

emrU: The Electronic Medical Record as a Tool for Delivering Curricular Content

David Asprey, PhD, PA-C, Amy Dowden, MD, Nicholas May, Douglas Van Daele, MD, Mary Spreen, MA, Valerie Heffernan, BA, Boyd Knosp, MS
Carver College of Medicine, University of Iowa

Objective/Purpose:

To assess the utilization of electronic medical record (EMR) software as a tool for delivering curricular content, and to facilitate medical students learning to effectively utilize an EMR.

Need for Innovation:

Without prior exposure to EMR software, medical students are subject to an abrupt transition from pre-clinical education to expected EMR competence during their transition to clinical clerkships.

Prior to beginning clerkships, students are typically trained on hospital's EMR in a series of online modules and a half-day instructional session. Students gain further EMR exposure and sophistication as a user as they enter their clerkship training. The need exists for learning how to utilize the EMR in multiple brief sessions over time, prior to beginning the clinical clerkship phase in order to decrease the slope of the "learning curve" for the EMR. Utilizing an EMR as an educational tool prior to clinical clerkships may be a means to accomplishing this goal.

Instructional Methods and Materials Utilized:

We modified a copy of the EPIC EMR referred to as electronic medical record university (emrU). This application was designed specifically for educational purposes. The system allows for the delivery of curricular content via case-based, small group instruction. Each group reviews case content, generates learning issues, and simulates the diagnostic reasoning process while simultaneously learning to utilize and navigate in the EMR they will use during clerkships. Survey instruments were designed and administered to students and faculty at the conclusion of the semester. This project was IRB exempt.

Feasibility of Transferring to Other Schools/Programs:

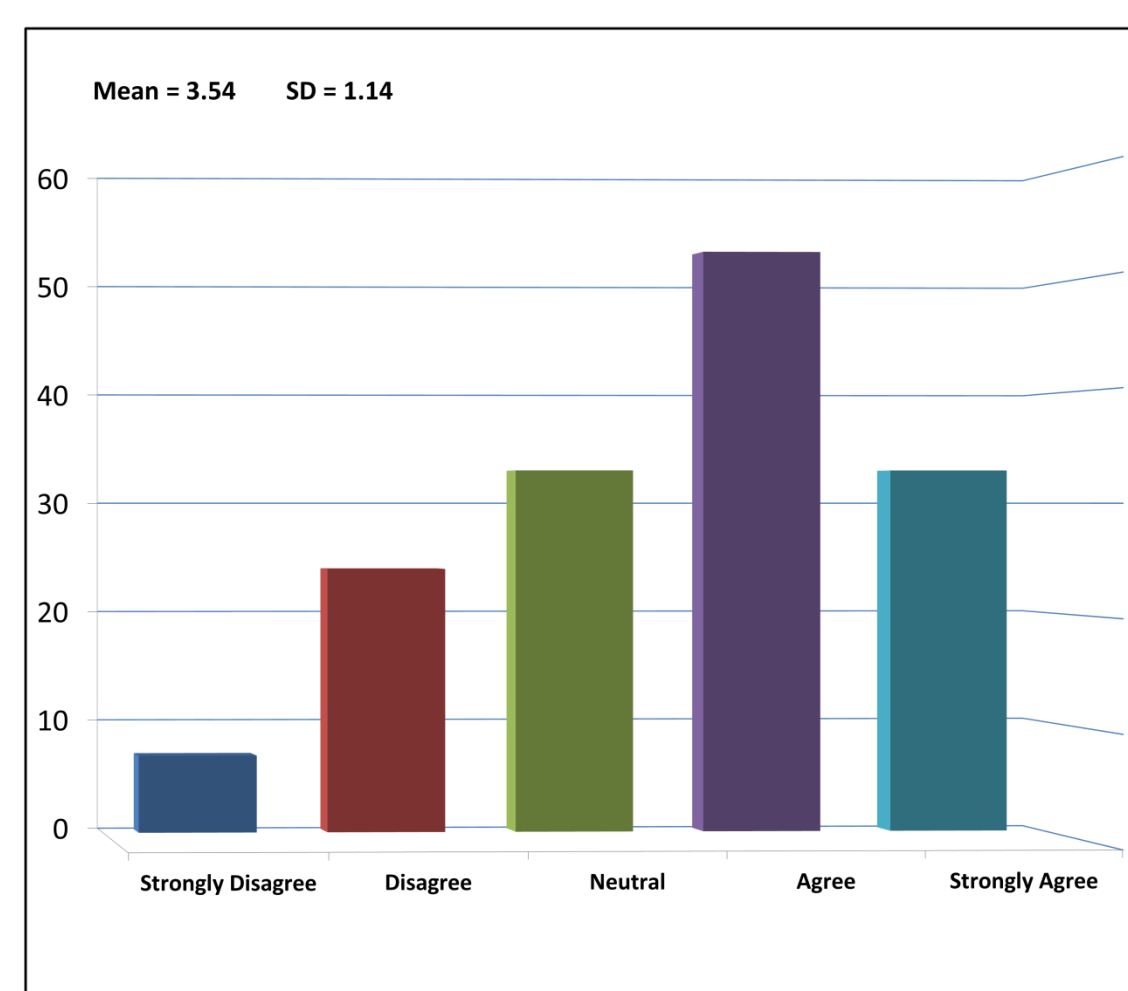
Once the EMR program is modified for educational use and staff are educated on the utilization, creating additional patient cases is a relatively easy task and potentially transferrable to other institutions.

