

# An Assessment of the Impact of Just Culture on Quality and Safety in U.S. Hospitals

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## Abstract

In pursuit of high reliability, numerous organizations have promoted Just Culture, but its impact has never been assessed. This report combines data from a longitudinal survey-based study of clinical peer review practices in a cohort of 457 acute care hospitals with 43 measures from the Hospital Compare database and interprets them in relation to the long term trends of AHRQ data on the Hospital Survey of Patient Safety Culture. 211 of 270 respondents (79%) indicated their hospital has adopted Just Culture. Over half believe it has had a positive impact. Just Culture implementation and its degree of impact are associated with somewhat better peer review process, but not with objective measures of hospital performance. *Non-Punitive Response to Error* has consistently been the lowest scoring category (45% positive) in the AHRQ database. Widespread adoption of Just Culture has not reduced reluctance to report or the culture of blame which it targets.

## Background

The concept of *Just Culture*, generally attributed to James Reason, [1] was first applied to healthcare by David Marx.[2] Just Culture seeks to promote reporting of errors, adverse events and near misses by eliminating blame for human error so that the organization can learn from mistakes. In contrast, approaches that emphasize punishment of individuals over systems change generate strong incentives to report only those errors that can't be hidden.[3] Just Culture simultaneously seeks to maintain accountability for behavioral choices through an algorithm for differentiating blameless from blame-worthy acts (see for example [4,5]). For more than a decade, numerous state and national organizations have been promoting Just Culture as a stand-alone program to support the pursuit of high reliability in quality and safety.[6]

Nevertheless, little has been done to evaluate the impact of Just Culture. Petschonek et al. developed a Just Culture Assessment Tool and tested it in a pediatric teaching hospital.[7] That instrument has not been validated or applied in other settings. Another instrument, reported only in conference proceedings, was applied to evaluate differences in perceptions across clinical disciplines at 12 hospitals.[8] In 2008, the Pennsylvania Patient Safety Authority, one of the early adopters of Just Culture, found that 70% of Pennsylvania hospitals reported some level of implementation.[9] Most of these (84%) claimed to have achieved complete hospital-wide implementation. Several years later they conducted a validation study using a more detailed self-assessment and found that the 10 volunteering hospitals had generally over-estimated the extent to which they had implemented Just Culture principles.[10] No one has otherwise reported on the relationship between Just Culture and its primary targets: safety culture and event reporting. Nor has anyone investigated its relationship to objective measures of quality and safety which it ultimately seeks to influence. Thus, the extent of Just Culture adoption in the U.S. and its impact remain unknown.

It is also important to consider that the problems which Just Culture was designed to correct are also manifest in the clinical peer review practices in U.S. hospitals. As a result of Joint Commission standards that became effective in 1980, virtually all medical staffs established formal clinical peer review programs.[11] Most adopted the generic screens for substandard care developed for the California Medical Insurance Feasibility Study as a means of peer review case identification, notwithstanding the lack of validation for that purpose.[12,13]

While program scope now varies widely, program activity still includes retrospective case review. Given a median case review volume of 1-2% of hospital inpatient volume, clinical peer review would appear to be the dominant mode of adverse event analysis.[14] Hospitals continue to rely on generic screens to identify cases for review because it is uncommon for physicians to self-report due to the persistent culture of blame. The associated mode of peer review focused on rooting out substandard care has long been criticized as being out of touch with the evolution of systems thinking and quality improvement methods.[15,16] Although a non-punitive best-practice model has been described, it has not been widely adopted.[17]

For these reasons, one might hypothesize that in organizations with a Just Culture, clinical peer review practices would more closely approximate the ideal. Therefore, the author undertook this mixed-methods study to pull together public-source data relevant to hospital safety culture and performance in conjunction with a longitudinal study of best practices in clinical peer review with the aim of assessing the impact of Just Culture on quality and safety.

## Methods

The sample frame consisted of 457 identifiable acute care U.S. hospitals from among those first studied in 2007 (N=152 of 334) or 2009 (N=320 of 320). Both studies captured data from hospitals of all sizes, but somewhat over-represented teaching hospitals. [18,19]

A 4-page web-based survey instrument included 40 items addressing clinical peer review program structure, process and governance, related organizational factors, perceived program impact on quality and safety, and the degree of conformance to a validated Quality Improvement (QI) model for peer review.[20] The survey asked for a yes or no response to the question, “Has your hospital adopted Just Culture or a similar program for differentiating blameless from blameworthy acts?” The conditional, follow-up question, “If so, what has been the impact on the quality and safety of patient care?” presented a six level Likert scale ranging from *Strongly Negative* to *Strongly Positive*.

