

MEASURING A JUST CULTURE IN HEALTHCARE PROFESSIONALS: INITIAL SURVEY RESULTS

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A Just Culture serves as the primary guiding principle for risk identification and ultimately patient safety. A workplace devoted to Just Culture creates an active learning environment wherein members of an organization can openly discuss errors without the fear of reprisals. Just Culture also involves establishing a system to evaluate individual accountability in the context of the system in which errors occur. From this, process improvements and system corrections can be identified leading to beneficial changes, which can in turn be embedded into an organization's culture. A Just Culture Team of 15 hospitals, whose members represent broad disciplines and whose sizes range from 100 to 11,000 employees, was formed to study and create a "just" culture of shared accountability. A component of the study developed a targeted survey based on prior validated research in Safety Culture. Results (N = 1,876) from 11 hospitals participating in the anonymous, voluntary survey indicate a slightly positive overall perception of just culture (overall means above 4.0 on 7-point Lickert scale, but below 5). Analysis revealed specific low-scoring items where improvements can be made, including the perception of blame in errors that impact patient safety, lack of time for healthcare professionals to report errors, and fear of negative repercussions limiting error reporting.

Background

Organizations have become highly interested in creating a culture of safety for both patients and workers. In healthcare, the subject of human error has garnered wide attention over the past decade. The Harvard Medical Practice study randomly selected over 30,000 records from 51 randomly selected acute care hospitals in New York State to estimate the incidence of adverse events, defined as injuries caused by medical mismanagement or substandard care (Brennan, et al, 1991; Leape, et.al, 1991). Adverse events were reported in nearly 4% of all hospitalized patients in New York State in 1984 with approximately 14% of these injuries as fatal (Leape, et al., 1991). Leape extrapolated these figures to the United States population, estimating nearly 180,000 people die each year due in part as a result of iatrogenic injury (Leape, Woods, Hatlie, Kizer, Schroeder, & Lundberg, 1998). These injuries are predominantly due to human error and are hence potentially avoidable. Following this, the landmark Institute of Medicine report *To Err is Human* (Corrigan, Kohn, & Donaldson, 2000) estimated the number of adverse medical events caused by human error to be between 44,000 and 98,000 each year. Estimates also point to medical errors among the ten major causes of death within the entire healthcare industry (Rall, Manser, Guggenberger, Gaba, & Unertl, 2001). The concern for minimizing human error in medicine cannot be overstated. The issue of human error in medicine may be more prevalent than previously noted. Through prospective detailed studies error rates have been found to be considerably higher than estimates based solely on personnel reports (Leape, Woods, Hatlie, Kizer, Schroeder, &

Lundberg, 1998).

It is essential the healthcare industry adopt quality improvements to current practice to enhance patient safety and minimize human error. Corrigan, Kohn, and Donaldson (2000) suggest healthcare facilities adopt the quality improvements successes in other complex, high-tech industries such as aviation. One such effort is the focus on organizational safety, or "Safety Culture." Safety Culture has been defined as "The enduring value and priority placed on worker and public safety by everyone in every group at every level of an organization" (Wiegmann, Zhang, von Thaden, Sharma, & Mitchell, 2002). Wiegmann et al. (2002) reviewed the safety culture literature across a number of industries and identified five core indicators of an organization's safety culture:

Organizational Commitment: the organization's commitment to safety, as expressed by upper management;

Managerial Involvement: the active involvement of mid-level managers or supervisors in promoting safety;

Employee Empowerment: the degree to which individual employees are empowered to make safety a priority;

Accountability System: the system by which employees are held accountable for acting unsafely; and

Reporting System: the quality and usability of the system for reporting and processing safety information.

According to Harvard Professor, Dr. Lucian Leape, the public perception and punitive work environment

treat medical error as a reflection of personal negligence on behalf of the healthcare professional (Leape, 1997). Since healthcare professionals are often punished for making mistakes, they tend to report only those errors they cannot cover up, hence only about 2 to 3% of major errors are reported.

James Reason (1997), notes the workings of a safety culture are made up of cultures that are just, that report, learn, inform and are flexible. Reason notes that a “Just Culture” creates an atmosphere of trust, encouraging and rewarding people for providing essential safety-related information. A just culture is also explicit about what constitutes acceptable and unacceptable behavior. In a recent report by the Global Aviation Information Network, a just culture is defined as, “A way of safety thinking that promotes a questioning attitude, is resistant to complacency, is committed to excellence, and fosters both personal accountability and corporate self-regulation in safety matters” (GAIN, 2004, p.4). The report goes on to define a just safety culture, as both an attitude and a structure, which relates to both individuals and organizations. “Personal attitudes and corporate style can enable or facilitate the unsafe acts and conditions that are the precursors to accidents and incidents. It requires not only actively identifying safety issues, but responding with appropriate action” (Gain, 2004, p.4).

