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## Taming the EHR (Electronic Health Record) - There is Hope

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### Abstract

With increasing diffusion of EHR technology over the last half decade, clinician burnout is rising. As healthcare is a complex and highly regulated field, the rapid and mass adoption of EHR technology has created disruption for highly skilled workers such as clinicians. Although, much has been written about dissatisfaction with the EHR (electronic health record), a paucity of immediate solutions exists in the literature. This article suggests three actionable steps health systems and clinicians can make to expedite gains from and mitigate the effect of the EHR on clinical practice.

### Keywords

Clinician burnout; Electronic health record; Primary health care; Health care workforce

### Introduction

The era of “meaningful” electronic health record (EHR) use creates this common dilemma: “...doctors look at their computer screens...more than they listen to their patients...From the doctor's perspective, every moment she spends focusing on you, the patient, rather than on the “note”...is a debt that must be repaid later in the day... [clinicians] make impossible choices between patient care and paperwork. And it's taking a toll” [1]. Front-line physicians are experiencing high rates of burnout that are steadily increasing at a rate double that of the general US working population at 54% [2].

Physician burnout and poor work-life balance are not new phenomena. When cost containment and managed care came of age, physicians in the 1990s became less satisfied

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with time spent with patients, autonomy, and paperwork [3]. After passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, ambulatory clinic EHR adoption from 2008–2014 doubled to 82%. However, workflow analysis before and after EHR implementation shows increased levels of interruptions, multitasking, and off-hour work activities for clinicians [4].

The evidence is compelling that the EHR and related regulatory requirements are playing a role in dehumanizing our profession [5–7]. We highlight three immediate solutions available to physicians and health systems that tame the EHR to restore our profession as healers. We also discuss big picture initiatives that will evolve the impact of the EHR in clinical practice.

## **Redistribute Data Entry Tasks to the Healthcare Team, Including Patients**

Most EHR systems are locally configured with workflows that assign responsibility for the largest portion of data entry to the clinician. However, patients and other clinical team members including medical scribes can be included in creating the history and narrative [8], which has the added benefit of creating further patient engagement. Patients can be asked to complete integrated e-questionnaires, chief complaint-based templates and review of systems that populate the EHR document. One emergency department found this approach was well received by patients, even in a setting where English is not the primary language for many patients [9]. Center for Medicare and Medicaid Services (CMS) and other payers may need to clarify regulation regarding audits of payment for notes that incorporate data coming from multidisciplinary sources to ease adoption of this new workflow by health systems.

## **Refine Encounter Documentation and Limit Clicks**

Many stakeholders including meaningful use requirements have expanded the role of encounter documentation to include the capture of quality measures during each visit. While health systems may use structured data to automatically feed into quality reporting, structured data is often captured in the form of drop down lists which interrupt eye contact and add clicks to clinician workflow. Free text, dictation to transcription, and voice recognition dictation (unstructured data), should be maximized in local EHR configurations. New ways to extract data from unstructured text, such as natural language processing (NLP), may advance the science of documentation, though the promise has outpaced reality. However, this year several health systems may submit quality reports initially queried by NLP for measures like cardiac ejection fraction in congestive heart failure and pulmonary function tests in chronic obstructive pulmonary disease.

## **EHR and Workflow Coaching**

Initial one-time training with the EHR is not enough. As physicians and health systems are rapidly consolidating [10], it is up to organizations in care of physicians to prioritize physician wellness and support a process of ongoing evaluation and training. Health systems can ask vendors to provide standard reports and visually organize the time stamp logs of how clinicians spend time in the EHR as in Figure 1. The amount of time clinicians spend in

the EHR could be a key performance index that health systems follow as it is a direct way to measure the clinician work-life balance. Direct observation of workflow patterns and clinician feedback of their pain points can create an individual EHR education profile for clinicians to support ongoing training. For example clinicians struggling with clinic message management would receive targeted training in template phrase responses to minimize response time. Training should also allow clinicians flexibility to choose how the EHR fits into their practice style. For example, some clinicians choose to chart outside the exam room understanding the tradeoff is longer after clinic hours in the EHR. This approach is currently being piloted and studied at our institution. It must be noted that EHR implementations already raise administrative healthcare costs by requiring more information technology and informatics staff, and added investment in training will continue this trend.

