

Medical Error Disclosure Training: Evidence for Values-Based Ethical Environments

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ABSTRACT. Disclosure of medical and errors to patients has been increasingly mandated in the U.S. and Canada. Thus, some health systems are developing formal disclosure policies. The present study examines how disclosure training may impact staff and the organization. We argue that organizations that support “disclose and apologize” activities, as opposed to “deny and defend,” are demonstrating values-based ethics. Specifically, we hypothesized that when health care clinicians are trained and supported in error disclosure, this may signal a values-based ethical environment, and staff may be more committed to the organization. We surveyed 325 clinical care providers employed by a large hospital that had recently begun implementing disclosure policies and training. Disclosure training explained significant variance in perceptions of the ethical environment, and the ethical environment mediated the relationship between disclosure training and organizational commitment. Although this study explored disclosure of medical errors, organizational support for error disclosure is a concept that could be relevant for many types of organizations.

KEY WORDS: ethical environment, values-based ethics, error disclosure, organizational commitment

“I find it hard enough disclosing to the doctors when I’m in charge and I have to tell them about another nurse’s error.” (Nurse)

Introduction

This study brings together several important organizational concepts in an attempt to contribute to theory and empirically identify actionable steps health care organizations (HCOs) can take to move their organizational cultures in positive, less

punitive, directions. Specifically, the study focuses on how medical error disclosure policies and staff training may influence the organization’s ethical environment, and lead to greater commitment among its staff. We develop conceptual arguments for this approach, then report on an empirical study that explored these relationships among staff employed at a large hospital that was just beginning to implement disclosure policies and training for its clinical staff.

We propose that medical error disclosure policies in the organization can reflect a *values*-based ethical environment, as opposed to one that is primarily *compliance*-based. We assume that given a non-punitive culture, most care providers will feel that disclosure is the “right” thing to do (see Boyte, 2001); however, we discuss this debate below. When care providers are trained and supported in disclosing adverse events to patients and other staff, these care providers should be more committed to the organization, because their values and the organization’s may be more closely aligned (Fritz et al., 1999). Disclosure training and support may signal to staff that the organization values honesty and integrity above all.

Importantly, we further propose that the ethical environment will mediate the relationship between disclosure training and organizational commitment. That is, care providers should be more committed to the organization because of a values-based ethical environment reflected in such support. Identifying mediating variables is important because they help to explain relationships between stimuli and behaviors (Baron and Kenny, 1986). In other words, people psychologically process stimuli in their environments prior to responding. When mediating variables are

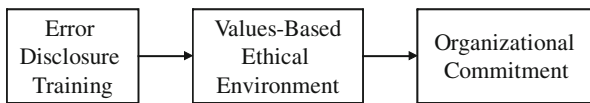


Figure 1. Conceptual framework guiding the study.

identified, scholars and managers can further refine hypotheses about how the work context influences behavior. This can help illuminate mechanisms that can be managed, ultimately improving organizational outcomes. Hence, we suggest that when health care staff are trained and appropriately supported in disclosing adverse medical events, this signals that the organization values honesty and integrity above all. Disclosure implies emphasis on important medical ethics principles grounded in the medical and clinical professions. When the organization actively supports these important principles, care staff should be more committed to the organization. The conceptual framework guiding this study is shown in Figure 1.

Organizational ethics – importance of managing the ethical environment in HCOs

Silverman (2000) argued that because modern health care delivery has become institutionalized, the organization has become more than simply a setting in which medicine is practiced; it is a moral agent with moral obligations. Health care is provided by large numbers of people who interact in complex ways using organizationally dictated procedures and processes. The hospital itself is described as “being actively engaged in providing care for the sick” (p. 204), thus, patient care is now influenced to a great extent by organizational dynamics. Accordingly, HCOs are challenged to design care delivery to encompass the same types of moral obligations as found formerly in the physician–patient relationship. Organizations must develop values-driven strategies that lead to appropriate behaviors for attaining the organization’s goals (Graber and Kilpatrick, 2008). This means that proactive management of organizational ethics in HCOs is imperative.

