

# Ethical Implications of the Electronic Health Record: In the Service of the Patient

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Electronic health records (EHRs) provide benefits for patients, physicians, and clinical teams, but also raise ethical questions. Navigating how to provide care in the digital age requires an assessment of the impact of the EHR on patient care and the patient–physician relationship. EHRs should facilitate patient care and, as an essential component of that care, support the patient–physician relationship. Billing, regulatory, research, documentation, and administrative functions determined by the operational requirements of health care systems, payers, and others have resulted in EHRs that are better able to satisfy such external functions than to ensure that patient care needs are met. The profession has a responsibility to identify and address this mismatch. This position paper by the American College of Physicians (ACP) Ethics, Professionalism and Human Rights Committee does not address EHR design, user variability, meaningful use, or coding requirements and other government and payer mandates per se; these issues are discussed in detail in ACP’s Clinical Documentation policy. This paper focuses on EHRs and the patient–physician relationship and patient care; patient autonomy, privacy and confidentiality; and professionalism, clinical reasoning and training. It explores emerging ethical challenges and concerns for and raised by physicians across the professional lifespan, whose ongoing input is crucial to the development and use of information technology that truly serves patients. *J Gen Intern Med*

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## INTRODUCTION

Disruptive innovations are a double-edged sword, bringing both opportunity and risk. The electronic health record (EHR), for example, simultaneously facilitates and complicates the delivery of health care.

When Laennec introduced the stethoscope in 1816, disrupting “the tradition of direct (skin-to-skin) contact” in

listening to the patient’s heart and lungs, it had consequences.<sup>1</sup> Many physicians thought the innovation would be a detriment to care. This led to a reexamination of ways to sustain the patient–physician relationship, and the subsequent integration of the technology with other forms of therapeutic touch, conversation, and communication.

Today, technologies that aid the delivery of care are ubiquitous. EHRs have demonstrated value in features such as legible information, accurate prescriptions, remote access to information, and prevention reminders. Many patients use portals to check information and communicate with physicians.<sup>2</sup> But EHRs also bring unintended consequences.<sup>3</sup>

“The primary goal of EHR-generated documentation should be concise, history-rich notes,” and technology should support care goals “in the most efficient manner possible without losing the humanistic elements of the record that support ongoing relationships....”<sup>4</sup> Computers are tools. They do not fundamentally alter the goals of medicine or the ethical responsibilities of the profession.

EHR development, however, has focused not on capturing the patient’s story and physician’s thought processes and care plans, but on billing, administrative, and regulatory elements.<sup>4–6</sup> Documentation requirements have led to checkbox and drop-down menu shortcuts; repetitive and sometimes inaccurate information is perpetuated.<sup>7</sup> While some functions can enhance the speed and structure of documentation, unreasonable requirements can impose their own burdens.

Although policy bodies have recognized the potential for health information technology (HIT) to improve care, they have also cautioned that HIT does not effectively support the diagnostic process and may contribute to errors.<sup>8</sup> For example, “challenges include problems with usability, poor integration into clinical workflow, difficulty sharing a patient’s health information, and a limited ability to support clinical reasoning and identification of diagnostic errors in clinical practice.”<sup>8</sup> These challenges give rise to ethical concerns that are not just the problem of HIT professionals, and must be addressed by the medical profession. “The adoption of EHRs causes significant changes in the day-to-day experience of those practicing medicine... To realize the promise of EHRs, more work is needed.”<sup>9</sup>

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Moving forward, we would do well to remember the words of T.S. Eliot: "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?"<sup>10</sup>

## **POSITION 1: EHRs AND COMPUTER USE SHOULD FACILITATE PATIENT CARE, SUPPORT PHYSICIAN ETHICAL DUTIES, AND SUPPORT THE PATIENT–PHYSICIAN RELATIONSHIP**

### **Patient–Physician Relationships**

It seems obvious that patient care should center on interaction with the patient. The design and use of EHRs can facilitate patient education during a visit, but EHRs can also be an even greater distraction than the paper record, diverting the physician's attention away from the patient.<sup>11</sup> Physicians must put the welfare and best interests of the patient first, and effective communication is critical to care.<sup>12</sup> Some have called the computer the "third party"<sup>13</sup> in the exam room, with its introduction into the relationship<sup>9, 14, 15</sup> having the power to enhance or impede communication and relationship-building. In the hospital setting, reliance on computers is increasing<sup>16</sup>—leading to a focus on the "iPatient."<sup>11</sup>

