

Supervision Is Not Education: The Dark Side of Remote Access to the Electronic Health Record

Matthew A. Fuglestad, MD
Paul J. Schenarts, MD, FACS

The Chinese symbol of *yin* and *yang* is a well-known example of how opposite or contrary forces can be complementary and interdependent. There is probably no more polarizing topic than the recent introduction of the electronic health record (EHR) into medical education. Just as there are many potential benefits of the EHR, there are as many negative impacts.¹ The EHR is a tool, and like all tools, it is neutral. The way in which the tool is used, however, determines whether the impact is positive or negative.

In this issue of the *Journal of Graduate Medical Education*, Martin and colleagues² have provided us with the first description of remote EHR utilization patterns in attending physicians. Additionally, they have brought to light a novel method of resident oversight that could be integrated into residency training. We applaud the authors for another well-executed investigation into the educational impact of the EHR. The current study,² which demonstrates potential positive sides to remote access, also provides a balanced opportunity to consider some of the dark sides.

The authors found that regardless of the number of years in practice, there is general acceptance of remote access to the EHR. This has the potential benefit of providing immediate patient care regardless of the physician's location. Nevertheless, this benefit needs to be balanced against the risks of making incorrect decisions based only on electronic data. Of note, a previous study,³ also conducted at the University of Chicago, found that residents extensively electronically research patients prior to actually examining them. This practice may inappropriately influence clinical decision-making and amplify clinical errors.

An advantage of the EHR would be the immediate ability to take corrective actions or educate the residents, regardless of time of day. Unfortunately, Martin and colleagues² found that the majority (75%) of EHR remote access was postcall, as compared with 54% while on call. This finding suggests that remote access is more frequently utilized

for attending physician convenience in completing documentation, rather than providing immediate patient care and resident education.

Finally, is there potential harm to the physicians who utilize remote EHR access? Martin and colleagues² found that 75% of attending physicians remotely use the EHR for 60 to 90 minutes every day. Concern has previously been expressed that remote access to the EHR may contribute to physician burnout and negatively affect the well-being of the physician and the physician's family.⁴

It is important for the readers of Martin and colleagues' article to recognize the difference between supervision and education because it is easy to confuse them. Supervision involves the critical watching or directing of subordinates, whereas education is the process of imparting knowledge. The authors demonstrate this difference with the finding that 93% of attending physicians remotely discovered incorrect information provided by the residents, which resulted in changes in clinical decisions; yet only 50% of attending physicians recalled instances where these findings resulted in direct supervisory action from home in the form of telephone calls to cross-cover services.

These 2 data points suggest that the previous dependency between the attending (teacher) and the resident (learner) is being lost. Before the implementation of the EHR, residents and attending physicians were dependent on each other. Residents were data collectors and were forced to distill what was most important. Likewise, attendings were forced to interact with residents to obtain the information. In this way, the resident had the opportunity to gain cognitive reinforcement between the raw data and the attending physician's decision-making. Unfortunately, the auto-filled data, prompts, templates, and copy-and-paste functions of the EHR have nearly eliminated the requirement for residents and attending physicians to interact.¹

In a theoretical model of remote EHR-based education, attending physicians would review residents' notes to understand their thought processes. After independently reviewing patient data, faculty could remotely evaluate at multiple points in time

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how effectively residents are managing patients. Inconsistencies or errors in medical judgment would prompt supervisory actions to provide appropriate patient care and could serve as a prompt for focused education. However, this would require residents to document their critical thinking in the chart, and for attending physicians to take the time to carefully review the electronic documentation. The frequency of remote oversight could be tailored based on patient acuity or the level of competency of the resident being supervised. This system could solve the contradictory relationship between resident autonomy and patient safety.

While this model has the potential to balance the *yin* of resident autonomy with the *yang* of patient safety, it will not be successful until greater commitment in EHR use is demonstrated by both residents and attending physicians. Residents would need to be dedicated to recording clinical judgment, rather than simply stating the plan for the day and inserting often meaningless, auto-filled data. Additionally, changes in clinical status that prompted reevaluation by residents would require documentation even if there were no changes to the clinical plan. Attending physicians would have to take the time to read what the residents had written and interact with them. This would afford residents a chance to demonstrate their critical thinking skills and to learn from attending physicians' experiences. Sadly, less than 30% of residents receive feedback on their documentation,⁵ and only 60% of attending notes are viewed by residents.⁶ We have a long way to go, but Martin and colleagues have pointed us in the right direction.

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Both authors are with the Department of Surgery, University of Nebraska College of Medicine. **Matthew A. Fuglestad, MD**, is a Surgical Resident; and **Paul J. Schenarts, MD, FACS**, is Professor of Surgery, Vice-Chair for Academic Affairs, and Chief of Trauma, Surgical Critical Care and Emergency General Surgery.

Corresponding author: Paul J. Schenarts, MD, FACS, University of Nebraska College of Medicine, Department of Surgery, 983280 Nebraska Medical Center, Omaha, NE 68198-3280, 402.559.5248, fax 402.559.6749, paul.schenarts@unmc.edu