Fluency not competency or expertise is needed to incorporate evidence into practice

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Twenty years ago JAMA published an article describing a "new approach to teaching the practice of medicine": evidence-based medicine[1]. The ability to apply research to practice is a licensing requirement at both the undergraduate and postgraduate level and an ongoing practice competency requirement. The EBM process of assessing the patient, asking the question, acquiring the evidence then assessing and applying that evidence and finally evaluating the whole process, seeks to provide a framework for the integration of evidence into clinical practice.

Much of the training around EBM has focused on building searching and critical appraisal expertise; however, as Moore's response to the 2011 Question of the Year[2] indicated, this has not been successful in practice. Perhaps one of the most effective ways to ensure that those who work and learn in medical schools and teaching hospitals can develop to their full potential is to shift from the perspective that they must become experts in EBM to that of building a comfort level with tools which will allow them to be fluent users of the evidence.

Four levels of performance are proposed:
1. Literacy as knowing and understanding the EBM concepts;
2. Competency as being able to apply these concepts in controlled conditions;
3. Fluency as having a comfort level with incorporating the concepts into daily practice; and
4. Expertise as having the high level of skill needed to create and demonstrate the tools which translate research into practice.

There is simplicity with building competency around a skill set that can be defined, taught and evaluated through assignments, OSCEs or licensing exams. What is required to move a competent student or physician to a fluent one? Understanding the clinical systems, both organizational and technological, is key. Building on Marcum's position that fluency can only be achieved in the workplace[3], the focus must be on training and support for processes which can be readily integrated into regular practice routines.

For undergraduate students, this would include determining realistic competencies for practice and, by understanding the realities of the clinical practice environment, simulating that environment to integrate the skills and clinical tools and resources required. Just as fluency in language is best developed through immersion in the native culture, so fluency in the use of health information is best developed through immersion in the culture of evidence-based medicine. Of particular importance is the identification and support of physician role models.

In order for residents and clinicians to become fluent, it is necessary to integrate clinical practice tools and resources into the clinical interface and to ensure that ongoing support and training is available at point of need.

Librarians and informaticians play crucial roles in fostering EBM fluency. The ideal, as outlined by Moore, is the integration of these specialists into health care teams[2]. When this is not possible due to issues of availability, scalability or sustainability, a level of self-sufficiency is required on the part of healthcare practitioners.

In conjunction with physicians and informaticians, librarians are already developing and supporting health information technology initiatives which integrate point-of-care resources into the clinical

interface. Ensuring that point-of-care resources are licensed and linked at as granular a level as possible is the responsibility of librarians, as is ongoing support and training in the use of those resources. Librarians also play a major role in building the EBM skills of medical students, particularly the effective search for and use of high quality best evidence resources; by working with medical educators and informaticians to develop and utilize simulated clinical interfaces to present patient data and to integrate the resources into those interfaces, the skills will be seen as a seamless part of the process, with a resultant increase in confidence and fluency.

While the issues around the effective implementation of electronic health records and clinical information systems are challenging, using technology to deliver and integrate EBM resources is the best chance of attaining Garrity's vision that by focusing on "evidence" as part of treatment and care, "clinicians are given just the information they need to advance health, to provide each person the best care, at the right time, every time." [4]

1 Evidence-Based Medicine Working Group. Evidence-based medicine. A new approach to teaching the practice of medicine. JAMA. 1992;268(17):2420-5.
2 Moore M; Association of Academic Health Sciences Libraries. Teaching physicians to make informed decisions in the face of uncertainty: librarians and informaticians on the health care team. Acad Med. 2011;86(11):1345.
3 Marcum JW. Rethinking information literacy. Libr Q 2001;72(1):1-26.
4 Garrity WF. Libraries and electronic health records: focus on "evidence" as part of treatment and care, not on "the library". J Med Libr Assoc. 2010 Jul;98(3):210-1.