All encounters require sufficient time and attention for open discussion of patient concerns.<sup>12</sup> Inadequate listening and relationship-building can lead to adverse outcomes. Physicians focused on difficult-to-use data requirements can miss psychosocial and emotional cues "essential for contextual understanding, differential diagnosis, management, and ultimately, for compassionate, patient-centered care."<sup>13</sup>

Distractions and time pressures are not new, but technology may cause them to be more pronounced. Heavy use of computers by clinicians in safety-net clinics was associated with communication barriers and less satisfied patients.<sup>17</sup> Active listening and discussion, eye contact, and thorough physical examination help build therapeutic alliances. Patients feel better cared for and more confident in patient–physician partnerships in care. The physical exam—and the power of touch—"changes the dynamic" of the encounter, often empowering patients to speak freely.<sup>18</sup> Yet in the ambulatory setting, for every hour physicians provide direct care, nearly two hours is spent on EHRs and administrative work.<sup>19</sup>

Computers allow the patient and physician to view the screen together.<sup>14</sup> Strategies for positioning the computer screen and maintaining eye contact can help, along with patient-centered approaches,<sup>20</sup> tools for improving non-verbal communication,<sup>21</sup> and Frankel's mnemonic best practices device, "POISED" (prepare, orient, information gathering, share, educate, debrief).<sup>1</sup> These strategies can maximize listening, touch, talk, and time. Medicine is a moral enterprise<sup>22</sup> "still practiced one conversation at a time."<sup>1</sup>

Technology should add value to the patient's experience.<sup>23</sup> Patients, clinicians, insurers, institutions, vendors, and the government must all support the intimacy and importance of the patient–physician relationship.<sup>12</sup>

### **The Ethical Significance of Time**

Growing documentation requirements add time pressures on direct patient care. The complexity of routine primary care visits today—and the tasks to be accomplished—has increased, but visit time has not.<sup>24</sup> Managing today's volume of electronic information in primary care with yesterday's staffing ratios is challenging.<sup>23</sup>

The problem of inadequate time with patients did not begin with EHRs, but they have exacerbated it. Typical visits lasting 15–20 min<sup>24</sup> followed by completion of documentation have become 15-min visits during which documentation is expected. Some clinicians still document post-visit to reserve the limited time for interaction, but this is counter to organizational expectations. Nonetheless, meeting the goals of the encounter requires adequate time for relationship and trust-building, active listening and empathy by the physician, and patient advocacy—these ethical obligations should guide not only physicians but health systems as well in addressing the importance of providing adequate time, "a necessary precondition for promoting patient well-being, embodied in the ethical principle of beneficence."<sup>25</sup>

To maximize time, some practices employ medical scribes who enter information during the visit, allowing the physician to focus on interacting with the patient. One study in an ambulatory urology practice found increased patient and physician satisfaction with scribe use.<sup>26</sup> However, concerns have also been reported, including the introduction of another individual into the patient–physician encounter, patient hesitancy to fully disclose sensitive information, and the completion of order entry by scribes. In addition, scribes are unlicensed, required only to have a high school diploma, and may have no health care background, highlighting the lack of oversight of the growing medical scribe "industry."<sup>27</sup>

Some caution that the scribe industry "should be viewed as what it is: a workaround or adaptation to the suboptimal state of today's EHRs."<sup>27</sup> Others see promise in models such as the nurse "co-visit," a team approach where nurses provide initial direct patient care, then assist with documentation.<sup>28, 29</sup>

Time pressures in the practice environment also affect how physicians view their professional responsibilities. A RAND report noted frustration among most physicians regarding the negative effects of EHRs on high-quality care, citing poor usability, time-consuming data entry, interference with face-to-face interaction, and inefficiencies.<sup>30</sup> Some linked the pressure for increased clinical productivity along with increased documentation requirements as a factor in clinician burnout. A clinically focused patient-centered EHR with reduced administrative requirements could facilitate care and help minimize burnout. Addressing this issue is imperative, as the care of patients also requires attention to the care of clinicians.<sup>31</sup> Physicians may feel that their professional integrity is challenged when they cannot provide the care they were trained to provide.