The reality of health care is that leaders must continually balance their decisions between provid-

ing top quality patient care and minimizing costs of care. Policies and practices initiated at the executive level may have unintended consequences on the front lines of care. Thus, leaders must make themselves aware of staff perceptions of the organization’s ethical environment. Interest in organizational ethical environments came about because researchers found that the organizational context can often influence employee behavior more than personal moral codes (Paine, 1994; Treviño et al., 1999; Victor and Cullen, 1988). Further, it appears that different types of ethics initiatives are associated with different types of attitudes among staff. Over time, the ethical environment in organizations becomes well established, and persists in part because employees who share the organization’s values tend to be more committed and stay, whereas those who find their values conflict with the organization’s tend to leave (Fritz et al., 1999; Schneider et al., 1995).

Compliance- versus values-based ethical environments

A common approach to categorizing ethics policies and programs focuses on whether they are more *compliance-* or *values-*based (Weaver and Treviño, 1999). Mills and Spencer (2001) suggested that in health care a *regulatory-*based environment is a concept consistent with the compliance-based approach. In regulatory/compliance-based management, programs emphasize rules, monitoring employee behavior, and punishing ethical misconduct. Many of these programs were developed in response to the 1991 U.S. Department of Justice Sentencing Commission’s Guidelines. The guidelines motivated some leaders to enact regulatory or compliance-based systems in belief that if the organization had strict ethics programs, punishment would be more lenient if some employees were convicted of wrongdoing (Treviño et al., 1999). In health care, many ethics policies are based on quality assurance regulations required for accreditation. Yet, a strictly regulatory/compliance or rules-based approach is incompatible with HCOs because they are complex adaptive systems, which require flexibility in decision-making in order to function properly (Chen et al., 2007). Interestingly, Proenca (2004) found that employees of HCOs with compliance-based

ethics approaches did not perceive their organizations to actually place high priority on ethics.

In a more values-based context, legal and regulatory constraints are recognized, but the organization also emphasizes values and norms which drive practices, and to which employees become committed. Values are principles or qualities that are inherently desirable. Individuals combine a number of values, not necessarily consciously, to form a values system, and these values take on varying degrees of importance (Graber and Kilpatrick, 2008). Health care leaders must consider not only individual values, but also varying professional values as well. Thus, it becomes important to proactively focus on over-arching organizational values when managing the ethical environment and management must aim for consensus on these values (Mills and Spencer, 2001). At the same time, leaders must identify practices to help these values manifest in the daily work of organizational members. For example, organizations may emphasize shared values such as mutual respect and responsibility (Weaver and Treviño, 1999) and thus develop practices that reward staff when they behaviorally demonstrate these values.

Employees in values-oriented environments tend to develop more trust, and view ethical behavior as part of their work roles. Proenca (2004) argued that when ethics awareness is built into people's work roles, a wider range of ethical issues ties into their decision-making. This could be particularly important for patient care. Further, employees in organizations with values-oriented policies are more likely to view their organizations as having ethical integrity. In these organizations ethical behavior is valued, as opposed to being mandated. Proenca (2004) found that HCOs with ethics training programs were perceived by staff as more values-oriented. This is because training facilitates an understanding of how the organization's practices fit into its broader values system. Training also offers employees the chance to discuss ethical dilemmas and explore various options for resolving them.

In HCOs, it is likely that an exclusively regulatory or compliance-based emphasis results in a punitive culture when it comes to adverse events or medical errors. For example, because U.S. hospitals are now publicly reporting specific adverse events, care pro-

viders who are involved in medical errors may fear punishment if they report or disclose such events that will possibly make their organizations look bad. Thus, in order to move away from a punitive culture, HCOs should commit to more values-based approaches for their processes, particularly for those practices that are morally based, such as patient care. Chen et al. (2007) proposed what they call a "positive ethical climate" as being ideal for HCOs. This environment would include three important characteristics: (1) a set of shared values that reflect valued societal norms; (2) the organizational mission and vision reflected in actual practices that are implemented; and (3) all individuals feel safe in discussing ethically important issues, values, and beliefs.

Disclosure and the values-based environment

Disclosure of adverse events and medical errors has been identified as one of the key issues for advancing medical ethics (Singer, 2000). We focus here on disclosure as one way of manifesting the HCO's values in terms of normative behaviors. Norms guide behavior, as they are principles of "right action" based on underlying values (Graber and Kilpatrick, 2008, p. 188). A HCO that includes policies, practices, and training in how and when to disclose adverse medical events and errors is sending a message to its staff and patients that it values full disclosure and informed consent in the event of unintended consequences.

