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Perspective

Misdiagnosis: Burnout, moral injury, and implications for the electronic health record

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ABSTRACT

Burnout is a long-term stress reaction marked by emotional exhaustion, depersonalization, and a lack of sense of personal accomplishment. Burnout in clinicians is receiving significant attention. Some have proposed that clinicians are experiencing symptoms of moral injury, defined as "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations." Current efforts to improve the electronic health record (EHR) have focused on improving the user experience to reduce burden that has been identified as a contributing factor to provider burnout. However, if EHRs are contributing to moral injury, improvements to user experience will not eliminate the effects on providers. Current research has not evaluated the risk for moral injury resulting from the use of EHRs. This Perspective reviews the differences between burnout and moral injury, discusses the implications for clinicians using EHRs, and highlights the need for research to better define the problem.

Key words: electronic health record, burnout, moral injury

Burnout or moral injury, that is the question: Whether 'tis nobler in the mind to suffer with our patients' substandard care, or to take arms against the EHR of our troubles, and by opposing it to re-engineer it and save lives. Thus, conscience does make cowards of us all. With apologies to Shakespeare

INTRODUCTION

Burnout

Burnout is a long-term stress reaction marked by emotional exhaustion, depersonalization manifesting in cynicism and detachment from work, and a lack of sense of personal accomplishment.[1] Over the last decade, "burnout" in clinicians has received significant attention, with surveys showing at least 50% of clinicians exhibiting 1 or more of the signs or symptoms of burnout. Recognition of this problem has led to a revision of the triple aim to include a fourth, or quadruple, aim, "improving the work life of health care providers,

including clinicians and staff."[2] The problem was deemed significant enough that the National Academy of Medicine (NAM) convened a Committee on Systems Approaches to Improve Patient Care by Supporting Clinician Well-Being. This committee issued a Consensus Study Report in 2019[3] that proposed a comprehensive approach to the evaluation and remediation of the problem.

Validated tools such as the Maslach Burnout Inventory[1] can be used to objectively assess burnout in individuals. Despite extensive efforts to combat clinician burnout, improvement has not been seen, and the problem may be worsening. In medicine, when a patient does not respond to a therapeutic intervention, the potential of misdiagnosis must be considered. In the case of burnout, it has been proposed that clinicians are actually experiencing symptoms related to moral injury. If true, this misdiagnosis could lead to incomplete, inappropriate, and ineffective interventions. Of more concern is the tendency to "blame the patient" (in this case the clinician) for the intervention failure based on inherent weakness described in terms of

poor resilience, lack of assertiveness in dealing with others, diminished coping skills, and in general not being "tough enough." Many interventions described in the NAM report reference building skills in resilience, coping, self-care, and mindfulness. While some benefit is seen, these interventions are not as effective as would be predicted if burnout were the sole problem.

Moral injury

Moral injury is defined as "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations."[4] The risk for moral injury resides in situations of moral distress when one knows the right thing to do, but external constraints make it impossible to pursue the right course of action. Moral injury represents more permanent, life-changing, deep-seated emotional damage from repeated acts transgressing one's moral beliefs. The concept of moral injury was first characterized during the Vietnam War, in which veterans diagnosed with posttraumatic stress disorder did not respond to recommended therapeutic interventions. It was recognized that these veterans' symptoms were not caused by fear of personal injury or death, but rather were due to engaging in acts required for service but in conflict with personally held moral beliefs. In 2009, Litz et al[4] proposed that cognitive dissonance resulting from a perceived moral transgression results in self-blame and the individual experience of shame, guilt, or anxiety.