**POSITION 2: EHR USE SHOULD ASSIST AND ENHANCE CLINICAL REASONING AND THE DEVELOPMENT OF COGNITIVE AND DIAGNOSTIC SKILLS. FEATURES SUCH AS COPY-AND-PASTE SHOULD BE EMPLOYED JUDICIOUSLY, REFLECT THOUGHT PROCESSES ABOUT THE CURRENT PATIENT ENCOUNTER, AND MEET THE ETHICAL REQUIREMENTS FOR AN ACCURATE AND COMPLETE MEDICAL RECORD**

**Bedside and Diagnostic Skills in Education and Practice**

Does computer use change how clinicians think and teach? How trainees learn clinical reasoning? Vergheze's "iPatient" is treated based on test results, reports, and EHR data.<sup>11</sup> Indeed, first inpatient encounters are often electronic, leading to the "flipped patient" phenomenon.<sup>16</sup> In this world, history-taking as a rich dialogue can be lost. Simple, validated, effective high-value care may be overlooked. "Features in EHRs may encourage learners to make medical decisions or deliver medical care without having to interact directly with patients... Without proper training and guidance, EHRs can undermine the student's development of patient-centered care practices."<sup>32</sup> Reports have noted a decreased ability among learners to synthesize clinical information and the need for EHR skill development.<sup>33</sup>

Vergheze describes a bedside approach to establishing a connection to a patient as a reading exercise: "the body is the text, a text that is changing and must be frequently inspected, palpated, percussed and auscultated."<sup>11</sup> Charon writes about the importance of narrative medicine.<sup>34</sup> These aspects of interaction provide psychosocial, cultural, and emotional clues to understanding the patient's symptoms, health, and goals,<sup>35</sup> which are critical not only to information-gathering, but communication and relationship-building.<sup>12</sup> Caring for and learning from a patient—and not primarily an electronic representation of the patient—is essential to the "joy, excitement, intellectual pleasure, pride, disappointment, and lessons in humility that trainees might experience..."<sup>11</sup> and in respecting the dignity and uniqueness of each patient.<sup>12</sup>

**Clinical Reasoning**

EHRs use "smart phrases," templates, and drop-down menus to facilitate documentation. Cognitive science research is beginning to explore the impact of "discrete field thinking" on patient care. When a drop-down menu contains five options, none of which quite fit, will the user reject the structured note option and type free text, or pick a close second to maximize productivity?

Some features of electronic documentation may encourage superficial clinical thinking and interaction.<sup>36</sup> Physicians and students may focus on "screen-driven" information-gathering, "scrolling and asking questions as

they appear on the computer," but not assessing the patient's current needs.<sup>13</sup> Diagnosis-specific prompts may "inadvertently narrow the scope of inquiry prematurely, a common cause of diagnostic error,"<sup>13</sup> and impede the development of skills and reasoning.<sup>37</sup> The patient's narrative and clinician's reasoning should not be lost to pre-populated phrases and drop-down menus.

On the other hand, guided documentation, as that for necessary preventive and chronic care services, can be valuable. Clinical decision support (CDS) tools, prompts, reminders, and medication and allergy alerts can be a helpful use of structured data.<sup>4</sup> However, there can be problems in implementation. Templates and check-boxes may not always be relevant to current care, but require a box to be checked to close a note, calling into question the physician's honesty. Honesty is an ethical responsibility.<sup>12</sup> EHRs should always provide a "not asked" choice. Clinically unhelpful tools may result in "alert fatigue" and false documentation or up-coding, whether inadvertent or not. Billing for services not provided is unethical.<sup>12</sup>

**Documentation: Copy-and-Paste and Note Bloat**

EHRs encourage "copy-and-paste" (C&P)—copying previous entries into the current note.<sup>38, 39</sup> This might save time, but may not reflect current thought processes, leading to unhelpful, repetitive entries. When opportunities for trainees to learn and practice are lost, critical cognitive skill development may be harmed.<sup>23</sup> Focusing on features in the patient's initial presentation early in the diagnostic process can lead to the cognitive bias of "anchoring,"<sup>40</sup> where the initial impression is not adjusted, even given new information. Although also a risk with paper documentation, smart phrases and templates may prompt a narrowing of the diagnostic horizon.