To be effective just culture must promote learning from mistakes, rather than focus on blame. However, this does not apply to cases of criminal neglect or abuse. To understand the scope of medical error requires a climate that fosters trust, in which front line workers are encouraged and willing to report errors and incidents; their own, and/or those of others, providing key information about safety problems and potential solutions. This in turn cultivates self-study and supports compliance with safe practice through evaluation of internal practice.

Method

The Risk Management and Patient Safety Institute formed a Just Culture Team to participate in a Patient Safety Fellowship project with the mission of understanding and creating a just culture for healthcare. The project focused on the development of a self-evaluation tool to utilize as a staff survey to measure patient safety in healthcare organizations. The Team consisted of patient safety specialists, risk managers, nursing officers, physician, research and statistical experts and quality managers. Many of the team members came from hospitals in Michigan, Minnesota, North Dakota, Ohio, and South Carolina.

The size range of each of these facilities was from 100 employees to 11,000 employees.

The Team originally developed a survey with 30 items, which were merged with constructs previously developed and validated at the University of Illinois. Wiegmann et al. (2002, 2003) and Gibbons, et al. (2004) reviewed the organizational safety literature across a number of industries and identified and validated critical indicators of an organization’s safety culture as applied to airline safety. This research was used as background for developing the just culture survey questionnaire. The aviation domain is quite similar to the medical domain in that it is high reliability and safety critical dependent. The Team drew upon the dataset developed at the U of I from over 2000 items, which included the background work members of the Team identified as part of a just culture. The data were broken into four indicators of what constructs specifically needed to be measured for a just culture, which were identified as:

Reporting Systems(R) – Does the organization have one, is it used, do people feel safe using it?

Response and Feedback(R&F) – What does the organization do with the reports once they have them? Does the Organization act on the information provided in the reports? Does the Organization share information and provide feedback?

Accountability (A) – Are employees held equally accountable for their actions? Is there blame or favoritism? Does the organization recognize honest mistakes?

Basic Safety (BS) – What is the organization’s commitment to basic safety? Is it reinforced throughout? Do you have the training and tools to do your job, etc.

These items were arranged into a seven point Lickert scale questionnaire, where “1” represented Strong disagreement with the construct, “7” strong agreement, and “4” neutrality. The Team piloted the survey on medical professionals and reduced redundancy and confusing questions. From their comments we reduced the survey to 20 items.

Each participating organization distributed the survey to their employees with a cover letter assuring participants the survey was completely voluntary, anonymous, and that none of the data would be used to identify them, but only in the aggregate. The survey was distributed in the Fall of 2004 with 11 hospitals providing results for the following data.

Results

Approximately 6200 surveys were distributed with 1876 returns (30% return rate). The largest respondent group consisted of healthcare professionals over age 45 (46.7%), with the smallest respondent group between the ages of 30 and 34 (10.9%). Table 1 shows the breakdown of respondent age.

Table 1. Age range of respondents.

Age Range	Percent
<30	12.6
30-34	10.9
35-39	12.8
40-44	17.0
45+	46.7

Nearly 59% of the respondents indicated their occupation as Nursing/Clinical, with the next largest respondent population (22.2%) indicating management as their occupation. Table 2 shows the breakdown of respondent occupations.

Table 2. Respondent occupation.

Job	Percent
Physician	9.8
Management	22.2
Nursing/Clinical	58.7
Non-Clinical Staff	9.3

As seen in Table 3, respondents were well experienced in their respective positions. Seven percent of the respondents indicated less than 1 year in their position, while 12% indicated between 1 and 2 years in their current positions. Nearly 31% of the respondents indicated between 3 and 7 years experience in their position, while slightly over 50% indicated over 8 years experience.

Table 3. Respondent experience in position

Experience	Percent
<6 mos	4.0
6-11 mos	3.0
1-2 yrs	12.0
3-7 yrs	30.6
8-12 yrs	17.2
13-20 yrs	17.3
21+ yrs	15.9

Table 4 itemizes the time each respondent has worked for their respective organization. The

majority of respondents indicated familiarity with their organization with 29.4% indicating working for their organization between 3 and 7 years, while 51% indicated over 8 years with their organization.

Table 4. Respondent experience in organization.

