American Board of Internal Medicine

Do Certifying Boards Have a Role in Influencing Educational Practices?

Institute of Medicine Workshop:

Improving Genetics Education in Graduate and Continuing Health Professional Education

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Outline

- Background on certifying boards
- Defining a discipline through certification
- Process for tracking changing knowledge
- Assessment and learning

Background

- *Mission: To enhance the quality of health care by certifying internists and subspecialists who demonstrate the knowledge, skills, and attitudes essential for excellent patient care.*

- ABIM founded in 1936; not for profit

- Independent; certified physicians are "Diplomates" (not members)

- About 1 in 4 practicing physicians in the U.S. are certified in Internal Medicine

American Board of Medical Specialties: 24 Member Boards

The American Boards of:

- Allergy and Immunology
- Anesthesiology
- Colon and Rectal Surgery
- Dermatology
- Emergency Medicine
- Family Medicine
- Internal Medicine
- Medical Genetics
- Neurological Surgery
- Nuclear Medicine
- Obstetrics and Gynecology
- Ophthalmology
- Orthopaedic Surgery
- Otolaryngology
- Pathology
- Pediatrics
- Physical Medicine and Rehabilitation
- Plastic Surgery
- Preventive Medicine
- Psychiatry and Neurology
- Radiology
- Surgery
- Thoracic Surgery
- Urology

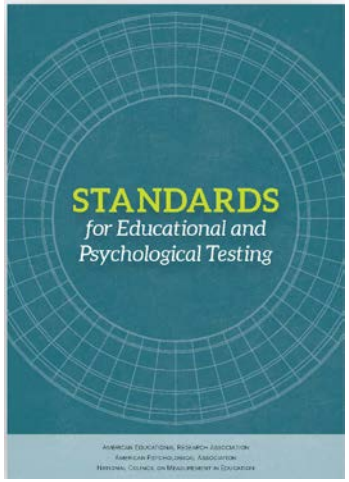
Internal Medicine Subspecialties

- Cardiovascular Disease
- Endocrinology, Diabetes and Metabolism
- Gastroenterology
- Hematology
- Infectious Disease
- Medical Oncology
- Nephrology
- Pulmonary Disease
- Rheumatology
- Adolescent Medicine
- Advanced Heart Failure & Transplant Cardiology
- Clinical Cardiac Electrophysiology
- Critical Care Medicine
- Geriatric Medicine
- Hospice & Palliative Care
- Interventional Cardiology
- Sleep Medicine
- Sports Medicine
- Transplant Hepatology

Certification

- Internal Medicine residency (3 yrs)
- Subspecialty fellowship (2-3 yrs)
- Satisfactory faculty ratings in six ACGME competencies
- Unrestricted medical license
- Pass a summative, high stakes cognitive examination

Standards for Educational and Psychological Testing



- An important reference for professional test developers, users, policymakers, employers, and test takers

- Developed jointly by:
  - American Educational Research Association (AERA)
  - American Psychological Association (APA)
  - National Council on Measurement in Education (NCME)

- Guidelines for professional and technical issues of test development, analysis, and administration

Defining a Discipline through Certification

- Define the breadth of the discipline for the certificate
  - Samples *generously and efficiently* one's ability to diagnosis and treat patients
  - Clinical patient vignettes-- "virtual patient"

- Evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified <SPECIALIST> through a certification exam

- May require recognition of common as well as rare clinical problems for which patients may consult a certified <SPECIALIST>

Attributes of the Certification Exam

- Focus is on what a physician should know ***without "looking it up"***
- ***Secure/proctored environment*** ensures that we are evaluating ***the candidate's own work***
- ***Fairness*** guarantees that candidates with ***equal ability levels*** and training receive ***comparable exam scores***
  - Regardless of candidate background
  - Regardless of location or test version
- Content reflects ***current best practices*** in the discipline

Step 1: Practice (Job) Analysis

- Systematic procedure for collecting practice-related information and defining the "knowledge-base" in the discipline
- Purpose: Link between responsibilities of the profession and knowledge, skills and abilities (KSAs) on the exam
- Task oriented (behaviors of what physician does) and person oriented (KSAs)

Practice Analysis

- Typically a Questionnaire
- Developed through interviews, focus groups, direct observation, Subject Matter Experts (SMEs), textbooks, other resources
- Representative sample of respondents
  - Practitioners, educators, SMEs
  - Practice setting, gender, ethnicity etc.
- Baseline sample size: minimum 200-400 respondents

Practice Analysis Questionnaire

- Questions pertaining to:
  - Work environment (e.g., care setting)
  - Demographics (e.g., certifications, gender, age)
    - Educational Background
    - Personal Background
  - Activities performed (e.g., CPR, active listening)
    - List of tasks and/or KSAs
    - Description of last day of work

For each activity fill in one oval for an <u>importance rating</u> using the following scale:

0 = Not performed	**2 = Minimally important**	**4= Very important**
1 = Not important	**3 = Moderately important**	**5= Extremely important**

