

Background

Burnout is a major issue that has been compounded by the COVID-19 pandemic. Since 2013, the American Medical Association (AMA) has spurred a movement to fight the causes of burnout and provide relief for physicians who too often have been told to rely on reducing stress (American Medical Association, 2021). Recent studies have attributed electronic health record (EHR) related tasks as a potential source of physician burnout (Tran et al., 2019, p. 1). In a cross-sectional study done by McPeck-Hinz (2021) of 1310 clinicians found that burnout was more prevalent in women, attending physicians, and advanced practice providers (p. 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.” 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 that proposed a comprehensive approach to the evaluation and remediation of the problem (Williams, 2020 p. 1).

Hilliard et al. (2020) “found that clinicians with the highest volume of patient call messages had almost 4 times the odds of burnout compared with clinicians with the fewest. In the EHR “patient calls” encompass many of the inbox tasks occurring outside of face-to-face visits and likely represent an important target for improving clinician well-being.” (p. 1401).

Statement of Problem

According to Joukes et al. (2019) “previous research showed that health care professionals had high expectations regarding the capabilities of a new EHR but many expectations were not met. Studies have shown that after the implementation of an EHR, physicians were less positive regarding their ability to create high-quality documentation, their overall satisfaction, and their satisfaction with ease of use.” (p. 200). “Although adoption rates of EHRs are rising, realizing the promising benefits of adopting EHRs is far from evident. Many studies address unfavorable and often unanticipated outcomes of adopting EHRs. Examples include healthcare providers suffering from poor navigation, difficulties in finding the right information in the EHR, not all clinical work being supported by EHRs, never ending system demands, and significantly disrupted workflows due to modified timing, sequence of work practices, and revised professional responsibilities.” (Blijleven et al., 2017, p. 2)

In a report by Melnick et al. (2021) they found that “Physicians now spend 1 to 2 hours on EHRs and desk work for every hour spent in direct face to face contact with patients, as well as an additional 1 to 2 hours of personal time on EHR-related activities daily outside of office hours. Although time spent with the EHR has been attributed to the clerical burden of current documentation requirements, poor EHR usability has been found to be a contributor to physician dissatisfaction, and many have hypothesized a direct relationship between EHR usability and physician burnout (p. 476).

Discussion

Data recorded in electronic health records (EHRs) are primarily used to provide care to patients. However, more and more uses of these data emerge such as quality audit, finance, and scientific research (Joukes et al., 2019, p. 200). According to Blijleven et al. (2017), “many causes of unfavorable outcomes of adoption EHRs can be traced back to discrepancies between the behavior and intentions of

EHR users and the workflow as dictated by the EHR – often termed workflow mismatches.” (p. 2)

Because of these workflow mismatches, health care providers have developed workarounds when they perceive EHR usage negatively affecting their practices. Boonstra et al. (2021) defines EHR workarounds as *‘workarounds are behaviors that may differ from organizationally prescribed or intended procedures. They circumvent or temporarily “fix” and evident or perceived workflow hindrance in order to meet a goal or to achieve it more readily’* What Cifuentes (2015) observed for workarounds were “double documentation and duplicate data entry, scanning and transporting documents, reliance on patient or clinicians recall for inaccessible clinical information, and use of freestanding tracking systems (freestanding spreadsheets and databases to manually enter and track information relevant to patient care).” (p. S69)

Boonstra et al. (2021) looks at workarounds as “skipping prescribed steps, entering data that should be entered by others, or registering activities later in the EHR system rather than letting the system guide these activities.” (p. 2) The workarounds could have “severe consequences, especially given the high interdependence among healthcare workers.” (Boonstra et al. 2021, p. 2). Blijleven et al. (2017) states that workarounds are double edged swords. They may improve workflow efficiency, situationally increase patient safety by, for example, overriding alerts to get critical medication to a patient as soon as possible, or assist physicians when they purposefully order a wrong drug to trigger the alert system to suggest the right one. However, workarounds frequently also lead to unstable, unavailable, or unreliable information or work protocols. They may negatively influence the safety, effectiveness of care or efficiency of care. For example, workarounds may bypass important security blocks, (eg, working in a so-called emergency mode in nonemergency situations and thereby omitting security checks) or lead to administering medication to the wrong patient or in incorrect doses.

Boonstra et al. (2021) highlights additional workaround such as ignoring pop-ups; quoting a nurse as saying *“There are a few warnings that keep popping up, such as one for allergy verification. These pop-ups occur so often, I hardly notice them anymore. Imagine being in a conversation with a patient, and you want to look something up, and that thing appears on your screen. This means I have to interrupt my conversation to answer this question, which I don’t want, so I close it. At a certain point, you don’t even read what the pop-up says.”* Additional workarounds include pre-starting a patient’s visit, copy-pasting, using separate text fields, leaving data fields empty, sharing login details, and entering incorrect data.

