and interpretations can be a valuable resource for dealing with emerging problems that are systemic in nature.

A search of the literature suggests that there are actually very few models of organizational culture. Most academics and social scientists adopt either a functionalist account, or a variant of an Òinterpretative viewÓ of organizational culture. A comparison of the two models establishes the parameters for an analysis of safety culture. On a functionalist account, safety culture is a result of the underlying assumptions or the core purpose of an organization. On the Òinterpretative view,Ó safety culture is an emergent property of social groupings in the workplace, and an organizationÕs stakeholders.

Edgar Schein analyzes organizational culture as a relationship among three layers or levels: (1) core underlying assumptions or purpose; (2) beliefs and values; and (3) behaviors and artifacts[3]. The relation of each level to the others is both linear and causal. Corporate policies, management structures, and control systems express the underlying assumptions or purpose of an organization. An organizationÕs purpose, in turn, predetermines or conditions the publicly declared beliefs and values of management and staff: level 1 causes or conditions level 2. Management and staff then realize these corporate beliefs and values in particular attitudes. Employee attitudes, in turn, determine or condition specific behaviors and artifacts: level 2 causes or conditions level 3. Since level 2 conditions level 3 and level 1 conditions level 2, the core underlying assumptions or purposes of an organization ultimately determine employee behaviors and the production of organizational, cultural artifacts.

In the aviation industry, for example, Òzero toleranceÓ of accidents is an underlying assumption or purpose of organizations. Corporate policies, management structures, and control systems express this underlying purpose. On a functionalist analysis, the purpose of zero tolerance determines, in turn, the beliefs and values of employees about the importance of safety in air travel. Management and staff realize these corporate beliefs and values as particular attitudes to aviation safety. Employee attitudes about safety, in turn, determine or condition specific behaviors and artifacts. Organizational members express these attitudes either through safety inspections, or as accidents and near misses. Safety posters and brochures are artifacts that exemplify employeesÕ attitudes. Thus, the underlying assumption of Òzero toleranceÓ ultimately determines or conditions employee behaviors and cultural artifacts.

Gerry Johnson juxtaposes the functionalist model of organizational culture with his own Òinterpretive view.Ó[4] Although he agrees with ScheinÕs three-layered analysis, as currently conceptualized, the model fails to account for the dynamic nature of organizational culture. Functionalist approaches give the appearance of a linear sequence of cause and effect: core purpose dictates employeesÕ beliefs and values, which in turn dictate behaviors and artifacts that reflect core purpose. Johnson provides ample evidence in support of his claim that this account of organizational culture is simplistic and reductive. He notes as a counterexample that changes in employeesÕ behavior often produce changes in their attitudes toward work. Moreover, changes in behaviors and attitudes can also effect changes in an organizationÕs underlying control systems and management structures.

Johnson offers a ÒCulture WebÓ model of organizational culture. This model also consists of a triad: (1) a dominant paradigm, control systems and structure (underlying assumptions or purpose); (2) beliefs and values (personal); and (3) power relationships, stories, symbols, rituals, and routines (behaviors and artifacts). Organizational culture ought to be interpreted in terms of dynamic reciprocal relationships among the three levels. In JohnsonÕs critique of functionalism, organizational culture is not simply a result of core purpose, but an emergent property of the beliefs and values of a variety of stakeholders. Normative beliefs and values are both created by, and revealed to, organization stakeholders within dynamic reciprocal relationships. Thus, organizational culture consists of reciprocal relations among: (1) stakeholdersÕ perceptions of, and attitudes toward, an organizationÕs core purpose; (2) stakeholdersÕ day-to-day behavior within power relationships; and (3) the presence and quality of control systems to support stakeholdersÕ attitudes and behaviors.

On JohnsonÕs interpretive view, Òzero toleranceÓ of accidents in the aviation industry is less a result of the purpose or goals of managerial strategies, than an emergent property of the values, attitudes and beliefs of social groupings in the workplace, and/or stakeholders in the industry. For Johnson, zero tolerance as a goal ÒemergesÓ in the workplace from the values, attitudes, beliefs and patterns of behavior among aviation industry stakeholders. Thus, zero tolerance is an emergent property that consists of reciprocal relations among (1) stakeholder perceptions of, and attitudes toward, the feasibility of zero tolerance; (2) stakeholdersÕ day-to-day behavior toward this goal within power relationships; and (3) the presence and quality of control systems to support stakeholdersÕ attitudes and behaviors toward aviation safety.