Data collection extended from October 5, 2015 through March 7, 2016. Following the close of the survey, the author solicited additional information about why hospitals had or had not embraced Just Culture and to identify critical success factors for its implementation. He included both complete and partial (3-page) responses in the analyses and assigned final disposition codes for the sample frame at the hospital level according to 2015 AAPOR standards.[21]

The author assessed the association between Just Culture responses and other survey data using Pearson chi-square and one-way ANOVA. This included a revised Quality Improvement model score that represents a measure of the extent to which a hospital’s clinical peer review program conforms to best practice in pursuit of quality and safety.[17] It contains 20 items on a 100 point scale addressing program characteristics such as the likelihood of self-reporting, the quality of case review, and the degree of process standardization.

The author further assessed Just Culture responses for association with 43 objective measures of quality, cost and safety from the August 10, 2016 update of the Hospital Compare database.[22] Of these, seven represented different time periods or scoring formats of other included measures. The majority of the measures covered reporting periods ending in 2015. In addition, the author graphed

the long term trend on relevant items from the Hospital Survey of Patient Safety Culture voluntarily submitted to the AHRQ database.[23] Statistical analysis relied on Minitab version 15 (2007).

## Results

The study yielded 268 complete and two partial responses, six breakoffs, 39 refusals and one non-contact for an overall response rate of 59% (270/457). Informants were primarily senior leaders (44%) and mid-level managers (46%). The majority (62%) were physicians. Only 40% had participated in one or more of the prior studies. Table 1 summarizes other sample frame characteristics. There were no significant differences between respondent and non-respondent hospitals on the basis of prior survey QI model scores or perceived peer review program quality impact. Revised QI model scores ranged from 0 to 96 with a median [IQR] of 50 [32-68]. Only 13% scored at least 75. A 10 point increase is associated with an odds ratio [CI] of 2.5 [2.2-3.0] for a one level increase in quality impact.

211 respondents (79%) indicated that their hospital had adopted Just Culture. Table 2 gives the distribution of their perceived impact ratings. Tabulated responses to other survey items are available in the online supplement to the primary report of findings.[17] Table 3 summarizes measures of association of Just Culture adoption and the degree of its impact with those survey items for which one met  $p < .05$  and the other  $p < .1$ . Among those who had and had not adopted Just Culture mean [SD] QI model scores were 52.6 [20.6] vs. 40.8 [20.6]. Among those adopting Just Culture, the mean score was 67.9 [18.8] where the impact was rated *strongly positive* ( $n=33$ ) and 49.7 [19.9] for all others. The strength of Just Culture impact predicted greater clinical peer review program impact when controlling for the revised QI model score, but Just Culture adoption *per se* did not. For 25 hospitals (9%), self-reporting was one of the top three sources by which cases are identified for review. Among these, there was no association with Just Culture adoption or its impact.

Objective quality and safety performance measures were available for between 177 and 229 facilities depending on the measure. Three measures showed association with the adoption of Just Culture and three with the degree of its perceived impact, but none showed association with both factors. See Table 4 for details.

Figure 1 illustrates Hospital Survey of Patient Safety Culture trends from 2007 to 2016. *Non-Punitive Response to Error* has consistently been the lowest scoring of the 12 categories covered by the instrument (closely followed by *Handoffs and Transitions*). Management ratings on this category run about 20% higher than staff ratings. Of the 680 hospitals submitting data in 2016, 326 also submitted to the 2014 database. Among these “trending” facilities, 29% increased their scores in this category by at least 5% and 15% decreased by at least 5%. The average improvement was 1% across all 12 categories and 2% for *Non-Punitive Response to Error*. [24]

The author spoke with or received email comments from 20 participants of 188 targeted for follow up. Several themes emerged. There was diversity in whether Just Culture was perceived as a stand-alone program or a set of principles embedded in the quest for high reliability. There was wide variation in the duration of experience with Just Culture. Several hospitals reported they were too early in the process of implementation to expect results.

Leadership seemed to play a prominent role in whether the organization embraced Just Culture and the degree of success if it did. Program support is common from the human resources function and seems to be important for success because of the implications for employee discipline or coordination of “second victim”[25] support with existing employee assistance programs.

The author found several organizations for which confusion about Just Culture principles appeared to have been a major factor preventing its adoption. For example, in one hospital union leaders thought that Just Culture would likely increase adverse employment decisions. In another, the senior leaders were resistant because they don’t believe the clinical outcome should dictate the response.

