

educational gaps in addition to deconstructing the components of innovative models that can be disseminated nationally.

STFM Group: Violence Education and Prevention—*Peter Cronholm, MD, MSCE, University of Pennsylvania Department of Family Medicine and Community Health, principal investigator*
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IMPACT OF EXPANDING USE OF HEALTH INFORMATION TECHNOLOGIES ON MEDICAL STUDENT EDUCATION IN FAMILY MEDICINE

The call for increased health care quality and access has facilitated the expanded use of health information technology (HIT) in the United States. In hospitals and physicians' offices, HIT is most likely represented by the electronic health record (EHR) which, when fully deployed, provides healthcare information storage, results management, medical decision support, order entry functions, and multiple portals for provider and patient access. HIT has not yet been widely adopted in physician offices, and data are not yet available to document hoped-for benefits of improved care and lower cost. HIT needs continuing study to determine how to most effectively use these technologies to achieve the intended improvement in health care quality. The incomplete adoption and deployment of EHRs present unique opportunities and challenges for

medical student education in FM which are elucidated in this commentary.

The adoption of EHRs in hospitals and physicians' offices has been slower than anticipated based in large part on purchase and maintenance costs as well as the workforce behavioral changes and office workflow changes required for optimum implementation. The inconsistent deployment of components of the EHR creates wide variability of functions between different clinical venues. This variability is more likely in ambulatory/office settings where the degree of deployment and implementation is based on practice size, local decisions, and tolerances as opposed to hospitals where regulatory and fiscal forces more likely prevail. In community private practice offices of 1 to 5 physicians, general EHR adoption rates, which is directly related to practice size, range from 16% to 25% and EHRs with core functions fully implemented range from 4.4% to 10.2%.

FM faculty members' participation in introductory clinical courses provides opportunities to prepare students for effective learning in clinical settings supported by EHRs and other components of HIT. These courses should emphasize the effective use of EHRs to facilitate information synthesis and interpretation, clinical decision making, and patient doctor communication. Unfortunately, many introductory courses contain mostly product-specific technical details with less emphasis on the use of EHRs to promote learning in the context of patient centered care.

These introductory EHR courses may not adequately prepare students for FM Clerkship experiences in multiple teaching sites with different rates of EHR adoption and implementation. Students with expectations of health care systems with heavy integration of HIT may view FM Clerkships sites as not uniformly representing contemporary medical practice. The IT competency of FM faculty both in community and academic settings may vary greatly, making the educational use of EHRs inconsistent. This lack of consistency adds another layer of complexity to faculty development needs, especially for those teaching programs using multiple and widely distributed community settings.

The effects of EHRs on medical student learning is not known. To date, small pilot studies have only compared reported use of EHR tools and student attitudes. There is no research evaluating the impact of EHRs on medical student learning. Assessing impact of EHRs on learning in FM Clerkships is made more difficult because of the varied ambulatory clinical venues and most do not have a competency-based curriculum with measureable educational outcomes. The ultimate impact of HIT and the use of EHRs on student learn-

ing requires scholarly inquiry by the FM medical student education community to ensure the tools are beneficial in clinical learning.

EHRs may facilitate the delivery of health care quality, but, for the novice clinician, prompts, templates, existing drug and problem lists, and past medical histories could interfere with acquiring information synthesis skills critical to clinical reasoning and decision-making. How students' active or observational use of EHRs relates to learning the content of a FM Clerkship is yet to be determined. However, HIT adoption, implementation, and use must not emphasize process over content and render educators blind to how these technologies facilitate or impede clinical education.

FM education must be prepared to accommodate HIT evolution in all clinical venues. The clerkship faculty must provide appropriate mentorship for the effective use of EHRs as a means to achieving both quality and enhanced learning. Teaching sites with EHRs should consider developing student training modules for EHRs. For teaching sites without EHRs, paper processes to achieve quality goals must still be addressed to illustrate provision of care where the full suite of health care information technologies may not be routinely available.

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This commentary was written by members of the ADFM Medical Student Education Committee, with review and comment from the ADFM Executive Committee



From the Association
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IS THE FAMILY PHYSICIAN IN OR OUT OF HOSPITAL MEDICINE? A DISCUSSION OF PERTINENT PERSPECTIVES TO CONSIDER AS WE ADDRESS INPATIENT CURRICULAR REVIEW

The impact of the hospitalist movement upon family medicine training is in the forefront of conversation throughout family medicine and among other disciplines. The ACGME Review Committee for family medicine has called for program director input for the upcoming revision of the requirements. As we formally approach curricular change, there are important perspectives and questions to consider. How does the philosophy of family medicine impact curricular change? Are credentialing and career implications influencing the family physicians' decision to care for hospitalized patients? Are political, social, and environmental factors presenting new challenges for family physicians caring for hospitalized patients? What training model provides the best outcomes for the patient?

While considering inpatient curricular change, we can reflect on the philosophy of family medicine as a starting point. In theory, we can remember anatomical teaching which emphasized that function follows form. With this in mind, the philosophy of our discipline has determined training and training has dictated practice. Is the philosophy of family medicine changing? Or, is the philosophy the same with a change in the role of the family physician?

Given the development of hospitalist programs in multiple specialties, there are new environmental and political factors that are impacting our discipline. One family physician shares, "I came from a hospital where ... family medicine hospitalists were doing ... the same things as the internists, at the hospital where he wanted to transfer (his practice), family practitioners ... didn't do inpatient work. I was told that ... the hospitalist group would be 'more comfortable' with an internist."¹

Although such inequities occur, Carek, et al, note that the care provided by a (family medicine) teaching service ... compared favorably with the care provided by other physicians.² And largely, according to the AAFP "81.3% of respondents state that hospital care for their patients is provided by themselves, a part-

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