

# SAFETY CURRICULUM

One of the greatest challenges of creating a safety culture is to find the most effective means of instilling desired core institutional values into the hearts and minds of each member of an organization, so that these values translate into safe work practices on all levels. Establishing a safety curriculum is an important means of conveying an organization's safety philosophy and strategy to its members and of demonstrating the organization's commitment to creating a safety culture. A safety curriculum can also serve to enhance knowledge of safety-related concepts and issues, and can improve competency around one's ability to apply this knowledge to help accomplish the safety goals of the organization. This chapter discusses some of the elements of patient safety that should be incorporated into an institutional safety curriculum and some of the issues that should be considered in developing an effective curriculum.

## KEY ISSUES

### ◆ Accreditation Standards

The Joint Commission (TJC), under its new Patient Safety standards, requires that hospitals create *"...an environment in which staff and leaders can identify and manage actual and potential risks to patient safety. This environment encourages recognition and acknowledgement of risks to patient safety and medical/health care errors."* (Introduction to TJC Patient Safety Standard) <sup>(1)</sup> To create such an environment, leaders are to *"...provide for staff training in the basic approaches to and methods of performance improvement and improvement of patient safety."* (TJC Standard LD.4.4.4) <sup>(1)</sup> Acquiring patient safety-related knowledge involves *"...an orientation process, ongoing in-service and other education and training programs that emphasize specific job-related aspects of patient safety. As appropriate, this training incorporates methods of team training to foster an interdisciplinary, collaborative approach to the delivery of patient care, and reinforces the need and way(s) to report medical/health care errors."* (TJC Standards HR.4&HR.4.2) <sup>(1)</sup>

### ◆ Levels of Safety Curriculum

#### **Leadership**

While the responsibility for ensuring safety must be shared by all members of an organization, the onus is on leadership to encourage, facilitate, and monitor compliance with safety initiatives. Therefore, the preliminary phase of an organizational change process is to educate the leadership of an organization on safety and continuous quality concepts, on the cultural elements necessary to bring about organizational safety, on best practices for implementing a safety program, and on the importance of having a strong and visible commitment to safety on the part of leadership. One of the primary objectives of a leadership safety curriculum is to clarify the roles and responsibilities of the leaders themselves. Doing so enables leaders to be clear on what they need to do to perform their organizational duties effectively so that they may accomplish the goals and objectives set out in the organization's safety plan. Educational interventions should be geared to enhancing leadership's knowledge and competency around safety issues, in addition to developing those leadership skills that are necessary to promote and exemplify a safety culture.

Leadership's role and responsibility is then to ensure that appropriate safety education and training activities are implemented across the institution, and that these same leadership qualities are cultivated throughout the entire membership of the organization. In order to achieve optimal participation from leadership, it is recommended that the educational modalities be geared to facilitating dialogue and consensus building. One strategy might be the use of leadership retreats or other forums that are conducive to achieving this end.<sup>(2)</sup>

### **All members of the organization**

Members at all levels of an organization, including leadership, house officers and volunteers, must be familiarized with the critical aspects of safety through a formal orientation process, ongoing inservice, and other education and training programs, as appropriate.<sup>(1)</sup> Ideally, safety should be introduced to members upon their entry into the organization, as part of a formal employee development process. This will enhance the odds that the concept of safety is foremost in the cultural mindset of an organization and the primary behavioral driver of its membership. Integrating safety principles and techniques into the initial employee orientation process also serves the purpose of correcting any inaccurate assumptions or expectations that new members may bring with them from prior work experiences.<sup>(3)</sup> A thorough orientation can enhance organizational commitment and improve members' job performance.<sup>(4)</sup> A safety curriculum, however, is not only effective for new members of an organization. Existing members also stand to benefit from this learning experience, perhaps even more so, since they may have already experienced medical errors and adverse events in the course of their work. Consequently, they may be better able to draw parallels between the concepts raised in a safety curriculum and their real life experiences, making the likelihood greater that they might apply what is taught.