Application to clinicians is generally attributed to the work of Dean et al,[5] published in 2019; however, it can be definitively traced to Eastes[6] in 2016, while references in the nursing literature go back as far as 1984, as evidenced by this quote from Wilkinson: "the psychological disequilibrium and negative feeling state experienced when a person makes a moral decision but does not follow through by performing the moral behavior indicated by that decision."[7] In essence, moral injury in health care relates to the conflict between providing the best care for the patient and fulfilling other obligations to the healthcare system including meeting financial targets, quality metrics, documentation, insurance coverage, and, at the level of the individual, assuring security of job and income. It is the recognition of conflicting duties either consciously or subconsciously that results in moral injury. Moral injury has been studied in medical students as evidenced by the recent publication of Schrepel et al[8] that uses qualitative methods to explore fourth-year medical students' reactions to perceived moral conflicts. Their analysis identified several contributing themes including: discord: patient–provider conflict; indecision: working in the face of uncertainty; and disillusion: the impact of social injustices. In their discussion, they assert that cognitive dissonance can lead to ethical distress and result in burnout and depression. The role of cognitive dissonance is mostly absent from other studies in the healthcare setting (although Eastes briefly mentioned it). The relationship between burnout and moral distress including temporal aspects of the progression at the individual level have been the subject of speculation but have not been formally studied. Tools such as the Moral Distress Scale[9] can be used to assess moral injury, but qualitative and descriptive methods such as those used by Schrepel et al[8] may lead to richer description of decisional conflict, dissonance, and moral injury.

THE IMPORTANCE OF DISTINGUISHING BURNOUT AND MORAL INJURY

A key difference between burnout and moral injury is that burnout resides within an individual in response to external factors, and thus requires individualized interventions to resolve, while moral injury is reflective of a problem with external factors, in this case the system of care in which the clinician practices, thus necessitating systematic solutions. Chapter 5 of the NAM report summarizes the evidence for the effect of interventions on clinician burnout.[3] It was noted that interventions (both individual and organizational) demonstrated reductions in some burnout components (eg, emotional exhaustion or depersonalization) but less impact on burnout as a whole. Organizational interventions were generally more effective than individual interventions, although both are probably necessary.[3] This suggests that moral distress and injury are contributing to what is characterized as clinician burnout.

Distinguishing between burnout and moral injury can be difficult as there is overlap in the manifestations of these 2 disorders. Meltzer and Huckabay[10] noted a correlation between the frequency with which nurses encountered morally distressing situations and their experience of emotional exhaustion which is 1 of the 3 key components of burnout. This is supported in the NAM report in a section on moral distress, where the point is made that the factors identified as being associated with an organization's ethical climate (eg, organizational values, practice environment, quality of care) are associated with nursing outcomes of interest including retention, engagement, and job satisfaction.[3] However, the report generally views moral distress as a contributor to burnout, rather than a distinct entity with different causes and solutions. The report acknowledges the need for more research regarding the relationship between moral distress and burnout, although the literature suggests that the hypothetical relationship between moral distress and burnout should be empirically tested through research evaluating these as independent entities.

BURNOUT, MORAL DISTRESS, AND THE EHR

The contribution of the EHR to burnout has been the subject of several studies. However, a nonsystematic review of the literature does not identify any studies explicitly addressing the contribution of the EHR (if any) to moral distress and injury. Many of the studies are using validated tools such as the Maslach Burnout Inventory to quantitatively assess burnout, but none have incorporated tools to assess moral injury. The NAM report, while devoting considerable space to moral injury, does not address this in Chapter 7 (Health Information Technology).[3] Absent explicit studies, a review of key findings in Chapter 7 identifies EHR-related issues that could plausibly result in moral distress and injury. This chapter focuses on 4 aspects of the EHR that contribute to burnout: usability, interoperability, administrative burden, and clinician–patient experience. An example from each domain is used to illustrate the possibility that moral distress and injury are present and are being conflated with burnout.

Usability

EHRs have documented problems with busy, nonintuitive visual displays and numerous default settings that may or may not be applicable for a given patient. While these issues can increase clinician work and contribute to aspects of burnout, it has also been noted that these issues can lead to medication errors that result in patient harm.[11,12] If a clinician is aware of this, it could lead to moral distress and, if unable to be remedied, moral injury over time.

Interoperability

System interoperability and information exchange is essential to optimal patient care. Interoperability was emphasized in the 21st Century Cures Act but has yet to be achieved.[13] Lack of interoperability and data blocking (which the 21st Century Cures Act expressly prohibits) negatively impact patient care and have the potential to cause moral distress in the situation in which either the clinician's organization or the EHR vendor are unable or unwilling to rectify the situation.[12] Interoperability is also an essential component of transitions of care (aka patient handoffs), an error-prone aspect of medical care that has been associated with both clinician burnout and patient safety issues. If EHR systems hinder this process, patient harms could result in moral distress.

