

Multi-tasking in the ER: More is not better

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Even after emergency physicians had acclimated to a new commercial electronic health record (EHR), they increased their tasks performed per minute by nearly 12 percent, increasing the potential for patient safety hazards. The results of a study of one hospital's transition from a homegrown EHR to a commercial EHR were published online Friday in *Annals of Emergency Medicine*.

"The increase in task-switching after the new EHR was implemented imposes a cognitive burden on the physician in the already complex and dynamic environment of the emergency department," said senior study author Raj Ratwani, PhD, Science Director of the National Center for Human Factors in Washington D.C. "Rapid task-switching leads to increased stress and frustration and can have serious [patient safety](#) implications. Multi-tasking rarely improves human performance."

Researchers studied workflow for three periods: pre-implementation of the EHR, one week following widespread use of the EHR ("go-live") and 3 to 4 months after the EHR was implemented. Time spent on computer-based tasks increased from 31 minutes pre-implementation to 44 minutes in the go-live period. Verbal communication decreased from 19 minutes pre-implementation to 11 minutes in the go-live period.

While time spent on computer-based tasks eventually returned to pre-implementation levels, the increase in tasks performed per minute continued during long-term use of the commercial EHR. The number of tasks physicians engaged in per minute increased from 1.7 tasks during the pre-implementation period to 1.9 tasks during post-implementation

and stayed there.

"Our study highlights important differences between homegrown EHRs and commercial EHRs," said lead study author Natalie Benda of the National Center for Human Factors in Healthcare at MedStar Health in Washington, D.C. "Homegrown EHRs tend to be customized to the workflow processes of the specific hospital and ER. The increased task-switching we observed may be the result of the lack of customization in commercial EHRs. Moving forward, it will be important to determine whether commercial EHRs can be easily customized to better meet the workflow needs of emergency department staff and prevent cognitive burn-out from task-switching."

More information: "Emergency Physician Task Switching Increases with the Introduction of a Commercial Electronic Health Record"

[www.annemergmed.com/article/S0... \(15\)01104-X/fulltext](http://www.annemergmed.com/article/S0... (15)01104-X/fulltext)

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