Whether for new or existing members, a safety curriculum should ideally encompass the following: the teaching of broad safety and quality principles, proper responses to error, methods of collaboration and communication, leadership qualities that enhance safety, and how each member plays a role in carrying out the organization's safety plan through specific job-related aspects of safety. These criteria should be incorporated into the job descriptions and competency evaluations of each member of the organization, and be clearly articulated as job performance expectations. The performance of all members of the organization in complying with these safety criteria and job expectations should then be evaluated on a regular basis and tied to any merit pay or performance evaluation system that exists. This should hold true even more so for leadership whose responsibility it is to oversee and manage the organization's safety program.<sup>(2)</sup> Safety performance should also be measured against established institutional and departmental safety goals and objectives. Examples of possible performance measures include participation in safety training, completion of new employee safety orientation in a timely manner, attendance at safety meetings, completion of risk assessments, and other department-specific or institutional indicators.<sup>(5)(6)</sup>

### **Professional Schools**

There is growing emphasis on the importance of integrating safety concepts and techniques into the curricula of professional schools of medicine, nursing, pharmacy, public health, etc... This urgency was confirmed in a recent survey of medical school programs that found the majority of them to be lacking in any formal education about medical errors, particularly related to learning about adverse drug events. Surprisingly little attention was given to this critical issue, even though medication errors are known to be among the most common medical errors. If safety is to be elevated to a higher level of importance among healthcare professionals working in the field, then it must be first introduced to them as an essential component of their educational experience as students. Safety education cannot be viewed as extraneous to the curricula of professional schools, but as one of the essential parameters for learning.<sup>(7)</sup>

Among all of the safety principles and practices that are important to learn, experts suggest that professional schools should focus foremost on providing education and training to develop better communication, teamwork, and joint problem-solving between professional groups. While these are necessary skills for all disciplines to learn, they should be strongly emphasized in medical school, since current demographics show that for each physician there are sixteen other healthcare professionals with which he/she must interact in the course of delivering patient care. Solo medical practice is being replaced with more complex systems of care that involve greater interdependencies between various disciplines. Professional schools need to adapt their method of education to incorporate more creative ways of teaching collaboration and joint practice skills. One example is the creation of clinical teaching opportunities where students from different professional schools are jointly taught how to apply these skills within interdisciplinary teams that mirror those they will be working with in real settings. <sup>(8)(9)(10)</sup>

The implications of incorporating safety into a professional school curriculum are twofold - to teach both the formal/educational and informal/cultural elements of the profession. Social science has long been aware that professional education is concerned not only with teaching the technical aspects of a profession but also with the process of molding students to a certain normative perspective about their work that reflects the profession's unique cultural "identity". This process of "socializing" or assimilating students into the norms of their profession begins during the educational phase. It is at this point when the professional mindset and behaviors are formed; as are the patterns of understanding and explaining medical error. This acquired professional identity and belief system, once established, can become a force to be reckoned with for organizations wishing to implement a cultural change process among their members.<sup>(10)</sup> The importance of the role of professional school education and training in shaping proper thinking about medical error is recognized as a vital safety intervention. For clinicians who are closest to the experience of medical error, knowing how to recognize and respond to issues around safety is critical. The goal then of incorporating the teaching of safety principles and practices into professional education is to influence both aspects of the formation process of students, the educational and cultural, with the hope that novice clinicians entering their fields will embrace safety theories and seamlessly move them into practice.

#### ◆ **Raising Awareness - Making the Connection**

One of the objectives of a safety curriculum is to cultivate in members of an organization an understanding and awareness of the risk of error and to give them the means to identify and manage these risks in a proactive manner. The hope is that this will open their eyes to the realities of their work and instill in them a sense of urgency and importance. While traditional teaching methods can be effective, experience reveals that the greatest catalyst for most organizations to raise awareness of the risk and impact of error is a catastrophic event. Referred to as a "transformative moment", it is in the aftermath of such a disaster that an awakening generally occurs and ripples through the ranks of an organization. The most effective way of capturing the heart-rending force of such an event, without having to experience it first hand, is to share these stories and to learn valuable and poignant lessons from these real life tragedies. Powerful storytelling can ignite passions and motivate people far more effectively than many other means of learning. It is in the story where the richest knowledge resides, more so than in the gathering and trending of statistics. As a means of stimulating tension for change, it is recommended that stories be told and used as part of a safety curriculum in order to facilitate open, honest, and meaningful discussion about the impact of error on patients, families, and staff.<sup>(11)(12)</sup> The sharing of such stories need not be contained within one's own institution, but in order to maximize the benefits of the lessons learned, stories should be shared across institutions as a way of raising awareness of common systems hazards inherent in any healthcare organization. Used preferably as a proactive method of preventing medical errors, as opposed to

a reactive response in the wake of a serious incident, the lessons that have been painfully learned from these tragedies can be transmitted through these stories. The hope is that it will have the effect of lessening the potential for similar errors in one's own institution and in other institutions.<sup>(13)</sup> This toolkit contains an example of a house officer curriculum that was developed at the University of Michigan Hospitals and Health Centers as a mini-orientation module in response to a tragic incident that occurred at another facility related to Magnetic Resonance Imaging (MRI) safety.

