

## Educational impact of the electronic medical record.

Schenarts PJ, Schenarts KD. *J Surg Educ.* 2012 Jan-Feb; 69(1):105-12.

### OVERVIEW

This article expands on the impact of the EMR on resident education. A literature review was conducted to evaluate the impact of EMRs on graduate medical education. The overall impact appears to be negative, but there is discussion on how some of those effects may be mitigated.

### KEY FEATURES

The impact of the EMR on teacher-learner interactions, clinical reasoning, resident workflow, medical student education, and patient outcomes is delineated.

The EMR has a negative effect on teacher and learner interactions, clinical reasoning, and has an inconsistent impact on resident workflow. Data on the impact of the EMR on patient safety, quality of care, and medical finances are mixed.

the insertion of multiple computers in to the teacher–learner interaction may be disruptive in terms of eye-contact and visual cues.

having immediate access to large quantities of data may be detrimental to the learning process in terms of clinical reasoning.

the published literature on the impact of EMRs on resident workflow demonstrates mixed results, with some studies demonstrating reduced workload and others an increase.

EMRs allow integration of basic sciences with clinical concepts through the use of a simulated EMR in a group of simulated patients.

Recommendations were issued to mitigate some of the negative effects of EMRs on education, including:

1. changing the educational environment to facilitate communication between teachers and learners;
2. requiring learners to distill and synthesize EMR data in real time;
3. teaching medical students to document electronically;
4. advocating for continued access to the EMR;
5. eliminating the copy-paste function from resident documentation; and
6. reevaluating the educational impact of the EMR periodically.

### BOTTOM LINE

The EMR has not had as dramatic an effect on patient outcomes as is commonly believed. However, the overall impact of the EMR on education seems to be negative. This negative impact is not an indictment of the medium but rather a warning that the educational environment is changing and application of old teaching methods is no longer appropriate.

### COMMENTARY

This is a well-designed, well researched literature review that covers a multitude of topics. This paper is indispensable as a fairly recent overview of our understanding of the effect of the EMR in medical education. The recommendations are practical and well-supported by the literature. 5/5 checks.

#### Learnability

(easy to understand?  
Builds on previous  
knowledge?)



#### Reliability

(journal quality,  
authors prominent in  
the field?)



#### Provability

(based in primary  
research, reference to  
literature?)



#### Scalability

(suitable for varied settings:  
undergrad/grad/CME,  
small-large institutions?)



#### Feasibility

(can you apply this in  
practice?)

