Human error occurs in the health care environment, and at times, causes patient harm. Typically, the error is attributed to an action that if not preformed or performed differently, would have resulted in a more favorable outcome. The visible association between individual action and patient harm frequently results in an assessment of individual culpability (Bogner, 2004; Bryant, 2007). Depending on the severity of the patient harm, the health care professional might be told to “be more careful,” be disciplined, or be dismissed. When the primary administrative action taken following an adverse event focuses on the individual rather than understanding why the event occurred, opportunities may be missed to prevent similar patient harms from happening in the future.

Learning from Mistakes

The Joint Commission, formerly known as the Joint Commission on Accreditation of Healthcare Organization (JCAHO), mandates patient safety and has instituted reporting and analysis of “sentinel events” (2008). The goal of analysis is to modify and improve policy and practice within health care settings. To make an impact on patient safety, however, it is imperative for the health care industry to seek methods to detect and learn from mistakes. Increasing awareness of the causes of organizational errors/accidents in health care results in a greater understanding of the predictable limits of human ability and the factors that shape behavior. Humans err more often when fatigued or in high work load conditions (Weissman et al., 2007). Errors increase when nurses are distracted during medication administration (Pape, 2003), while policies and procedures created to safeguard the patient can inadvertently contribute to adverse events (Cook, Render, & Woods, 2000). Organizational decision makers and care providers need to understand that the risk introduced by systems factors is much greater than any risk presented by a single individual. It is often specifically systems factors that influence individual behavior or contribute to patient harm (Reason, 1997).

Systems Factors

A system can be described as an aggregation of elements (human and/or machine) organized to accomplish system goals and objectives. All elements within a system interact and function to achieve system goals. System factors refer to the way the elements independently and collectively function and interact with each other and in response to the environment (physical and social) within which they exist (Salvendy, 2006). Systems typically seen in the health care environment are interdependent, with multiple direct and indirect relationships involving humans, equipment, information technology, frequent human input, control and monitoring activity as well as the intricacies of social relationships (Cook, Woods, & Miller, 1998; Kohn, Corrigan, & Donaldson, 2000). Because of the complexity of the health care environment, system designers, administrators, and clinicians working in the system cannot always anticipate the influence of systems factors, which have been described as latent conditions not
seen as obvious setups for trouble (Reason, 1996). An example of a latent error might be an institutional/clinic that uses multiple different types of infusion pumps, making programming errors more likely. Unless health care providers recognize that each individual is not only working within a complex system, but is part of it, retrospective analysis of adverse events will stop at the often misplaced identification of individual culpability.

**A Culture of Safety**

Traditionally, the health care culture has held individuals responsible for errors or mishaps that occur with patients under their care. However, there is often a failure to consider the impact of system failings on individual accountability (Marx, 2001). Today’s society predominantly recognizes free will as the operator in individual action. Children are taught by their parents and teachers to take individual responsibility for their actions. As adults, individual accountability is reinforced again through the legal system. Individual accountability based on the notion of free will is learned early and reinforced in our culture throughout our lives. Not only are we socially conditioned to the idea that an individual should be held accountable for his or her actions, but we are also cognitively predisposed to view the world in this way. Our understanding of events is fraught with cognitive biases that under most circumstances make us more efficient in situation assessment and decision making. Unfortunately, retrospective analysis of adverse events can be clouded by these same biases. One frequently cited bias is the fundamental attribution error that results in attributing error to individuals when the actions of others are considered, and conversely, attributing error to environmental influences when considering one’s own actions (Parker & Lawton, 2003).

In the health care environment, most organizations now incorporate the concepts of patient safety and a culture of safety into the organizational goals. The notion is that patient safety can only exist in a culture of safety. Culture is loosely understood as “the way we do things around here;” to have a culture of safety implies that safety is perceived as an individual value shared by all. This loose grasp on the concept of a culture of safety suggests again that individuals are responsible for creating and maintaining safety and do so because they perceive its intrinsic value. A true culture of safety can only be achieved through the larger organizational (leadership) commitment to communicate and demonstrate the desire to have a safety culture by simultaneously nurturing and perpetuating cultures that value learning, reporting, and fairness.

Specifically, a **learning culture** exists when active improvement efforts are directed at system redesign. A **reporting culture** fuels this learning because staff feel safe from retribution and report information about safety concerns even when it involves human error. Essential to both a learning culture and a reporting culture is a **just culture**. In a just culture, human actions are judged fairly and viewed first within the complexity of the system factors (Reason 1998). See Table 1 for glossary of additional terms.

Without a just culture, real progress will be limited. In a just culture, human error is recognized as unintentional and does not lead to disciplinary action. There is an effort to balance error, blame, and discipline while striving to balance communication and deterrence (Marx, 2001). For example, when an error occurs, can an employee safely come forward so that the organization can learn from the event? Historically in health care, culpability is often wrongly assigned to individuals who have erred, and the amount of retribution is based on the severity of the outcome when systems factors consistently play a much larger contributory role (Marx, 2001). This inappropriate assignment of individual culpability is and has been strongly influenced by our legal system (Dekker, 2007). Even the aviation industry that has achieved a significant safety record faces threats to gains in a just culture as a result of the influence of our legal system (Wiley, 2008).