#### ◆ **Integrating Safety into Work Practices**

*"The patient is served only when theory is translated into practice."*<sup>(14)</sup> Safety is not something that can be mechanically transplanted into an existing culture and automatically translated into practice. When designing organizational curricula, it must be understood that safety is more than a topic to be taught at employee orientation. It is an ongoing process of continuous learning that involves integrating the organization's safety mission and vision into actual day-to-day work practices. Safety curricula are implemented along a continuum that begins with initial orientation and continues with ongoing inservice, competencies, continuing education programs, job-related safety training, and so on.<sup>(3)(15)(16)</sup>

There are multiple levels at which an organization's safety curricula are implemented. On its most basic level, a curriculum must involve learning fundamental concepts and principles related to safety, such as collaboration, systems analysis, and human factors implications. However, experts in the field of medical errors stress that in order to fully comprehend and successfully integrate safety into the workplace, members of an organization must also have a good working knowledge of the concepts and principles of continuous quality improvement and organizational change. It is especially critical for clinicians to embrace these concepts as fundamental to practice, since the both the field of medicine and the system of healthcare delivery are complex and ever changing entities that necessitate ongoing evaluation and integration of innovative practices.<sup>(3)(8)(15)(16)</sup>

On another level, curriculum involves learning the techniques necessary to perform safe work practices. It is at this point where the greatest learning of an organization's true safety mission takes place - through the observation of prevailing work practices and the modeling of the safe (or unsafe) behaviors of others. Thus, the true culture of an organization and the sincerity of its safety mission are transmitted to members by observing the norms that are prevalent in the workplace.<sup>(3)(8)(15)(16)</sup> The influence of peers and leaders is pivotal at this point in that it can sway one's decision to apply new knowledge or to disregard it. *"The role of others in decision making about behavior... factors such as custom, habit, assumptions, and beliefs of peers and prevailing practices and social norms shape the interpretation of information provided through education."*<sup>(17)</sup> Interventions that involve the positive influence of leaders from within the organization who are well respected by their peers can stimulate the adoption of safe work practices. Organizations should also periodically assess the educational process itself and the manner in which the teaching of these practices occurs, in order to ensure that what is intended to be taught is in fact being taught and that the learning of new work practices is being properly supervised.<sup>(18)</sup>

On its most practical level, providing the best patient care possible takes more than just having the desire to be better at performing one's job. It involves improving performance by acquiring the best knowledge, and it also necessitates having well designed tools and systems to help apply this knowledge in practice. The healthcare environment must be adapted to support the work of an organization and to facilitate the practical application of that knowledge.<sup>(19)</sup> Therefore, in addition to motivating one to change practice and imparting vital academic information, a safety curriculum should include teaching how to use tools and integrate systems to enhance the likelihood that theory will translate into practice. Examples of tools are standardized admission

and discharge forms, plastic pocket card summaries of clinical guidelines, medical chart ticklers, and other decision support reminders that prompt the clinician to perform a specific clinical action that will enhance the likelihood of positive patient care outcomes.<sup>(20)(21)(22)</sup>

#### ◆ **Individualized Approach to Safety Curriculum Design**

Within a healthcare organization, there are a variety of clinical and non-clinical personnel involved in the delivery of healthcare, and each member performs his/her own unique role. As a means of creating and sustaining a culture of safety, all members are oriented to general safety concepts and principles. However, in order to successfully apply them to the day-to-day work activities of each individual member, these concepts and principles must be understood within the context of each member's role in the organization. Therefore, it is vitally important for all members of an organization to be clear on the specific job-related aspects of safety that directly affect their sphere of work and on their individual responsibilities in implementing the organization's safety plan. This connection is often made at the departmental level. While an institutional educational program can convey fundamental safety information, the knowledge that is applied to specific work groups should be matched to the level and nature of their work and integrated into their familiar modalities for learning. For example, the learning needs of clinical and non-clinical members will vary, as will those of leadership and front-line staff, depending on what each one's roles and responsibilities are related to direct patient care, providing support services, or the implementation and monitoring of safety initiatives.<sup>(23)</sup> Ultimately, each member of the organization must be able to see clearly how he/she fits into the organization's safety mission and what the expectations are for his/her level of participation in the safety plan. This will be an important connection to make, particularly for non-clinical personnel who may not readily understand what role they can possibly play in safety.