Experience	Percent
<6 mos	3.3
6-11 mos	3.6
1-2 yrs	12.8
3-7 yrs	29.4
8-12 yrs	14.8
13-20 yrs	18.1
21+ yrs	18.1

Performance scores for the Just Culture Survey (JCS) on each of the four dimensions of identified (Reporting Systems, Response and Feedback, Accountability, and Basic Safety) were determined by calculating the mean of the participants' responses to the items in each scale. Means for each dimension scale appear in Figure 1. Responses were given on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with 4 representing "neither agree nor disagree." Negatively worded items (such as "Fear of negative repercussions prevents reporting of errors/incidents.") were recoded before averaging so that higher scores on all items reflected a positive response. The possible range of values for each scale, then, ranged from 1 (indicating an extremely negative view of the dimension) to 7 (indicating an extremely positive view of the dimension). A scale score of 4 may reflect either mixed views (an equal number of positive and negative responses) or neutrality (neither agreeing nor disagreeing with any item).

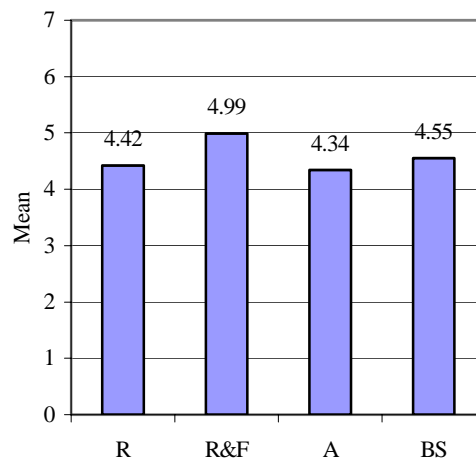


Figure 1. Mean scores on the four dimensions of just culture.

The mean score for the overall JCS on all four measured dimensions is moderately positive, indicating that respondents hold a generally favorable opinion of their just safety culture in regard to each dimension. Response and Feedback has the strongest positive score (4.99), and Accountability has the weakest, only slightly above the neutral point (4.34). Only a few healthcare professionals gave negative average scores for each scale, but variation remains in the degree to which healthcare professionals perceive each dimension as actively positive.

Further information regarding strengths and weaknesses within each dimension can be obtained by examining ratings on individual items within the scale. An average item score of 5.5 or higher suggests that nearly all respondents endorsed the item positively, implying a strong positive culture in that area. An average item score below the scale midpoint of 4.0 suggests that most respondents endorsed the item negatively, suggesting an area that may need improvement or further exploration. Table 5 shows the scores for items on the Reporting System scale.

Table 5. Means of dimension scores: Reporting Systems.

	Mean	Std. Deviation	Variance
Healthcare professionals report errors/incidents that others make.	5.18	1.46	2.12
Healthcare professionals report their own errors/incidents.	5.05	1.52	2.30
Healthcare professionals report near miss issues that could lead to errors/incidents, even when no harm has been done.	4.71	1.76	3.09
*Lack of time prevents reporting of errors/incidents.	3.73	1.86	3.46
*Fear of negative repercussions prevents reporting of errors/incidents.	3.42	1.82	3.32

Items marked with an asterisk (*) are negative indicators of safety culture and are reverse coded before analysis, so that high scores on all items reflect a positive safety culture.

For Reporting Systems, none of the items have average ratings of 5.5 or higher. However, on a positive note, respondents seem to agree that errors and incidents (their own or those of others) are reported. Two items have average ratings below 4.0, indicating that respondents did not perceive these elements as positive. **Lack of time prevents reporting of errors/incidents (3.73)* and **Fear of negative repercussions prevents reporting of errors/incidents (3.42)*.

An examination of the comments for Reporting Systems indicates some healthcare professionals feel there exists a culture of blame, and it is dependent upon your position in the organization whether or not there will be negative consequences. Lack of time to report an error is a large concern given understaffing and the extra duties healthcare professionals perform.

As seen in Table 6, Response and Feedback, all items are marginally positively endorsed which shows healthcare professionals feel they get adequate response and feedback from their respective systems, but that there is some room for improvement and perhaps trust.

Table 6. Means of dimension scores: Response and Feedback.

	Mean	Std. Deviation	Variance
When a healthcare professional reports a safety concern, appropriate action is taken.	5.13	1.51	2.29
The culture of this organization makes it possible to learn positive lessons from mistakes.	5.07	1.53	2.35
If an incident occurs, the organization leaders and staff treat the issue and share lessons to learn.	4.98	1.64	2.69
*In my organization it is difficult to discuss errors/incidents.	4.76	1.68	2.82

Respondent comments suggest Response and Feedback varies according to the department within the organization. Comments also suggest that while some of the more notable lessons from cases may be shared, this is not consistently performed, nor is this information shared across departments on a regular basis, suggesting communication channels can be improved.

