An introduction to workplace-based assessment

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Session Aims

• Understand the importance of workplace-based assessment and become familiar with popular methods
• Improve understanding of the challenges of workplace assessments
• Discuss faculty development in workplace-based assessment and how to design a basic workshop for examiners
• Learn the characteristics of effective feedback
• Discuss strategies for implementing workplace assessments ‘back home’
Plan for Today

• Methods
• Why are the methods good for learning and assessment?
• Faculty preparation
• Feedback to trainees
• Strategies for implementation
Methods

- Procedure-based assessment
- Blinded patient encounters
- mini-CEX
- Clinical encounter cards
- Faculty ratings
- Chart-stimulated recall
- Direct observation of procedural skills
- Peer assessment
- Clinical work sampling
- And more…
Methods: Common Features

• Trainee is observed in routine workplace activities
  – Over time (e.g., peer assessment)
    • It is based on observation over multiple occasions
      – Sometimes the behavior is not actually observed
      – It is subject to general impressions
  – Encounter-based (e.g., mini-CEX)
    • Less subject to general impressions
      – Multiple encounters are needed so it is time-consuming
Methods: Common Features

- Observer judges the performance in one of three ways
  - Occurrence (checklist)
    - Simply note if a behavior has occurred
      - A history-taking checklist might ask whether the trainee
        » Greeted the patient
        » Asked open-ended questions
  - Non-experts can use checklists
  - Provide guidance for feedback
  - Misses some of the subtleties in performance
Methods: Common Features

- Observer judges the performance in one of three ways
  - Quality (global ratings)
    - Evaluate the quality of a performance
      - A rating scale might ask if the trainee’s history was
        » 1) poor, 2) fair, 3) good, 4) very good, or 5) excellent
    - Requires observation by an expert
    - Allows the use of judgment
  - Highly correlated with checklist results but these are slightly more valid and slightly less reliable
Methods:
Common Features

- Observer judges the performance in one of three ways
  - Suitability
    - Evaluate the quality of a performance and judge whether it is good enough for a particular purpose
      - A rating scale might ask if the trainee’s history was 1) unsatisfactory, 2) satisfactory, or 3) superior
    - Requires observation by an expert
    - Allows the use of judgment
    - Reasons for differences in ratings are unclear (i.e., could be quality or could be standards)
Methods: Common Features

- After their assessment, the observer provides feedback about the performance
  - Feedback is the most important part of the workplace methods

- For all of these methods, the observer is the assessment device
  - Critical role in their quality
  - Faculty development is essential
Mini-CEX

- **Process**
  - Assessor observes a patient-trainee encounter
    - Focused clinical task
  - Assessor rates along a number of dimensions
    - Hx, PE, Comm, CJ...
  - Assessor provides feedback
  - Takes 15-20 minutes
    - Multiple encounters
DOPs

• Process
  – Assessor observes a patient-trainee encounter
    • Procedure
    – Assessor rates along a number of dimensions
      • Prep, sedation...
  – Assessor provides feedback
  – Takes 15-20 minutes
    • Multiple encounters
Chart-Stimulated Recall

- Process
  - Assessor reviews a patient record where the trainee made notes
  - Discussion centered on the trainee’s notes
  - Assessor rates Diag, Treat, Planning, Prof, etc.
  - Takes 15-20 minutes
    - Multiple encounters
360° Assessment

- Process
  - Trainee nominates assessors and self-rates
  - Assesses clinical and generic skills
    - Collated centrally
  - Trainee given self-ratings, assessor ratings, mean ratings, and comments
How are the methods put together?

- Clinical Competency Committee (CCC)
  - CCC reviews all assessments and applies the same set of standards to them
    - Responsible for promotion, graduation, dismissal, and remediation
    - Committee composed of 3+ members including core faculty, other faculty, chief resident, trainees, etc.
    - Meets regularly and keeps minutes
    - Reports to training program director (Chair?)
How are the methods put together?

• Committee
  – Makes decisions about
    • What constitutes the basis for judgment (portfolio of assessments, reports, reflections)
  – Provides feedback to/for trainees
  – Creates plans for remediation
  – Develops evidence for dismissal
  – Applies QI principles to the process

• Long history of the use, but little research
Why are workplace methods good for learning?

