodate these patients may violate Title VI of the Civil Rights Act of 1964 (U.S. HHS).

Patient communication also includes the disclosure of adverse events and medical errors when they occur. Since 2001, the Joint Commission has required licensed facilities and licensed independent practitioners to inform patients and families about unanticipated outcomes of care. Other organizations, such as NPSF and ASHRM, have published statements and guidelines that likewise support open communication and disclosure of medical errors. For more information, see the Risk Analysis "Disclosure of Unanticipated Outcomes," in the *Incident Reporting and Management* section of the *HRC System*.

Risk managers recognize the need for education on how to inform patients and families about adverse events and errors. Guidelines and learning modules on communicating with patients and disclosing errors have been developed by healthcare organizations, educational institutions, and consulting firms. For a sample program, see "Communication and Disclosure Training Program," in the *Education and Training Tools* section of the *HRC System*. For additional resources, see "Educational Resources on Communication and Disclosure" for a list of online toolkits, instructional videos, and training resources.

The need to assist physicians and other healthcare staff members in learning how to communicate effectively with patients with limited health literacy has also been recognized. AMA has adopted a policy recognizing that limited health literacy affects medical diagnosis and treatment. AMA's national patient safety program for health literacy supports the Ask Me 3 program, which encourages patients to ask three questions of their providers (Cacoltice-Hildebrand):

1. What is my main problem?
2. What do I need to do about my problem?
3. Why is it important for me to do so?

AMA has developed a number of health literacy toolkits, videos, and other resources to help patients understand and use health information. AMA's health literacy toolkit is available online at http://www.ama-assn.org/ama/no-index/about-ama/9913.shtml. See "Resource List" for information on other health literacy tools and additional disclosure publications and guidelines.

Caregiver Education

While educating physicians, nurses, and other caregivers in effective communication techniques is necessary, it is no small task. Support for improving communications and building teams as strategies for establishing a culture of safety must come from senior organizational leaders and clinicians. Examples of approaches to communications training include the following:

- Incorporating communications training into medical, nursing, and other healthcare education program curricula

Educational Resources on Communication and Disclosure

The following is a partial list of educational resources available to assist healthcare facilities with communication, teamwork, and disclosure training:

- Agency for Healthcare Research and Quality: TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) uses team training methodologies to support effective communication and teamwork in healthcare and is available online at http://teamstepps.ahrq.gov/index.htm.
- American College of Physician Executives: A toolkit of resources on apology for and disclosure of medical errors is available online at http://www.acpe.org/ACPEHome/Toolkit/apology.aspx.
- American College of Surgeons: A free training DVD for surgeons on communicating with patients about surgical errors is available online at https://web2.facs.org/timssnet464/acspub/frontpage.cfm?product_class=keepcur.
- Georgia Hospital Association: The instructional video "Discussing Unanticipated Outcomes and Disclosing Medical Errors" is available online, free of charge, at http://www.gha.org/phaold/video/index.asp.
- Health Resources and Services Administration: Free online health literacy training for healthcare providers is available online at http://www.hrsa.gov/healthliteracy/training.htm.
- Northwestern University Feinberg School of Medicine: The Center for Communication in Healthcare (http://cch.northwestern.edu/HTML) Web site focuses on medical encounters, patient education, teaching programs, and physician/patient perspectives and includes multimedia resources.

- Providing institutional classroom education using case studies and situational role-playing and critiquing
- Implementing simulation training* for high-risk, low-frequency situations
- Deploying self-directed, Web-based, electronic learning modules
- Using storytelling and discussions during unit- or department-based meetings (Joint Commission Resources)

* Simulation training involves practicing what to do in high-alert situations and helps team members develop critical thinking skills—it is being used by healthcare organizations as a strategy to help prevent medical errors.

Several resources and tools have been developed to assist healthcare organizations and providers in becoming better communicators and in establishing teamwork environments. One such tool that caregivers are being educated about is the SBAR technique to standardize communications. SBAR is a situational briefing technique that can be used by all professionals on the healthcare team, especially during patient handoffs.