In Table 7, Accountability, there appear to be some mid-range, mixed feelings about healthcare professionals receiving equal treatment. One item received an average rating below 4.0: *If there is an incident that impacts patient safety, someone will be blamed (3.58)* indicating concerns over finding blame if issues impact patient safety.

Respondent comments suggest that in some departments, every error is consistently reported, while in others, it depends upon who made the error. Comments reveal that disciplinary action is adjusted according to whom makes the error. A number of comments suggest that nursing staff do not receive the same action, as do the MDs.

Table 7. Means of dimension scores: Accountability.

	Mean	Std. Deviation	Variance
If healthcare professionals violate procedures, rules, etc., that cause patient harm they are disciplined.	5.03	1.44	2.072
This organization has a just culture.	4.65	1.57	2.469
If healthcare professionals violate procedures, rules, etc., they are disciplined, even when there is no harm to the patient.	4.27	1.59	2.544
Disciplining healthcare professionals in response to honest mistakes does little to improve overall patient safety.	4.26	1.84	3.391
Standards of accountability are consistently applied to all healthcare professionals in this organization.	4.23	1.86	3.457
*If there is an incident that impacts patient safety, someone will be blamed.	3.58	1.67	2.777

In Table 8, Basic Safety, most healthcare professionals feel their organizations provide adequate training, tools and equipment to do the job, reinforcing a commitment to patient safety throughout the organization. One item received an average rating below 4: **When mistakes/errors/incidents occur, it is usually due to human error* (2.9). This score reflects the human factor indicating that healthcare professionals feel that if there is a mistake or an accident, it's due to human error not due to the technological component, as can be seen in the response to the item: *When incidents occur, it is usually due to a system or technology cause* (4.28). Although a mediocre result of 4.28 in the incidents occurring due to systems or technology causes appear to be less frequent or less invasive.

Table 8. Means of dimension scores: Basic Safety.

	Mean	Std. Deviation	Variance
Healthcare professionals are provided with the necessary training to do the job.	5.31	1.37	1.87
Patient safety is reinforced as a priority throughout this organization, regardless of cost.	5.25	1.56	2.43
Healthcare professionals are provided with the necessary equipment to do the job.	5.00	1.53	2.34
*When incidents occur, it is usually due to a system or technology cause.	4.28	1.34	1.80
*When mistakes/errors/incidents occur, it is usually due to human error.	2.90	1.34	1.80

Comments for Basic Safety reveal that training and patient safety is taken quite seriously in the organizations. However, time is not always available to receive adequate training and it varies from department to department. Technology is seen as problematic; while on one hand the technology aids in job performance, many comments suggest that it is problems working with equipment or problematic technologies that promote human error.

Conclusion

The overall results from the just culture survey are slightly positive, and suggest areas where improvements can be made. The results highlight areas to address including perceptions of negative repercussions for reporting errors and perceptions of the assignment of blame for errors committed. Other areas appear to reflect that while intentions may be positive, lack of time prevents disclosure of many mistakes and errors, and that a perception exists that human error may be aided by problematic technology and time pressure. To the credit of healthcare professionals, patient safety is seen as top priority and training is taken seriously.

In response to the finding in the survey results regarding the fear of negative repercussions a model to assist in the determination of accountability has been developed. The shared accountability model focuses on several areas, including:

- Intentional and unintentional actions,
- Capacity test, including the use of medications, substance use or the presence of an illness
- Reasonable person measure—how would peers act/perform in such a situation
- Decision making, including the availability and/or use of procedures/standards and whether they were understandable and appropriate
- Acceptability or unacceptability of risk taking
- Mitigating factors, such as personal stress, environmental influences/distractions, working conditions etc, and
- History of unsafe acts.

The shared accountability model can be used following an event /error to guide in determining individual and system accountability and thus, appropriate corrective action based on the accountability.

Respondents believe that most errors are human related. Healthcare professionals need to be encouraged to report errors and provided the time to do so. There does appear to be hesitancy to report due

to fear of negative repercussions. People do feel, whether justified or not, that there is a blaming culture. This finding reinforced the team's goal to develop a software system that assists with the determination of accountability and the corrective action triggers. The accountability model software is being utilized now to determine the usefulness in appropriately determining accountability following events/errors.

Acknowledgments

The authors wish to thank Sam Hohmann and the hospitals that volunteered to participate in this study. This material is based upon work supported by the Risk Management and Patient Safety Institute. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the Risk Management and Patient Safety Institute.

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