Educational Outcomes:

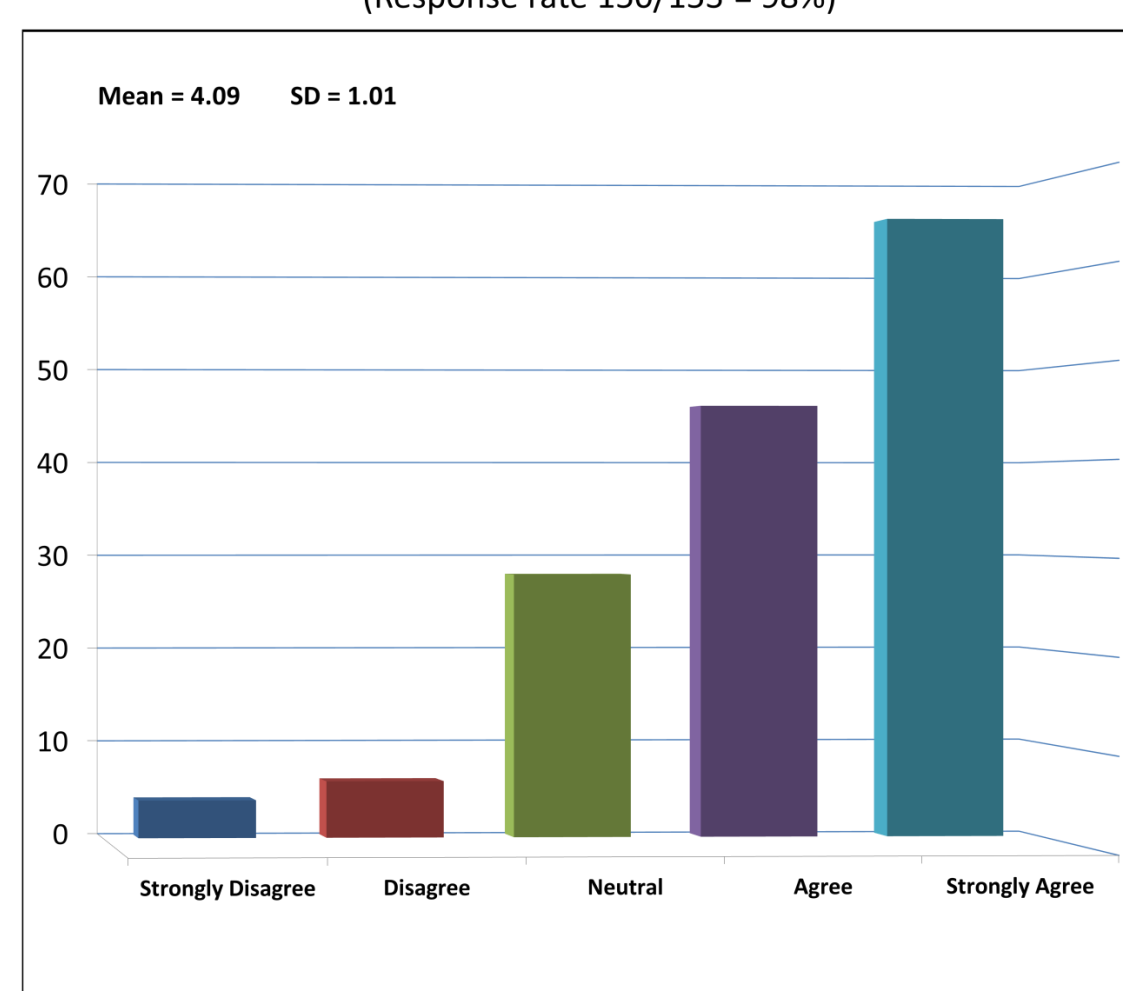
Students effectively learned curricular content and gained basic competency associated with utilizing the electronic medical record. Faculty and Students found emrU an enjoyable and effective tool for learning.

