Discriminating Among Residency Applicants: Implications of Changes in the USMLE

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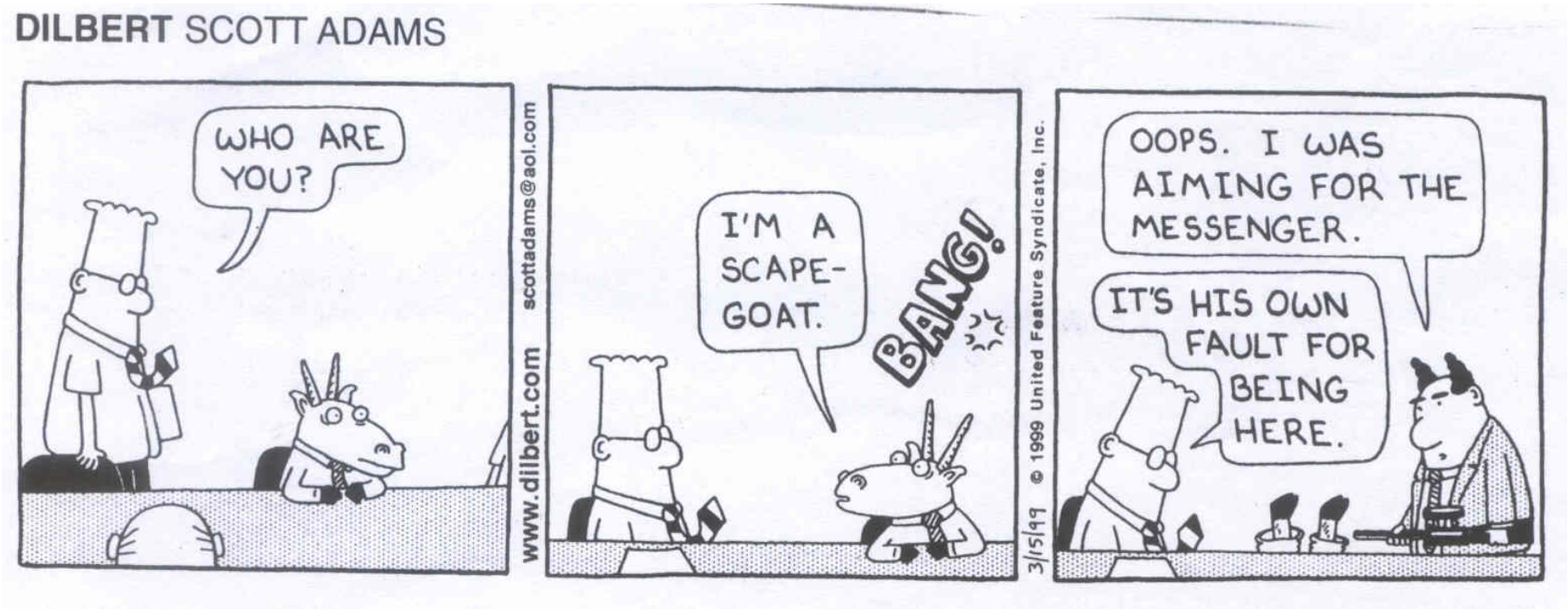
DILBERT SCOTT ADAMS
WHO ARE YOU?
I'M A SCAPE-GOAT.
BANG!
OOPS. I WAS AIMING FOR THE MESSENGER.
IT'S HIS OWN FAULT FOR BEING HERE.
www.dilbert.com scottadams@aol.com
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Pop Quiz: What is the purpose of the USMLE exam?

- Provide an efficient way to sort applicants for residency
- Predict who will make a good resident
- Predict who will pass the ABA exams on the first attempt
- Provide a way of comparing applicants from different US medical schools
  - Almost all schools grade pass/not pass in the first two years.
  - Almost all schools give mostly honors in the last two years.
  - The Dean's Letter (MSPE) is useless.
  - So are letters of recommendation, unless I know the recommender.

Is there any evidence for these beliefs?

- Sorting
  - ***Absolutely***! Setting a cut-off for USMLE Step 1 allows programs to focus on a smaller subset of applications.
- Good resident
  - ***Not so clear.*** USMLE Steps 2 and evaluations on clerkships are better predictors than USMLE Step 1.
- Passing the boards
  - ***To some extent***. Students who have several failures or marginal scores may have problems with knowledge parts of the exams.
- Comparison across schools
  - ***Possible.*** A high USMLE from a "marginal" school may give an applicant a leg up.

