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CASE AND COMMENTARY: PEER-REVIEWED ARTICLE

EHRs, iPatients, and Clinician Well-Being

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Abstract

Electronic health records are now critical in day-to-day health care operations. A drawback to using them, however, is that they tend to divert clinicians' focus from patients to a screen. This phenomenon has generated a colloquial reference to patient-screen pairings as an "iPatient." This commentary on a case suggests key points of ethical and clinical relevance about this trend in patient-clinician relationships and clinical encounters.

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Case

ML works in a busy, academically affiliated community clinic with daily pressure to sign patients' charts promptly after encounters with patients. ML has always enjoyed interacting with patients, students, and trainees, but pressure to sign charts by a busy day's end makes ML feel mechanized and that their ability to connect with students, trainees, and especially patients during visits is compromised due to the need to shorten visits to make time for demands of prompt chart review and sign-off.

Clinic administration has incentivized ML's and other clinicians' "efficient" chart completion with bonuses, which feels infantilizing and exacerbates ML's feelings of being valued by their organization for perfunctory complacency and compliance.

ML and their colleagues consider how to respond to this trend.

Commentary

Early goals of integrating the electronic health record (EHR) into health systems practice and performance included supporting patients and aiding clinicians' decision-making. Since their introduction, EHRs have expanded their functions significantly, incorporating billing, prescribing, and providing virtual care, all of which shape the current landscape of clinical care.¹ However, EHRs' pervasiveness also means that more time and focus

are dedicated to the EHR itself as a means of focusing on patients during clinical encounters. This commentary on a case suggests key points of ethical and clinical relevance about this trend in patient-clinician relationships and clinical encounters.

Patient-Centered Care

Digital consolidation of patient-specific health records has offered some benefits to patients, clinicians, and health care systems that should be acknowledged. EHRs are easily accessible and highly informative. Yet these records are so extensive and attended to that Abraham Verghese has described them as constituting an “iPatient,” an electronic representation and digital shadow of the actual living, feeling, and sometimes neglected real patient.² In his words: “The iPatient is getting wonderful care all across America. The real patient often wonders, where is everyone? When are they going to come by and explain things to me? Who’s in charge? There’s a real disjunction between the patient’s perception and our own perceptions as clinicians of the best medical care.”³ Table 1 highlights the ethical implications of prioritizing the iPatient.

Table 1. Ethical Implications of Prioritizing the iPatient	
Ethical principle	Potential ethical dilemma
Autonomy	Hyperfocus on the EHR can diminish patient participation in and ownership of their care. Clinicians might inadvertently spend more time on chart completion during a visit than on facilitating shared decision-making and patient education, compromising patient autonomy.
Nonmaleficence	Multitasking can force clinicians to prioritize data entry over thorough patient assessment and communication, potentially increasing the risk of medical and diagnostic errors, treatment delays, and compromised patient safety.
Justice	Some EHR systems are configured to meet billing and administrative needs at the expense of practical clinical workflows and patient engagement, raising serious concerns about justice. Clinicians might find themselves with limited time and resources to address the complex needs of patients, particularly vulnerable populations that require more attention and personalized care.
Integrity	Overemphasis on administrative tasks might tempt clinicians to cut corners or compromise their ethical standards to meet institutional demands. This pressure directly challenges clinicians’ commitment to thorough, honest, and accurate documentation and care, risking harm to patients and undermining professional integrity.
Prudence	EHRs tend to overwhelm clinicians with alerts, reminders, and excess information, making it difficult to exercise sound clinical judgment. The cognitive burden of managing excessive data can detract from clinicians’ ability to prioritize critical information and make prudent, patient-centered decisions.
Compassion	Persistent pressure of documentation can undermine clinicians’ capacity to express empathy and compassion during interactions with patients. Ultimately, EHRs can result in clinicians who seem to patients to be detached or rushed.

Abbreviation: EHR, electronic health record.

Given that there can be tangible human costs associated with prioritizing the iPatient, it is important that clinicians be aware of this possibility to avoid potential negative impacts. First, the sheer presence of exam room computers might also reduce the amount of interpersonal contact, as perceived by patients. Studies have noted that clinicians spend nearly 50% of an average clinic day in the EHR and only 27% in direct face time with patients.^{4,5,6} In a Harris Poll published in 2018, nearly 62% of primary care practitioners (PCPs) felt they had insufficient time to adequately address patient

questions or concerns because of EHR time demands, and 69% felt that EHRs took valuable time away from patients.^{6,7}

Given the limited time available for clinical interactions, prioritizing EHR use over essential elements such as touch, dialogue, and patient engagement can have significant consequences. Increased EHR use during clinical encounters has been shown to detract from rapport building, which can decrease patient satisfaction.⁸ From a patient's perspective, the optimal clinic visit length varies widely but averages 15 minutes in ambulatory settings.⁹ If a third of this time is spent on the EHR, patients might experience the encounter as brief or rushed, which negatively affects their perception of the quality of care.^{10,11,12} This shift in focus toward screen gazing and EHR use also has the potential to diminish human intimacy, emotional responsiveness, and open discussion about sensitive issues.¹³ These personal elements serve as the foundation for a trusting and meaningful patient-centered relationship. Thus, it is critical for clinicians to leverage the EHR to educate and communicate with patients while enhancing human connectedness. Clinicians, as well as organizations and patients, can counteract or minimize potential negative consequences of EHR usage in several ways (see Table 2).