Student Survey Responses:

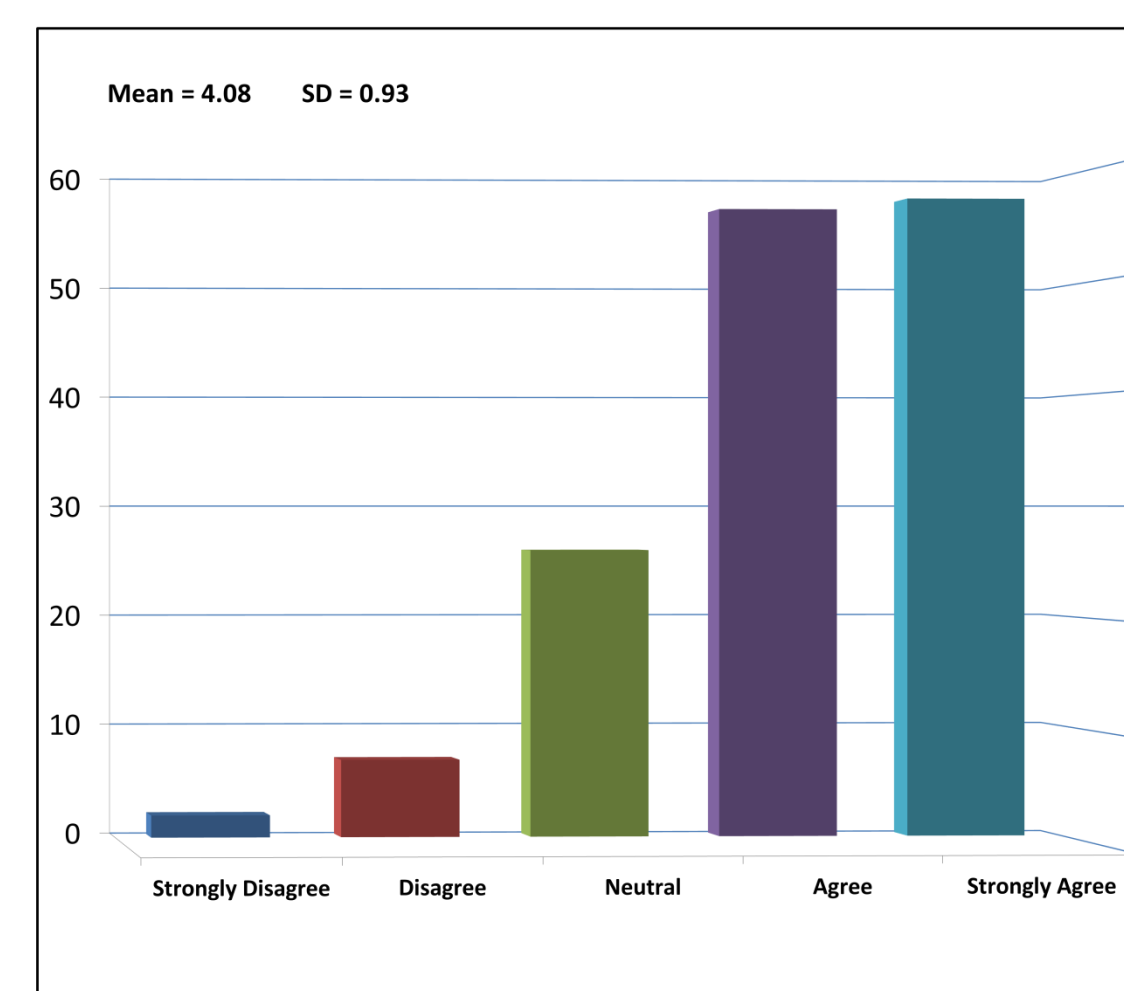
emrU (EPIC – the electronic medical record) Was Easy to Navigate
(Response rate 150/153 = 98%)