A values-based ethical environment is likely to facilitate commitment to the organization because people who become care providers are those who generally feel called upon to focus beyond their own immediate needs in the care of others (Vinje and Mittlemark, 2007). Indeed, research on the "second victim" phenomenon, in which care providers feel distraught or traumatized following a medical error, has shown that many care providers believe that disclosure to the patient is the right thing to do (Waterman et al., 2007; Wu, 2000). Thus, when the organization promotes values that support disclosure, and provides support mechanisms for individuals involved in medical errors and disclosure, such values may be in alignment with ethical values held by staff members. A closer look at the ethical arguments

for disclosure will help illustrate how disclosure practices may ultimately link to deeply held values of care staff.

The moral case for disclosure

It is commonly held that providers and HCOs should be guided by, among other things, moral principles such as beneficence (providing benefit to patients), nonmaleficence (avoiding harm to patients), and respect for autonomy (respecting the rights of patients to provide informed consent to receive or decline treatment (Beauchamp and Childress, 2008). Medical errors that harm patients conflict with the obligation of nonmaleficence. However, a patient may be unaware that a recent harm was the result of a medical error or even that a medical error occurred. This would seem to violate respect for patient autonomy in that keeping a patient in the dark about a medical error could prevent the patient from having information about future risks needed to be able to make an informed decision about proceeding with future medical interventions. Hence, questions arise of whether the provider and organization should voluntarily inform a patient of the occurrence of a medical error, or admit to an error if a patient asks.

Two distinct strategies for dealing with medical error have been characterized in the literature and variously termed; we refer to them here as “deny and defend” and “disclose and apologize.” Each strategy consists of a range of possible practices. “Deny and defend” holds that providers and HCOs should avoid disclosing (and if needed, deny) that a medical error has occurred, refuse to admit or actually deny fault, guilt, or liability, and then defend legally against any resultant lawsuits. One of the main reasons for this strategy is the prudential one of hoping to avoid malpractice lawsuits. Organizations may believe disclosing errors increases the chances of a lawsuit, and some attorneys believe it is more difficult to defend against malpractice if an admission of fault for a medical error has been made (Berlin, 2006; Butcher, 2006; Kern, 2009). In contrast, “disclose and apologize” holds that the occurrence of any medical error resulting in patient harm should be reported to the patient and, in some versions of this approach, the provider or organization should apologize and offer compensation to the patient.

Perhaps the fundamental moral argument for medical error disclosure to patients rests on the belief that the relationship between provider (and organization) and patient should be one of trust. Pellegrino and Thomasma (1988) go so far as to term the preferred provider–patient relationship as “beneficence-in-trust.” The relation between providers (and organizations) and patients is fiduciary, based on the trust of the patient in the competence, integrity, beneficence, and professionalism of the provider and organization. By taking an individual as a patient, the provider and organization make an implicit promise not to violate that trust. However, failing to disclose medical errors is a form of deception incompatible with such trust. If the provider and organization try to deceive the patient by outright lying, false suggestion, purposely withholding information, or feigning ignorance, that implicit promise is violated. As mentioned, the commonly accepted principle of respect for patient autonomy means that patients should be respected as persons entitled to significant information about their health and treatment. Providers have an obligation to be honest with patients about what has occurred (Wojcieszak et al., 2008). Thus, if a patient is not informed of the occurrence of a medical error, then the patient has not been provided information possibly relevant to future treatment decisions that need to be made by that patient. Respecting patient autonomy entails informing them of what happened even if no future treatment decisions are involved. Some hold it means even informing patients of the option to take legal action (Beauchamp and Childress, 2008, p. 294).

One’s chosen strategy for handling medical errors could be influenced by the institution’s particular understanding of the nature and causes of medical errors. A “shame and blame” culture, until recently the dominant understanding, views the causes of errors as mistakes or slips by individual clinicians, who subsequent to the error, need to be identified and reprimanded. An individual broke the rules and needed to be punished. This mentality of “shame and blame” may be more consistent with a regulatory or compliance-based approach to ethical policies. In contrast, the systems understanding of medical error sees the cause of an error to be faulty or missing systems. The remedy for medical error is not to blame and humiliate an individual but to

engage everyone in efforts to fix the system (Leape, 2005). With the systems approach the value of patient safety is held higher than the need to assign individual blame. We argue that the systems understanding of medical errors seems more consistent with a values-based approach. A recent variation of the systems approach, the “just culture” movement, seeks to hold individuals accountable for clearly negligent behavior without reverting to the old “shame and blame” mentality (Frankel et al., 2006; www.justculture.org).