Table 2. Practices to Minimize Potential Negative Consequences of Electronic Health Record Integration

Health care organizations
Establish dedicated time for clinician EHR management.
Promote team-based documentation, leveraging scribes and support staff.
Adopt new technologies such as artificial intelligence voice dictation tools.
Provide patient access to educational resources about data security and privacy policies.
Support patients' utilization of communication channels of their choice, from patient portals and video visits to lower-tech options like phone and home visits.
Clinicians
Take EHR-specific training covering communication techniques such as signposting, active listening, and verbal summarization.
Practice mindfulness and time-management strategies.
Patients
Seek to understand the benefits of the EHR in improving their health care.

Abbreviation: EHR, electronic health record.

EHRs offer abundant clinical information, often in excess of what is clinically necessary or helpful for decision-making. This **information overload** often hinders workflows and exacerbates cognitive burden, which, in turn, can contribute to medical errors and clinician burnout due to inefficient EHR use.^{6,14,15}

Cognitive Burden of EHRs

PCPs, in particular, have increased workloads due to EHR tasks before, during, and after patient encounters.⁶ For every hour they spend with patients, they spend almost twice that amount of time on EHR-related tasks during the workday, plus an additional 1 to 2 hours at home.^{3,5} Increasingly complex EHR billing and documentation are primary reasons clinicians spend more time with their computers than with their patients.¹⁶ In

fact, a study that logged user event data in the EHR for PCPs found that they spent 44.2% of their time in the EHR performing administrative tasks such as documentation and order entry.¹⁵ Once given as a quick verbal instruction, order entry has evolved into a complex and time-consuming electronic task, taking an average of 12.1% of a clinician's daily EHR time.¹⁵ Furthermore, system security tasks, such as 2-factor authentication to protect patient data and reduce unauthorized prescribing incidents, can further increase EHR-task time.¹⁷ Given that 2-factor authentication is not federally mandated for noncontrolled substances, these additional keystrokes and time spent in the EHR might not always be necessary.¹⁷

Cognitive burden is also a consequence of many EHRs being designed with minimal input from the users themselves—clinicians and patients—which is why they might be cumbersome and user unfriendly. Despite receiving a System Usability score in the bottom 9th percentile (“not acceptable”) of all industries surveyed,¹⁸ EHR vendors are largely unaffected by the criticism. In 2009, the Health Information Technology for Economic and Clinical Health Act catalyzed EHR adoption through financial incentives, whereby market saturation was achieved without major technical innovations.¹⁹ Market share for the top 2 EHR vendors nearly doubled from 2012 to 2021, increasing from 34% to 56%, as overall adoption surged from 7% to 81% between 2009 and 2019.^{20,21} Large health care systems continue to endorse solutions from the top few vendors without offering agency to employees in build customization.^{22,23}

Safety

Many clinicians find multitasking a stressful and demanding aspect of their jobs. True multitasking, or concentrating on complicated computer interactions while simultaneously holding a conversation with and attending to the patient, is difficult, if not impossible, and can impede the quality of patient-centered communication and care.^{24,25} It is one of the reasons for high rates of prescribing errors.²⁶ Clinicians might also miss important test results and ignore best practice reminders because of the overabundance of information in the EHR, a phenomenon known as “alert fatigue.”^{27,28}

Usability and interoperability challenges within and between EHR systems can also create an excessive burden for clinicians and pose safety risks for patients.^{29,30,31,32,33} Some organizations utilize multiple EHR systems to allow for more specialized functionalities for scheduling and department-specific tasks.³⁴ However, patient safety can be compromised if clinical data, such as a patient's newly prescribed medication, is not exchanged appropriately between systems.³⁴ This lack of interoperability might also lead to order duplication, causing an unnecessary strain on the hospital system and frustration among clinicians.^{31,34} An excessive workload, coupled with high message volumes and perceptions of poor EHR usability, can lead to emotional fatigue, depersonalization, and burnout among clinicians.^{6,18,35,36,37}

Burnout

It is easy to see why clinicians might want to make up for time lost to the EHR by focusing on the iPatient and **clinician-centric data** rather than involving the patient in the diagnostic and treatment process.^{38,39,40} This tendency has become increasingly evident in hospital settings, with teams rounding either outside patient rooms or in workrooms far removed from the patient's bedside rather than engaging with the actual patient and their families.^{41,42} As a result, opportunities can be missed to include patients in their care and to promote shared decision-making and patient education opportunities.