Training programs on standardized communications should address several communication techniques, such as the following:

- Get the person's or group's attention.
- Make eye contact.
- Introduce yourself.
- Use other people's names.
- Ask knowable information (questions that can be answered).
- Provide information.
- Explicitly ask for input.
- Talk about next steps.
- Encourage ongoing monitoring and cross-checking.

Crew resource management (CRM), a communication and teambuilding technique adapted from the U.S. Department of Defense (DoD), is also being taught to providers and staff members of healthcare organizations in order to break down hierarchies, foster assertive communications, and build teams. Features of CRM include training team members to assert themselves respectfully and listen when spoken to and using "briefings" and a common means of communicating important information, especially when there is a problem or potential problem. Briefings are direct communications between physicians, nurses, or other caregivers on patient status that include sharing of important information at critical times, such as before the start of a procedure, at the change of shift, or during patient care rounds (ECRI Institute "Chain"). AHRQ and DoD make an evidence-based teamwork and communication training system called TeamSTEPPS for healthcare organizations available online at http://teamstepps.ahrq.gov.

EFFECTIVE COMMUNICATIONS, HIGH-RISK SPECIALTIES, AND HIGH RELIABILITY

The concept of the highly reliable healthcare team is gaining acceptance as an important boon to patient safety. High reliability is a positive trait found in

industries or organizations that operate in high-risk environments but, because safety is ingrained in their operations, have remarkably low error rates over long periods of time. One of the key characteristics of a highly reliable team is the ability to communicate effectively.

Healthcare providers and institutions are striving to implement highly reliable teams. This effort includes surgeons, anesthesia providers, and OR staff members of high-risk specialties operating in high-risk environments in which effective communications are crucial to preventing adverse events. Indeed, surgery-related adverse events made up half of all the events reported (60 of 125) between October 6, 2006, and October 6, 2007, in one state's mandatory reporting system, a system based on the National Quality Forum's 28 serious reportable events that should never happen in healthcare. The surgical events included retaining of foreign objects and wrong-patient, wrong-site, or wrong-procedure surgery. Actions being taken by the reporting facilities to prevent future events include implementing a "hard stop" (stopping the line) whenever certain presurgical steps are not taken and creating an environment in which all staff are expected to speak up about risks. (Minnesota)

An article in the *Patient Safety Advisory* summarized an expert panel discussion that was held at the 2005 Clinical Congress of the American College of Surgeons on establishing a highly reliable OR team. Of the 12 suggestions on how to make the OR team safer (and increase reliability), the following 6 suggestions included specific communication actions for surgeons ("Highly Reliable"):

- Introduce yourself and everyone else on the team. It has been shown that people who know each other by

Resource List

Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850
(301) 427-1364
http://www.ahrq.gov

- Hospital Survey on Patient Safety Culture. Available from Internet: http://www.ahrq.gov/qual/patientsafetyculture/hospsurvindex.htm.
- National Resource Center for Health IT. Availaable from Internet: http://healthit.ahrq.gov/portal/server.pt?open=512&objID=650&PageID=0&parentname=ObjMgr&parentid=106&mode=2&dummy=.
- TeamSTEPPS communication and teamwork training for healthcare. Available from Internet: http://teamstepps.ahrq.gov.
- WebM&M: Morbidity and Mortality Rounds on the Web. Available from Internet: http://webmm.ahrq.gov.

American Academy on Communication in Healthcare
16020 Swingley Ridge Road
Suite 300
Chesterfield, MO 63017
(636) 449-5080
http://www.aachonline.org

American Medical Association
515 N State Street
Chicago, IL 60654
(800) 621-8335
http://www.ama-assn.org

- Health literacy resources. Available from Internet: http://www.ama-assn.org/ama/no-index/about-ama/9913.shtml.

American Society for Healthcare Risk Management
One North Franklin Street
Chicago, IL 60606
(312) 422-3980
http://www.ashrm.org

- Three-part monograph: disclosure. Available from Internet: http://www.ashrm.org/ashrm/education/development/monographs/index.shtml.

Association of periOperative Registered Nurses
2170 South Parker Road
Suite 300
Denver, CO 80231
(800) 755-2676
http://www.aorn.org

- Perioperative patient handoff toolkit. Available from Internet: http://www.aorn.org/PracticeResources/ToolKits/PatientHandOffToolKit.