C&P without attribution may perpetuate inaccuracies and even constitute fraud. Fixed aspects of a note should be designated—for example, "the initial visit documents Mr. Sanchez underwent an appendectomy at age 58." At the next visit, the physician could review accuracy, note that the medical history was updated with the patient, and note/date stable elements incorporated from the prior note. The risks of C&P can outweigh its benefits; it should be used judiciously. Guidelines for best practices are needed.

EHRs also suffer from "note bloat," or lengthy extraneous information from previous entries. C&P exacerbates note bloat as does template-driven importation of data (old laboratory or other results), burying relevant information.<sup>39</sup> Whereas illegible paper records contained disorganized notes, EHRs can capture large amounts of repetitive information. Accurate complete information in the medical record—paper or electronic—is an ethical responsibility.<sup>12</sup>



### POSITION 3: PRIVACY AND CONFIDENTIALITY MUST BE MAINTAINED IN EHR USE. EHR INFORMATION RETRIEVAL, EXCHANGE, AND REMOTE ACCESS CAN IMPROVE CARE, BUT ALSO CREATE THE RISK OF UNAUTHORIZED DISCLOSURE AND USE OF PROTECTED HEALTH INFORMATION

#### Patient Privacy/Confidentiality

Instant retrieval and information exchange through EHRs improve care, but also create the risk of unauthorized use, access, and disclosure of private patient information, raising confidentiality and privacy concerns. Unauthorized access could also have implications for patient family members if genetic information is involved.

Respect for patient autonomy requires that patient encounters and information are kept confidential and private, fostering trust and improving communication.<sup>12</sup> Otherwise, patients might not disclose important information or may avoid seeking care, fearing denial of insurance, loss of employment, or stigmatization. While this is also true of paper records, concerns are heightened with EHRs because information is so readily transmitted and system breaches are not uncommon, despite security measures. Breaches may occur accidentally, through cyber attacks, or due to lapses in professional conduct, such as searching for test results of a family member or celebrity. All of this is easier to accomplish—and track—electronically.

#### Access to Information

As a matter of law and ethics, patients have a right to the information in their medical records.<sup>12</sup> EHRs can increase participation and engagement in health care through patient access,<sup>41</sup> empowerment, and improved communication.<sup>42</sup> However, patients may not be aware that they can access their records.<sup>43</sup> ACP supports direct patient access to test results but cautions that patients should discuss results with their physicians.<sup>44</sup>

“OpenNotes” is an initiative designed to give patients direct access to their full records, which ACP supports. OpenNotes may be a powerful tool for improving patient health and engagement<sup>4, 42</sup> and the accuracy of information. Opportunities for transparency and patient education through technology are welcome developments.

Patients and physicians report positive experiences using OpenNotes.<sup>42</sup> The knowledge that a patient may read a note may improve documentation. But full access can also challenge the physician’s ability to write candid notes, especially regarding sensitive information (e.g., about mental health, substance abuse, sexual behavior, or appearance). Would a physician obscure information or a diagnosis, knowing that the patient could access the note? Construct notes with patient satisfaction surveys in

mind? More consideration of these issues is needed.

#### The Digital Divide

Patient access to electronic information presents opportunities to meld the “digital culture” with personal responsibility for health.<sup>41</sup> Ironically, patients who might benefit most from digital access may be least likely to have it. Thus EHRs may exacerbate the “digital divide” between those with and without Internet access, contributing to health disparities.<sup>41</sup> Patients lacking Internet access are more likely to have lower socioeconomic status, educational levels, and health literacy and to be elderly—factors associated with poorer health outcomes.<sup>45</sup>

#### CONCLUSION

Innovations in health care must be consistent with the ethical responsibility of putting the patient first. Ultimately, “the systems we design and the technology we employ should help enhance the value of what we do.”<sup>46</sup>

EHRs affect patient care, patient–physician interactions, clinical reasoning, and training. Some commentators have gone so far as to say that “encounters have been restructured around the demands of the EHR.”<sup>47</sup> Now is the time to evaluate how, going forward, EHRs can better meet patient care needs and the responsibilities of medicine.

EHRs are tools that should facilitate high-value patient-centered care, strong patient–physician relationships, and effective training of future physicians. Anything less... does not compute.

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**Compliance with Ethical Standards:**

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