What is the purpose of the USMLE?

- Primary ***purpose*** = licensing exam
  - Completion of 3 Steps "certifies that candidates who meet educational requirements have the ***minimum*** knowledge and skills for unsupervised practice of medicine"
  - Design and psychometrics based on identifying a "cut score" – to pass, the candidate must demonstrate ***minimum*** competence for safe practice

What are the secondary uses of the USMLE?

- Secondary ***uses***
  - Promotion decisions in US medical schools
    - Most schools require students to pass USMLE to be promoted and/or graduate
  - Curriculum evaluation in US medical schools
    - Most schools look at USMLE pass rates and scores in relation to national averages
  - Residency selection
    - Career options depend on USMLE Step 1 scores
  - ECFMG certificates for IMGs

Why modify the USMLE exam?

- Current exam is > 20 years old
  - Developed in late 1980's to replace the NBME and FLEX exams
- Two major changes
  - Format – pencil and paper to computer-based administration with case simulations (1999)
  - Clinical skills exam (2004)
- Ongoing changes in content outlines
- Review of score reporting policy in 2000

Thomson Bowles L et al. Acad Med 2000; 75:426-431.

What approach has been taken in reviewing the USMLE?

- In 2004 (almost 5 years ago), a comprehensive review process was developed by the FSMB, NBME, and ECFMG
- CEUP (Committee to Evaluate the USMLE) was formed
  - Broad representation of all stakeholders
    - Students, IMGs, residents, fellows, faculty, deans, practicing MDs, members of state medical boards, public
  - Surveys and focus groups

www.usmle.org and your handouts

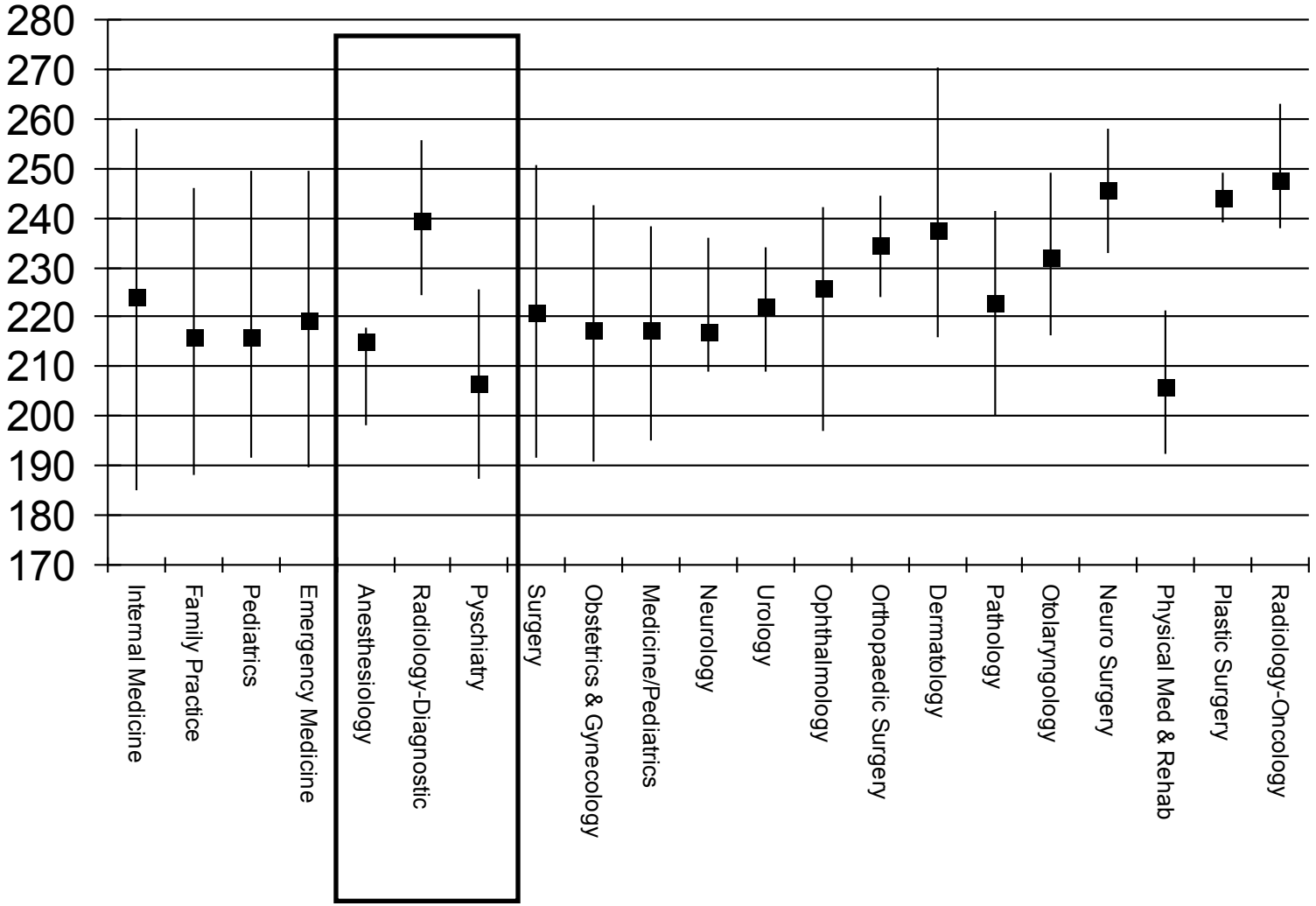
Perspective: State Medical Boards and the Public