I Believe I Will be Better Prepared to Transition to the Use of EPIC (EMR) During Clerkships as a Result of my Experience with emrU
(Response rate 150/153 = 98%)



Learning About Electronic Medical Record Through the Use of Cases in emrU was a Positive Experience
(Response rate 150/153 = 98%)



Innovation Strengths:

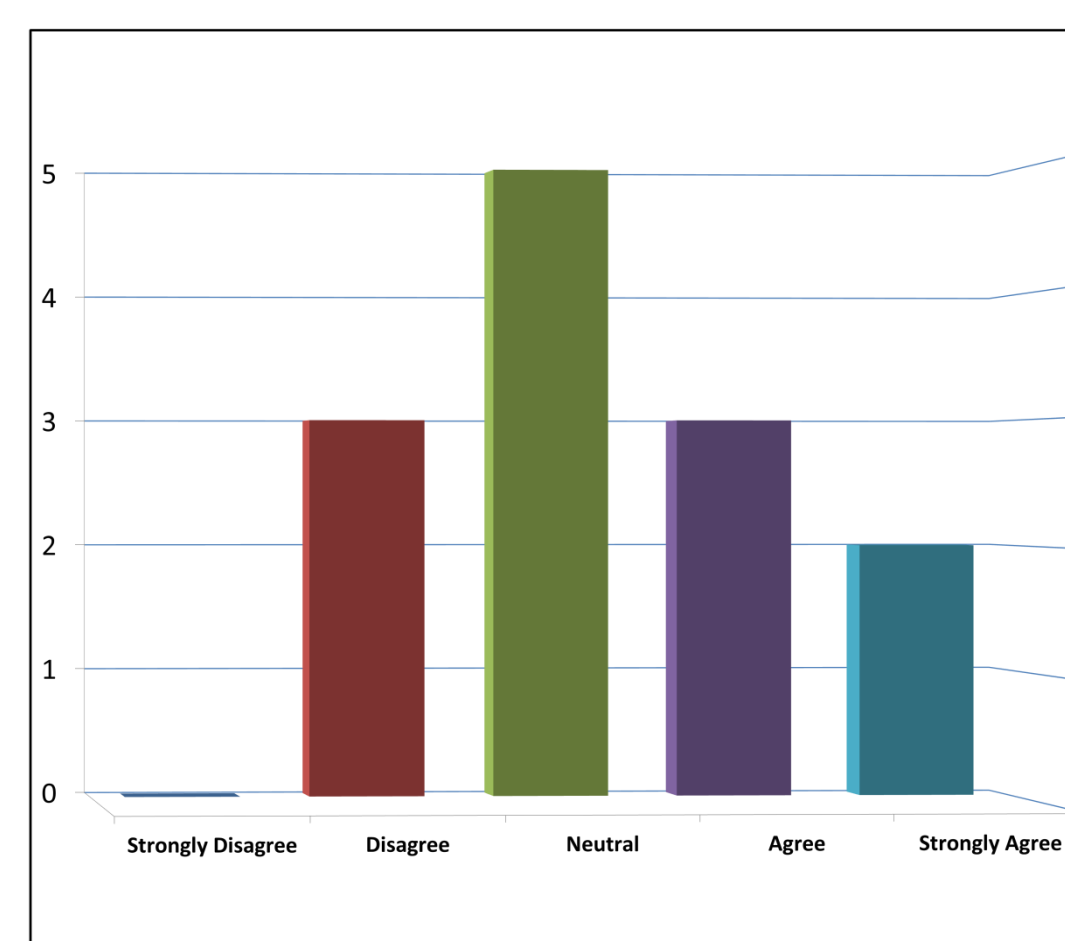
- Introduces students to the EMR earlier in their training, utilizing multiple shorter sessions.
- Provides a creative and innovative method for delivering curricular content (patient cases in the EMR).
- Clinical facilitators require little preparation to navigate the system.
- Enables multiple learners to access content concurrently and asynchronously.
- Has utility as a vehicle for presenting interprofessional education content.