Trust is relevant not only to provider–patient relations, but also the relationship between the HCO and its staff. We question how likely staff are to trust in the honesty and integrity of the organization if the organization condones or even encourages staff violation of patient trust. And how can the organization trust clinicians to report medical errors if reporting clinicians face the possibility of humiliation and punishment? If the ethical environment of the organization sees medical errors as matter for shaming and blaming, clinicians may be disincented from reporting errors to the organization itself, much less to patients. Failure to report a medical error to the organization wastes an opportunity to improve the system to prevent similar errors in the future and improve patient safety. Thus, it would seem to behoove the HCO to create an atmosphere of trust in which staff can candidly report errors to the organization out of shared concern for future patient welfare, the organization can trust clinicians not to try to hide errors, and staff is encouraged to candidly disclose errors to patients out of shared values not to violate patient trust.

It has been claimed that a values-based environment is more conducive than a compliance-based environment to staff trust of the organization (Weaver and Treviño, 1999). A sole regulatory or compliance-based ethics environment could be interpreted as part of a “shame and blame” mentality to medical error that seems to encourage denial and avoidance of responsibility for fear of punishment, a strategy that leaves staff feeling pangs of conscience and alienated toward patients, as well as distrustful of any organization that encourages such deception. On the other hand, a values-based ethics environment, even one that promotes compliance, could allow more opportunity for staff and the organization to develop and share the values of honesty,

integrity, and patient safety, and thus be more open to disclosing error and accepting responsibility. It should be noted that we are not arguing against compliance in organizations, as HCOs are increasingly required to comply with more and more regulations. If, however, compliance is but one element of a values-based environment, we propose the outcomes will be different.

Influence of disclosure training on the ethical environment

The present study proposes that when organizations recognize the importance of medical error acknowledgment and disclosure, and develop policies, training, and support to facilitate disclosure, such organizations are acting in a values-oriented manner. In order for disclosure practices to work, care staff must feel that the organization supports them and will not punish them for their involvement in an adverse event. Disclosure policies should be specific about who care providers should tell about adverse events and when. During training for disclosure, care providers should have the opportunity to discuss ethical issues and dilemmas and practice thinking through or role playing how they should respond to specific types of events. Such training helps facilitate examination of one’s personal values and how they align with the organization’s (Proenca, 2004). Thus, we propose that disclosure programs and training are mechanisms the organization can utilize in developing or maintaining a values-based ethical environment. This reasoning led us to our first hypothesis:

H1: Training in medical error disclosure will be positively related to a more values-based ethical environment.

The importance of organizational commitment

Organizational commitment has been shown to be a better predictor of turnover than job satisfaction (Gees et al., 2008). Commitment is a dynamic, iterative process, and develops when individuals accept the organization’s goals and values, and are motivated to contribute and maintain a good relationship with the organization (Shwu-Ru, 2008).

Once organizational members have accepted the organization and its values, they become more willing to contribute to and support organizational goals. Commitment is a “combination of strong belief and purposeful action” (Shwu-Ru, 2008, p. 120). Accordingly, commitment may facilitate high quality care even in the face of staffing shortages or other resource constraints. Staff members who are part of a values-oriented ethical environment should be more likely to feel supported by the organization and have more trust (Fritz et al., 1999). Thus, they should be more committed to the organization. Hence, rather than health care leaders focusing on compliance alone, it seems important to cultivate shared values and incorporate such values in the foundation of policies and practices. Based on this reasoning, the following hypothesis was put forth:

H2: A values-based ethical environment will be positively related to organizational commitment.

Adverse event and medical error disclosure likely arises from and communicates a values-based ethical foundation. Importantly, disclosure of adverse events, although difficult, supports a value of honesty and integrity in practice. Nurses in particular express the need for their work to correspond with their core values (Vinje and Mittlemark, 2007). Thus, when the organization develops support for error disclosure, this communicates to staff the importance of maintaining organizational and individual integrity. However, this message is not only communicated overtly, but also is communicated implicitly by establishing mechanisms of training and support for staff. In other words, the organization walks its talk. Because such processes are likely to align individual and organizational values, they are likely to facilitate commitment. Thus,

H3: Training in medical error disclosure will be positively related to organizational commitment.