- ✓ Licensure decisions must be made at two points
  1. Entry into residency
  2. Licensure for independent practice
- ✓ Measure all competencies related to patient care that can be tested in a valid and reliable manner
- ✓ Assure at least ***minimum competency***

Perspective: Educators and Deans

- Separation of basic science and clinical science in Step 1 and Step 2CK is artificial
- Step 1 interferes with curriculum design and delivery
  - At many schools, the curriculum, calendar, or both are defined by the students' review for Step 1
- Step 1 score disproportionately affects career decisions

2007-2008 Match – University of Minnesota School



Perspective: Basic Science Community

- Basic science is the foundation of medicine
  - Differentiates physicians from other healthcare providers
- Basic science is lost when integrated with clinical medicine
- Step 1 reinforces the value of basic science
- Studying for Step 1 is a scholarly activity
- Nationally normed scores are good

What do students retain from their Step 1 study?

- Not much
  - Correct answers on questions requiring factual recall decrease by 5-15% after a year
  - Correct answers on questions requiring reasoning also decrease – from 70% correct on Step 1 to 35-40% correct on Step 2
  - No biostatistics or epidemiology are included in Step 3, because the percent correct is so small

Scoles P. Presentation at CWRU Curriculum Retreat, Feb 2008;
Swanson D B et al. Acad Med 1996; 71:S580-S583.

Perspective: Students

- Prefer to “get basic science over with”
- Not in favor of integrated exams
- Students in Years 3 and 4 prefer scores over pass/fail grading
- Students in Years 1 and 2 have mixed feelings about scores
- Women more likely than men to prefer integrated exams and pass/fail scoring

Perspective: Residency Directors

- ***Scores are essential!!***
  - Must have Step 1 scores no later than September 1st for interview screening
    - Provide a rapid way to screen applications
    - Are nationally normed
    - Correlate with MCQ components of specialty certification exams
  - Step 2CK and CS necessary for final ranking
    - Help ensure students will get a degree and be able to start on time

Key issues with using USMLE for residency selection

- Step 1 was not designed as an aptitude test
  - Criterion-based rather than norm-based scoring
  - Focal point is at “cut score”
- Threshold for passing specialty boards is well below mean USMLE Step 1 performance
- Retention of Step 1 falls off rapidly
- Steps 2 and 3, clerkship grades, and clerkship director comments are better predictors of performance during residency

Major themes identified the CEUP process

- Licensure exam should support decision at two points
  - Readiness for direct patient care under supervision (residency)
  - Readiness for unsupervised care (practice)
- Separate exam in basic sciences creates an artificial separation from clinical sciences
- Exam should include assessments of all physician competencies that ***can be measured in a valid, reliable and practical way***

Major themes (continued)

- NBME must supply a valid, reliable and secure assessment tool to medical schools to support promotion/ graduation decisions
- Secondary uses should not adversely affect the primary purpose – to assess competencies of physicians who wish to practice in the US