The American Medical Association (2021b) has cited several ways that they have advocated for changes to documentation burdens to assist with provider burnout. Notable among them, CMS removed several physician office evaluation and management (E/M) coding and documentation requirements, so physicians are no longer required to re-document the chief complaint and history that are already recorded by ancillary staff or the patient. The AMA is also working to eliminate, streamline, align, and simplify the many federal rules and regulations imposed on physicians.

Moral Injury, Misdiagnosis, and Physician Burnout

Williams (2020) defines moral injury as “perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations.” According to Dean et al. (2019) moral injury describes the challenge of simultaneously knowing what care the patient needs but being unable to provide it due to constraints that are beyond our control. Moral injury is the consequence of the ever-present double binds in healthcare: Do we take care of our patient, the hospital, the insurer, the EMR, the healthcare system, or our productivity first?

The concept of moral injury was first described in service members who returned from the Vietnam War with symptoms that loosely fit a diagnosis of posttraumatic stress disorder (PTSD), but which did not respond to standard PTSD treatment and contained symptoms outside the PTSD constellation. On closer assessment, what these service members were experiencing had a different driver. Whereas those with PTSD experienced a real and imminent threat to their *mortality* and had come back deeply concerned for their individual, physical safety, those with this different presentation experienced repeated insults to their *morality* and had returned questioning whether they were still, at their core, moral beings. They had been forced, in some way, to act contrary to what their beliefs dictated was right by killing civilians on orders from their superiors (Dean et al. 2019).

In an article by Epstein et al. (2020) for the *Advanced Critical Care Journal*; they felt that the consequences of moral distress affect patients, providers, and organizations. Epstein et al. (2020) cited Wiegand and Funk who found that providers were concerned about the negative effects (eg, prolonged suffering and dying, undignified dying, inappropriate treatment) of morally distressing situations on patients. For nurses and other clinicians, moral distress can lead to distrust, helplessness, and avoidance of patients and can also affect their likelihood of speaking up in the future, especially if speaking up in the past is believed to have failed. Alternatively, clinicians can feel hypervigilant in morally distressing circumstances, which increases their focus and attention on the situation and may facilitate their ability to advocate for their patients.

The increased time required for documentation and the concomitant increase in note length 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 diagnosis errors estimated that 2.6% of errors related to missed diagnosis that led to unnecessary patient care were

attributable to copy and paste. 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 (Williams, 2020)

Graber et al. (2017) conducted a study on the effect of EHR on diagnosis, citing a landmark report “Improving Diagnosis in Healthcare” from the National Academy of Medicine which called attention to a problem of misdiagnosis, per the NAM report 12 million Americans are misdiagnosed every year with an estimated 40,000-80,000 deaths annually; and cited the ever-expanding role that EHRs play in determining the quality and safety of the diagnostic process. In the NAM report cited by Graber et al. (2017); they described diagnosis as a process, from the patient gaining access to care and ending with the assignment of a diagnosis and communicating the diagnosis to the patient.

Use of Scribes to assist with Physician burnout

According to research done by Poissant (2005) on the time efficiency of physicians and documentation, they found that using a bedside or point-of-care computer system increased a provider’s documentation time for 17.5% in comparison an increase of 8.2% when using a central station to document clinical notes. The study also compared the use of a PDA to paper which showed favorable results of a 22% reduction in time needed to document clinical notes. Facilities have been looking at ways to help providers with documentation times and have been looking at employing scribes for physicians.

ScribeAmerica (2020) defines scribes as “a personal assistant to the physician; performing documentation in the EHR, gathering information for the patient’s visit, and partnering with the physician to deliver the pinnacle of efficient patient care”. One potential solution to provider burnout is the use of scribes. Gidwani (2017) found in their research that in an ambulatory setting a physician spent

49% of their time on EHR and desk, whereas only 27% is spent face-to-face with patients. Physicians can use EHR shortcuts, but these actions are associated with a risk of documentation error that can jeopardize patient safety. Gidwani (2017) also did research on the effect of scribes on physician satisfaction, patient satisfaction, and charting efficiency. Gidwani (2017) found that scribes improved the time needed to close a chart; 28.5% of charts that were drafted by physicians were closed in 48 hours relative to 32.6% of charts drafted by scribes. Gidwani (2017) also concludes that physicians reported higher satisfaction with the quality and accuracy of charting when scribes were present.

In an article written by Pearson and Frakt (2019) for the Journal of the American Medical Association, they stated that productivity measures how much work is done per unit of input and is measured in a variety of ways across studies. However measured, the literature suggests that scribes are associated with an increase in physician productivity. For example, several studies found that scribe use increased the number of patients seen per hour. The number of work relative value units (RVUs) completed per hour often increased as well. That division of labor – physicians focused on clinical responsibilities and scribes on administrative ones – seems to be more productive than physicians doing both.

