

VIEWPOINT

Improving Clinician Well-being and Patient Safety Through Human-Centered Design

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Clinician well-being is on the decline. Regulatory requirements, administrative responsibilities, and the clinical practice environment are among the many factors at the individual, health system, and national levels that affect clinician well-being.¹ The COVID-19 pandemic exacerbated the problem by contributing to a more turbulent and short-staffed environment that is further taxing clinicians. Recent data suggest that nearly one-third of health care workers experience moderate to severe levels of depression and anxiety and that 4 times as many health care workers have reported severe levels of these mental health challenges compared with before COVID-19.² These findings are concerning in themselves and even alarming when considered in the context of growing evidence that links clinician well-being to patient safety and quality outcomes.³

Ironically, in efforts to improve care quality and safety, health care has developed interventions that unintentionally overburden clinicians, making it more difficult for them to deliver high-quality care. Although undoubtedly well-intentioned, many patient safety interventions have so intensely focused on patient outcomes that they have overlooked the importance of

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the clinician experience. Health care is replete with safety interventions that unintentionally harm clinician well-being. For example, online learning modules created to “train and educate” in response to a safety concern are common. They are also often time-consuming and ineffective. Even the best examples, which are captivating and useful, can add to an already heavy workload. Completing training during off-work hours takes valuable time away from restorative activities and exacerbates work-life imbalance; yet dedicating “protected” work hours for these efforts has been unpopular in the context of health systems already overloaded by ever-growing demand for clinical services.

Good safety interventions make health care safer for the patient; great interventions do so while making it safer and easier for clinicians too. Unfortunately, many interventions involve increases in cognitive and physical workload that are burdensome and distracting, often undermining health care safety and quality. It is well known that many of the leading electronic health records are complex and cumbersome to use. Built-in clinical

decision support alerts too often have little relevance and “overfire,” which becomes fatiguing and causes frustration.⁴ Worse yet, clinicians habituated to these nuisance alerts may ignore warnings providing lifesaving information to disastrous effects.⁵ As health care advances, the current burnout crisis further compels us to consider the strain our patient safety interventions place on clinician users, including how those demands affect physician responses to safety interventions, sustainability, and employee well-being.

Human-centered and participatory design methodologies offer a solution for aligning patient safety with clinician well-being. These approaches emphasize the importance of completely understanding and appreciating the divergent experiences of all persons affected by interventions.⁶ The goal is to create solutions that appropriately respond to user needs and balance tradeoffs associated with competing priorities. The cornerstone of human-centered design is engagement with and participation from key partners, including clinicians. Co-creation of safety interventions promotes both innovation effectiveness and clinician buy-in. Clinicians are often able to suggest simple yet sophisticated and desirable solutions to complex safety and quality problems while reducing rather than adding burden.⁷ Furthermore, clinicians are more likely to accept, adopt, and sustain safety interventions that are responsive to their needs. Clinicians engaged in intervention design are also less likely to resist workflow changes or resent new practice requirements. The result is better solutions and less burnout.

To this end, we argue that involving clinical end-users in the development of patient safety interventions to account for clinician perceptions of effort, criticality, and magnitude of impact is essential to the ongoing efforts of practitioners of safety and clinician well-being alike. For quality and safety solutions to be truly human-centered, frontline clinicians must be involved at every stage of the design process moving forward. They must be consulted when framing the safety or quality concern to be addressed, during intervention ideation and refinement, and during prototype testing before full-scale implementation. Doing so provides practicing clinicians an opportunity to offer valuable insights into the time, energy, and cognitive and physical workload demanded of them during the implementation and long-term sustainment of proposed patient safety interventions.

Not every worthwhile intervention may improve patient safety and the clinician experience simultaneously.

For example, highly effective interventions may necessitate significant clinician effort but could be considered worthwhile by clinicians if they are also deemed to be the best or only mechanism for solving a significant safety or quality issue. However, if only modest improvements in terms of patient safety and quality are expected, and the proposed intervention(s) dramatically increase burden, we must keep asking how to better complete the task.

Inevitably, there will be situations in which competing priorities must be weighed, compromises struck, and trade-offs made. Safety interventions requiring additional workload or cognitive burden, however incremental, should only be implemented if other dimensions of effort are proportionally reduced and sufficient protected time is allocated to implementation and sustainment. Clinicians are already overworked; even valuable safety interventions cannot simply be added to existing workloads. Work processes may need to be (re)designed as part of the intervention to account for new demands and avoid compounding clinician stress. Otherwise, we risk implementing interventions that appear helpful on

the surface but consequently erode quality and safety precisely because they create additional workload for clinicians.

In a human-centered future, quality and patient safety improvement will consistently account for the impact on clinician cognitive and physical workload. Doing so appropriately creates a higher bar due to the potential effects on access, cost, and other institutional priorities. However, potential short-term gains for patients that come at an unsustainable price for clinicians are in fact a net loss for everyone in the long run.

Human-centered efforts should be the core of safety and quality improvement. Moving forward, we must further consider the interplay between patient safety and clinician well-being in health care systems. If clinician well-being is not considered as part of the patient safety equation, we risk losing buy-in for future interventions, burning out the workforce, fueling turnover, and ultimately reducing the efficiencies and care quality we have fought so hard to improve. However, if it is done right and a human-centered mindset is adopted, well-being to clinicians can be restored through an enhanced work environment and to patients through improved care quality.

ARTICLE INFORMATION

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