The functionalist and interpretive accounts of organizational culture are not necessarily mutually exclusive. For example, Dominic Cooper argues that both the functionalist and interpretive views are indeed commensurate[5].He attempts to integrate the two models on the assumption that managerial functionalist strategies emerge within interpretive contexts. On this reading, organizational culture is a ÒproductÓ that emerges from the values, attitudes, competencies and patterns of behavior of social groupings in the workplace, and among the organizational stakeholders. The functionalist view is correct, because, as

a Òproduct,Ó culture is a result of goal-directed behavior, or purpose. The interpretive view is also correct, because goal-directed behavior, or purpose, is an emergent property created by social groupings within the workplace, and among other stakeholders. Cooper thus synthesizes ScheinÕs and JohnsonÕs models by showing that organizational culture is a result of goal-directed behavior in the context of dynamic reciprocal relationships among the three layers or levels of organizational culture: (1) the personal (values, beliefs, attitudes); (2) the behavioral (competencies, patterns of behavior); and (3) the situational (organization systems and sub-systems). He thus defines organizational culture as the product of multiple goal-directed interactions among people (personal), jobs (behavioral), and systems (situational).

Toward A Definition of Safety Culture

The term Òsafety cultureÓ first appeared in a 1987 United NationÕs Organization for Economic Co-operation and Development (OEOD) Nuclear Agency report on the 1986 Chernobyl disaster.[6] The concept has since gained worldwide currency in several high-risk industries. It is loosely used to describe an institutional atmosphere or climate in which safety is understood to be the number one priority. In high-risk industries, such as nuclear power, chemical and aviation, industry leaders consider safety the dominant characteristic of corporate culture. In other industries, such as manufacturing and automobile, safety culture is a subcomponent of corporate culture. As a subcomponent, the concept refers to individual, job, and organizational features that affect and influence health and safety.

A widely used definition of safety culture comes from the British Health & Safety Commission. The Health & Safety Commission has defined safety culture in relation to the nuclear power industry as ÒÉ the product of individual and group values, attitudes, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organizationÕs health and safety programsÉ. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.Ó

Different people understand this definition in different ways depending on their model of analysis. For example, a functionalist account of organizational culture understands the existence of safety culture in the nuclear power industry as a direct result of the industryÕs purpose, which determines managerÕs and employeeÕs preferences. Thus, given the purpose or goals of nuclear power, management places a high priority on safety. As in aviation, managerial functionalist strategies for safety culture in the nuclear power industry are a direct consequence of the industry goal of zero tolerance for nuclear accidents. On an Òinterpretive viewÓ of organizational culture, a safety culture ÒemergesÓ from the values, attitudes, beliefs, and patterns of behavior of social groupings in the workplace, and industry stakeholders. Safety culture in the nuclear power industry is less a result of managerial purpose or goals, than an emergent property of the values, attitudes, and beliefs of industry stakeholders.

Cooper argues that the Health & Safety CommissionÕs definition of safety culture supports his view that the functionalist and interpretive accounts of organizational culture are compatible.[8] He draws attention to the fact that the Commission defines safety culture as a Òproduct,Ó and not merely as an institutional climate, or aggregation of individualÕs attitudes and perceptions about safety. In effect, the Commission recognizes that, as a Òproduct,Ó safety culture in the nuclear power industry is a managerial functionalist strategy that emerges from the Òvalues, attitudes, competencies, [and] patterns of behaviorÓ of stakeholders within dynamic reciprocal relationships premised on Òmutual trust.Ó ManagementÕs goal-directed behavior of zero tolerance is thus an emergent property created by social groupings within the workplace, and among industry stakeholders.

