The Past

• Assessment was based on a few methods
  – Essays, oral exams

• Methods limited
  – Competencies
  – Validity/realism
  – Reliability
  – Educational effect
  – Feasibility

“That part of eternity with some small fraction of which we have a slight and regrettable acquaintance.”

A. Bierce
The Devil’s Dictionary
Past to Present

• Progress
  – Proliferation of methods
  – Advances
    • Psychometrics
    • Technology

• Summative assessment is done well
  – Knowledge
  – Clinical skills

Present

“That part of eternity dividing the domain of disappointment from the realm of hope.”

A. Bierce
The Devil’s Dictionary
Present to Future

• Summative assessment will remain important
• Formative assessment in the workplace will grow
  – Ongoing and designed around feedback
  – For both clinical training and practice

Future

“That period of time in which our affairs prosper, our friends are true, and our happiness is assured.”

A Bierce
The Devil’s Dictionary
Overview

- Workplace assessment during clinical training
  - Why is it important?
  - Methods used in the Foundation Programme
    - Advantages and challenges

- Workplace assessment during practice
  - Why is it important?
  - What role does it play?
    - Patient outcomes and process of care data in the context of CME
Why Workplace Assessment: Training

• Studies document clinical skills deficiencies
  – Ascultatory skills in trainees (Mangione, 1997)
  – History-taking/preventive health screening among primary care doctors (Ramsey, 1999)
  – Missed physical findings among residents (Reilly, 2003)
  – Errors during procedures (Tang et al., 2005)

• Detection through assessment is limited
Why Workplace Assessment: Training

• Traditional workplace assessment
  - One examiner observes a trainee interact with an unfamiliar (in)patient
  - Trainee does a complete Hx/PE, presents findings, management plan, written record
  - Examiner rates along several dimensions
  - Takes about two hours
  - 82% of trainees undergo a CEX in their first year
Why Workplace Assessment: Training

• Generalization is limited because the trainee is evaluated with only one patient
  - Physician performance varies considerably from patient to patient

  “One third of the mice used in the experiment were cured by the test drug; One third of the test population were unaffected by the drug and remained in a moribund condition; The third mouse got away.”

  Erwin Neter
Why Workplace Assessment: Training

- Generalization is limited because the trainee is evaluated by only one examiner
  - Examiners differ in stringency

“You get 15 Democrats in a room and you get 20 opinions.”

Senator Patrick Leahy
Why Workplace Assessment: Training

- Generalization is limited because most real physician-patient encounters are short and focused
  - The task is artificial

"Reality is merely an illusion, albeit a very persistent one."

Albert Einstein
Why Workplace Assessment: Training

- There is a lack of feedback and formative assessment during clinical training
  - Medical students
    - Structured observation done for only 7-23% of students (Kassebaum & Eaglen, 1999)
    - Only 28% of IM clerkships include formative assessment strategy (Kogan & Hauer, 2006)
  - Postgraduate trainees
    - 82% were observed only once (Day et al., 1990)
    - 80% observed never or infrequently (Isaacson et al., 1995)
Why Workplace Assessment: Training

• Feedback is critical to learning
  – General education (Hattie, 1999)
    • Meta-analysis of 12 meta-analyses
    • Feedback is among the largest influences on achievement (ES=.79)
  – Postgraduate trainees and practicing doctors
    • Feedback alone effective is effective in 74% of studies (BEME: Veloski et al. 2006)
    • Small to moderate effects (Cochrane: Jamtvedt et al., 2006)
## Why Workplace Assessment: Training

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Why Workplace Assessment: Training

• Retrieval of information or a performance enhances learning
    • Group 1 took three tests on the passage
    • Group 2 re-read the passage carefully three times
  – On a test one week later, Group 1 did better

• Students read science text (Karpicke & Blunt, *Science*, 2011)
Why Workplace Assessment: Training

- Ongoing workplace assessment designed around feedback is the future
  - Responds to the current poor assessment and lack of feedback during training
  - Is consistent with the research
    - Feedback is critical to learning
    - Periodic feedback is more effective than massed feedback
    - Assessment enhances learning
Workplace Assessment in Training: Foundation Programme

• Best package of methods
  – Encounter-based
    • Case-Based Discussion (CbD)
    • Direct observation of procedural skills (DOPS)
    • Clinical Evaluation Exercise (Mini-CEX)
  – Global
    • Peer Assessment (Mini-PAT)

• Refined versions of traditional measures
  – Stimulus with which the trainee interacts
    • Patients, records
  – Observer/examiner
    • Faculty
  – Dimensions of the encounter that are judged
    • Cognitive, technical
Case-based Discussion

- **Process**
  - List of patient problems
  - Trainee picks 2 case records
    - Assessor selects one
  - Discussion centered on the trainee’s notes
  - Assessor rates Diag, Treat, Planning, Prof, etc.

