

Patient-Centered Medical Education from Enrollment to Entrustment: *Using Technology to Enrich the Authentic Health Care Delivery System*

David Henderson, MD; Zita Lazzarini, JD, MPH; Thomas Manger, MD, PhD; Ellen Nestler, MD; Suzanne Rose, MD, MSED
Additional UME Team Members: TV Rajan, MD, PhD; Christine Thatcher, EdD; M. Melinda Sanders, MD; John Harrison, MD; Paige Dunion, MSED; Ursula Knapik



Innovation Identified

UConn SOM is in the midst of a bold curriculum reform effort. The curriculum refresh process began 3 years ago with a clear vision and a collaborative culture to engage students, faculty, and staff.

Working with the IUSOM we aim to advance the use of the tEMR as a key tool in educating students. We intend to expand and use IU's registry of real (mis-identified) patients as the basis for creation of authentic cases in virtual families.

Our initial focus of tEMR use in 2 UME projects:

1. Introduce patients for each unit of our team-based learning course: Case Oriented Essentials (CORe) which incorporates basic sciences along with social sciences in clinical context. We can present basic science information in the context of an index case, a virtual patient visit; inclusive of the psychosocial complexity of real patients and families.
2. Mine the the extensive data base of 10,000 patients in our course: Vertically Integrated Teams Aligned in Learning and Scholarship (VITALS) to explore public health issues and social determinants of health.

We work collaboratively with GME and we can envision additional tEMR uses for resident education and for quality improvement projects within CME.

Resources Needed and Potential Barriers

Technology

- Challenge: Access to the database by large numbers of students at one time Has functioned well and consistently. When student or group access has been problematic, usually related to local connectivity issues. We continue to address and troubleshoot this barrier and looking into solutions.

Data Manipulation

- Challenge: Difficulty most often a combination of the complexity of "real" patients and the selectivity of our diagnoses associated with the index patient. We continue to adapt one or the other to fit our pedagogical model.

Use of de-identified tEMR data for population health exercises

- Challenge: Legal concerns have been raised about possible re-identification of data and implications of some analyses for the systems supplying the de-identified data; these issues have not yet been resolved.



Need/Gap Addressed

- Educating future physicians within a patient-centered framework will enhance understanding of basic science principles along with the impact of the social determinants on the health of patients and communities.
- The health care system is moving briskly toward the universal use of electronic medical record technology to facilitate data sharing and communication, utilization of practice and population-based outcomes as a requirement for reimbursement and shared savings programs.
- Integration of multiple competencies through tEMR-based learning allows students to develop basic skills required for the future and boost their ability to function effectively as soon-to-be house staff.

Engaging students in using this technology early in their professional development is a rich opportunity and a responsibility of medical educators.



Timeline Proposed

Original timeline – delayed

- unanticipated medical/legal issues related to mis- or de-identifying patients
- limitations of manipulating data.

Revised timeline – on target again

- issues approaching resolution
- Resumed anticipated pace of development eight months from the time of the initial pilot of tEMR at UConn SoM.



Stakeholder Input

We have created three virtual families whose case histories will be embedded in the tEMR. These families may be shared with other clinical education programs and could have wide utility across the continuum of medical education as well as with our interprofessional partners. The family construct allows for exploration of social issues, disparities, and socioeconomic and/or cultural factors that impact healthcare, patients, and populations. We would like to create additional families in collaboration with other schools and have connected with EVMS to share our interest in virtual families.

We believe that these models could have applicability across the continuum of education and could be utilized in competency-based assessments including certification and maintenance of certification with relevant clinical context in adaptive learning modules.



Institutional Contact

David Henderson, MD: henderson@uchc.edu

Zita Lazzarini, JD, MPH: lazzarini@uchc.edu

Thomas Manger, MD, PhD: manger@uchc.edu

Ellen Nestler, MD: nestler@uchc.edu

Suzi Rose, MD, MSED: srose@uchc.edu



Our future is unfolding here