Academics and social scientists in the field of occupational health and safety build on this definition in attempting to define the ÒproductÓ and clarify what a safety culture should look like in an organization. The definition of safety culture as a product serves a number of purposes. First, a definition helps to determine the functional strategies that would be required to develop the Òproduct.Ó Second, when we understand safety culture as a product, we develop a better sense of how to measure the degree to which an organization has a ÒgoodÓ safety culture. Outcomes measurements, in turn, counteract unsystematic and fragmented approaches to safety culture.

Edwin Locke and Gary Latham define the product of a safety culture as Òthat observable degree of effort to which all organizational members direct their attention and actions toward improving safety on a daily basis.Ó[9] This definition offers the three essential ingredients of safety culture: (1) personal or professional values, beliefs, and attitudes; (2) behavioral competencies and/or patterns of behavior; and (3) the situational context of organizational systems and sub-systems. Personal, behavioral, and situational elements would then combine to determine a safety culture Òproduct.Ó

Locke and Latham further distinguish the organizational characteristics that create the product of safety culture. They include (1) ensuring that organizational members share the same ideas and beliefs about risks, accidents, and injuries; (2) increasing employeesÕ commitment to safety; (3) ensuring that safety issues receive the attention warranted by their significance; (4) producing behavioral norms; (5) reducing accidents and injuries; and (6) determining the style and proficiency of an organizationÕs systems and subsystems. Locke and Latham point out that each of these elements can be viewed both as a subgoal that helps

an organization achieve its superordinate goal of safety culture, and a goal-achievement or consequence that emerges from the creation of safety culture. Thus, the creation of safety culture is dependent on setting a superordinate goal that can be achieved by dividing the task into a series of subgoals intended to direct employeesÕ actions toward safety culture.

HCR is especially valuable on this point, precisely because it too stresses that safety culture is the product of multiple goal-directed interactions among people (personal), jobs (behavioral), and the organization (situational). Thus, safety culture emerges from the dynamic reciprocal relationships among (1) stakeholdersÕ perceptions of, and attitudes toward, the realization of the organizationÕs goal of safety; (2) stakeholdersÕ day to day goal-directed behavior toward this end; and (3) the presence and quality of organizational systems and sub-systems to support the goal-directed behaviors.

Once we have delimited the three different levels of analysis of a safety culture, we can then examine each level individually, or in relation to the other two levels. For example, Cooper defines the personal level of safety culture as the Òsafety climate dimension,Ó the behavioral level as the Òbehavioral dimension,Ó and the situational level as the Òsafety management dimensionÓ of a safety culture.[10] The Òsafety climateÓ encompasses the subjective internal, psychological factors of safety culture; Òsafety behaviorÓ encompasses the observable day-to-day safety related behaviors; and Òsafety managementÓ encompasses objective safety-oriented systems and subsystems.

Each dimension of safety culture, in turn, has its own unique characteristics. For example, a Òsafety climateÓ is dependent upon employeesÕ personal commitment to safety, their safety knowledge, their personal involvement in decisions, and their personal commitment to the organization, among other things. ÒSafety behaviorÓ depends in part on team work, task complexity, task strategies, and oneÕs work environment. ÒSafety managementÓ depends on management commitment, management actions, communications, the allocation of resources, strategic planning, policy development, standards, feedback, and monitoring.

In summary, the analysis of the essential ingredients of a safety culture includes people, jobs, and systems. As we will see, HCR adopts this model of safety culture. In brief, HCR makes the important claim that organizations with an interest in safety must attend to each level. For example, if an organization simply tries to change employeesÕ attitudes about safety; or, if only to mandate an organizational systems change; or merely seeks changes in employeesÕ behaviors, nothing much will change. In CooperÕs words, the dimensions of safety climate, safety behavior and safety management are integral in the creation of a culture of safety.

Elements of A Culture of Blame

HCR provides us with a lens by which to examine from the ethical point of view the healthcare industry and its traditional institutional response to patient safety. First, HCR characterizes in broad terms the industryÕs response to the problem; then it addresses the inadequacies of this response. In what follows, I first summarize HCRÕs account of the industryÕs response and its deficiencies. I then supplement HCRÕs analysis with an application of CooperÕs model of safety culture to the problematic. In the concluding section, I then build on the findings of HCR in suggesting ways in which ethics committees can help promote and sustain a culture of patient safety.