Health Resources and Services Administration
U.S. Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857
(888) ASK-HRSA (275-4772)
http://www.hrsa.gov

- Health literacy resources. Available from Internet: http://www.hrsa.gov/healthliteracy.

their first names are more likely to speak up if they see a problem.

- Specifically ask people to speak up if they have concerns or questions.
- Help people understand your goals by saying why you want something, as well as what you want.
- Make confirmation feedback a habit for your OR team. (Confirmation feedback validates the accuracy of a communication.)
- Do not be afraid to ask for help.
- Have a short debriefing after the case.

Examples of Communication Tools

One Canadian teaching facility developed and implemented a preoperative team communication checklist to enhance the transfer of case-related information, confirm case details, articulate concerns, and promote decision making among the surgical team. The checklist was well received by the team, achieved the intended goals, and promoted team building and camaraderie among team members (Lingard et al.). See "Preoperative Team Checklist," in the "Sample Policies and Tools" section of the *HRC* Members' Web site, for the specific patient issues and operative issues reviewed by the team.

Johns Hopkins Hospital developed a tool to enhance communication and teamwork in its ICUs. The "daily goals" checklist is used by physicians and nurses in ICUs to improve communication and increase the staff's understanding of the patient care goals for the day. Following implementation of the daily goals form, length of stay decreased from a mean of 2.2 days to a mean of 1.1 days. (Pronovost et al.) The checklist, "ICU Patient

Institute for Healthcare Improvement
20 University Road
7th Floor
Cambridge, MA 02138
(866) 787-0831
http://www.ihi.org

- SBAR technique for communication: a situational briefing model. Available from Internet: http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/ToolsSBARTechniqueforCommunicationASituationalBriefingModel.htm.

Institute for Safe Medication Practices
200 Lakeside Drive
Suite 200
Horsham, PA 19044
(215) 947-7797
http://www.ismp.org

- *ISMP Medication Safety Alert!* [newsletter].
- ISMP's list of error-prone abbreviations, symbols, and dose designations.

The Joint Commission
One Renaissance Boulevard
Oakbrook Terrace, IL 60181
(630) 792-5000
http://www.jointcommission.org

- Implementation tips for eliminating dangerous abbreviations.
- National Patient Safety Goals.
- *Sentinel Event Alerts.*
- Speak Up initiatives.

Massachusetts Coalition for the Prevention of Medical Errors
5 New England Executive Park
Burlington, MA 01803
(781) 272-8000, ext. 124
http://www.macoalition.org

- Reducing errors in healthcare facilities: communicating critical test results. Available from Internet: http://www.macoalition.org/initiatives.shtml#7.

National Patient Safety Foundation
1120 MASS MoCA Way
North Adams, MA 01247
(413) 663-8900
http://www.npsf.org

- Online patient safety resources. Available from Internet: http://www.npsf.org/rc/mp/opsr.

Pennsylvania Patient Safety Authority
539 Forum Building
Harrisburg, PA 17120
(717) 346-0469
http://www.patientsafetyauthority.org

- Patient safety tools: verbal orders. Available from Internet: http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/Pages/home.aspx.
- Pennsylvania Patient Safety Advisory: Advisory library. Available from Internet: http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/Pages/Home.aspx.

Additional listings can be found in ECRI Institute's Healthcare Standards Directory, *a comprehensive source of healthcare standards, guidelines, laws, and regulations. The* Directory *is available from ECRI Institute.*

Safety: Daily Goals," can be accessed in the "Sample Policies and Tools" section of the *HRC* Members' Web site.

USING TECHNOLOGY TO IMPROVE COMMUNICATIONS

CPOE has been touted as one technologic solution to reduce miscommunications involving handwritten medical orders such as medication orders, orders for laboratory tests, and treatment orders. While CPOE systems incorporate characteristics that may make them safer than paper-based systems, they can also introduce errors into the medical ordering process if they are not planned for carefully and implemented with proactive error analysis in mind. Other technologies working in tandem with health information systems also present risks to patient safety due to human/machine interfaces and/or organization system design. In its December 2008 *Sentinel Event Alert*, the Joint Commission suggested actions for healthcare facilities to take to help prevent patient harm related to the implementation and use of health information technology (IT) and converging technologies (Joint Commission "Safely").

