

Enabling Self-Directed Life-Long Learning through EPA 7: The Educator's Role

Association of Academic Health Sciences Libraries • Task Force on Competency-Based Medical Education

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PURPOSE

Medical students, trainees, and clinicians must effectively identify and appraise authoritative information, and address knowledge gaps to provide optimal patient care. These same evidence-based information-seeking competencies are foundational for self-directed learning. Educators can have a key role in supporting the acquisition and clinical implementation of information seeking competencies, including Entrustable Professional Activity (EPA) 7. The milestones and functions of EPA 7 create a learner who can identify what they know and don't know and who has the skills, attitudes, and self-direction to seek out new information to fill those gaps throughout their career.

To best utilize experts in the field for EPA 7, the role of 'educator' should include medical librarians. Medical librarians frequently teach in undergraduate and graduate medical curricula, but the extent to which they are involved in competency-based medical education, specifically the activities related to forming clinical questions and retrieving evidence to advance patient care - EPA 7 - is emerging. This poster reports on research pertaining to librarian involvement in teaching and assessing the functions included in EPA 7 and discusses the relevance of these activities to self-directed learning. It also shows the extent of possible librarian involvement in teaching information seeking skills across the medical education continuum.

METHODS

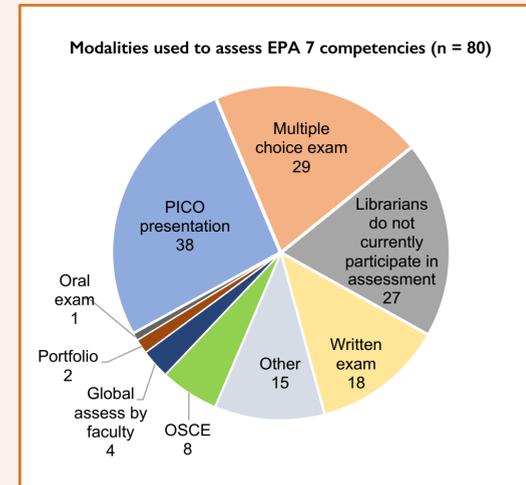
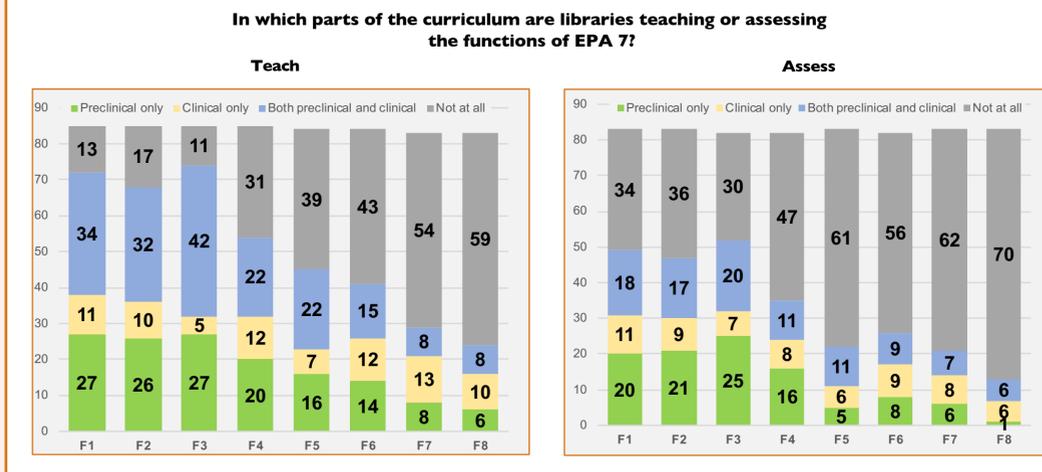
The Association of Academic Health Sciences Libraries (AAHSL) Competency-Based Medical Education (CBME) task force conducted a literature review, environmental scan, and interviewed librarians at schools implementing EPAs (including pilot schools). The survey¹ based on previous work by Blanco et al.² and the Wilder Collaboration Framework³ was distributed to the libraries of 164 Association of American Medical Colleges (AAMC)-associated medical schools in September 2016. The survey measured levels of engagement regarding the teaching and assessment of EPAs and associated competencies. The task force also mapped the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education⁴ to relevant AAMC EPAs and the Accreditation Council for Graduate Medical Education (ACGME) Common Program Requirements⁵.

RESULTS

The survey garnered a 52% response rate (n= 88). Of those responding, 90% were teaching and/or assessing functions of EPA 7. Chi-square analyses showed no significant difference in the amount of teaching or assessing EPA 7 between librarians who identified their work as EPA-related and those who did not. Librarians are teaching and assessing EPA 7 functions in all phases of undergraduate medical education. Mapping the ACRL Information Literacy Framework to relevant EPAs identified several information literacy concepts that are either absent or underrepresented in the competencies expected of medical students.

