



## EBM/ Research and Scholarly Activity Curriculum

PGY: 1-3

NGMC- Family Medicine Residency Program  
Gainesville, Ga

### Description of Curriculum:

#### Overall Goals of EBM/Research and Scholarly Activity Curriculum:

The goal of this combined scholarly activity/EBM curriculum is to help residents to develop a discipline of scientific inquiry and scholarship as a part of a commitment to the practices of evidence-based medicine, life-long learning, and practice improvement.

The practice of medicine requires that physicians know about established and evolving sciences and their application to patient care, be able to investigate and evaluate their own patient care, be able to appraise and assimilate scientific evidence and improvements in patient care and have an awareness of and responsiveness to the large context and system of health care. Research and scholarly activities are two complementary methods by which physicians learn and maintain such knowledge and skills and EBM is the foundation. Research is a process or activity in which knowledge is tested or developed; scholarly activities include oral or written presentations that reflect a thorough and critical collection of knowledge.

#### Patient Care Objectives and Competencies

PC-1: Cares for Acutely ill or injured patients in urgent and emergent situations in all settings.

PC-2: Cares for patients with chronic conditions.

PC-3: Partners with the patient, family, and community to improve health through disease prevention and health promotion.

PC-4: Partners with the patient to address issues of ongoing signs, symptoms, or health concerns that remain over time without clear diagnosis despite evaluation and treatment, in a patient-centered, cost-effective manner.

#### Objectives:

- Consistently apply evidence-based principles to the practice of inpatient and outpatient care provided on all rotations. (PGY 1)
- Critically appraise practice guidelines, applying EBM principles and logic to individualize care to patients. (PGY2-3)

#### Medical Knowledge Objectives and Competencies

MK-1: Demonstrate medical knowledge of sufficient breadth and depth to practice family medicine.

MK-2: Applies critical thinking skills in patient care.

#### Objectives:

Residents will become self-sufficient in ongoing learning about established and evolving biomedical, clinical, and cognate sciences as well as the application of this knowledge to patient care. By the end of residency (or sooner if noted), residents will demonstrate the ability to:

- Formulate a patient-oriented EBM question in a PICO format. (PGY-1)
- Use information resources to answer an EBM question. (PGY-1)



- Model the use of EBM in patient care and formal learning for medical students and junior residents in rounds, clinic, and morning report.
  - Describe basic research designs
  - Describe process and timing of Institutional Review Board review of research protocols and other scholarly activities.
  - Describe the components of a research article.
  - Perform literature searches using MEDLINE, PUBMED and other resources.
  - Critically evaluate research articles.
  - Utilize evidence-based medical information resources (COCHRANE).
  - Interpret treatment and screening recommendations.
  - Interpret and apply clinical decision rules and clinical practice guidelines.
  - Appropriately apply evidence in clinical decision-making.
  - Critically appraise and apply basic biomedical statistics within a written work.

Residents *may* also develop the ability to:

- Formulate a research question and/or hypothesis.
- Design a descriptive and/or explanatory study.
- Prepare a research protocol application for Institutional Review Board review
- Prepare an application for a research grant.
- Collect and analyze data.
- Evaluate and discuss study findings.

**Topics to cover in rotation:**

MK Topic	On-Line Resource
Evidence Based Medicine Tool Kit	<a href="http://www.ebm.med.ualberta.ca/EbmIntro.html">http://www.ebm.med.ualberta.ca/EbmIntro.html</a>
Levels of Evidence	<a href="https://www.cebm.net/category/ebm-resources/loe/">https://www.cebm.net/category/ebm-resources/loe/</a>
Critical Appraisal Topic	<a href="https://www.cebm.net/2014/06/critical-appraisal/">https://www.cebm.net/2014/06/critical-appraisal/</a>
PICO format	<a href="https://www.youtube.com/watch?v=0bGJoN2NHc8">https://www.youtube.com/watch?v=0bGJoN2NHc8</a>
USPHTF Guide to Clinical Preventive Services	<a href="https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/clinicians-providers/guidelines-recommendations/guide/cpsguide.pdf">https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/clinicians-providers/guidelines-recommendations/guide/cpsguide.pdf</a>
Quality Improvement toolkit (IHI)	<a href="file:///C:/Users/mqnewton/Downloads/QIEssentialsToolkit.pdf">file:///C:/Users/mqnewton/Downloads/QIEssentialsToolkit.pdf</a>

**Interpersonal and Communication Skills Objectives and Competencies**

- C-1: Develop meaningful, therapeutic relationships with patients and families.
- C-2: Communicates effectively with patients, families, and the public.
- C-3: Develops relationships and effectively communicates with physicians, other health professionals, and health care teams.
- C-4: Utilizes technology to optimize communication

**Objectives:**

- Skilled communication results in effective information exchange and collaboration with patients, their families, and other health professionals. By the end of residency (or sooner if noted), residents will demonstrate the ability to:



- Communicate source of knowledge in the basis for their clinical decision-making. (PGY-1)
- Describe modes of written communication for disseminating scholarly work (e.g., review article, case report/series, patient/community education material, research article, book chapter).
- Describe modes of presenting scholarly work (e.g., grand rounds, case conference, community groups).
- Formally present a case in written or oral format using EBM principles.
- Give effective presentations utilizing speech, audio-visual aids, and computer-assisted learning.
- Teach medical students and fellow residents, communicating strength of recommendation and levels of evidence for practice recommendations.

Residents *may* also develop the ability to write a research paper (applying rules of English usage, style and composition for publication).