AHRQ's health IT portfolio consists of grants and contracts that have planned, implemented, and evaluated the impact of various information technologies (including CPOE) on the quality, safety, and efficiency of healthcare delivery. Reports on the evaluation of users' experiences to date note the wide range of factors affecting the success of CPOE and other technologies. These factors include staffing, resource allocation, workflow, order set design, vendor relations, interoperability, customization and system integration, training, technical support, and alert fatigue (AHRQ "Inpatient").

The electronic health record (EHR) is another technology-based solution for the problems of delayed communication or miscommunication among caregivers. Making patient information available for caregivers on a real-time basis can promote information transfer and ease the problem of forgetting to communicate potentially important historical information or of communicating large volumes of healthcare data. The American Recovery and Reinvestment Act was signed by U.S. President Barack Obama on February 17, 2009, and includes $17 billion for incentive payments to hospitals and physicians who use certified EHRs and $2 billion in grants and loans to further the adoption of health IT (WHA). Time will tell whether increased use of EHRs will improve caregiver communications, as well as document care and treatment, in such a way that prevents the breakdown of communication between episodes of care, locations of treatment, and multiple providers.

Intrafacility communications and communications between providers at the bedside are also being enhanced through the use of cellular telephones, personal digital assistants (PDAs), and text messaging technologies. When in-hospital cell phone use is carefully managed to mitigate electromagnetic interference with medical devices, it may be an efficient form of communication that can help reduce the risk of medical error and injury (ECRI "Study"). Also, the use of PDAs and text messaging devices has shown promise in improving efficiency and quality of communication between physicians and nurses (Patient Safety Group).

The AHRQ National Resource Center for Health Information Technology has released a series of new reports that highlight lessons and best practices in health IT. Each report details common challenges that AHRQ's grantees have faced and lessons they have learned when implementing and using health IT systems, including EHRs and CPOE. The reports are available online at http://healthit.ahrq.gov/portal/server.pt?open=512&objID=650&PageID=0&parentname=ObjMgr&parentid=106&mode=2&dummy=.

▶ ACTION RECOMMENDATIONS

Risk managers should analyze their organizations' event report trends, claims, lawsuits, and complaints to determine whether communication breakdowns were contributing factors to the events, claims, and complaints and assist with the development of strategies to enhance communications, especially in high-risk locations and problem-prone areas. The following recommendations are included to help risk managers address communication needs:

- Assess the quality of communications in the organization. Use the results of safety culture surveys, interviews, and patient satisfaction questionnaires, as well as event and claim trends, to identify facility-specific communication issues as contributing factors.
- Include an assessment of the effect of the work environment and behaviors on culture and communications. Encourage clinical and administrative leaders to address authority gradient issues, champion open communications by all levels of personnel, and support the questioning of practices that may affect patient safety.

- Develop strategies to improve communication and teamwork. Include strategies such as education, proactive process analysis, and implementation of effective communication techniques and tools in risk management and patient safety improvement initiatives.
- Assess lines of communication for clarity, and ensure that effective chain-of-command policies are in place to provide a direct means of intervening in situations that place patients at risk.
- Obtain publications, guidelines, and resources such as those described and listed in this Risk Analysis to assist with the planning and development of training and education programs on effective communications and team building.
- Use the Joint Commission's NPSGs as a framework to prioritize approaches to improving communications. Focus on known high-risk problems such error-prone abbreviations, reporting of critical test results, verbal and/or telephone orders, and handoff communications.
- Designate an interdisciplinary team to establish goals, guide improvement efforts, and monitor the impact and effectiveness of communication improvement initiatives.
- Provide education and training to providers and staff on effective communications and team building using a variety of approaches and media. Incorporate case studies in which communication breakdowns were involved in near misses or patient harm.
- Develop and implement tools, such as checklists and communication techniques, to facilitate interactive communications and to reduce the omission of important patient information in high-risk communications such as during sign-outs and handoffs.
- Evaluate the use of technology to assist with the transmission of patient information across care settings and providers. CPOE systems, EHRs, and electronic communication devices should be evaluated for inherent failures and/or interference with equipment and established work processes before implementation.
- Provide training and resources to assist in improving communications with patients and families, including those with low health literacy. Ensure that organizational policies on communication of unanticipated outcomes and disclosure of medical errors are carried out according to institutional policies, accreditation standards, and statutory requirements.