There was considerable variation in the strategy for program implementation. Some engaged outside consultants and others chose to develop their own package, possibly with a unique label such as “The Right Approach.” Some simply targeted nursing with an emphasis on “Red Rules” that must never be violated and did not involve the medical staff or address the possible connection with their peer review process.

The journey of Just Culture implementation was often difficult. Some had to invest considerable effort to develop and maintain coherence across the organization. External pressures as a result of failures in quality were helpful in catalyzing change. Feedback to reporters and recognition of “Patient Safety Heroes” or “Good Catches” that prevented errors from causing harm were helpful adjuncts. Demonstrations of management commitment to safety, such as regularly scheduled safety briefing rounds or setting the expectation that all high-level meetings will begin with an open discussion of safety issues, have also been helpful.

Some noted that increases in event reporting and safety culture scores were hard to achieve. Others were unable to point to specific measures demonstrating the impact of Just Culture, either because they hadn’t thought to make such an assessment or because they view Just Culture as only one piece of a larger effort and do not believe they can identify what might be specifically attributable to it.

## Discussion

The decade-long push to use Just Culture to differentiate blameless from blameworthy acts appears to have been successful. Roughly four-fifths of respondent hospitals have adopted Just Culture or a similar program. Over half of these believe that the program has had a positive or strongly positive impact on the quality and safety of care. Nevertheless, it is unclear what the impact has really been.

Just Culture has association with more effective clinical peer review process. Where the perceived impact was strongly positive, programs more closely approximate best practice than where the impact was small or negative. Even so, their mean QI model score is still well below a level that would suggest substantial implementation of best practices. Furthermore, Just Culture is neither necessary nor sufficient to achieve significant levels of self-reporting. It may be that these associations are mediated by strong leadership commitment to and support for quality and safety or other organizational factors that might make it more likely both to undertake and succeed with implementation of a Just Culture initiative and to better align peer review with improvement efforts.

This study found no correlations with publically-reported measures of safety beyond what might be expected by chance alone. Admittedly, these measures are a step removed from event analysis and are influenced by many other factors including clinical process improvement activity. Other efforts

at major system change have produced mixed results when applied at scale.[26,27] Nevertheless, some studies which have looked at objective measures in relation to organizational factors have found small but significant differences.[24,28,29] A systematic review of interventions to promote a culture of safety found that other approaches such as team training can improve safety culture and potentially reduce patient harm.[30]

In addition, the AHRQ database on the Hospital Survey of Patient Safety Culture, which primarily reflects attitudes among nurses, continues to show flat-line performance on critical organizational behaviors, *Non-Punitive Response to Error* and *Frequency of Events Reported*. The low rate of reporting is consistent with other studies showing that only about 10% of adverse events are reported.[31] A model of Just Culture implementation, which relied on a corrective actions policy and associated manager training only improved Non-Punitive Response to Error to 53% positive.[32]

In other words the evidence suggests that, in aggregate, U.S. hospitals have perfected a system for casting blame among both physicians and nurses. In such a hostile environment, self-reporting would be career suicide. So whatever the effect of Just Culture, it clearly has not fulfilled its promise to eliminate the culture of blame and gross under-reporting of opportunities for improvement which continue to hamper progress in patient safety.

Moreover, the critical question in learning from defects in care is “What can we learn?” not “Who can we blame?”[33] Thus, even if a Just Culture algorithm might be helpful in analyzing issues of accountability for behavioral choices, it may be the wrong tool for the job of event analysis in healthcare, which demands the default presumption of staff innocence. There is also risk that algorithms to evaluate “blame-worthy” acts will be misapplied by those frontline managers whose understanding is incomplete or whose secondary agendas take priority.

The prevailing Just Culture model has also been criticized for its lack of integration with organizational learning theory and failure to account for the importance of trust.[34] Trust was a central factor in the safety culture component of a framework for high reliability proposed by Chassin and Loeb.[35]

The findings from this study are congruent with available knowledge of the keys to success in the pursuit of high reliability in aviation and in the few exemplar hospitals that have transformed their safety culture. Both Virginia Mason and TheDACare increased problem reporting more than 10-fold through the focused efforts of leadership to adopt Toyota-style production systems bolstered by major investments in staff training and quality improvement activity. Aviation’s initial breakthrough was a result of making it safe for pilots to self-report problems. Airlines later added crew resource management programs to target the communications issues that surfaced. While some might describe the outcome as a *just culture*, it was not the result of focusing on an algorithm for differentiating blameless from blameworthy acts. Reason himself observed that there is no clear value to punishment for unsafe acts except in cases of malicious intent, gross negligence or habitual offense.[1]

This study is limited by self-reported data. Validation efforts showed variation in the interpretation of the term Just Culture and in the extent of its implementation similar to that reported by others.[6,8,10] Because this variation was not quantified, it remained uncontrolled in the analysis of associations with publically reported data. Since random sampling was not done, confidence intervals cannot be estimated for a generalization of survey findings to the national population of

hospitals. There is also potential for non-response bias, although this is mitigated by the high response rate. Safety culture survey results were not available for the hospital cohort under study.