Innovation Challenges:

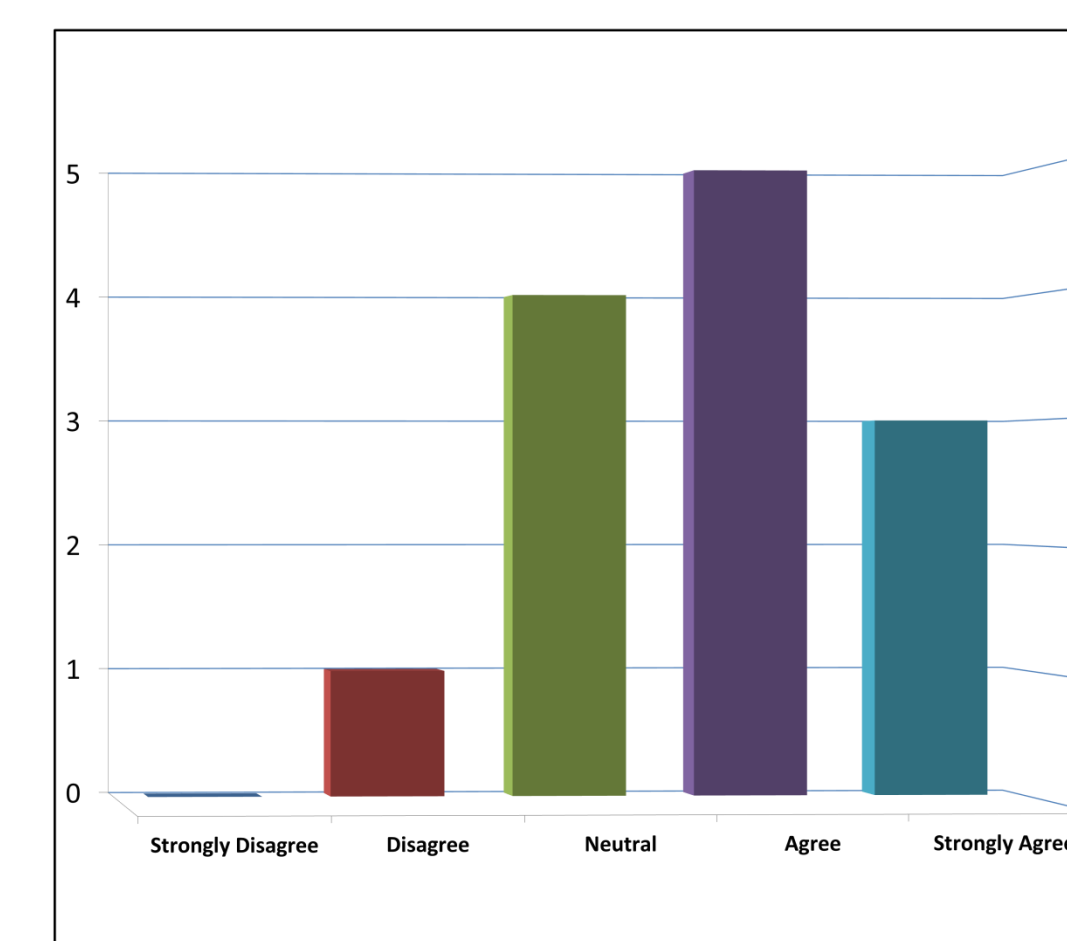
- EMRs were not designed as teaching tools and require significant modification by technical staff for this use.
- There is a need to develop systems to smoothly deliver time-released content synchronized with classroom sessions.
- Gathering information from faculty to develop patient cases in the system can be time and labor intensive.
- There is a need to develop mechanisms to ensure academic integrity.