When designing a safety curriculum, the materials and educational approach should be tailored to meet the needs of the target audience. For example, educational interventions for medical residents at different levels of professional development can be custom designed for each year of their residence and expanded incrementally as they progress through their training, building on prior case studies. The focus of learning can be around issues of the incidence of certain errors in relation to varying levels of medical training, the latest research on proactive strategies for error prevention, what to do when an error occurs and how to appropriately respond to mitigate harm, or how to recognize latent conditions that can contribute to medical error. Safety curricula for medical staff can be integrated into a Grand Rounds format, utilizing patient case studies and case-based problem-solving as a means of teaching practical applications of safety concepts and principles for a particular clinical group. Discussion can take place around issues of the increasing complexity of prescribing medications and reinforcement of the basic principles of prescribing practices to prevent medication errors, the importance of disclosing error to patients, or how to detect early clinical signs and intervene in a more expedient manner if a patient is doing poorly in order to head off a clinical crisis. The objective is to individualize the approach to safety education so that learning will be optimized and more readily assimilated into the day-to-day work practices of each member of the organization within his/her own niche in the organization.<sup>(8) (24)(25)(26)</sup>

#### ◆ **Teamwork Training as an Error Reduction Strategy**

A teamwork approach to patient care delivery is widely recognized as a valuable safety and risk management tool in that it can facilitate identification, mitigation, and management of error. In the new patient safety standards, the Joint Commission endorses teamwork training as a method of improving interdisciplinary collaboration and the reporting of medical errors, in certain clinical environments.<sup>(1)</sup> Results of an extensive closed case study suggest that improved teamwork could have mitigated or prevented errors in 43% of the malpractice cases that resulted in payouts.

Especially useful for intense clinical situations that require complex decision making, diversity of tasks, and high-level judgement, and where practitioner investment in and accountability for outcomes is high; teamwork training enhances core competencies in delivering safe patient care.<sup>(27)</sup> Complex medical situations such as those found in emergency medicine, surgery, and intensive care settings can be prone to an increased likelihood of error, due in part to breakdowns in team interaction. Inadequate training in teamwork and crisis management can exacerbate problems around issues of communication, situational control, cooperation, and monitoring of technology and patient's progress. When suboptimal human response to critical incidents combines with the complexities of the systems within which people work, the results can be fatal. It is important to keep in mind that the teamwork model is appropriate not only for complex care scenarios but is also a highly effective approach for facilitating patient-centered continuity of care in all settings, since the focus of the team is on collaborating for the common goal of healing the patient.<sup>(28)(29)</sup>

The defining characteristics of high-functioning teams are their effective use of communication, coordination, and monitoring skills; their method of systematic, real-time decision making under pressure; and their sense of mutual accountability for outcomes. Outcomes include both patient care outcomes and performance outcomes of the team itself. High-functioning teams establish standards that measure the expected performance of the team as opposed to the performance of individual team members. Hence, if there are any poor outcomes, they are analyzed as a breakdown of the team, not as individual failure.<sup>(27)(30)(31)</sup> However, teamwork training goes beyond merely fostering desired, collective team behaviors. While there is a strong "team" identity, there is also an acute awareness that the team can't "make it work" without the contribution of each team member.<sup>(32)</sup> Therefore, another objective of teamwork training is to cultivate within each individual team member the personal characteristics needed for successful teamwork. These are: an appreciation for the value of the roles and professional competencies of each member, an understanding of how each member contributes to the success of the team and how the team contributes to the organization's mission, and a belief in the team's ability to be successful.<sup>(28)(30)</sup>

Team members do not act as independent decision makers, rather, collaboration is the key driver of team behavior. Thus, to achieve collaborative teamwork, it will require minimizing professional and chain of command barriers, role rigidity, and other out-dated norms. This is especially important in the effort to dismantle barriers to effective collaboration between nursing and medical staff.<sup>(30)</sup> Historically, nursing and medical education programs have not included curricula designed specifically to teach techniques and reinforce behaviors that would enhance interpersonal communication skills and collaborative teamwork across disciplines. Medical education focused heavily on therapeutic techniques, while nursing education embraced a more holistic and psychosocial approach to patient care. One goal of teamwork training is to bring both worlds into a common paradigm by teaching the skills necessary for collaborative practice. Research shows that collaboration does not necessarily occur spontaneously when people work together, but is a conscious behavior that can be learned within an environment of mutual trust, concern, support, and respect.<sup>(28)</sup> Fostering this kind of environment is an obligation of organizations attempting to achieve safety in the delivery of healthcare.

