The Curriculum Meets Microbial Threats

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The One Health Framework

Human Health
[human medicine, nursing, public health, other clinicians]

Environmental Health
[ecologists]

Animal Health
[veterinary medicine, agricultural workers]
The Educational Aspiration: A True Continuum

Learning

Premedical  Medical School  Residency and Fellowships  Practice

Assessment

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What Has Driven Learning and Assessment in Education?

Learning

Facts

Premedical

Medical School

Residency and Fellowships

Practice

Assessment
The Complexity of Clinical Decision Making Accelerates

- Proteomics and other effector molecules
- Functional Genetics: Gene expression profiles
- Structural Genetics: e.g. SNPs, haplotypes
- Decisions by Clinical Phenotype


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What Should Drive Learning and Assessment in Education?

Learning

Competencies!

Premedical  Medical School  Residency and Fellowships  Practice

Assessment

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Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians

Robert Englander, MD, MPH, Terri Cameron, MA, Adrian J. Ballard, Jessica Dodge, Janet Bull, MA, and Carol A. Aschenbrener, MD

Abstract

Although health professions worldwide are shifting to competency-based education, no common taxonomy for domains of competence and specific competencies currently exists. In this article, the authors describe their work to (1) identify domains of competence that could accommodate any health care profession and (2) extract a common set of competencies for physicians from existing health professions’ competency frameworks that would be robust enough to provide a single, relevant infrastructure for curricular resources in the Association of American Medical Colleges’ (AAMC’s) MedEdPORTAL and Curriculum Inventory and Reports (CIR) sites.

The authors used the Accreditation Council for Graduate Medical Education (ACGME)/American Board of Medical Specialties six domains of competence and 36 competencies delineated by the ACGME as their foundational reference list. They added two domains described by other groups after the original six domains were introduced: Interprofessional Collaboration (4 competencies) and Personal and Professional Development (8 competencies). They compared the expanded reference list (48 competencies within eight domains) with 153 competency lists from across the medical education continuum, physician specialties and subspecialties, countries, and health care professions. Comparison analysis led them to add 13 “new” competencies and to conflate 6 competencies into 3 to eliminate redundancy.

The AAMC will use the resulting “Reference List of General Physician Competencies” (58 competencies in eight domains) to categorize resources for MedEdPORTAL and CIR. The authors hope that researchers and educators within medicine and other health professions will consider using this reference list when applicable to move toward a common taxonomy of competencies.
Health Professions Competency Domains

- Patient Care
  - Interpersonal and Communication Skills
  - Medical Knowledge

- Systems-based Practices
  - Professionalism
  - Inter-professional Collaboration
  - Personal and Professional Development

Practice-based Learning and Improvement

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A set of *activities* that entering residents should be expected (entrusted) to perform *on day one* of residency *without direct supervision*.

www.aamc.org/cepaer
13 Core Entrustable Professional Activities for Day One of Residency

1) Gather a history and perform a physical examination
2) Prioritize a differential diagnosis following a clinical encounter
3) Recommend and interpret common diagnostic and screening tests
4) Enter and discuss orders/prescriptions
5) Document a clinical encounter in the patient record
6) Provide an oral presentation of a clinical encounter
7) Form clinical questions and retrieve evidence to advance patient care
8) Give or receive a patient handover to transition care responsibility
9) Collaborate as a member of an interprofessional team
10) Recognize a patient requiring urgent or emergent care, and initiate evaluation and management
11) Obtain informed consent for tests and/or procedures
12) Perform general procedures of a physician
13) Identify system failures and contribute to a culture of safety and improvement
Core Competencies for Interprofessional Collaborative Practice

Competency Domains

- Values/Ethics for Interprofessional Practice
- Roles/Responsibilities
- Interprofessional Communication
- Teams and Teamwork

www.ipecollaborative.org
As We Shift from Facts to Competencies, the Classroom is “Flipped”…

**BECOMING A PHYSICIAN**

**Lecture Halls without Lectures — A Proposal for Medical Education**
Charles G. Prober, M.D., and Chip Heath, Ph.D.

The last substantive reform in medical student education followed the Flexner Report, which was written in 1910. In the ensuing 100 years, the volume of medical knowledge has exploded, the complexity of the health care system has grown, pedagogical methods have evolved, and unprecedented opportunities for technological support of learners have become available. Yet students are being taught roughly the same way they were taught when the Wright brothers were tinkering at Kitty Hawk.

It's time to change the way we educate doctors. Since the hours available in a day have not increased to accommodate the expanded medical canon, we have only one realistic alternative: make better use of our students' time. We believe that medical education
... and Learning Becomes Asynchronous
Creating a Clear Educational Pathway to Mastery

Source: Dreyfus Model of Skill Acquisition

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The Path to Mastery in Addressing Antimicrobial Resistance

Fundamental “health literacy” in the One Health framework

Basic science foundational concepts of prevention, epidemiology, microbiology, pharmacology, and genetics

Appropriate prevention and treatment of uncomplicated infections

Managing population health threats, complex infections, and treatment-resistance in humans, the food supply, and the environment

Source: Dreyfus Model of Skill Acquisition
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