As HCR notes, a cursory review of the literature shows that patient injuries due to medical errors are a huge problem in the healthcare industry, particularly those due to medication errors. HCR highlights the findings of the Institute of MedicineÕs To Err is Human (IOM), which cites two separate studies in concluding that some 44,000 to 98,000 patients die annually due to medical errors, more than highway accidents, breast cancer, and AIDS combined.[11] The authors of IOM suggest that, even if we accept the lower estimate, deaths resulting from medical error exceed the number attributable to the eighth leading cause of death. Though the data are old and subject to manipulation, we cannot dispute the fact that patient injuries and deaths occur because of medical errors. Whatever the actual rate turns out to be, clearly the injury rate in the healthcare industry compares unfavorably with other industries.

We can also agree on the traditional institutional response to patient safety. Both the IOM report and HCR supply ample evidence in support of the claim that patient safety has not been a top priority in most health service organizations. In other high-risk industries, such as the aviation and nuclear power, industry leaders consider safety to be the dominant characteristic of organizational culture, and in industries such as manufacturing and automobile, safety is a subcomponent of organizational culture. At best, we can assume that patient safety has been a subcomponent of the organizational culture in most healthcare facilities and, as such, generally has not been addressed in a systematic and comprehensive fashion. Given that modern healthcare delivery Òpresents the most complex safety challenge of any activity on earth,Ó we ought to expect that a more fitting response would make patient safety a dominant characteristic of organizational culture in healthcare.[12]

CooperÕs triadic model of the personal, the behavioral, and the situational levels of organizational cultural will help us well analyze and evaluate patient safety in the healthcare industry.

Absent statistically valid studies and hard data, we can nevertheless make some preliminary observations about the personal, behavioral, and situational levels of patient

safety culture in the healthcare industry. Authors on the subject have almost uniformly concluded that the healthcare industry has failed to design systems for patient safety, relying instead on requiring individual error-free performance enforced by punishment. As HCR notes, there appears to be an entrenched belief in the industry in the effectiveness of blame and punishment for error prevention, a conviction reinforced by highly punitive legal and regulatory systems and the public media.[13] In short, the industry has relied almost exclusively on threat of legal, financial, or disciplinary penalties to ensure patient safety, and operates on the assumption that most patient injuries result from bad behavior (e.g., incompetence, negligence, or corporate greed). In short, a culture of blame pervades healthcare.

HCR also notes that, if organizations try to change healthcare professionalsÕ attitudes without considering either job or organizational features, they will likely fail in their efforts to address safety issues. If organizations disregard healthcare professionalsÕ behaviors or attitudes about safety, they will likely fail in their efforts to change organizational systems. Finally, organizations will likely fail to change healthcare professionalsÕ behaviors without taking into account either the effects of organizational systems, or healthcare professionalÕs values and attitudes. Each level of the personal, the behavioral and the situational is essential in the creation of a safety culture.

In sum, both IOM and HCR show how health service organizations have focused narrowly on the personal level to the complete neglect of the behavioral and situational. CooperÕs analysis of the dimensions of safety culture also helps us to probe more deeply the elements of this culture of blame. Recall that Cooper further defines the personal level of safety culture as the safety climate dimension, the behavioral level as the behavioral dimension, and the situational level as the safety management dimension of a safety culture. The safety climate encompasses *subjective* internal, psychological factors of safety culture; safety behavior encompasses the *observable* day-to-day safety related behaviors; and safety management encompasses *objective* safety-oriented systems and subsystems.

Health service organizations have largely ignored both the safety behavior and the safety management dimensions of safety culture. With regard to the safety behavior dimension, organizations have failed to integrate patient safety into team work, task strategies, task complexity, and the work environment, among other shortcomings. With regard to the safety management dimension, health service organizations have also failed to integrate patient safety into management commitment, management actions, communications, allocations of resources, strategic planning, policy development, standards, feedback mechanisms, and monitoring functions.

