How a tool to teach the EHR can transform medical education

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Imagine taking a driving test before you’d spent any time behind the wheel of a car. You’d be scared. You’d be frustrated. You’d be confused. And you certainly couldn’t expect to pass the test.

That’s kind of how the experience can feel for medical students as they enter their clinical years and must interact with the EHR. And then when they enter residency, they must use the EHR—a dizzyingly complex tool on which they’ve often received insufficient training—while also trying to care for patients and build their clinical knowledge.

A study published recently in the journal *JAMIA Open* examines how medical and other health-related schools are using an educational EHR to support successful transition from medical school to residency. It also points to systemic reasons why more schools aren’t using it.

**What it is**

The platform, the Regenstrief Teaching Electronic Medical Record (tEMR), also referred to as the Regenstrief EHR Clinical Learning Platform, was developed by Indiana University School of Medicine (IUSM), the Regenstrief Institute and Eskenazi Health, in central Indiana, with support from the AMA as part of the AMA Accelerating Change in Medical Education initiative.

It isn’t a simulated EHR. The tEMR is a working, web-based educational EHR with a pseudonymized patient database with 12,000 real patient records and a cohort generation tool.

Its data can be edited to meet curricular needs, and educators can use it to create and deliver automated, context-specific and educational messages, as well as context-sensitive links to resources. It also allows multiple users to work on a single record simultaneously and includes automated learner evaluation functionality.
The tEMR was piloted at 12 medical, public health and health information technology (HIT) schools with more than 11,800 unique student users to help them understand common HIT tools and issues. But the objective isn’t to train informaticians, noted the authors, researchers from the Regenstrief Institute, IUSM, Fairbanks School of Public Health and Indiana University Center for Global Health.

The ultimate aim is “to create tools through which our students—future educators, administrators, practice leaders and frontline physicians—can develop enough HIT savvy to influence how HIT should be used in health care, rather than HIT dictating how health care is delivered,” says the *JAMIA Open* study.

“Medical, nursing, social work and other clinical trainees who have early exposure to EMRs will think differently about patient care and about future EMR development because of that early exposure. It creates a different mindset.” said Debra K. Litzelman, MD, MA. Dr. Litzelman was senior author of the study and is associate director and research scientist in the William M. Tierney Center for Health Services Research at Regenstrief Institute Inc.

**How it is being used**

Schools are using the tEMR with pre-clinical students to acclimate them to EHRs and bring clinical relevance to their courses, and with clinical students for case presentation and to develop diagnostic and therapeutic plans, as well as to practice documentation skills.

IUSM, for example, is using the tEMR in lessons on health systems science, such as how health care is financed and how to avoid inappropriate prescribing. University of Connecticut School of Medicine, another school that has received support from the AMA Accelerating Change in Medical Education initiative, uses it to teach social determinants of health by following a family of patients longitudinally.

Still, with more than 190 accredited schools of medicine and osteopathy in the U.S., adoption of the platform is low. One reason is there's no requirement to provide EHR training, and without a requirement, schools have little incentive to work it into their already jam-packed curricula.

But that doesn’t negate the need for it.

“In the first two years [of medical school], students focus on passing their boards. Most are thinking, ‘I don't care about learning an EHR—it isn’t on my tests,’” said Chris Frederick, director of strategic partnerships at the Regenstrief Institute. “Then they get to year three and have their first interface with the EHR, and they say, ‘Oh, my God, why didn't you teach me this stuff? I don't know what I'm doing.’”

Frederick argued that EHR readiness could be incorporated throughout the undergraduate curriculum, citing a metaphor he learned from Paul N. Gorman, MD, professor of medical informatics and clinical
epidemiology at the Oregon Health & Science University School of Medicine.

“You’re already teaching them a block on this system and a block on that system. Instead of thinking of them as blocks, think of them as bricks, with EHR as the mortar,” Frederick said. “You deliver the case from the EHR. You find the symptoms in the EHR. You’re teaching the same content, but it’s delivered through the medium that they're going to live and breathe in their entire careers.”