Allowing for these limitations, the findings are sufficient to call into question the value of the Just Culture model as a strategy for improving quality and safety, particularly when deployed as a stand-alone program focused on the differentiation of blameless from blameworthy acts. Since most hospitals suffer from constraints on their capability to manage multiple improvement projects, it seems likely the push for Just Culture adoption may have had the unintended consequence of diverting resources from higher impact initiatives. In the absence of proof of efficacy, hospital leaders who are committed to the pursuit of high reliability in quality and safety should be cautious about the Just Culture model.

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## **Declaration of Conflicting Interests**

The Author declares that there is no conflict of interest

## Tables

### Table 1. Sample Frame Characteristics

	Respondents	Non-Respondents	Sample Total	US Data <sup>a</sup>
<b>Census Region</b>	N=270	N=187	N=457	N=4936
Northeast	60	36	96	680
South	61	62	123	1919
Midwest	95	48	143	1422
West	54	41	95	915
<b>Staffed Beds</b>				
>500	48	28	76	244
200-499	104	67	171	1160
50-199	90	78	168	2130
<50	28	14	42	1402
<b>COTH Members<sup>b</sup></b>	62	25	77	400

<sup>a</sup>American Hospital Association 2009

<sup>b</sup>Council of Teaching Hospitals (<https://www.aamc.org/members/coth/about/> accessed August 20, 2016)

### Table 2. Perceived Impact of Just Culture

Response	%(n)
Strongly Positive	16(33)
Positive	37(77)
Somewhat Positive	33(68)
No apparent effect	13(27)
Somewhat Negative	1(2)
Negative	0(1)
Strongly Negative	0(1)
No response	0(1)

### Table 3. Associations<sup>a</sup> with Peer Review Program Characteristics

Survey Item	Just Culture Adoption N=266	Just Culture Program Impact N=209
Organizational leadership	.005	<.001
Primary goal to improve quality & safety	<.001	.02
Likelihood of self-reporting cases for peer review	.06	.003
Quality of case review	.05	<.001
Diligent program governance	.02	.09
Level of reviewer participation in peer review process	.008	<.001
Propensity to recognize excellent clinical performance	.01	.02
Use of reliable scales to rate clinical performance	.02	.03
Monitoring counts/patterns of system or process of care improvement opportunities identified	.005	.008
Monitoring counts/patterns of recommendations for improved performance of individual clinicians	.03	.03
Documenting cases in which excellent clinical performance was recognized	.001	.02
Perceived peer review impact on quality and safety	.03	<.001
Medical staff perceptions of the peer review program	.06	<.001
Revised QI model score	4.8%	10.4%

<sup>a</sup>Pearson chi-square *p*-value or ANOVA adjusted R<sup>2</sup>

### Table 4. Associations<sup>a</sup> with Health Compare Measures

Measure Name	End Date	Just Culture Adoption		Just Culture Program Impact			
		N	<i>p</i>	All Levels <sup>b</sup>		High-Low <sup>b</sup>	
		N	<i>p</i>	N	<i>p</i>	N	<i>p</i>
Surgical Site Infections score	31/12/2014	221	.03	174	.46	55	.66
Central Line Associated Bloodstream Infection	30/6/2015	220	.05	171	.84	54	.92
Surgical Site Infection from Colon Surgery	31/12/2014	194	.05	154	.08	50	.21
Complication Rate Following Elective Primary Total Hip Knee Arthroplasty	31/3/2015	211	.14	165	.03	53	.31
Postoperative Wound Dehiscence	30/6/2015	213	.69	167	.05	54	.64
Central Line Associated Bloodstream Infection	31/12/2014	177	.96	140	.03	44	.51

<sup>a</sup> ANOVA

<sup>b</sup> Comparing responses from all 4 levels vs. only the highest and the lowest

**Figure 1: AHRQ Hospital Survey of Patient Safety Culture 2007-2016**

