ORIGINAL ARTICLE

Just culture: "Evidence", power and algorithms

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Received: July 9, 2012 **Accepted:** December 3, 2012 **Online Published:** March 22, 2013
DOI: 10.5430/jha.v2n3p73 **URL:** http://dx.doi.org/10.5430/jha.v2n3p73

Abstract

Background: The notion of "just culture" has become a way for hospital administrations to determine employee accountability for medical errors and adverse events.

Method: In this paper, we question whether organizational justice can be achieved through algorithmic determination of the intention, volition and repetition of employee actions.

Results and conclusion: The analysis in our paper suggests that the construction of evidence and use of power play important roles in the creation of "justice" after iatrogenic harm.

Key words

Just culture, Accountability, Algorithm, Human error, Compliance, Violation, Evidence-based medicine, Justice

1 Introduction

Nurse Kimberley Hiatt committed suicide in 2011. Seven months earlier, a pediatric patient of hers at Seattle Children's Hospital had died from a calcium chloride overdose. Kimberley Hiatt was first suspended, and then fired, and her license to practice was re-instated only after a settlement that put onerous and humiliating conditions on it. She never found work as a nurse again. Aged fifty, Hiatt, a healer at heart according to friends and family, had lost a patient, a job and an identity [1]. The tragedy highlighted how hard it is for society in general and hospital administrations in particular, to act justly in the wake of an adverse event. Hiatt's case, of course, is not unique, despite its doubly tragic outcome. This is a problem that all hospitals face at some point [2-9]. Independent of outside intervention after an adverse event (e.g. by the criminal justice system), hospitals need to be just not only to first victims (the patient and family) but to second victims too: the healthcare worker involved in the incident for which he or she feels personally responsible [10-12]. The notion of a "just culture" has attempted to fill that need.

In this journal previously, researchers sought to clarify the conceptual meaning of just culture, with a focus on the attributes of incident reporting processes that make such systems "just" in the eyes of healthcare workers [13]. They questioned whether a just culture looks the same for all health professionals—which it indeed does not. This is confirmed by survey research [14], organizational change studies [15, 16], studies into the perception of error by particular healthworker groups [17, 18], as well as growing case material on second victimhood [19-25].

Just-culture-by-algorithm, however, reifies the idea that hospital administrations can be led to the univerally "right" or ethical answer by following a set of rules—as for a problem-solving operation—independent of the background and hierarchical location of the healthworker. Such algorithms for "just culture" are currently gaining popularity to determine employee accountability for adverse events [26]. They try to answer whether a medical error deserves forgiveness and restoration, or demands retribution and sanction. In this paper we examine the relationship between moral processes in healthcare and modern evidence-based medicine (EBM) to understand both what sustains the belief in a universal approach of a just-culture-by-algorithm, and why it might not work in practice. We affirm how "justice" is linked to one's location in the organization and medical competence hierarchy. We explore whether justice-by-algorithm might be primarily a vehicle for particular parties to guard their interests, and conclude with alternative suggestions for creating a just hospital culture.

2 Moral process and evidence-based medicine

A current just culture "algorithm" recognizes that even competent professionals make mistakes and acknowledges that they too can develop shortcuts, workarounds, routine rule violations, yet declares zero tolerance for reckless behavior. It distinguishes between human error, at-risk behavior, and reckless action—three categories which involve increasing degrees of willfulness and disregard [26]. It proposes that occasional, inadvertent errors should lead to reflections on clinical processes and procedures, training or design. At-risk behaviors, seen as conscious choices that trade thoroughness for efficiency, require coaching or different incentive structures, and should not be repeated. Reckless behavior is a conscious disregard of unreasonable risk and should be sanctioned, including possible dismissal.

