

Valley Family Medicine (Renton, WA)
Evidence-based Medicine Curriculum

Background:

- 1) Our Mission Statement states that one of the goals of VFM is to make residents life-long learners. We suggest this be rigorously interpreted and that our graduates
 - a. Be active learners, able to locate, appraise and apply the best evidence from the research literature
 - b. Rapidly and skillfully navigate the information marketplace
 - c. Critically appraise a body of scientific evidence and make their own conclusions about what is clinically appropriate
 - d. Appropriately weigh conflicting evidence and guidelines
 - e. Explain scientific evidence to patients in a way that empowers patients to make informed decisions for themselves and their families
- 2) The ACGME sets out several requirements for evidence-based medicine skills and knowledge:

IV.A.5.c) “Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.”

IV.A.5c).(6) (expected skills and habits) “locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems”

IV.B. Residents’ Scholarly Activities

IV.B.1. “The curriculum must advance resident’s knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.”

IV.B.2. “Residents should participate in scholarly activity”

IV.V.2.a) “Residents should complete two scholarly activities, at least one of which should be a quality improvement project.”
- 3) Developmental milestones we are expected to monitor include:
 - PC-1.1: “utilizes appropriate clinical guidelines”
 - PC-3.2: “reconciles guidelines by different organizations”
 - PBLI-1.1: “describes basic concepts in clinical epidemiology, biostatistics, and clinical reasoning”
“categorizes the design of a research study”
 - PBLI-1.2: “identifies pros and cons of various study designs, associated types of bias, and patient-centered outcomes”

“formulates a searchable question from a clinical question”

“evaluates evidence-based point of care resources”

PBLI-1.3: “critically evaluates information from others...”

“applies a set of critical appraisal criteria to different types of research, including synopses of original research findings, systematic reviews and meta-analyses, and clinical practice guidelines.”

PBLI-1.4: “incorporates principles of evidence-based care and information mastery into clinical practice”

4) Overview

Create a series of exercises that allow residents to practice the key steps in information retrieval, appraisal, synthesis and communication. The specifics are thought to be:

1. Formulating a clinical question according to PICO
2. Doing literature searches with PubMed and/or Information Mastery precepts
3. Identifying within the search results applicable research and guidelines
4. Assessing the quality of a specific research paper, meta-analysis or guideline
 - a. Describing the key strengths and weaknesses of a particular trial (or guideline)
5. Ranking a body of similar papers according to quality and applicability
6. Integrating information from various sources
7. Communicating evidence summaries to patients and peers

Learners need a rationale for learning these steps beyond completing academic exercises—finding and communicating information patients need, dealing with conflicting recommendations, and being informed about how pride, power and money distort the research agenda and spin the findings.

5) Mechanisms:

- 1) Use noon internal medicine presentations to teach PICO.
- 2) Supervising residents on medicine rotation will be assigned “focused” literature searches (find the “most applicable” and “largest” RCT on topic X.)
- 3) Supervising residents on OB will be assigned literature searchers (“most applicable” and “most recent” meta-analysis on various OB topics)
- 4) Journal club will have R2s present the paper: PICO, research structure, key strengths and weaknesses. Participants will work in pairs to fill out McMaster checklists appropriate to the study design.
- 5) Workshops (**all with a patient communication component**): R1s: Guideline comparisons, basic Information Mastery (curated EBM sites); understanding test results (Sn and Sp, PPV, NPV, LR+, LR-, ROC curve); R2s: advanced Information Mastery (PubMed), quality of evidence (OCEBM), outcomes statistics (LR, HR, OR, RR); R3s: Dealing with a mass of information (SORT).

- 6) The current one-on-one pharmacy rotation will include a “deep dive” literature search and analysis
- 7) Use the tablets computers for data retrieval-focused field notes.