## Policy, National Collaborations, and Innovation Supporting EHR Evolution

While national groups for private and public payers are working to harmonize quality measures, the Office of the National Coordinator (ONC) has discussed incorporating user centered design (UCD) best practices as a basis for certification. Currently a third party organization has created a UCD rating system [11]. Furthermore, transparency through a federal rating system of EHR usability could encourage EHR refinement in UCD among vendors. Finally, an open source application program interface (API) called Fast Healthcare Interoperability Resources (FHIR) is creating a platform for better user interfaces leveraging crowd-sourced innovation and is currently being piloted with large EHR vendors at multiple institutions.

As healthcare shifts from fee for service to value based payment models, the role of EHR documentation will need to be redefined. The sustainable growth rate (SGR) has been replaced by Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), which includes a Merit-based Incentive Payment System (MIPS). The prescriptive documentation required by the 1995 and 1997 evaluation and management (E/M) coding decreases the efficiency of the clinical encounter. Advanced payment models will not ultimately rely on these claims-based submissions for payment but on robust revenue cycles of patients' overall cost to the health system. Health systems that expedite movement away from fee for service to value based payment models may concomitantly decrease the burden of billing documentation for their providers.

## Conclusion

Our profession has been struggling with physician satisfaction and work life balance for decades. The EHR has magnified these challenges. Healthy physicians are needed for high value patient care [12]. Despite what feels a national epidemic of burnout experienced by 1 in every 2 physicians, this is a solvable problem. It has taken other industries that adopted technology up to a decade to realize production gains by complimentary investments in work practices, human capital, and organizational restructuring [13]. Instead of solely waiting for EHRs to improve their usability and alternative systems to emerge on the market, health systems and clinicians presently can minimize waste in current EHR usage by investing in ongoing training and tailored technology configurations as well as process redesign and

other organizational changes of team based care that support lean workflow. Further research to understand the impact of clinician burnout on patient experience and patient health outcomes will further strengthen clinician wellness as a national priority of high value healthcare delivery.

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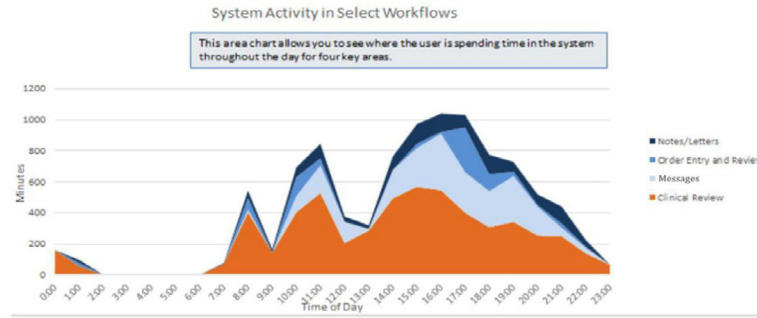
## Abbreviations

<b>HER</b>	Electronic Health Record
<b>HITECH</b>	Health Information Technology for Economic and Clinical Health
<b>CMS</b>	Center for Medicare and Medicaid Services
<b>NLP</b>	Natural Language Processing
<b>ONC</b>	Office of the National Coordinator
<b>UCD</b>	User Centered Design
<b>API</b>	Application Program Interface
<b>FHIR</b>	Fast Healthcare Interoperability Resources
<b>SGR</b>	Sustainable Growth Rate
<b>MACRA</b>	Medicare Access and CHIP Reauthorization Act
<b>MIPS</b>	Merit-based Incentive Payment System
<b>E/M</b>	Evaluation and Management

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**Figure 1.** Visual display of an individual EHR work log.