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Emergency physician documentation quality and cognitive load : comparison of paper charts to electronic physician documentation

[Chisholm, Robin Lynn](#)



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Abstract:

Reducing medical error remains in the forefront of healthcare reform. The use of health information technology, specifically the electronic health record (EHR) is one attempt to improve patient safety. The implementation of the EHR in the Emergency Department changes physician workflow, which can have negative, unintended consequences for patient safety. Inaccuracies in clinical documentation can contribute, for example, to medical error during transitions of care. In this quasi-experimental comparison study, we sought to determine whether there is a difference in document quality, error rate, error type, cognitive load and time when Emergency Medicine (EM) residents use paper charts versus the EHR to complete physician documentation of clinical encounters. Simulated patient encounters provided a unique and innovative environment to evaluate EM physician documentation. Analysis focused on examining documentation quality and real-time observation of the simulated encounter. Results demonstrate no change in document quality, no change in cognitive load, and no change in error rate between electronic and paper charts. There was a 46% increase in the time required to complete the charting task when using the EHR. Physician workflow changes from partial documentation during the patient encounter with paper charts to complete documentation after the encounter with electronic charts. Documentation quality overall was poor with an average of 36% of required elements missing which did not improve during residency training. The extra time required for the charting task using the EHR potentially increases patient waiting times as well as clinician dissatisfaction and burnout, yet it has little impact on the quality of physician documentation. Better strategies and support for documentation are needed as providers adopt and use EHR systems to change the practice of medicine.

Description:

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