References

Agency for Healthcare Research and Quality (AHRQ):

Hospital Survey on Patient Safety Culture [online]. 2009 Mar [cited 2009 Apr 22]. Available from Internet: http://www.ahrq.gov/qual/patientsafetyculture/hospsurvindex.htm.

Inpatient computerized provider order entry (CPOE) findings from the AHRQ health IT portfolio [report online]. No. 09-0031-EF. 2009 Jan [cited 2009 May 14]. Available from Internet: http://healthit.ahrq.gov/images/jan09cpoereport/cpoe_issue_paper.htm.

Arora V, Johnson J, Lovinger D, et al. Communication failures in patient sign-out and suggestions for improvement: a critical incident analysis. *Qual Saf Health Care* 2005 Dec; 14(6):401-7.

Astion M. The result stopped here. WebM&M [online] 2004 Jun [cited 2006 Feb 22]. Available from Internet: http://webmm.ahrq.gov/case.aspx?caseID=65.

Baggs JG, Schmitt MH, Mushlin AJ, et al. Association between nurse-physician collaboration and patient outcomes in three intensive care units. *Crit Care Med* 1999 Sep;27(9):1991-8.

Beach C. Lost in transition. WebM&M [online] 2006 Feb [cited 2006 Feb 21]. Available from Internet: http://webmm.ahrq.gov/case.aspx?caseID=116.

Cacoltice-Hildebrande PA. Institute for Healthcare Improvement—delivering safe and optimal care through effective teamwork and communication. J Healthc Qual Web Exclusive [online] 2008 Jul-Aug [cited 2009 May 14]. Available from Internet: http://www.nahq.org/journal/online.

ECRI Institute:

Chain of command [risk analysis]. *Healthc Risk Control* 2004 Sep;Suppl A:Risk and quality management strategies 1.

Study highlights the benefits of in-hospital cell phone use [online]. HRC Alerts 2006 Feb 22 [cited 2009 May 18]. Available from Internet: https://members2.ecri.org/Components/HRCAlerts/Pages/HRCAlerts022206_Phones.aspx.

Hanna D, Griswold P, Leape LL, et al. Communicating critical test results: safe practice recommendations. *Jt Comm J Qual Patient Saf* 2005 Feb;31(2):68-80. Also available: http://www.macoalition.org/Initiatives/docs/CTRgriswold.pdf.

Hicks RW, Cousins DD, Williams RL. Summary of information submitted to MEDMARX in the year 2002: the quest for quality. Rockville (MD): U.S. Pharmacopeia; 2003.

Highly reliable operating team. PA PSRS Patient Saf Advis [online] 2005 Dec [cited 2009 May 14]. Available from Internet: http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2005/dec2(4)/Documents/19.pdf.

Improving patient safety: from rhetoric to reality [symposium]. 2003 May 28; Johns Hopkins University, Baltimore (MD).

Institute for Safe Medication Practices (ISMP):

At-risk behaviors. ISMP Med Saf Alert [online] 2004 Oct 7 [cited 2009 Apr 22]. Available from Internet: http://www.ismp.org/Newsletters/acutecare/articles/AtRisk_behaviors.pdf.

Building a case for medication reconciliation. ISMP Med Saf Alert [online] 2005 Apr 21 [cited 2006 Mar 3]. Available from Internet: http://www.ismp.org/Newsletters/acutecare/articles/20050421.asp?ptr=y.

Intimidation: practitioners speak up about this unresolved problem (part I). ISMP Med Saf Alert Acute Care Ed [online] 2004 Mar 11 [cited 2009 Apr 22]. Available from Internet: http://www.ismp.org/Newsletters/acutecare/articles/20040311_2.asp.

ISMP quarterly action agenda. ISMP Med Saf Alert [online] 2002 Apr-Jun [cited 2009 Apr 17]. Available from Internet: http://www.ismp.org/Newsletters/acutecare/articles/A3Q02Action.asp.