Not only has the healthcare industry virtually ignored the safety behavior and safety management dimensions of safety culture, but it has also acted to undermine the safety climate dimension. Safety climate depends on, for example, employeesÕ personal commitment to safety, their personal involvement in decisions about safety, their safety knowledge, and their personal commitment to the organization, among other things. HCR shows that administrators have used a combination of force and manipulation to coerce healthcare professionals into Òerror-freeÓ performance. Experience in other industries confirms that this approach demoralizes staff; in fact, it produces the exact opposite outcome from the intention. Blame and punishment provide strong incentives for people to hide their mistakes, which prevents recognition, analysis, and correction of underlying causes. Rather than improving patient safety, blame and punishment make reducing errors much more difficult. If health service organizations continue to ignore the safety behavior and safety management dimensions of safety culture, and undermine the safety climate dimension, they will continue to fail in their efforts adequately to address patient safety.

A Shift Toward a Patient Safety Culture

CooperÕs analysis of safety culture helps us to understand the culture of blame that pervades healthcare. It can also provide guiding principles for organizational transformation to patient safety culture. The promotion of patient safety culture hinges on the development of the patient safety climate, patient safety behavior, and patient safety management dimensions within the healthcare industry. The patient safety climate dimension depends, for example, on the personal commitment of healthcare professionals and staff to patient safety, their personal involvement in decisions about patient safety, their patient safety knowledge, and their personal commitment to their organizations. The patient safety behavior dimension, on the other hand, depends on team work, task strategies, task complexity, and work environment. Finally, the patient safety management dimension depends on, for example, management commitment, management actions, communications, allocation of resources, strategic planning, policy development, standards, feedback, and monitoring.

In short, a patient safety culture must encompass *subjective* internal, psychological factors, *observable* day-to-day patient safety related behaviors, and *objective* patient safety-oriented systems and subsystems. How might institutional ethics committees contribute to this organizational transformation to a patient safety culture? Here we can use Locke and LathamÕs analysis of the organizational characteristics that help create or enhance safety culture to derive some ideas about how ethics committees can promote those organizational characteristics in a healthcare environment. The characteristics include (1) ensuring that organizational members share similar ideas and beliefs about

patient safety; (2) increasing the commitment of healthcare professionals and staff to patient safety; (3) ensuring that patient safety issues receive the attention from healthcare administrators as warranted by their significance; (4) producing behavioral norms around patient safety; (5) reducing medical errors and injuries to patients; and (6) determining the style and proficiency of an organizationÕs systems and subsystems to support the patient safety climate and patient safety behavior dimensions of patient safety culture. Based on Locke and LathamÕs recommendations, ethics committee members ought to view each of these elements both as subgoals that would help their organization achieve its superordinate goal of patient safety culture, and goal-achievements or consequences that emerge from the creation of patient safety culture. Thus, the creation of patient safety culture depends on setting a superordinate goal of patient safety that can be achieved by dividing the task into a series of subgoals intended to direct everyoneÕs actions toward the creation of patient safety culture.

Ethics committees have multidisciplinary resources at their disposal that could make an enormous contribution toward the development of each of these organizational characteristics in their institutions. In general, ethics committees perform three functions and roles: ethics education, policy review and development, and both retrospective and prospective case consultation. Ethics committees could use these functions and roles in support of patient safety culture. Ethics committees could use, for example, their education function and role to influence the patient safety climate dimension within their organizations. A patient safety climate depends on shared beliefs, values and attitudes regarding patient safety. Through ethics education, ethics committees can help to shape a self-sustaining image of patient safety among administrators, healthcare professionals and staff. Shared beliefs, values and attitudes about the importance of patient safety would then foster a commitment in their organizations to a patient safety culture.

As IOM and HCR shows, when an organization focuses only on the personal level, it actually undermines its patient safety climate. Health service organizations have relied primarily on discipline to change peopleÕs attitudes and behaviors. But this is an inefficient means by which to manage change in values, beliefs, and attitudes, or in unsafe behavior. The literature on safety suggests that the best way to begin to change safety attitudes and unsafe behavior is to focus on safety behavior. This entails adopting a collaborative, problem-solving approach involving administrators, healthcare professionals and staff to identify critical sets of safe and unsafe behavior. Ethics committees could use their multidisciplinary case consultation function and role to help develop Òsafety inventoriesÓ that staff could then use to monitor patient safety behavior.