Administrative burden

The increased time required for documentation[14] and the concomitant increase in note length[15] have been well documented as being associated with burnout. However, less attention has been paid to the impact of workarounds such as copy and paste, which are associated with risk for perpetuating documentation errors that negatively impact patient care and safety. A study of diagnostic errors estimated that 2.6% of errors related to a missed diagnosis that led to unnecessary patient care were attributable to copy and paste.[16] Clinicians experience the moral dilemma resulting from the use of copy and paste to reduce documentation time, while recognizing that this could decrease the quality and safety of care. Quality reporting using the EHR is another major area of administrative burden likely to result in moral distress, given that most clinicians recognize that they are documenting things that can be counted (process measures), rather than things that count (patient outcomes)[17]—or, as stated by William Bruce Cameron (not Albert Einstein), "Not everything that can be counted counts and not everything that counts can be counted." Conflict results as clinicians face social and financial disincentives for not hitting quality targets when those targets often do not account for explained clinical variability based on patient-specific factors.

Clinician-patient experience

Documentation of clinic visits in the EHR has led to an increase in "computer facing" and decrease in "patient facing" across all clinician types.[18,19] While this could be anticipated to reduce patient satisfaction, the literature does not consistently identify this as a problem.[20] In addition, the functionality of the EHR and associated patient portals have also demonstrated the potential to increase patient activation and engagement.[21] Unfortunately, the configuration of the EHR and administrative tasks described previously do not support the optimal use of the EHR for patient-centered care. Recognition of this gap by clinicians coupled with other stressors associated with the EHR could result in a moral dilemma.

MISDIAGNOSIS, MORAL INJURY, AND THE EHR

This article presents a prima facie case that the "problem list" of declining work life satisfaction for clinicians attributable to interactions with the EHR should include both burnout and moral injury as diagnoses. While related, and likely interrelated, the internal focus of burnout contrasts with the external focus of moral injury and interventions should account for both if optimal outcomes are to be achieved. To date, no study has formally evaluated the interactions between clinicians and the EHR for the potential of causing moral

distress that can lead to moral injury over time. Thus, the concern expressed in this commentary must be considered hypothetical, albeit plausible. Tools and methods exist to test this hypothesis. The current lack of attention to the possible impact of moral injury resulting from clinician use of the EHR could result in a knowledge gap leading to incomplete, hence inadequate solutions to address the issues outlined previously. If moral injury is a component of EHR dissatisfaction, then improving usability and reducing burden may not result in substantial improvement in clinician well-being. Three recommendations are proposed to assess the contribution of moral distress and injury and use this information to inform EHR and system redesign:

1. In order to better quantify and understand the potential contributions of both moral injury and clinician burnout in the context of the EHR, study protocols must include measurement of outcomes relevant for both. To this end, review and adaptation of the both the Maslach Burnout Inventory and the Moral Distress Scale for informatics studies should be undertaken, and these validated scales should be added to measures currently employed in the study of burnout. Based on the experience related by Schrepel et al,[8] inclusion of qualitative methods including narrative reflection (both oral and written) should be considered to fully develop themes and explore experiential frameworks such as cognitive dissonance that may be relevant to both domains.

2. If moral distress is identified from these studies, design and implement strategies to better characterize the specific issues related to the EHR as well as system, administrative, and cultural contextual issues that impact the clinician–EHR interaction. This information can be used to develop more comprehensive approaches to improvement that address the full range of issues impacting clinician well-being.

3. Use the findings to inform EHR AND clinical redesign to expand focus beyond usability and burden and extend the redesign beyond the EHR as needed to address the key contextual issues.

The hope is that a complete understanding of all the issues contributing to the negative clinician experience currently lumped under the umbrella of burnout, can lead to more effective solutions than have been implemented to date such that the quadruple aim can be achieved.

AUTHOR CONTRIBUTIONS

MSW is solely responsible for the conception, development, writing, revision, and approval of the final version of this manuscript.

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CONFLICT OF INTEREST STATEMENT

None declared.

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