- Takes 15-20 minutes
- 6 assessments/year
DOPs

- **Process**
  - List of procedures
  - Trainee picks a patient
  - Assessor observes the encounter
    - Procedure
    - Assessor rates Prep, Sedation, Asepsis, Technical skill, etc. and provides feedback

- Takes 15-20 minutes
- 6 assessments/year
Mini-CEX

- Process
  - List of patient problems
  - Trainee picks a patient
  - Assessor observes the encounter
    - Focused clinical task
  - Assessor rates Hx, PE, Comm, CJ, Prof, Org/Eff and provides feedback
- Takes 15-20 minutes
- 6 assessments/year
Peer Assessment

- **Process**
  - Trainee nominates 8 assessors and self-rates
  - Web-based (now)
    - Assesses clinical and generic skills
    - Collated centrally
  - Trainee given self-ratings, assessor ratings, national mean ratings, and comments
- 2 assessments per year
Advantages of the Encounter-based Methods

- Pose a broad range of patient problems
- Support the assessment of integrated skills
- Support clinical education
- Feasible in small work-based training programs

“There is only one argument for doing something; the rest are arguments for doing nothing.”

FM Cornford
Challenges of Encounter-based Methods

• Not many trainees will be considered unsatisfactory
  - There remains a need for summative assessment

"Everywhere I go I'm asked if I think the university stifles writers. My opinion is that they don't stifle enough of them."

F O'Connor
Challenges of Encounter-based Methods

• Trainees have some control over who examines them and indirectly over the content of the assessment
  – The assessment might be biased in their favor

“"It is hard to believe that a man is telling the truth when you know that you would lie if you were in his place.”

HL Mencken
Challenges of Encounter-based Methods

• Standards across programs will not be equivalent
  – Results will not be useful for national ranking of trainees

"The power of accurate observation is frequently called cynicism by those who don't have it."

GB Shaw
Challenges of Encounter-based Methods

• A large scale faculty development effort is needed
  - Good model (Holmboe, Hawkins, Huot, 2004)
    • Behavioral observation
    • Performance dimension training
    • Frame of reference training
    • Practice

“[A]s you know, these are open forums, you're able to come and listen to what I have to say.”

GW Bush
Advantages of Peer Assessment

• Supported by considerable research
• Has positive educational effects
  – Supports quality improvement tools
• Feasible
• Applicable across the continuum
  – Medical school and throughout a career
Challenges of Peer Assessment

• Assessor
  - Need to have observed the doctor
  - Differ in stringency and perspective

• Context
  - Clinical settings differ in demands, stresses, etc.

"Friends may come and go, but enemies accumulate."

T Jones
Challenges of Peer Assessment

• Relationships
  - Competition, friendship may influence assessments

• Stakes
  - In high stakes settings, assessments might be inflated

• Anonymity is important

"Now, now my good man, this is no time for making enemies."

Voltaire on his deathbed in response to a priest asking that he renounce Satan
Overview

• Workplace assessment during clinical training
  – Why is it important?
  – Methods used in the Foundation Programme
  • Advantages and challenges

• Workplace assessment during practice
  – Why is it important?
  – What role does it play?

• Patient outcomes and process of care data in the context of CME
Why Workplace Assessment: Practice

• There is a good evidence that the performance of doctors declines with time since medical school
  • Systematic review of the literature by Choudhry, Fletcher, Soumerai (Ann Int Med, 2005)
    – MEDLINE search of all papers from 1966 to 2004 plus references in the identified papers
    – Found 62 studies that were related to the topic
Why Workplace Assessment: Practice

• Knowledge studies (N=12)
  - All reported a decline in knowledge with age

• Adherence to standards for diagnosis, screening, prevention (N=24)
  - 15 show physicians in practice longer adhere less to standards

• Adherence to standards of appropriate therapy (N=19)
  - 14 found a partially or consistently negative association