What underlies this algorithm is a belief that justice arises from a correspondence between these kinds of human action and the organizational responses to it. This is consistent with the ideas of EBM, suggesting that social and moral facts exist likes visible disease symptoms, that these are reasonably unambiguous and easy to discover, and that the objective application of an algorithm to these facts will yield fair and equitable interpretations. Ideologically, EBM elides the social and cultural shaping of "evidence" [27, 28], and so does just-culture-by-algorithm. It takes the reality of someone's behavior, as well as the intentions behind it, as unambiguously and objectively available to others—for them to appraise and judge. Evidence can be repeated, independently verified and measured according to standards on which reasonable, informed people can agree.

This belief extends to the human capacity for unbiased and objective observation and analysis [29]. The assessment of a worker's intentions, repetition and volition is a largely self-evident process, as if it were the diagnosis of an illness. The evidence, or "symptoms," from an adverse event, or multiple adverse events, are "diagnosed" —whether the worker suffered from an occasional error or from worse conditions of carelessness or recklessness. The diagnosis emerges from an objective science and results in empirical, quantifiable steps that can be turned into fair and equitable interventions. Incidentally, this program is consistent with still dominant theories of rational choice [30] and regulative management [31]. The environment is seen as a target of rational managerial control, which can be exercised through objective practices of evidence gathering and decision making. Fairness, or justice—like a correct diagnosis—is the logical end-point of applying the appropriate evidence and rationality.

Morally classifying behavior in healthcare predates the idea of a just culture algorithm [32] and has relied on positivism and essentialism for a longer time, even if not directly evident from the data. In his 1970's study of surgical trainees, for example, Bosk found that surgeons considered most "technical" errors remediable, and not morally questionable. As with just culture's occasional "human errors," more skills training and practice could solve these mistakes. "Normative" errors were more problematic: they were not role or performance errors but errors of role, errors of self, failures to live up to the moral duty to act responsibly and autonomously. Surgical trainees who continued to make normative errors (which overlaps with the at-risk or reckless behavior categories in terms of the more recent algorithm) were almost always terminated [33].

Like just-culture-by-algorithm, Bosk finessed the question of how these errors acquire the meanings he ascribed to them [Granted, in a later foreword to his 1979 study, Bosk argued that errors have no essential quality but are constructed through physician interaction and interpretation. When pressed, Bosk had no (analytic) choice but to argue that the meanings he attributed to (and derived from) micro-clinical events emerged from other such events and that they inform subsequent ones]. The current just culture algorithm also sidesteps how its categories of culpability are constructed. Neither Bosk nor the just culture algorithm invoke higher-order structure(s) such as culture, medical competence hierarchy, history or society to account for the emergence of moral judgments within healthcare practice. This leaves the impression that achieving justice is an objective process, easily isolated from clinical or social interpretation. No analysis or critical reflection is necessary because these acts and categories are "what they are". The problem, as flagged by Weiner et al. [13], is that they are not. It depends on where one is located in the organization and medical competence hierarchy, and who gets to say.

3 Justice depends

A recent survey of almost 2,000 healthcare staff across 12 facilities in the US offered empirical validation of Weiner et al.'s critique. Researchers asked about the organization's reporting system and whether people felt safe using it; they inquired about what happens with the reports once they are filed—whether information and feedback is shared around; and they explored whether the organization recognized honest mistakes or engaged in blame and favoritism [14]. Generally, respondents had moderate views of their hospitals' just cultures, with efforts at reporting and feedback receiving the most positive assessment, yet accountability the worst. The survey confirmed a widespread perception of negative repercussions for reporting and fears of blame for errors that are committed [20, 21, 34].

More specifically, the survey revealed how different employee groups rate their hospital's just culture differently. Non-clinical staff rated the justice of their culture less favorably than physicians, but still better than nurses rated it [14]. Physicians overall had the most positive views of their hospitals' reporting, feedback and accountability mechanisms. Non-clinical and nursing staff had considerably less positive views, driven by concerns about how their organizations apportion blame and denies them a voice. There is a sustained belief that disciplinary action gets adjusted on the basis of who makes the error. There are differences in department and specialty too: in acute care (intensive care, surgery and emergency departments) everybody except physicians held a negative view of their organization's just culture. Von Thaden's research, like Weiner's, showed that "justice" is adjusted according to where the person receiving justice is located in the organization and in the medical competence hierarchy. What is seen as a just response to an adverse event by one group was likely to be seen as unjust by all other groups in a hospital. The most powerful group (doctors) was most likely to see responses as just.