### Practice Based Learning and Improvement Objectives and Competencies:

PBLI-1: Locates, appraises, and simulates evidence from scientific studies related to the patients' health problems

PBLI-2: Demonstrates self-directed learning

PBLI-3: Improves systems in which the physician provides care

PBLI involves investigation and evaluation of care for their patients, appraisal and assimilation of scientific evidence, and striving continuously for improved patient care based on constant self- evaluation and lifelong learning.

Residents will demonstrate the ability to:

- Participate in process/performance improvement projects- PDSAs (each year)
- Assist in the disease and chronic care management processes to improve health delivery for their empaneled patients. (PGY-1)
- Describe the following common basic biostatistical terms and apply them to an article from the literature: NNT (number needed to treat), NNS (number needed to screen), NNH (number needed to harm), ARR (absolute risk reduction), RRR (relative risk reduction), LR (likelihood ratio), confidence intervals. (PGY-1)
- Critically appraise a case using support from medical literature and either write or present it in a formal setting. (PGY-2/3)
- Participate in (PGY-1) and assist in leading (PGY-2/3) a team-based process/performance improvement project.

### Professionalism Objectives and Competencies:

PROF-1: Completes a process of professionalization

PROF-2: Demonstrates professional conduct and accountability

PROF-3: Improves systems in which the physician provides care

Professionalism includes a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. By the end of residency (or sooner if noted), residents will demonstrate the ability to:

- Understand basic ethics as it applies to biomedical research. (PGY-1)
- Recognize and report lapses in professionalism using appropriate reporting procedures.
- Actively seek feedback on scholarly work and accept constructive feedback.
- Perform peer review of a scientific topic and constructively communicate recommendations back to the author.



### Systems Based Practice Objectives and Competencies

SBP-1: Provides cost-conscious medical care

SBP-2: Emphasizes patient safety

SBP-3: Advocates for individual and community health

SBP-4: Coordinates team-based care

#### **Objectives:**

Residents will demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. While providing direct patient care in all environments, residents will demonstrate the ability to:

- Provide cost-effective, evidenced-based care to their patients.
- Critically appraise practice guidelines, applying EBM principles and logic to individualize care to patients. PGY-2/3 requirement.

Residents *may* also demonstrate understanding and skill in system improvement via the ability to:

- Present the design and results of a clinical quality improvement project at a conference.
- Describe the design, implementation and effects of a patient education program on risk behavior or chronic disease management in a newsletter.



## **Outcomes Measures (REQUIRED ACTIVITIES FOR GRADUATION)**

The NGMC Family Medicine PBLI/EBM/ Research and Scholarly Activity Curriculum is covered longitudinally through all three years of residency training using the methods outlined below. Outcomes measurements for the above goals are stated in the following requirements for successful graduation from the residency program:

1. During Community Medicine Month, author an evidence-based medicine community education article for publication in the Gainesville Times.
2. Participate in Journal Club by leading a minimum of one session, preferably in the 2<sup>nd</sup> or 3<sup>rd</sup> year of residency. (Competencies: Medical Knowledge, Communication, professionalism)
3. Actively participate in a PGY Level Quality improvement activity fulfilling a PBLI requirement such as AAFP METRIC. (Competencies: Communication, PBLI)
4. Complete on Critical Appraisal Topic (CAT) and use this as meaningfully contribute to the scientific literature through writing of one peer-reviewed topic. Suggested option: write an FPIN Help Desk Answer (HDA). Alternative options: publication of a book chapter or online evidence-based clinical review, or acceptance of a manuscript (case report, clinical review, research project) by a peer-reviewed medical journal. (Competencies: medical knowledge, communication skills, systems-based practice.)
5. Publicly present research, a case report, or a process improvement project at a local, regional, or national conference. All residents are required to submit one faculty supervised abstract to a regional or national meeting. (This may be done through partnerships with other practice partners or by PGY level) If not accepted for presentation, then proposals will be presented locally at the hospital in both oral and written formats (paper or poster with presentation). (Competencies: medical knowledge, communication skills, systems-based practice, professionalism.)
6. Accumulate at least five (5) points of additional scholarly activity (see table). Other activities may be considered toward point accumulation. Total points accumulated during residency will be utilized for award submissions.
7. Peer review and give constructive feedback to a presentation (written or oral) to another resident's scholarly work.
8. Peer collaboration is encouraged in all projects. Faculty collaboration and supervision is required prior to submission of any material. (Competency: interpersonal and communication skills.)



<b>Required PBLI/Scholarly Activities</b>	<b>Scholarly Activity options to complete requirements (points)</b>
Create an individual Professional Development Plan (PGY1)	Complete an IRB-approved research project (5)
Submit Evidence Based Community Health Article for publication in the Gainesville Times (PGY1)	Acceptance of a manuscript to a peer reviewed medical journal or book chapter (5)
Complete one Quality Improvement project with a group (AAFP Metric)	Presentation (podium or poster) at a national conference such as AAFP (5)
Submit Grant Proposal to Georgia Healthy Families Foundation (PGY 2)	Acceptance of Peer Reviewed Grant Application (5)
Submit an abstract for regional or national conference presentation	Presentation (podium or poster) at a regional conference (4)
Present scholarly work at a conference (minimum is CAT/ local presentation)	Presentation (podium or poster) at a local conference (2)
Lead a Journal Club (PGY-2 or PGY-3)	Complete research ethics and process training (ARC or CITI course) (2)
Peer review other residents written or oral scholarly work providing written feedback.	ABFM Performance Improvement Activity beyond that required for board certification (2)
	Individualized PDSA presentation or paper (1)
	Evidence-based academic conference presentation (1)
	Lead or co- lead a second Journal Club (1, limit 1)
	Peer Review a second resident written or oral scholarly work providing written feedback (1, limit 1)