**Barriers of a Just Culture**

Potential litigation and legal standards remain barriers for organizations attempting to create and perpetuate a just culture. In spite of these challenges, when an adverse event occurs, managers and organizational leaders who understand the importance of a just culture can use a number of tools to guide determination of individual or system accountability. Reason’s decision tree for determining the culpability of unsafe acts is frequently referenced (Reason, 1997). More recently, Marx (2008) has introduced a **Just Culture Algorithm** and associated educational materials that can be previewed online (http://www.justculture.org/algorith.htm). These tools can help distinguish between human error, reckless behavior, and the behavior that lies between the two, what Marx calls **at-risk behavior** (Marx, 2001). Table 2 provides definitions of the three types of behavior involved in error.

Discipline in human error is generally not warranted or deserved, while reckless behavior lies at the other end of the spectrum and disciplinary action is appropriate. At-risk behavior is situation dependent, may be peer influenced, and at times, tacitly condoned by organizational leadership or influenced by conflicting policy, procedures, or unwritten but expressed expectations. Individuals frequently engage in at-risk behavior (consider exceeding the speed limit on the highway) and at no time does the individual believe that his or her behavior will result in an in-
Table 1. Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Culture of Safety</td>
<td>Leadership of an organization promulgates an atmosphere in which the reporting of errors is welcomed so that others may benefit from knowledge of the situation and can develop strategies based on the data.</td>
</tr>
<tr>
<td>Culpability</td>
<td>Deserving blame or censure as being wrong, evil, improper, or injurious.</td>
</tr>
<tr>
<td>Fairness</td>
<td>Human actions are judged fairly and viewed first within the complexity of the system factors.</td>
</tr>
<tr>
<td>Just Culture</td>
<td>Front-line personnel feel comfortable disclosing errors, including their own, while maintaining professional accountability. Recognizes many individual errors represent predictable interactions between human operators and the system in which they work.</td>
</tr>
<tr>
<td>Latent Condition/Latent Errors</td>
<td>Refers to less apparent failures of organization or design that contributed to the occurrence of errors or allowed them to cause harm to patients.</td>
</tr>
<tr>
<td>Learning Culture</td>
<td>Active improvement efforts are directed at system redesign.</td>
</tr>
<tr>
<td>Reporting Culture</td>
<td>Fuels learning because staff feel safe from retribution and report information about safety concerns even when it involves human error.</td>
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</table>

Source: Agency for Health Care Research and Quality Web Morbidity and Mortality, n.d.

Table 2. Types of Behavior Involved in Error

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>Human Error</td>
<td>Unintentional action that causes or could have caused an undesirable outcome, either because a planned action is not completed as intended or the wrong plan is used to achieve an aim.</td>
</tr>
<tr>
<td>At-Risk Behavior</td>
<td>Tends to drift into unsafe habits, to lose perception of the risk attached to everyday behaviors, or mistakenly believe the risk to be justified. Involves conscious deviation from known rules and expectations.</td>
</tr>
<tr>
<td>Reckless Behavior</td>
<td>Understands that the risk is substantial, and makes a conscious choice to disregard the substantial and unjustifiable risk.</td>
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creased harm risk to others or the organization. Only in cases of repeated at-risk behavior following warnings to correct the behavior is disciplinary action appropriate. In cases of first instances of identified at-risk behavior, the most appropriate actions are to counsel the individual and examine potential system factor influences.

While Marx (2001) acknowledges that a non-punitive work environment is essential, certain types of errors are not acceptable and justify sanctions. He further outlines these sanctions in a matrix of culpability based on the type of error plus the level of risk involved in an incident. Marx’s model disciplinary policy balances “the need to learn from our mistakes and the need to take disciplinary action” (Marx, 2001, p. 3).

Systems Analysis

Along with providing direction for managing employee behavior, under some circumstances, the tools mentioned above indicate that a systems analysis is needed. Human error as well as at-risk behavior are often induced by the system in which individuals work. Poor equipment design and sustained or short-term high workload conditions can lead to inadvertent human error. Additionally, competing priorities and vague performance expectations can contribute to at-risk behavior. For example, when documentation is used as a measure for evaluating staff performance while at the same time overtime pay is forbidden, staff may deviate from the documentation policy and cut corners to complete the required documentation and still finish within the shift time. To learn from and prevent future patient harm, it is imperative that the organization places the greatest priority on understanding why something happened as opposed to blaming the individual most closely associated with the event.

Organizational leaders are responsible for understanding these precepts and determining actions following adverse events that reflect this understanding. When systems factors are determined to be contributory to human error and at-risk behavior, organizational leaders are accountable for system improvements. A just culture can only exist when this approach to analysis is taken following adverse events. Individuals working within the organization and providing or supporting direct patient care can also contribute to perpetuating a just culture by understanding human performance and system influences. When individuals identify real or potential patient harm threats, they need to be aware of the fundamental attribution bias and the strong influence of systems factors before making negative judgments about the intentions of peers.

Conclusion

The greatest responsibility, and therefore, accountability for a just culture resides with organizational leaders. Organizational culture is most strongly determined by the visible priorities of leadership (Ruchlin, Dubbs, & Callahan, 2004). A just culture can only exist if organizational leadership understands its value. Even if clinical staff desire policies and management action aligned with a just culture, the ability to develop it is closely tied to the authority to assign cul-
improving and seeking new opportunities to protect patients from harm. Only then will the organization have achieved a culture of safety that both organizational leaders and staff have the shared obligation of accountability to sustain. □

References