Another important feature of teamwork training is the development of skills for joint problem solving in clinical practice. Given the complexity of current healthcare systems and the number of people involved in the delivery of healthcare; when something goes wrong during a clinical encounter, it will require the investigative efforts of interdisciplinary teams within the healthcare organization to determine the causal factors. Members from across the organization may be called upon to collaborate in action planning to prevent or mitigate the recurrence of error, and will need to have competency in performing the kind of joint problem solving that is required.<sup>(8)</sup>

## CHALLENGES

### ◆ Encouraging Evidence-Based Practice

In the interest of patient safety, organizations must commit to putting into practice the best clinical care practices based on sound scientific knowledge, the goal being to eliminate practices that are of questionable or no benefit. The current healthcare system is deficient and unreliable in its adoption of best practices, which impacts patient safety. Safety is compromised through acts of omission and commission that result in adverse outcomes. For instance, “underuse” occurs when there is a failure to apply medical interventions that are of proven benefit. Using therapies in the absence of evidence is a problem of “overuse”. When clinical care plans and therapies are improperly executed, “misuse” occurs.<sup>(8)(33)</sup> Evidence-based practice can address some of these safety issues by putting into place “...systems of communication and work practices that ensure that patients get the right drug at the right time, the right test at the right time, and that the right kind of conversations are encouraged to support feedback and discovery.”<sup>(32)</sup> Evidence-based tools and procedures can be built into the care process as reminders to ensure that certain tasks will be performed at the most critical points in the patient care process to maximize positive outcomes.<sup>(19)</sup>

Educational curriculum is one venue for facilitating the transition from evidence-based theory to practice by raising awareness of recent innovations.<sup>(22)(23)</sup> However, research has shown that certain educational interventions are more effective than others in influencing clinical practice. Relying on motivating clinical change through the passive dissemination of information, such as publishing research findings in peer review journals and targeted mailing of guidelines, brings only minimal success.<sup>(34)</sup> Likewise, traditional continuing education programs that involve providing educational materials and didactic modalities of learning such as lectures, courses, and conferences are found to increase clinician knowledge, but have little effect on actually changing clinical practice as a result of the new knowledge.<sup>(8)(35)</sup> Most clinicians report their own clinical experience as the strongest determinant of the likelihood of changing their practice patterns. A finding that is supported in studies of medical staff - there is a tendency to place greater value on the experience that one acquires through actual practice than on academic knowledge. Other data also support that clinician preferences rather than scientific evidence dictate clinical decisions. Preferences can be individual or shared among a certain group of clinicians. The problem is that clinical experiences and personal preferences can vary from one clinician to another and wide variations in practice patterns are known to contribute to medical error.<sup>(10)(36)</sup>

Interventions that involve interactive forms of education, requiring the active participation of clinicians, have been shown to be far more successful in stimulating more rapid assimilation of research findings.<sup>(21)(23)</sup> “The positive impact of education is proportional to the degree of active rather than passive participation of the learner.”<sup>(17)</sup> Education that encourages problem-based learning and group discussion are examples of interactive approaches that help to develop clinical skills. Learning is also enhanced when interventions are custom designed to meet the learning needs of each target group and when the approach employs practical applications within the context of real clinical experiences.<sup>(21)(35)</sup> “Knowledge is important, but knowledge without application does not improve care.”<sup>(8)</sup>

### ◆ Involving patients and understanding their special needs

“The quality of clinical communication has an effect on outcomes.”<sup>(37)</sup> Generally, the more involved patients are in the clinical care process, the less is the likelihood of medical error. A

participative approach is best; however, the degree to which patients can be involved is diminished by certain special needs that they may have including difficulties understanding medical information, adherence to cultural beliefs and practices, having a hearing or visual impairment, or being able to speak but not read a language. The effectiveness of patient/clinician interactions can be severely compromised if clinicians fail to understand and accommodate the special needs of certain patients. Ineffective communication can result in misdiagnosis, inappropriate treatment planning, patient non-compliance, and a number of other situations that can directly contribute to adverse patient care outcomes.<sup>(37)</sup> A curriculum can be designed to address these issues and to provide the educational tools and strategies to overcome a range of communication barriers, including interventions to improve clinicians' level of awareness, skill, and competency.

### **Health literacy**

Health literacy is defined as *"the ability to read, understand, and act on health care information"*.<sup>(38)</sup> Clinicians, who are immersed on a daily basis in a world of scientific facts, are often not sufficiently cognizant of the difficulties that patients may have with comprehending medical information. Patients may likewise be unaware of their own inability to adequately grasp scientific information or its implications. Healthcare professionals are becoming increasingly aware that there is a correlation between health literacy and patient safety. Low health literacy can be detrimental to the health and safety of patients. Those patients who struggle with health-related information are more likely to be hospitalized. They may find it challenging to follow treatment instructions, including how and when to take medications. Studies show that health literacy also diminishes with age, and with the increasing population of elderly, this finding has tremendous implications. Some suggested strategies for overcoming literacy barriers are:

- ◆ Using language and lay terms that are easy for patients to understand
- ◆ Involving interpreter services as necessary
- ◆ Asking patients how they learn best
- ◆ Creating an atmosphere where patients are comfortable asking questions (being in the presence of highly educated professionals may intimidate patients and families who are not scientifically literate)
- ◆ Assisting patients with completing paperwork
- ◆ Speaking at a slower pace
- ◆ Reading written instructions
- ◆ Providing materials to the patient in various modalities (for example, in video, audiotape, or in foreign languages)
- ◆ Using "teach back" techniques, which involve asking the patient to repeat back information
- ◆ Conveying information also to a family member or friend<sup>(38)</sup>

Research also suggests that with diseases like HIV or diabetes that necessitate following high maintenance and complex treatment regimens, patients with higher levels of education are more likely to be compliant and have positive treatment outcomes. On the other hand, those patients with lower formal education are more likely to struggle with compliance and are generally in poorer health. For patients with less education, more intense clinical interventions may be necessary as a way of monitoring and encouraging better treatment compliance. Examples of interventions include telephone reminders and home visits.<sup>(39)</sup>

### **Cultural diversity**

Individuals from diverse ethnic backgrounds who find themselves in the role of patient within the healthcare system may encounter some challenges. Cross-cultural misunderstandings can emerge between patient and clinician that stem from a variety of sources, including language barriers, differences in health practices, beliefs, and traditions, mistrust of healthcare institutions, norms around nonverbal communication, the role of family in decision making, and varying views on holistic medicine.<sup>(40) (41)</sup>

Cross-cultural misunderstandings may have a direct influence on the effectiveness of the clinical encounter and on patient care outcomes. Studies show that one of the sources of medical errors is misdiagnosis, which can stem from incomplete intake and assessment of patients. Making an accurate diagnosis is dependent on capturing a complete patient history and on conducting a thorough assessment of clinical signs and symptoms. Cultural barriers can result in a failure to accurately grasp patients' concerns or to fully comprehend their description of the symptoms. There may be a tendency to narrow the focus too quickly on a certain set of signs and symptoms and to be less receptive to other clinical clues. There is also an increased probability of medical errors and patient non-compliance if clinicians make treatment decisions that do not meet the needs of the patient. If patients' cultural beliefs, practices, and preferences are not taken into consideration, treatment plans may be developed that are not appropriate or viable for a particular patient. Clinicians must also be aware of the possibility of miscommunication when calling upon patients' family members or friends to act as interpreters. These individuals may lack the education or vocabulary necessary to translate medical concepts, information may be slanted towards one's perception of the situation, there may be family role reversal conflicts, or information may be withheld because of cultural taboos or norms related to giving bad news. (37)(41) (42)

Clinicians must be cognizant of the impact that ethnic culture has on one's perceptions. They must become culturally competent in order to interact appropriately and effectively with patients and families of diverse cultural backgrounds. A curriculum should be designed to increase awareness of cultural diversity and the impact of ineffective communication on clinical outcomes. Part of a curriculum should include differentiating between making cultural generalizations and stereotyping. Generalizations provide certain basic assumptions about a group of individuals based on common characteristics, while stereotyping uniformly applies these assumptions to all members of a group without considering individuality. (37) (41)

#### ◆ **Individual versus Systems Error During Medical Residency Training**

The shift within health care to a more systems-oriented approach to understanding medical errors is one that is moving the industry indisputably in the right direction. However, a cautionary warning has been sounded to avoid swinging the pendulum too far to the other side. It is not advisable to reside at either extreme – that of solely a person-centered or systems-centered orientation. Finding the right balance will be especially critical when considering the best approach to creating a safety curriculum for medical residency programs. It is important to take into consideration the experiences of residents and their perspectives on medical error at this point in their professional development, since it is during residency where physicians in training will encounter the most critical learning curve and the potential for error is high. (16)(43) The manner in which residents respond to and manage medical error will be critical in determining their future patterns of behavior and perspectives on error causation. This will have a significant bearing on the real lessons that will be learned from medical errors. (44)