References

- American Medical Association. (2021a, February 17). *AMA spurs a movement to fight the key causes of physician burnout*. https://www.ama-assn.org/practice-management/physician-health/ama-spurs-movement-fight-key-causes-physician-burnout?gclid=Cj0KCQjwqKuKBhCxARIsACf4XuGrJXoUaWizYrgAb-OIgTjRV1w3Ftr6scrLF0VdMKmt3u_PDS4QWJUaAnGAEALw_wcB
- American Medical Association. (2021b, February 17). *Physician burnout and AMA regulatory victories*. <https://www.ama-assn.org/practice-management/physician-health/physician-burnout-and-ama-regulatory-victories>
- Blijleven, V., Koelemeijer, K., Wetzels, M., & Jaspers, M. (2017). Workarounds Emerging From Electronic Health Record System Usage: Consequences for Patient Safety, Effectiveness of Care, and Efficiency of Care. *JMIR Human Factors*, 4(4), e27. <https://doi.org/10.2196/humanfactors.7978>
- Boonstra, A. (2021, June 8). *Persisting workarounds in Electronic Health Record System use: types, risks and benefits*. BMC Medical Informatics and Decision Making. <https://bmcmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-021-01548-0>
- Dean, W., Talbot, S., & Dean, A. (2019). Reframing Clinician Distress: Moral Injury Not Burnout. *Federal Practitioner: For the Healthcare Professionals of the VA, DoD, and PHS*, 36(9), 400–402. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6752815/#>
- Epstein, E. G., Haizlip, J., Liaschenko, J., Zhao, D., Bennett, R., & Marshall, M. F. (2020). Moral Distress, Mattering, and Secondary Traumatic Stress in Provider Burnout: A Call for Moral Community. *AACN Advanced Critical Care*, 31(2), 146–157. <https://doi.org/10.4037/aacnacc2020285>
- Gidwani, R., Nguyen, C., Kofoed, A., Carragee, C., Rydel, T., Nelligan, I., Sattler, A., Mahoney, M., & Lin, S. (2017). Impact of Scribes on Physician Satisfaction, Patient Satisfaction, and Charting Efficiency: A Randomized Controlled Trial. *The Annals of Family Medicine*, 15(5), 427–433. <https://doi.org/10.1370/afm.2122>
- Graber, M. L., Byrne, C., & Johnston, D. (2017). The impact of electronic health records on diagnosis. *Diagnosis*, 4(4), 211–223. <https://doi.org/10.1515/dx-2017-0012>
- Hilliard, R. W., Haskell, J., & Gardner, R. L. (2020). Are specific elements of electronic health record use associated with clinician burnout more than others? *Journal of the American Medical Informatics Association*, 27(9), 1401–1410. <https://doi.org/10.1093/jamia/ocaa092>
- Joukes, E., de Keizer, N., de Bruijne, M., Abu-Hanna, A., & Cornet, R. (2019). Impact of Electronic versus Paper-Based Recording before EHR Implementation on Health Care

- Professionals' Perceptions of EHR Use, Data Quality, and Data Reuse. *Applied Clinical Informatics*, 10(02), 199–209. <https://doi.org/10.1055/s-0039-1681054>
- McPeck-Hinz, E., MD. (2021, April 20). *Clinician Burnout Associated With Sex, Clinician Type, Work Culture, and Use of Electronic Health Records*. *Electronic Health Records | JAMA Network Open | JAMA Network*.
<https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2778909>
- Melnick, E. R., Dyrbye, L. N., Sinsky, C. A., Trockel, M., West, C. P., Nedelec, L., Tutty, M. A., & Shanafelt, T. (2020). The Association Between Perceived Electronic Health Record Usability and Professional Burnout Among US Physicians. *Mayo Clinic Proceedings*, 95(3), 476–487. <https://doi.org/10.1016/j.mayocp.2019.09.024>
- Pearson, E., & Frakt, A. (2019). Medical Scribes, Productivity, and Satisfaction. *JAMA*, 321(7), 635. <https://doi.org/10.1001/jama.2019.0268>
- Poissant, L. (2005). The Impact of Electronic Health Records on Time Efficiency of Physicians and Nurses: A Systematic Review. *Journal of the American Medical Informatics Association*, 12(5), 505–516. <https://doi.org/10.1197/jamia.m1700>
- ScribeAmerica. (2020, February 19). *What is a Medical Scribe?*
<https://www.scribeamerica.com/career-opportunities-old/what-is-a-medical-scribe/>
- Tran, B., Lenhart, A., Ross, R., & Dorr, D. (2019). Burnout and EHR use among academic primary care physicians with varied clinical workloads. *AMIA Joint Summits on Translational Science Proceedings*, 136–144.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6568076/>
- Williams, M. S. (2020). Misdiagnosis: Burnout, moral injury, and implications for the electronic health record. *Journal of the American Medical Informatics Association*, 28(5), 1047–1050. <https://doi.org/10.1093/jamia/ocaa244>