Empathy is crucial for building a trusting relationship and is associated with improved patient satisfaction and outcomes.^{43,44} However, the burden of miscellaneous EHR tasks contributes significantly to clinician burnout, which can, in turn, decrease empathy, jeopardizing the trusting relationships crucial for optimal patient care and outcomes.^{6,18,35,36,45,46,47} The annual prevalence of clinician burnout has been above 45% in the 2020s, and the EHR is frequently reported as an important stressor in patient care, with nearly 71% of PCPs in 2018 identifying the EHR as a contributor.^{6,7,48} While many clinicians might not meet the formal definition of burnout, they increasingly suffer from EHR moral injury. It should be a top priority of the health care system to address clinicians' conflicts about their personal values and the competing demands imposed upon them in the current practice of medicine in order to foster a health care system that prioritizes both patient well-being and clinician fulfillment.⁴⁹

Reclaiming Humanity in a Digital Age

Medicine is a noble profession rooted in humanism, human touch, dialogue, and engagement. Forming meaningful relationships with patients is one of the most important and rewarding parts of clinicians' daily work, along with nurturing trainees, helping them achieve their highest potential, and witnessing them develop into clinically excellent clinicians. However, the EHR has altered clinician workflows and responsibilities, clinicians' core relationships with patients, the hidden curriculum, and education delivered to trainees.

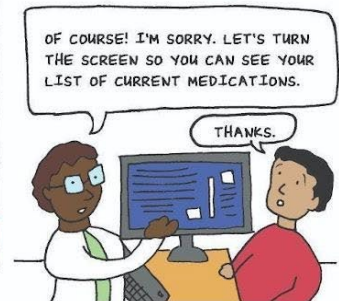
Despite these challenges, there are ways to enhance patient engagement with the EHR to **prioritize patient-centered care**. Strategies such as showing patients the computer screen can harness the EHR as a communication and engagement tool (see Figure).^{38,50,51}

Figure. Patient EHR Self-Advocacy Comic

Computers in the Clinic: YOUR ROLE!

A

**ASK TO
SEE THE
SCREEN.**



B

**BECOME
INVOLVED.**

*Review your records with
your doctor and ask questions.*



C

**CALL FOR
ATTENTION.**

*If you have something
sensitive to discuss,
speak up and ask for
your doctor's full attention.*



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An example of an educational comic to encourage EHR self-advocacy behaviors and engagement given to adult patients and parents of pediatric patients when registering for their clinic visits.

Abbreviation: EHR, electronic health record.

EHR efficiency training and tools, such as artificial intelligence dictation, can help mitigate clinician burnout, optimize health care efficiency, and increase clinician satisfaction with the EHR.^{52,53} Furthermore, increased patient and clinician participation during the EHR design process is needed to improve EHR capabilities and better serve

clinician and patient needs (see Table 3).^{53,54,55,56} Lastly, administrative support and time to attend to EHR demands are critical in avoiding burnout and allowing clinicians to work in an effective and productive manner.^{55,56}

Table 3. Optimizing Electronic Health Record Tasks to Promote Patient-Centered Care

Criteria	Task description	Questions
Decision-making	The task provides insights that inform the clinician's decisions regarding diagnosis, treatment, or management of a patient.	- Does the task provide readily accessible and relevant information for diagnosis and treatment planning? - Does the task offer evidence-based recommendations or decision support tools?
Safety	The task reduces the likelihood of medical errors, improves medication safety, or prevents adverse events.	Does the task promote an aspect of patient safety in a way that doesn't increase alert fatigue?
Communication	The task facilitates effective communication, supports shared decision-making, or enhances patient education efforts.	- Does the task facilitate clear and concise communication of diagnoses, treatment plans, and follow-up instructions to patients? - Does the task improve coordination among clinicians?
Efficiency	The task is designed in a way that minimizes frustration and resultant burnout.	- Does the task streamline workflows and reduce the number of steps required to complete common actions? - Is the task intuitive and easy to perform? - Does the task integrate seamlessly with other clinical systems and workflows?
Accuracy	The task ensures the accuracy of clinical data, diagnostics, or treatment processes.	- Does the task enhance the accuracy of treatment documentation or reduce potential for errors? - Does completing the task ensure that clinical protocols or treatment guidelines are followed accurately?
Accessibility	The task promotes information accessibility for clinicians or patients.	- Is the information associated with the task readily accessible to all relevant clinicians? - Does the task allow patients to access important information about their care in an understandable format?
Personalization	The task allows for customization based on the unique needs of individual patients.	- Can the task be modified to support varying individual patient needs? - Does the task enable accommodation of patient preferences and unique circumstances?

Optimizing EHR Uses

As the integration of technology and its advancement in medicine continues, it is crucial to reduce the daily cognitive load of clinicians and their multitasking burden while they are caring for patients. Since PCPs notably spend a significant amount of time performing tasks in the EHR, tools, resources, and improved design of the EHR to support clinician usage are essential.

It is essential to be cognizant of the potential negative influences of EHRs to avoid them proactively. We look forward to optimizing EHR usage and development via enhanced EHR education, continued quality improvement, and systems-based research. By doing so, it is possible to leverage the EHR to promote humanistic, patient-centered care and to allow clinicians to return to the joy of connecting with patients and practicing meaningfully in the digital age.⁴⁹

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