Faculty Survey Responses:

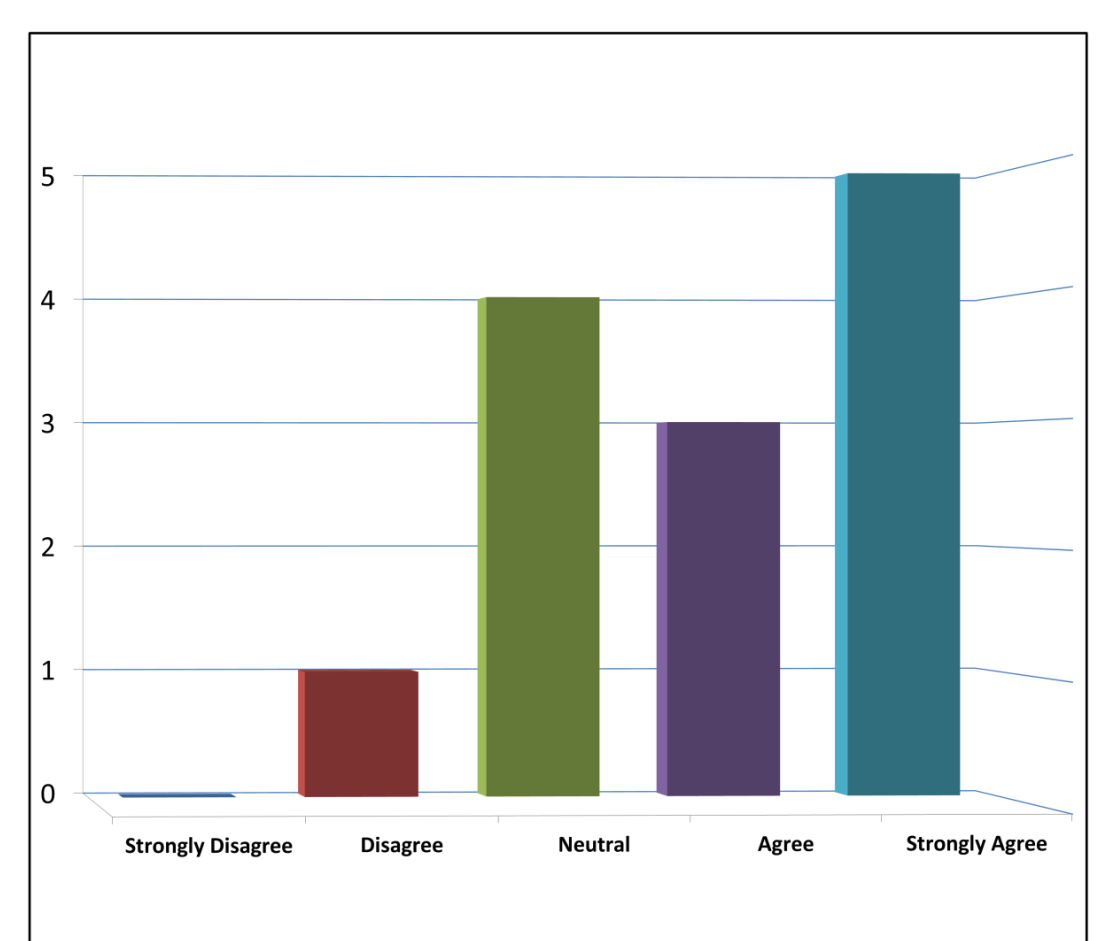
Students Effectively Learned About the Electronic Medical Record Through Utilizing emrU
(Response rate 13/34 = 38%)



Distribution of Curricular Content Through Cases Presented in emrU was an Effective Learning Tool
(Response rate 13/34 = 38%)



Utilizing emrU to Present Cases to Students was a Positive Experience
(Response rate 13/34 = 38%)



Conclusion:

emrU is an effective and enjoyable means for students and faculty to learn and share educational content while learning to utilize the EMR.