- Rating scales for:
  - Importance/Relevance
  - Frequency
  - Difficulty

Step 2: Blueprints (or Test Plans) Purpose

- Go from Practice Analysis to Test Plan
- Articulates the important characteristics of the test including weights
- Provide direction to SMEs in
  - Item writing
  - Review and classification of items
- Assure continuity in test content
- Inform examinees of test content
- Provide feedback on performance such as subscore reporting
- Validity of test score interpretations
- Document the history of test

Medical Oncology Content Blueprint

Genetics and Tumor Biology 3% of Exam	Approximate % of Exam
Cancer Biology and Genetics – which may include:	<2%
Bio	
carcinogenesis	
Ge	
Cell cycle	
Rec	
Cell proliferation and apoptosis	
Tum	
Ang	
Mo	
Carcin	
Tumo	
Heritable Cancer Syndromes – which may include:	<2%
Li-Fraumeni	
BR	
Far	
Multiple endocrine neoplasia	
Epide	
Cancer statistics	
Staging of cancer	
Epidemiologic methods	
Chemoprevention and trials	

Medical Content Category	% of Exam
Hematologic Neoplasms	12.5%
Thoracic Cancer	9%
Breast Cancer	10%
Genitourinary Cancer	11%
Gynecologic Cancer	5%
Gastrointestinal Cancer	12%
Other Solid Tumors	4.5%
Anticancer Therapeutics, Clinical Research Methodology, and Ethics	19%
Supportive Care, Survivorship, and Communication	10%
Head, Neck, Thyroid, and Central Nervous System Malignancies	4%
Genetics and Tumor Biology	3%
Total	100%

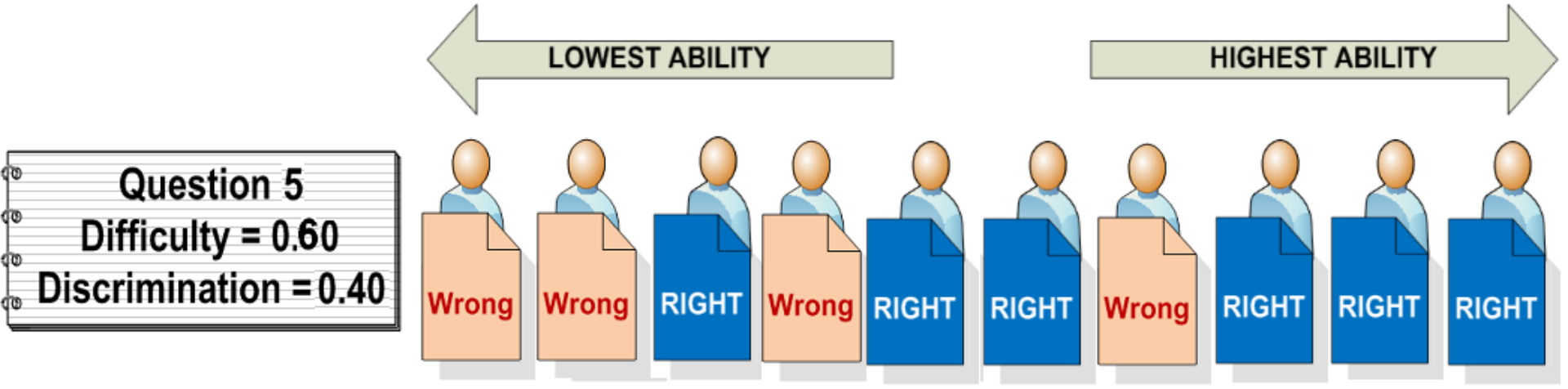
Testing Point and List of Relevant Tasks

The Board-Certified Medical Oncologist should know that:

( ) Making a diagnosis	( ) Ordering diagnostic tests
( ) Ordering treatment	( ) Recommending patient management
( ) Identifying clinical features	( ) Identifying risk
( ) Recognizing pathophysiology	( ) Interpreting data

How Items are Evaluated: The Statistics

- Reasonable *Difficulty*
  - How hard or easy the question is
  - Presented as proportion getting the item correct (*easiness?*)
- High *Discrimination*
  - Correlation between item performance and test



How the Blueprint is Kept Current

- Informed by item statistics
- Annual blueprint review by SMEs
  - Are percentages still correct?
  - Practice guideline changes (reactive process)
  - Is there new content that is now stable?
- Informed by comments from exam survey
- Periodic blueprint review via survey
  - Evaluate Importance/relevance, frequency
  - Representative sample in the discipline

Summative Assessment and Learning

- "**Assessment *of* learning**" is important for public accountability
  - High-stakes assessment
  - Responsibility *of* profession *to* public
  - Self-regulation *dependent* on effective and credible assessment that is legally defensible

- **Assessment drives learning**
  - Encourages physicians to synthesize their "core knowledge" with deeper learning
  - Encourages training programs to teach content
  - The act of taking an examination improves performance above and beyond simply studying for it
    - Roediger et al (2011) *Trends Cogn Sci.*
    - Larsen et al (2008) *Med Educ.*

Conclusions

- Proactive process to define knowledge base in discipline area
- Reactive process for unanticipated changes
- Certification versus MOC
  - Philosophically similar with respect to patient care
  - Different needs for learning, more diversity in site of care, and, in some disciplines- focus of practice
- Assessment drives learning
  - Encourages training programs to teach content
  - Encourages medical societies to provide courses