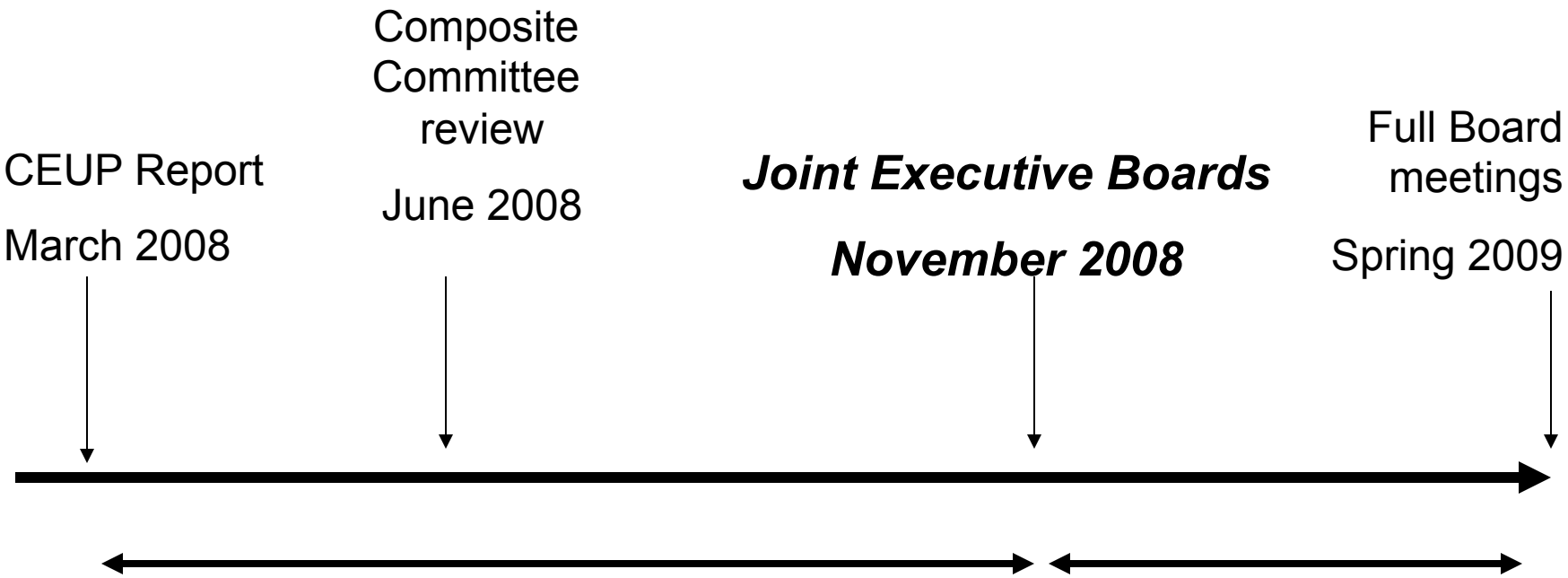
CEUP Recommendations

- Design a series of assessments to support decision at two points (“Gateways”)
  - Gateways are licensure decision points, not exam events
- Develop a model of design and scoring consistent with the general competencies concept (*e.g.*, ACGME)
- Emphasize scientific foundations of medicine in all components, in a clinical context where possible
- Develop assessments of ability to access, evaluate and apply medical information
- Explore ways of enhancing assessment of clinical skills

What models are being considered?

- ***Non-compensating*** components in both Gateways
  - Scientific foundations
  - Knowledge needed for clinical practice
  - Clinical skills including SP exams
- Pass/Fail and performance profile for each component, with an overall Pass/Fail and aggregate score
  - Flexibility in timing of the components

Scoles P. Presentation at CWRU Curriculum Retreat, Feb 2008



Scoles P. Presentations at HMI and CWRU, Winter 2008

March 2008

Committee work begins

Fall 2009

Sample materials, content outlines posted

July 2012-July 2014

"Live" exams become available

Format and item development, review, pretesting begins

Fall 2010

Class of 2013 begins studies

Infrastructure systems developed

Scoring and reporting models developed

Supporting materials developed

July 2011

"Practice" tests become available

Scoles P. Presentations at HMI and CWRU, Winter 2008

Challenges for residency selection

- Timing of Gateways relative to timing of the match
  - Applications early in year 4 , interviews start in November – Gateway could provide a score on this timeline but more likely later in the process
- Identifying other ways to screen applications to select applicants for interviews
  - What else can we use?
  - Will the eventual outcome be grades and class rankings in medical school?

Questions to consider

- Can we define what we want in an applicant (competencies) and ask the schools to provide that information?
- What is the link between competencies in residency and competencies in medical school?

Learn more

- NBME Comprehensive Review of USMLE Update at the AAMC
  - Sunday 10:00 – 11:30 a.m. in the Hyatt