In a study by Mizrahi, it was discovered that house officers tend to display three distinct ways of responding to error. The first is “denial”, which allows the practitioner to redefine the error as a non-error by rationalizing that medical practice does not have absolute parameters but is more of an art that must be carried out within a large gray area of medical uncertainty. Denial acts as a coping mechanism that helps one to repress the memory of errors. “Discounting” displaces blame to others, including superiors and subordinates, the “system”, the patients themselves or even the disease, as a way of rationalizing that the circumstances around the error were beyond one's control. Research also reveals that if the patient involved in an incident was associated with a negatively stereotyped social group, such as substance abusers, the house officers were more likely to place the blame for the error on them. The third typical response to medical errors is that

of “distancing” oneself from the situation and the patient. This method of coping is linked with the use of justifications such as “everyone makes mistakes” or “I did all I could do” as a way of allowing oneself to admit some level of guilt. This response is most commonly used if the house officer is unable to justify using the first two coping mechanisms. Another finding of the study points to the shared belief among house officers that they are accountable for error only to themselves and to their peers within the medical profession. There is also suggestion that house officers are less likely to examine their behaviors and make constructive changes in their practice patterns if they attribute their errors primarily to systems causes. Whereas, those who accept some level of responsibility for their errors and openly discuss them are more apt to take a critical look at their behavior and make constructive changes to their clinical practice patterns.<sup>(16)(43)(44)(45)</sup>

The challenge for academic medical centers, and for others who train residents, is to find the optimal balance between teaching residents to look for systems causes of errors while at the same time creating the expectation that they continuously scrutinize any personal responsibility for errors that may stem from incomplete knowledge, flawed reasoning, inadequate attention to detail, or poor execution of practical skills. To this end, residency programs must make every effort to establish an environment where disclosure of error does not lead to being shamed, or being made to feel fearful and inadequate, but instead engenders good professional habits, a system of healthy self-appraisal, and insight into when to seek advice. Constructive changes in residents’ behavior will more likely occur if they observe appropriate responses to error through role modeling of superiors. Adopting a combined approach when looking at errors creates less likelihood of past errors being repeated, particularly at this crucial formative time when practice patterns are being established. Morbidity and mortality conferences, which provide an acceptable forum for safe and open discussion of error, may present the best opportunity for achieving this balance.<sup>(16)(43)</sup>

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## References

- (1) Joint Commission on Accreditation of Healthcare Organizations. *Revisions to Joint Commission Standards in Support of Patient Safety and Medical / Health Care Error Reduction*. Oakbrook Terrace, IL: JCAHO; 2002.
- (2) Davies H et al. Organizational culture and quality of health care. *Quality in Health Care*. 2000; 9:111-119.

- (3) Cooper MD. Towards a model of safety culture. *Safety Science*. 2000;36:111-136.
- (4) Opus Communications. Patient Safety in 2001: The JCAHO Standard. *Briefings on Patient Safety supplement*. Opus Communications, Inc; 2001.
- (5) *How to get your employees to carry the safety ball: IOMA's Safety Director's Report*. IOMA; 2000:1.
- (6) Larson L. Ending the Culture of Blame. *Trustee*. 2000:6-10.
- (7) Rosebraugh et al. Letters: Survey of Medication Errors Education During Internal Medicine Clerkships. *JAMA*. 2001;286:1019.
- (8) Lester H, Tritter J. Medical error: a discussion of the medical construction of error and suggestions for reforms of medical education to decrease error.
- (9) Shine K. Health Care Quality and How to Achieve It: AAMS Paper. *Academic Medicine*. 2002;77: 91-99.
- (10) West E. Organisational sources of safety and danger: sociological contributions to the study of adverse events. *Quality in Health Care*. 2000;9:120-126.
- (11) Gordon B. Medical errors: Creating the tension for change. *American Journal of Health System Pharmacists*. 2001;58:908-912.
- (12) Berwick D. Lessons from a Novice. In: Proceedings of the 2001 Annenberg III Conference: "Let's Talk: Communicating Risk and Safety in Health Care."
- (13) Kizer K. Ten steps you can take to immediately improve patient safety in your facility. *Briefings on Patient Safety*. 2000;9.
- (14) Winship D. "Leading Transformation: Structural and Cultural Imperatives and Change Drivers." University HealthSystem Consortium: 2002.
- (15) Gherardi S, Nicolini D. The Organizational Learning of Safety in Communities of Practice. *Journal of Management Inquiry*. 2000;9:7-18.
- (16) Tasker R. Training and dealing with errors or mistakes in medical practical procedures. *Arch Dis Child*. 2000;83:95-98.
- (17) Moulding N et al. *A framework for effective management of change in clinical practice: dissemination and implementation of clinical practice guidelines*. Adelaide, Australia: Department of Evidence-Based Care and General Practice. Flinders University of South Australia; 1999:177-183.
- (18) Berwick D. A User's Manual For The IOM's 'Quality Chasm' Report. *Health Affairs*. May/June 2002.
- (19) Rich M. From Clinical Trials to Clinical Practice. *JAMA*. 2002;287:1321-1323.
- (20) Gross P. Implementing Evidence-Based Recommendations for Health Care: A Roundtable Comparing European and American Experiences. *Journal on Quality Improvement*. 2000;26:547-553.
- (21) Grimshaw J et al. Changing Provider Behavior: An Overview of Systematic Reviews of Interventions. *Medical Care - Supplement 2*. 2001;39:II 2 – II 45.