Institute for Safe Medication Practices Canada (ISMP Canada). Event analysis report: hydromorphone/morphine event: Red Deer Regional Hospital, Red Deer, Alberta [online]. 2004 Nov [cited 2006 Feb 20]. Available from Internet: http://www.dthr.ab.ca/resources/documents/RedDeerRCAReport_final12.pdf.

Institute of Medicine (IOM). Committee on the Quality of Health Care in America. *Crossing the quality chasm.* Washington (DC): National Academy Press; 2001.

Joint Commission:

2009 National Patient Safety Goals [online]. [cited 2009 Apr 13]. Available from Internet: http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals.

2009 standards FAQs [online]. 2008 Nov 10 [cited 2009 May 18]. Available from Internet: http://www.jointcommission.org/Standards/FAQs/2009+Standards+FAQs.htm.

Accreditation. Jt Comm Online [online] 2009 Feb [cited 2009 Apr 21]. Available from Internet: http://www.jointcommission.org/NR/rdonlyres/BD8048E0-24DC-4BD4-8913-F4415BBD20F5/0/02_09_jconline.pdf.

Accreditation program: hospital National Patient Safety Goals [online]. 2008 [cited 2009 May 14]. Available from Internet: http://www.jointcommission.org/NR/rdonlyres/31666E86-E7F4-423E-9BE8-F05BD1CB0AA8/0/HAP_NPSG.pdf.

Critical tests, results and values [frequently asked questions online]. 2008 Dec 9 [cited 2009 May 14]. Available from Internet: http://www.jointcommission.org/AccreditationPrograms/Hospitals/Standards/09_FAQs/NPSG/Communication/NPSG.02.03.01/Critical_tests_results_values.htm.

Hand-off communications [frequently asked questions online]. 2008 Dec 9 [cited 2009 May 18]. Available from Internet: http://www.jointcommission.org/AccreditationPrograms/LaboratoryServices/Standards/09_FAQs/NPSG/Communication/NPSG.02.05.01/hand_off_communications.htm.

Look-alike, sound-alike drug names [online]. Sentinel Event Alert 2001 May 1 [cited 2009 Apr 17]. Available from Internet: http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_19.htm.

Medication errors related to potentially dangerous abbreviations [online]. Sentinel Event Alert 2001 Sep 1 [cited 2009 Apr 14]. Available from Internet: http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_23.htm.

National Patient Safety Goal compliance trends. 2008. In: Improving America's hospitals. The Joint Commission's annual report on quality and safety [report online]. 2008 Nov [cited 2009 May 14].Available from Internet: http://www.jointcommissionreport.org.

Read back orders [frequently asked questions online]. 2008 Dec 9 [cited 2009 May 14]. Available from Internet: http://www.jointcommission.org/AccreditationPrograms/Hospitals/Standards/09_FAQs/NPSG/Communication/NPSG.02.01.01/Read+Back+Orders.htm.

Safely implementing health information and converging technologies [online]. Sentinel Event Alert 2008 Dec 11 [cited 2009 May 14]. Available from Internet: http://www.jointcommision.org/SentinelEvents/SentinelEventAlert/sea_42.htm.

Speak Up initiatives [online]. 2009 Apr 1 [cited 2009 Apr 23]. Available from Internet: http://www.jointcommission.org/PatientSafety/SpeakUp.

Strategies for communicating with family caregivers. *Jt Comm Perspect Patient Saf* 2008 Feb;8(2):1-4.

Joint Commission International. Robert Wood Johnson Foundation [online]. [cited 2009 Apr 13]. Available from Internet: http://www.jointcommissioninternational.org/Robert-Wood-Johnson-Foundation.

Joint Commission Resources. Using storytelling to improve communication. *Jt Comm Source* 2005 Dec;3(12):3-4.

Krasker GD. *Failure modes and effects analysis: building safety into everyday practice*. Marblehead (MA): HCPro, Inc.; 2004.

LaValley D. Office-based malpractice cases: an incentive for action. *Forum* 2007 Jun;25(2):1-4.