The mediating role of the ethical environment

A mediating variable is the mechanism through which an independent variable influences a dependent

variable. Baron and Kenny (1986) described the mediating variable as the explanation for how “external physical events take on internal psychological significance” (p. 1176). Understanding influences of mediating variables is particularly important for evidenced-based management practices. Although error disclosure policies and training can be mechanisms by which organizations signal a values-based management approach, such training may not always imply a values-based environment. Given that disclosure is increasingly being mandated by accreditation entities, it is possible an organization could develop disclosure policies that would be more compliance-based, and thus, rules and discipline for those who violate the policies could be emphasized. In such contexts, however, we would not expect disclosure training to be associated with greater organizational commitment. Thus, we propose that a values-based ethical environment mediates the relationship between disclosure training and commitment. In other words, if training increases commitment, it is because the training and support signals a values-based ethical environment. Thus, we offer our fourth hypothesis:

H4: A values-based ethical environment will mediate the relationship between error disclosure training and organizational commitment.

Method

Study design and participants

Data were collected using a cross-sectional field study design in a large tertiary hospital in North America. All clinical care providers employed in the hospital’s medical units were invited into the study. Three hundred twenty-five questionnaires were returned, for a response rate of 42%. The majority of respondents were nurses (87%), but 5% were allied health professionals, and 8% worked in health care support roles; 92% said they typically provide direct care to patients. Table I shows job characteristics of respondents. Although half of respondents (51%) had worked at the hospital for 5 years or less, 33% had worked there 10 years or more. More than half (57%) had worked in their current specialties for

TABLE I
Respondent job tenure

	Length of time at this hospital (%)	Length of time in current unit (%)	Length of time in current specialty (%)
Years			
<1	12	16	6
1–5	39	49	37
6–10	16	16	19
11–15	11	10	8
16–20	10	5	8
21 or more	11	6	22

Note: Percentages may not equal 100% due to rounding.

more than 5 years, with nearly one-third (30%) having worked in their specialties for 16 years or more. Thus, our sample included a wide range of job experience levels.

Procedure

Survey packets including a cover letter, questionnaire, and postage paid return envelope, were mailed to employee homes. The survey packets were mailed out by the hospital, and the return envelopes were addressed to the researchers at a separate address. A reminder packet was mailed 3 weeks later. The study was approved by ethics committees at both the researchers' institution and the hospital's, therefore the study was performed in accordance with appropriate ethical standards. The survey cover letter explained to participants that if they returned the questionnaire, their consent was assumed. There was no identifying information included on any of the materials returned to the researchers, and the researchers guaranteed that no individual responses would be made available to the hospital.

Measures

Organizational commitment

We used five items from the extensively used Mowday et al. (1970) organizational commitment scale. We used the full scale in a pilot study and

found that a 5-item subscale demonstrated adequate reliability, thus we used this subscale for the present study. The present study included items such as, "I am proud to tell others that I am part of this organization" and "I talk up this organization as a great organization to work for." Respondents used a 4-point frequency response scale where 1 = Never, 2 = Sometimes, 3 = Usually, and 4 = Always (Cronbach's $\alpha = 0.92$).

Ethical environment

We adapted one 9-item sub-scale from Victor and Cullen's (1988) seminal work on organizational ethical climates (the *Ethical Climate Questionnaire* or ECQ) as the measure for a values-based environment. The ECQ includes subscales to capture perceptions that indicate instrumental/egoistic, principle or rule-based, and caring/benevolent ethical environments. The caring/benevolent subscale captured content conceptually related to a values-based environment (Paine, 1994; Treviño et al., 1999) or the "positive" ethical environment (Chen et al., 2007). We modified items so that respondents would answer in terms of the work unit on which they spent most of their work time, as opposed to the organization as a whole. Example items included, "The most important concern in this unit is the good of the patients," "People in this unit have a strong sense of responsibility to the outside community," and "Our major consideration is what is best for everyone in the work unit." These items also utilized the 4-point Never – Always response

scale ($\alpha = 0.87$). For our purposes, a higher score on these items indicated a more values-based environment.