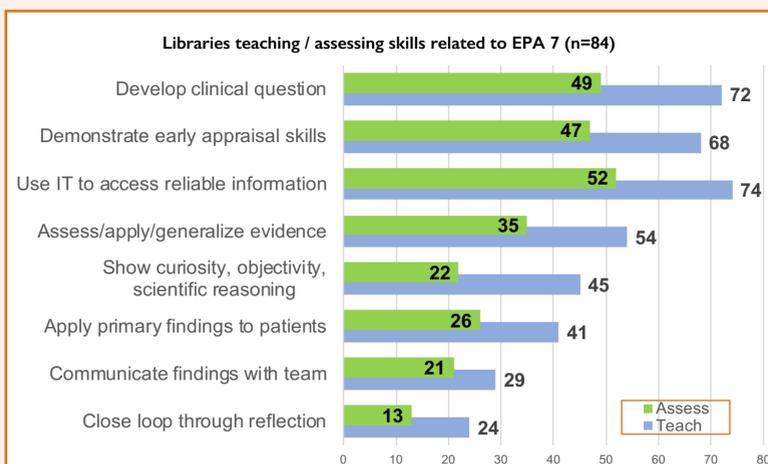
DISCUSSION

The survey revealed that most (90%, n=79) librarians are involved in teaching or assessing functions of EPA 7, which coincides with their expertise in retrieving and assessing information resources. Exemplar collaborations between medical librarians and medical faculty expand the concept of evidence-based medicine beyond 'searching databases' into a fostered environment of self-directed learning wherein students are empowered to recognize ambiguity and to be independent critical thinkers of the information they consume.



FUNCTIONS OF EPA 7

1. Develop a well-formed, focused, pertinent clinical question based on clinical scenarios or real-time patient care.
2. Demonstrate basic awareness and early skills in appraisal of both the sources and content of medical information using accepted criteria.
3. Identify and demonstrate the use of information technology to access accurate and reliable online medical information.
4. Demonstrate basic awareness and early skills in assessing applicability/generalizability of evidence and published studies to specific patients.
5. Demonstrate curiosity, objectivity, and the use of scientific reasoning in acquisition of knowledge and application to patient care.
6. Apply the primary findings of one's information search to an individual patient or panel of patients.
7. Communicate one's findings to the health care team (including the patient/family).
8. Close the loop through reflection on the process and the outcome for the patient.



Health Information Literacy Competencies Map ©			
Developed by the Association of Academic Health Sciences Libraries (AAHSL) Competency-Based Medical Education Task Force (2018)			
ACRL Knowledge Practice	ACRL Knowledge Practice	EPA #	EPA Function
ACRL Frame: Research as Inquiry (RI)			
RI-1	Formulate questions for research based on information gaps or on reexamination of existing...	7	7-1
RI-2	Determine an appropriate scope of investigation.	7	7-1
RI-3	Deal with complex research by breaking complex questions into simple ones, limiting the scope of...	7	7-1
RI-5	Use various research methods, based on need, circumstance, and type of inquiry.	7	7-3
RI-6	Monitor gathered information and assess for gaps or weaknesses.	7	7-2, 7-4
RI-7	Organize information in meaningful ways	7	7-7
RI-8	Synthesize ideas gathered from multiple sources and draw reasonable conclusions based on the...	7	7-4
RI-8	Draw reasonable conclusions based on the analysis and interpretation of information.	7	7-5, 7-6
		This Frame (RI) mapped to 10 EPAs.	
ACRL Frame: Searching as Strategic Exploration (S)			
S-1	Determine the initial scope of the task required to meet their information needs.	7	7-1
S-2	Identify interested parties, such as scholars, organizations, governments, and industries, who...	7	7-2, 7-3
S-3	Utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking	7	7-2
S-4	Match information needs and search strategies to appropriate search tools.	7	7-3
S-5	Design and refine needs and search strategies as necessary, based on search results	7	7-3
S-6	Understand how information systems are organized to access relevant information	7	7-3
S-7	Use different searching language types (e.g., MeSH, keywords, natural language)	7	7-3
S-8	Manage searching processes and results effectively.	7	7-3
		This Frame (S) mapped to 9 EPAs.	

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SIGNIFICANCE

EPA 7 Challenges for Residents & Educators:

Program Directors have expressed concern^(6,7) that residents can not proficiently form or answer clinical questions using biomedical literature. This could be due to the fact that the functions of EPA 7 have historically been challenging to teach and assess.

The Impact of Medical Librarians on Self-Directed Learning:

The inclusion of librarians in teaching and assessing student EBM skills will directly support self-directed learning by improving students' ability to identify and perform learning activities that address their gaps in knowledge, skills, or attitudes. Students will also be able to independently identify, appraise, and assimilate evidence from scientific studies related to patients' health problems. Our data show that librarians are currently doing this work and that librarian expertise should be leveraged to fill this identified gap in medical curricula.

Through robust instruction in and assessment of EPA 7 medical students will be able to:

Improve their ability to identify and perform learning activities that address their gaps in knowledge, skills, or attitudes identified by the functions of EPA 7 as being essential to a Day One resident and independently identify, appraise, and assimilate evidence from scientific studies related to patients' health problems leading to evidence-based patient care.

Students will appreciate the importance of searching and assessing the biomedical literature and hone these skills in the same way they practice and perfect other clinical skills throughout their careers. This will create a culture of life-long learning for students and practitioners.

RECOMMENDATIONS

Institutions working toward implementation of EPAs should examine, document, and integrate the curricular efforts of medical librarians who are likely already teaching/assessing functions of EPA 7. Doing so will save faculty time and energy developing new curricular materials. Teaching and assessing these components should be done in collaboration with professional librarians.

Collaboration between medical school curriculum committees and librarians should occur to integrate teaching the 5As of evidence-based medicine in the formal curriculum and determine where best in the curriculum to introduce these self-directed learning activities.

Discussions between professional organizations (AAMC, AAHSL, ACGME, etc.) should occur to capitalize on these areas which are ripe for further cooperation, coordination, and collaboration.

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