• Patient outcomes (N=7)
  - 4 found a partially or consistently negative association
Why Workplace Assessment: Practice

• Observational study
  – 244,151 CHF/AMI hospitalizations for 4 years in 184 institutions in PA
  • Outcomes
    – In-hospital mortality and length of stay
  • Covariates
    – Probability of death on admission for each patient
    – Characteristics of physicians and institutions

• Results
  – Increasing physician age is associated with increased patient mortality and length of stay
  – Relationships persist even after taking account of severity of illness, level of specialization, Board certification, institutional and physician volume
Role of Workplace Assessment In Practice

• CME is essential
  – Research synthesis (Robertson et al., AHRQ, Cochrane)
  – CME improves
    • Attitudes, knowledge, skills, behavior and patient outcomes
  – Effective CME
    • Ongoing, active, interactive, contextually relevant, multiple methods
Assessment of Practice Performance

• Change only occurs if the doctor knows the nature of his/her practice
  - Aggregate data by clinical problem
  - Keep statistics on patient problems, diagnostics, and therapeutics
  - Track process of care and patient outcomes

• Self-assessment is not accurate
  - External sources of information are needed

“It is only by getting your cases grouped...that you can make any real progress with your post-collegiate education”

W. Osler
Assessment of Practice Performance: Patient Outcomes

- Patient outcomes are the most important indicator of practice performance
  - Mortality and Morbidity
  - Series of newer outcomes
    - Patient satisfaction
    - Functional status
    - Cost effectiveness
  - Intermediate outcomes (e.g., HbA1c and lipid levels for diabetics)
Outcomes: Advantages

• Public
  – Measure of accountability

• Patients and the health care system
  – Offers a basis for deciding among doctors
dependent on quality and efficiency

• Doctors
  – Offers assessment tailored to their unique
  practice
  – Based on real work performance
Outcomes: Challenges

• Attribution
  – Good assessment requires that the doctor be solely responsible for the patient’s outcomes
    • Patient care is increasingly provided in systems by teams supported with guidelines

• Case mix and patient complexity
  – Good assessment requires that all doctors face the same challenge
    • There is variability in the frequency and type of patient problems encountered
    • Patients with the same condition vary in severity, comorbidities, compliance, etc.
Outcomes: Challenges

• Numbers
  - Reliable assessment requires that many patients be sampled
  - Only common conditions can be included in assessment

“The problem with the French is that they don't have a word for entrepreneur”

GW Bush
Assessment of Practice Performance: Process of Care

• Process of care is another important indicator of practice performance
  – General processes such as
    • Screening and preventative services
    • Diagnosis and management
    • Prescribing
    • Counseling
  – Condition-specific processes
    • HbA1c monitoring and foot exams for diabetics
Process: Advantages

• More directly in physician control
  – Problems of attribution are reduced

• Less directly influenced by complexity
  – HbA1c should be monitored in all diabetics

• For certain processes, case mix is not a problem
  – Most patients need immunizations
Process: Challenges

- Doing the right things does not ensure a good outcome
- Complexity and case mix still have an effect
- A sizeable number of a doctor’s patients need to be sampled

“In Paris they simply stared when I spoke to them in French; I never did succeed in making those idiots understand their language.”

M Twain
Workplace Assessment: Practice

- Short, focused education
- Assessment of practice performance
- Point-of-care tools
- Social interaction
Short Focused Education

• Education should be short and focused on relevant aspects of practice
  - Multiple methods including interactive and didactic sessions
  - Opportunity for practice
  - Periodic

“Some people talk in their sleep. Lecturers talk while other people sleep.”

Albert Camus
Point-of-Care Tools

• Learning best occurs in the context of patient care
  – Patient-specific point-of-care tools
    • Evidence-based, short focused answers to clinical questions
    • Reminder systems to avoid errors of omission

“Be careful about reading health books. You may die of a misprint.”

Mark Twain
Social Interactions

• Physician leadership
  - Create a non-threatening environment
  - Encourage information exchange
  - Align incentives properly
  - Partner with family and community

• Peer interactions
  - Non-threatening discussion of practice data

“Leadership is the art of getting someone else to do something you want done because he wants to do it.”

Dwight Eisenhower
Summary

• Workplace assessment
  – Applicable to training and practice
  – Aimed at current deficiencies in assessment
  – Integral to education
  – Faces a variety of challenges

"Don't let it end like this. Tell them I said something."

last words of P Villa