The study confirms that evidence on intention, volition and repetition cannot readily speak for itself. The meaning attributed to evidence emerges from other orders of significance altogether [29]. To ascertain both truth and culpability is not just a matter of looking at an adverse event and then knowing (applying) what moral consequence these acts have. Of course, making sense of an adverse event (and, deciding which acts represent morally objectionable behavior) involves issues of power because different views of reality and their vested interests both reflect and generate struggles for dominance [31]. A conclusion of wrongdoing could owe more to a hospital's risk manager's fears (of liability, loss of reputation or political influence) or it could say a lot about how and why a particular manager is held accountable.

It is unlikely that the application of a just culture algorithm would be capable of erasing this. It is in fact more plausible that just-culture-by-algorithm amplifies and legitimates it. Consultancy on just culture in hospitals has been seen as as a way to restore management control over staff performance after the rise of emancipatory practices (and policies) that tended to blame the system, not the worker, for failures and adverse performance outcomes [35-37]. The just culture algorithm invokes the idea of justice, emancipation, fairness. Yet it risks becoming one more rhetoric or metric by which dominant groups can judge others. In an early Platonic dialogue, Sophists challenged Socrates by arguing that there is no point in members

of society being just. Sophists rejected the idea that there is something absolutely good in being just. People get what they want by being unjust, not by being just. They just have to sell it as "justice" to the rest—if they have the resources to do so. With respect to the just culture algorithm, few questions have been asked about the considerable resources elites have to co-opt or derail rational, fair initiatives that attempt to empower and provide justice to all.

Yet its "covert" essentialism may precisely be what makes its categories and arguments seem reasonable. They reflect and emerge more from common sense than social-scientific or ethical analysis. Its moral categorizations (and the implicit assumptions about how classification is achieved) strongly reflects folk sociology or a kind of nineteenth-century social science, now mainly repudiated, which holds that the social order is made up of "facts" that exist in the world and that this is self-evident. The just culture algorithm represents, more than anything else, lay ontology and epistemology. It is not clear what ontological status is attributed to the various categories of error and their factual basis. The algorithm reflects common sense and the confidence that both social and moral facts exist and are reasonably easy to discover. This can easily lead to a misplaced concreteness or universalism. The algorithm's blend of positivism and strong pragmatism is easily recognizable in evidence-based healthcare, reflecting the stance much of biomedicine takes on both epistemology and ontology. The result is that the algorithm's argument and categories have become "science" as well as rhetoric and instrument by which to judge the work (and the intentions) of others. And all this is (like Bosk's book Forgive and Remember) done to bring some "fairness" into an arena where previously there has been so little.

4 Conclusion

The generation of justice-by-algorithm offers the illusion that healthcare practices reflect (and are driven by) objectivity, evidence and utility. The result is that justice becomes just one more "thing" in a busy clinic or health care institution to be ranked and categorized. This seems to underlie much of the just culture movement's agenda. What is not widely acknowledged is that the algorithms that have emerged, the ones that control the process by which evidence appears and is weighted, are biased and slanted by a larger social matrix that encompasses hospital risk management, lawyers, quality control, the pharmaceutical industry, departmental managers and physicians. This web of influence and ideology benefits from portraying the achievement of justice-by-algorithm in healthcare as rationality and science. But what is represented as natural, objective, rational and common sense, is often anything but. As in Socrates' nightmare scenario, power and the knowledge of "the right thing to do" (ostensibly change, counsel, coach and not punish) often become aligned in ways that can mask the routine production of injustice. That power wins out in almost any social project, no matter how well-intentioned, is hardly a Socratic victory. Unless these issues are put firmly on the table, the just culture movement runs the risk of collusion and cooptation. The result could be that its algorithms and agendas will in the end do nothing more than legitimize and perpetuate Foucault's "natural order of things" where injustice is often legitimatized and justice forgotten.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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