Disclosure training

Three items were developed specifically for this study in collaboration with clinical specialists who had experience working with staff involved in adverse medical events, and who were responsible for developing and implementing the organization's disclosure policies. Disclosure items included, "I have had specific training on how to disclose medical errors to patients," "I have had specific training on when to disclose medical errors to patients," and "I know how to manage the disclosure process." Participants rated their level of agreement on a 4-point scale, where 1 = Strongly agree and 4 = Strongly disagree ($\alpha = 0.79$).

Additional items

The survey included several additional items in an attempt to explore some of the issues respondents might encounter in relation to adverse events and medical errors. These items asked if respondents had ever disclosed medical errors to patients and if they had submitted incident reports about an error to the hospital's event reporting system (yes/no). Respondents who marked "yes" to either of the questions were asked if they had experienced any adverse symptoms in relation to the situation, such as fear or anxiety, or trouble sleeping. Respondents also were asked if they knew where to turn for support in their organization.

Demographic questions

Demographic questions were asked at the end of the survey, such as what unit respondents worked in and

how long they had worked in their current unit, the hospital, and their profession.

Results

Descriptives

Variables were computed by summing the items comprising each scale and calculating means. As noted above, all variables had adequate reliability. Table II depicts means, standard deviations, and intercorrelations among the study variables.

More than one-third of respondents (39%) indicated they had submitted one or more incident reports to the hospital's reporting system in the previous 12 months. A *t* test found no significant difference in disclosure training for participants who had submitted incident reports and those who had not (yes, mean = 3.23; no, mean = 3.39, $p = 0.186$). Only 27% of respondents reported they had disclosed a medical error to a patient. A *t* test indicated no significant difference in disclosure training for participants who had disclosed a medical error to a patient (yes, mean = 3.22; no, mean = 3.37, $p = 0.129$). Of those who had either submitted an incident report or disclosed an error to a patient, 22% admitted they felt increased anxiety about the occurrence of future events, and 20% experienced decreased satisfaction with their jobs. Thirteen percent had increased trouble sleeping and 12% reported decreased confidence in their ability to do their jobs. On the other hand, 78% of all respondents indicated that they knew where to turn for support at work if they were involved in an adverse event or medical error, and 65% indicated that their work unit provides at least some support for staff involved in adverse events or errors.

TABLE II
Descriptive statistics and reliability coefficients for study variables

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Commitment	2.74	0.78	(0.93)		
2. Ethical environment	2.90	0.53	0.56	(0.87)	
3. Disclosure training	3.32	0.89	0.12	0.19	(0.79)

Hypothesis testing

We used Baron and Kenny's (1986) classic approach for hypothesis testing when mediators are hypothesized. This approach requires computing four regression models, one for each hypothesis tested. In order to find evidence for the effect of mediators, the following approach is used: (a) the independent variable must account for significant variance in the proposed mediating variable; (b) the independent variable must account for significant variance in the dependent variable; (c) the mediating variable must account for significant variance in the dependent variable; and (d) the relationship between the independent variable and the dependent variable must be significantly reduced when the mediator is introduced into the model. Because job tenure is often significantly related to organizational commitment, we controlled for this variable in all regression models.

We first tested H1 that disclosure training is positively related to the ethical environment. When controlling for job tenure, analysis indicated that disclosure training explained 8% of the variance in the ethical environment, $R^2 = 0.08$, $F(2, 307) = 5.89$, $p < 0.01$. Respondents who had undergone error disclosure training were more likely to report that the ethical environment in their work units was values-based. Therefore, H1 was supported.

Hypothesis 2 stated that disclosure training would be related to organizational commitment. Analysis indicated that disclosure training explained 2% of the variance in commitment: $R^2 = 0.02$, $F(2, 306) = 2.65$, $p < 0.05$. Respondents who had

received disclosure training were significantly more likely to say that they were committed to the organization. Thus, H2 was supported. Hypothesis 3 stated that the ethical environment would be positively related to organizational commitment as well. Analysis indicated that ethical environment explained 32% of the variance in organizational commitment: $R^2 = 0.32$, $F(2, 313) = 74.50$, $p < 0.001$. Respondents who perceived their work units to be more values-based in terms of ethics also were more committed to the organization. Thus, H3 was supported.