For example, ethics committee members would have to draw on the resources of healthcare professionals from different disciplines in a thorough ethical analysis of a case involving disclosure of medication error. A thorough ethical analysis of medication error depends on understanding how each level of the personal (people), behavioral (jobs), and situational (systems) contributed to the unanticipated outcome. In a case consultation, committee members would learn from the analysis about best practices on how to address unsafe behavior in the delivery of medications. By identifying unsafe behavior, the committee as a whole could then help the organization develop a patient safety inventory for medications, or a critical set of safe behaviors. At the very least, the ethics committee could interact with other personnel or committees in charge of patient safety to help them reinforce a safety inventory for medications. Healthcare professionals and staff could then use the safety inventory to monitor systematically ongoing safety behavior. Based on the results of peer monitoring, teams could set their own safety improvement targets in a participatory environment. In its case consultation, then, the ethics committee would encourage co-operation, involvement and better communications to improve patient safety climate and patient safety behavior.

A patient safety climate will ultimately depend on the perceptions and beliefs of healthcare professionals and staff about the organizationÕs patient safety management practices. According to Cooper, organizations ought to adopt a holistic approach to the development of the safety management dimension of safety culture.[14] A safety management system depends on many activities with diffuse responsibility. It therefore requires an integrated approach for managing safety risks, ongoing safety performance, and compliance. First, an organization should develop its safety management practices based on management commitment, management action, communications, strategic planning, policy development and procedures that provide internal consistency and harmonization of functions. Second, an organization should audit the system to ensure the reliability, efficiency, and effectiveness of its planning, policy development, implementation, and monitoring of safety performance. Finally, an organization ought to perceive the development of a safety management system as a way to generate awareness, understanding, motivation, and commitment on the part of all personnel.

Ethics committees could use both their ethics education and, in particular, their policy review and development functions and roles to influence the development, implementation and monitoring of their organizationsÕ patient safety management system. Through ethics education, ethics committees can influence management commitment, management actions, communications, allocation of resources, and strategic planning. Through policy development, ethics committees can influence the development of patient safety standards. By helping to develop standards, ethics committees can thereby help their organizations monitor and review interrelated safety activities.

CONCLUSION

Organizational culture is complex, and the cultures of health service organizations are especially so. While in many healthcare facilities, a strong dominant culture pervades throughout and across different departments, culture is far from uniform in most organizations. The ways administrators, healthcare professionals and staff think, feel, perceive, and act in relation to the corporate body vary from division to division, department to department, team to team, and from individual to individual. Different subcultures emerge from functional groups, hierarchical levels and organizational roles, with very few commonly held values, beliefs, attitudes or behaviors shared by all stakeholders. Differing subcultures, however, can serve a useful purpose in organizational transformation. A diversity of perspectives and interpretations can be a valuable resource for dealing with emerging problems that are systemic in nature.

As HCR shows, the creation and maintenance of safety culture is also multidimensional, and depends on dynamic reciprocal relationships among multiple stakeholders premised on Òmutual trust.Ó Organizations with an interest in safety must attend to each dimension. Experience in other industries demonstrates that, if health service organizations try simply to change employeesÕ attitudes about safety; or, mandate only organizational systems change; or, seek merely to change the behavior of healthcare professionals and staff, failure is a probable outcome. The dimensions of safety climate, safety behavior and safety management are integral in the creation of a culture of safety.

It appears at first blush that ethics committees can only offer their institutions a recommendation to tell the truth in the event of medical error. In fact, ethics committees ought to be at the very center of organizational transformation to patient safety culture. Ethics committee members usually represent diverse subcultures within their institutions. Moreover, ethics committees have multidisciplinary resources at their disposal, which could help their organizations address, not only the subjective internal, psychological factors of patient safety, but also the observable day-to-day patient safety related behaviors, and the objective patient safety-oriented systems and subsystems. The functions and roles of ethics education, policy review and development, and case consultation lend themselves perfectly to the development of those organizational characteristics that would support the creation and maintenance of patient safety culture in the healthcare industry.

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