

Competency	Life-Long Learning
Sub Domain	Evidence-Based Medicine
Learning Objective	<ol style="list-style-type: none"> 1. Identifies clinical questions in patient care and identifies, appraises, assimilates, and applies scientific evidence from the literature to the care of individual patients 2. Applies clinical evidence and epidemiology appropriately in patient care

Milestones

Year I		Year II		Year III		Year IV	
Mid	End	Mid	End	Mid	End	Mid	End
	<ul style="list-style-type: none"> • Defines a clinical question in the context of core scientific knowledge* and patient care and begins to access appropriate resources for answering this question (1) • Identifies basic methodological terms and principles used to study biomedical research and population health (2) 		<ul style="list-style-type: none"> • Appraises, assimilates, and applies scientific evidence in discussion of cases (1) • Uses basic epidemiologic terms to describe disease patterns ** (2) 		<ul style="list-style-type: none"> • Defines clinical questions, accesses appropriate resources for answering these questions, and applies findings to patient care (1) • Applies knowledge of study design and statistical methods to the appraisal of clinical studies (2) • Applies epidemiologic terms to benefits and harms as related to the care of individual patients and populations ** (2) 	<ul style="list-style-type: none"> • Identifies clinical questions as they emerge in clinical care activities and routinely identifies, appraises, and applies relevant, high quality evidence in clinical decision-making (1) • Describes benefits and harms of an intervention using appropriate epidemiologic terms (2) 	<ul style="list-style-type: none"> • Determines whether clinical evidence can be applied to an individual patient (2) • Accesses and appropriately applies information from practice guidelines in patient care (2) • Applies knowledge of disease patterns to assess the value of diagnostic tests based on patient’s risk of disease (2)

Appendix

***Core Scientific Knowledge** (from: AAMC-HHMI Scientific Foundations for Future Physicians, 2009)

- Apply knowledge of molecular, biochemical, cellular, and systems-level mechanisms that maintain homeostasis, and of the dysregulation of these mechanisms, to the prevention, diagnosis, and management of disease.
- Apply major principles of physics and chemistry to explain normal biology, pathobiology of significant diseases, and the mechanisms of action of major technologies used in the prevention, diagnosis, and treatment of disease.
- Use the principles of genetic transmission, molecular biology of the human genome, and population genetics to infer and calculate risk of disease, to institute an action plan to mitigate this risk, to obtain and interpret family history and ancestry data, to order genetic tests, to guide therapeutic decision making, and to assess patient risk.
- Apply the principles of the cellular and molecular basis of immune and nonimmune host defense mechanisms in health and disease to determine the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply the mechanisms of general and disease-specific pathological processes in health and disease to the prevention, diagnosis, management, and prognosis of critical human disorders.
- Apply principles of the biology of microorganisms in normal physiology and disease to explain the etiology of disease, identify preventive measures, and predict response to therapies.
- Apply principles of pharmacology to evaluate options for safe, rational, and optimally beneficial drug therapy.
- Apply quantitative knowledge and reasoning – including integration of data, modeling, computation, and analysis – and informatics tools to diagnostic and therapeutic clinical decision making.

**** Examples of epidemiologic terms:**

- numbers needed to treat
- decrease disease-related morbidity and mortality (benefits)
- patient morbidity costs (harms)