To test for mediation effects, we computed a similar model in which commitment was regressed on job tenure in Step 1, disclosure training in Step 2, and ethical environment in Step 3. Analysis indicated that the ethical environment fully mediated the relationship between disclosure training and commitment. That is, when the ethical environment was entered into the regression equation, the effect of disclosure training on organizational commitment became non-significant, a nearly zero relationship. Thus, H4 was supported. Table III depicts coefficients for the full model.

Discussion

The present study found empirical support for the proposition that staff training on medical error disclosure may signal a values-based ethical environment, i.e., that the organization values honesty and integrity in patient care, even in the most difficult of circumstances. Furthermore, the study found evidence that those who were trained and supported in

TABLE III

Regression results for the mediating role of values-based ethics in the disclosure training and organizational commitment relationship

Variable	B	SE B	β	ΔR^2
Step 1 Control variable				0.00
Hospital tenure	-0.032	0.022	-0.070	
Step 2 Disclosure training	-0.011	0.042	0.013	0.01
Step 3 Ethical environment	-0.812	0.072	0.549	0.29**

Note: Values are from the final model.

** $p < 0.001$.

such a delicate situation tended to be more committed to the organization. We argue that this is because the HCO devoting resources to such training and support signals to staff that the organization's highest ranks of leadership have embraced the values of "disclose and apologize" rather than "deny and defend." Top leadership commitment to organizational values is considered important in moving the culture in a more positive direction (Chen et al., 2007). In complex adaptive systems, such as HCOs, values and beliefs influence behaviors and interactions more than do rules. Thus, organizations need to send clear messages regarding their values and norms.

Establishing training programs where staff can discuss troubling issues and feel supported could potentially reduce values conflicts. Such training sessions also could provide clinicians with a network of individuals who can offer advice and support in the event of adverse events or ethical dilemmas. While disclosure training may on the surface appear to be promoting specific policies and practices, disclosure itself implies that the organization values integrity and will support individuals in doing the right thing in terms of being honest with coworkers and patients when a medical error occurs. Establishing and offering support mechanisms further communicates that the organization values right action. Devoting resources for staff support not only implies that the organization values doing the right thing, but it also values its employees. Although many individuals may believe that disclosure is the right thing to do, in practice it is certainly difficult for most people. Hence, offering of support for the disclosure process could send a powerful message about the organization's priorities.

One potential variable that may be influenced by training, support, and a values-based ethical environment is psychological safety. Psychological safety means that regardless of rank in an organization, employees feel that they can point out situations that are ineffective or dangerous, and they can legitimately question decisions of others. Psychological safety has received some research attention as a focus for how the work environment can be improved, and in addition, for improving patient outcomes (Edmondson et al., 2001; Halbesleben and Rathert, 2008; Nembhard and Edmondson, 2006; Nembhard et al., 2009; Rathert et al., 2009). Given that psy-

chological safety has been demonstrated as being important for positive health care outcomes, research must now focus on identifying elements that increase psychological safety. Training and support for error disclosure may be one method.

A HCO moving toward a "disclose and apologize" environment needs to do so with open eyes about the possible risk of increased litigation and insurance costs. Opinions vary about whether disclosing medical errors increases or decreases the likelihood of patient lawsuits. According to one legal expert, "Common sense would dictate yes, apologize – but we live in a world full of liability and the ramifications of that can be very far – reaching" (Butcher, 2006, p. 20). This makes it all the more important to carefully plan and develop disclosure training so that the organization and individuals can respect patients in the disclosure process, while at the same time considering the interests of the organization. Butcher (2006) reports situations in which apparently reactive, non-systematic apologies to patients led to lawsuits in which nurses and physicians turned against each other, and another situation in which it was discovered after the apology and subsequent lawsuit that the patient's adverse event was not due to anything that happened in the hospital. Thus, disclosure policy needs to be carefully developed and implemented.

Currently, there is some level of legal immunity for conveying regret or an apology in 36 U.S. states (McDonnell and Guenther, 2008). Many of these states allow immunity for expression of sympathy only. Some insurance policies may require not admitting guilt. Certainly there is a danger in too hastily disclosing medical error occurrences and admitting fault before the nature of the situation has been adequately investigated. On the other hand, several U.S. states now require prompt medical error disclosure and so to refrain from disclosing could in some cases increase the risk of legal action against the organization (McDonnell and Guenther, 2008). Some hospitals have adopted a disclosure – apology – compensation algorithm in which errors are disclosed, apologies are made, and compensation is offered to patients if it is determined that the patient suffered injury from the incident. Several major U.S. hospitals have adopted this model and have found that their payments for patient claims have been reduced (Berlin, 2006). Adopting a policy to handle medical

errors would ideally involve risk management, legal experts, insurance carriers, and possibly outside consultants. Such a systematic organizational focus on this moral dilemma would likely influence staff perceptions of the organization's ethical environment.