- (22) Battles, Shea. A system of analyzing medical errors to improve GME curricula and programs. *Academic Medicine*. 2001;76:125-133.
- (23) Grol R, Grimshaw J. Evidence-Based Implementation of Evidence-Based Medicine. *Journal on Quality Improvement*. 1999;25:503-513.
- (24) Rosenthal MM. *Medical Mishaps: What Do We Know?- First Year Medical Students Mini Course*. Ann Arbor, Michigan: University of Michigan Health System; 2002.
- (25) Rosenthal MM. *Developing Patient Safety Courses for Medical Students*. Ann Arbor, Michigan: University of Michigan Health System; 2002.
- (26) Sedman A. *To Error is Human - Now What?- Seminars in Medicine*. Ann Arbor, Michigan: University of Michigan Health System; 2002.
- (27) Barrett J et al. Enhancing Patient Safety Through Teamwork Training. *Journal of Healthcare Risk Management*. 2001:57-64.
- (28) Kosnik L. The New Paradigm of Crew Resource Management: Just What Is Needed To Reengage the Stalled Collaborative Movement? *Journal on Quality Improvement*. 2002;28:235-241.
- (29) Krieger L. A dummy helps pave the way to better medicine. In: *Reducing Medical Errors and Improving Patient Safety: Success Stories from the Front Lines of Medicine. Accelerating Change Today For America's Health*. The Institute Coalition on Health Care - The Institute for Healthcare Improvement; 2000.
- (30) Lynne M, Jeffries N. The team survey: a tool for health care team development *Journal of Advanced Nursing*. 2001;35:276-287.
- (31) Sexton J et al. Error, stress, and teamwork in medicine and aviation: cross sectional surveys. *BMJ*. 2000;320:745-749.
- (32) President's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. *Chapter 12: Adapting Organizations for Change*. In: *Building the Capacity to Improve Quality*. July 19, 1998. Accessed at [www.hcqualitycommission.gov/final/chap12.html](http://www.hcqualitycommission.gov/final/chap12.html)
- (33) Carroll J, Edmondson A. Leading organizational learning in health care. *Quality and Safety in Health Care*. 2002;11:51-56.
- (34) Solberg L. Guideline Implementation: What the Literature Doesn't Tell Us. *Journal on Quality Improvement*. 2000;26:525-537.
- (35) Grol R. Improving the Quality of Medical Care: Building Bridges Among Professional Pride, Payer Profit, and Patient Satisfaction. *JAMA*. 2001;286:2578.
- (36) Cochrane G. Patient Care: what drives us to change? *Quality in Health Care*. 1999;8:2092
- (37) Vincent C, Coulter A. Patient Safety: What about the patient? *Quality and Safety in Health Care*. 2002;11:76-80.
- (38) Opus Communications. *JCAHO Changes for 2002: How to comply?* Marblehead, MA: Opus Communications, Inc; 2001.
- (39) The Advisory Board Company. *Education levels play major role in general health*. New Hampshire, Washington: Health Care Advisory Board; 2002. Accessed at [www.advisory.com](http://www.advisory.com).

- (40) National Program Office. *Social Cultural Barriers to U.S. Healthcare: Opening Doors*. National Program Office; 2001. Accessed at [www.opening-doors.org/barriers.html](http://www.opening-doors.org/barriers.html).
- (41) Lipson J, Dibble S, Minarik P. (eds.) *Culture & Nursing Care: A Pocket Guide*. San Francisco, California: UCSF Nursing Press. School of Nursing. University of California.
- (42) Leape L. Error in Medicine. *JAMA*. 1994;272:1851-1857.
- (43) Casarett D and Helms C. Systems errors versus physicians' errors: finding the balance in medical education. *Academic Medicine*. 1999;74:19-22.
- (44) Wu A et al. Do House Officers Learn From Their Mistakes? *JAMA*. 1991;265:2089-2094.
- (45) Mizrahi T. Managing medical mistakes: ideology, insularity and accountability among internists-in-training. *Soc Sci Med*. 1984;19:135-146.

### **PRIMERS – Recommended Reading**

- ❑ Barrett J et al. Enhancing Patient Safety Through Teamwork Training. *Journal of Healthcare Risk Management*. 2001:57-64.
- ❑ Casarett D and Helms C. Systems errors versus physicians' errors: finding the balance in medical education. *Academic Medicine*. 1999;74:19-22.