Lerch M. Breakdown in communication between providers results in life-altering infection in newborn [online]. Strategies Qual Risk Manage 2003 Fall [cited 2009 Apr 13]. Available from Internet: http://www.thedoctors.com/ecm/groups/public/@tdc/@web/@ohic/documents/publication/id_006903.pdf.

Lingard L, Espin S, Rubin B, et al. Getting teams to talk: development and pilot implementation of a checklist to promote interprofessional communication in the OR. *Qual Saf Health Care* 2005 Oct;14(5):340-6.

Minnesota Department of Health. Adverse health events in Minnesota [online]. 2008 Jan [cited 2009 Apr 24]. Available from Internet: http://www.health.state.mn.us/patientsafety/ae/aereport0108.pdf.

National Coordinating Council for Medication Error Reporting and Prevention. Recommendations to reduce medication errors associated with verbal medication orders and prescriptions [online]. 2006 Feb 24 [cited 2009 Apr 17]. Available from Internet: http://www.nccmerp.org/council/council2001-02-20.html.

Patient Safety Group. Improving MD-RN communication through the use of 2-way textpagers by RNs [shared story online]. 2005 May 25 [cited 2009 Apr 24]. Available from Internet: http://www.patientsafetygroup.org.

Pronovost P, Berenholtz S, Dorman T, et al. Improving communication in the ICU using daily goals. *J Crit Care* 2003 Jun;18(2):71-5.

Ranum, Darrell (Vice President, The Doctors Company/OHIC Insurance). E-mail to: ECRI Institute. 2009 Apr 23.

Rothschild JM, Federico FA, Gandhi TK, et al. Analysis of medication-related malpractice claims: causes, preventability, and costs. *Arch Intern Med* 2002 Nov 25;162(21):2414-20.

Safe intrahospital transport of the non-ICU patient. Using standardized handoff communication. Pa Patient Saf Advis [online] 2009 Mar [cited 2009 May 14]. Available from Internet: http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/Mar6(1)/Pages/16.aspx.

Singer SJ, Gaba DM, Geppert JJ, et al. The culture of safety: results of an organization-wide survey in 15 California hospitals. *Qual Saf Health Care* 2003 Apr;12(2):112-8.

Spath P. Don't fail to communicate critical test results. *Hosp Peer Rev* 2008 Apr;33(4):58-60.

Stein JS. Improving patient safety communication. Presented at: Philadelphia Area Society for Healthcare Risk Management; 2006 Mar 16; ECRI Institute, Plymouth Meeting (PA).

U.S. Department of Health and Human Services (U.S. HHS). Fact sheet on guidance to federal financial assistance recipients regarding Title VI prohibition against national origin discrimination affecting limited English proficient (LEP) persons [online]. [cited 2009 Apr 23]. Available from Internet: http://www.hhs.gov/ocr/civilrights/resources/specialtopics/lep/factsheetguidanceforlep.html.

U.S. Food and Drug Administration (U.S. FDA). FDA safety page. Stemming drug errors from abbreviations [online]. Drug Topics 2002 Jul 1 [cited 2009 Apr 14]. Available from Internet: http://www.fda.gov/cder/drug/MedErrors/nameAbbreviations.pdf.

U.S. Pharmacopeia (USP). *MEDMARX® data report: a chartbook of 2000-2004 findings from intensive care units and radiological services*. Rockville (MD): USP; 2006.

VitalSmarts. Silence kills: the seven crucial conversations for healthcare [online]. 2005 [cited 2009 Apr 22]. Available from Internet: http://www.silencekills.com/Download.aspx.

Washington Hospital Association (WHA). American Recovery and Reinvestment Act. WHA toolkit [online]. [cited 2009 May 14]. Available from Internet: http://www.wha.org/toolKit/arra.pdf.

Weinger MB, Blike GT. The five "C's" of effective teamwork in health care [table]. In: Intubation mishap. WebM&M [online] 2003 Sep [cited 2006 Mar 6]. Available from Internet: http://www.webmm.ahrq.gov/case.aspx?caseID=29.

Woods MS. What if we just said, "I'm sorry?" [online]. Patient Saf Qual Healthc 2005 Nov-Dec [cited 2009 Apr 13]. Available from Internet: http://www.psqh.com/novdec05/what-if.html.