Although the present study was conducted in a hospital setting, emphasizing the very specific topic of medical error disclosure, similar models of training and support could apply to organizations in non-health care sectors. Particularly in service sectors, organizational focus on training and support for "doing the right thing" and identifying mechanisms for supporting employees in doing the right thing could help facilitate commitment. Although disclosure of medical errors has potentially serious consequences for care providers, patients, and organizations, staff working in non-HCOs face ethical dilemmas as well. Errors can take place in manufacturing, education, banking, insurance, law enforcement, or retail, among others. Sometimes acknowledging and disclosing an error could delay reports to clients, or insurance payments to customers, for example. However, when organizations communicate clearly that honesty and integrity are supported values, through training and support processes rather than only through mission statements, organizations have the chance to "walk the talk" which should support the foundation of a values-based ethical environment.

Future research

Future research should explore specific activities in disclosure training that may be values-based as opposed to compliance-based. As noted above, just because an organization implements disclosure policies, it does not necessarily mean the organization's ethical environment is values-based. Disclosure policies could be implemented in a punitive, compliance-based manner, with no relationship to the organization's stated values. Hence, future research should attempt to tease apart how different training and support elements relate to the ethical environment. In addition, future research should explore relationships between values-based and regulatory or compliance-based ethical environments and psychological safety. Finally, the role of unit managers must be examined. Even in a values-based organi-

zation, with a well designed disclosure training program, managers at the unit level could be more punitive in how the disclosure process is implemented. Indeed, some research has demonstrated that although the ethical environment is positively related to outcomes for staff, unit leaders moderate this relationship (Rathert and Fleming, 2008).

Study limitations

Although our data showed statistical support for the hypothesized relationships, as with all studies, our study has its limitations. The study was a cross-sectional study, and as such, we cannot infer causation from our results. Disclosure training had not yet been fully implemented throughout the hospital, and we did not have additional outcome measures. In addition, although the data support our theoretical propositions, it is possible that other unit-level variables not measured here could have influenced staff perceptions of their units' ethical environments. However, our data suggest that such relationships are worth further study. Future research should be designed so that specific training programs and their outcomes can be examined in order to determine training attributes that support a values-based ethical environment. In addition, our ethical environment scale, although an adequate proxy for a values-based environment, may not have captured all attributes of a values-based environment. Future research should further develop such scales and attempt to make empirical distinctions among types of ethical environments in health care. The seminal work of Victor and Cullen (1988) has consistently demonstrated distinct empirical ethical climates in a wide variety of organizations and business sectors (Martin and Cullen, 2006), but this work in HCOs is lacking.

Management implications

As is apparent in our discussion regarding the ethics of disclosure, medical error disclosure is a thorny issue with many dimensions to consider. However, with the growing awareness and concern regarding the "second victim" phenomenon (Waterman et al., 2007; Wu, 2000), the role of disclosure in the healing process of health care providers must be considered. In order to keep good people in the caring professions, HCOs must demonstrate that they

understand and care about the moral convictions of care providers, as well as the moral obligations care providers have to patients. Implementation of disclosure training, and organizational support for the disclosure process, appear to be mechanisms for the organization to embrace values that are likely important to most care providers and their patients.

Health care leaders also may be served by learning more about how their staffs perceive the ethical environment in the organization. Ethical dilemmas and moral conflicts arise frequently for clinicians (Silva et al., 2008), thus, how clinicians understand what the organization expects in terms of ethical decisions and behaviors is of utmost importance. It is likely that there are perceptions on the front lines of care that top leadership does not intend. Thus, becoming aware of these perceptions and attempting to identify policies and practices that have led there may be a challenging yet necessary task in the effort to maintain a more values-based work environment. As staff members feel that their values coincide with the HCO's, organizational commitment and its outcomes are likely to improve. Although "disclose and apologize" is new for many health care leaders, confronting this issue head-on demonstrates that the organization walks its talk, and stands behind its clinicians who do as well.

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