• Provision of feedback in surgery is limited
  – Teaching in the operating room
    • Survey of US general surgery residents (Snyder et al, 2012)
      – Faculty identified personal preoperative educational goals (18%)
      – Faculty identified areas for improvement (37%)
    – So the performance of new Fellows is not surprising...
      • Survey of Fellowship program directors (Mattar et al., 2013)
        – 21% felt trainees arrived unprepared for the operating room
        – Only 34% felt trainees were able to operate 30 unsupervised minutes for a major procedure
        – 56% felt trainees were not proficient in laparoscopic suturing
Why are workplace methods good for learning?

• The same is true for medicine...
  – Medical students
    • Medical students not often observed (Schopper et al., 2016)
    • 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 are workplace methods good for learning?

- Feedback is critical to learning and has a significant influence on achievement
  - General education (Hattie, 1999)
    - Meta-analysis of 12 meta-analyses
    - Feedback is among the largest influences on achievement (ES=.79)
  - Medical education (Veloski et al., 2006)
    - Feedback alone effective is effective in 71% of studies
## Assessment Optimizes Learning

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Why are workplace methods good for learning?

- Retrieval of information or a performance enhances learning
  - Students read a passage (Roediger & Karpicke, *Psych Science*, 2006)
    - 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 are workplace methods good for assessment?

• Traditional CEX
  – 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 are workplace methods good for assessment?

- 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 are workplace methods good for assessment?

• 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 are workplace methods good for assessment?

• 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
Workplace assessment

• Education
  – Drive and guide learning
  – Provide feedback
  – Create learning
  – Optimize learning

• Assessment
  – Multiple encounters
  – Multiple faculty perspectives
  – Realistic tasks
Challenges

• Not many trainees will be considered unsatisfactory
  – Workplace assessment is not a substitute 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."

Flannery O'Connor
Challenges

- Standards across programmes will not be equivalent
  - Results will not be useful for comparing or ranking of trainees

“Equal opportunity means everyone will have a fair chance at becoming incompetent.”

Laurence J Peter
Challenges

• Implementation is difficult
  – Trainees control who examines them and on which patients
    • Assessment might be biased in their favour
  – Faculty control the process
    • Assessment might not get done

“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.”

H. L. Mencken
Challenges

• Faculty development is necessary
  – Take ownership of the process
  – Calibrate examiners
  – Learn how to provide effective feedback

“A university is what a college becomes when the faculty loses interest in the students”

John Ciardi
Conducting the Encounter

- What are some of the problems with the way the faculty conducted the exercise?

  - Late
  - Poor explanation to patient of his role
  - Poor positioning to observe the physical exam
  - Disrupts the blood pressure measurement
  - Disrupts the eye exam by moving around and asking the patient questions
  - Distracted by the knock on the door
Conducting the Encounter

• Rules for conducting an encounter (Holmboe, 2008)
  – Prepare for the observation
    • Faculty: Know what you are looking for
    • Trainee: Let him/her know what to expect
    • Patient: Let him/her know why you are there.
  – Minimize intrusiveness
  – Correct positioning using “triangulation”
  – Minimize interference with the trainee–patient interaction
  – Avoid distractions
Performance Dimensions

• What dimensions of performance do you care about?
  – For the mini-CEX we used
    • Interviewing
    • Physical exam
    • Professionalism
    • Clinical judgment
    • Counselling
    • Organization/Efficiency
    • Overall competence.
Performance Dimensions

• How would you decide which dimensions?
  – Start with the purpose
  – Consider your context
  – Create your own set of dimensions or use those developed by others (modified?)
  – Put them on a form
    • Reminds faculty what they should be observing
  – Ask faculty to use it and modify based on their suggestions
Frame of Reference Training

• A trainee interviews and examines a patient in the ER. Use the following scale
  – 1-3 Unsatisfactory
  – 4-6 Satisfactory
  – 7-9 Superior
  – N/A

• Rate the following skills
  – Interviewing
  – PE
  – Professionalism
  – Clinical judgment
  – Counselling
  – Org./Efficiency
  – Overall competence.

..\..\..\..\..\Dropbox\Videos\mCEX\VTS_02_1.VOB
Frame of Reference Training

By a show of hands, how many of you rated [each dimension] [each rating]?
Frame of Reference Training

Please break into small groups and come to consensus on your ratings of the trainee
Average Rating of '4'

- **Primary**
  - Did not ask if pt had chest pain now
  - Did not ask about duration of pain
  - Did not ask what made pain better
  - Did not ask about prior episodes

- **Secondary**
  - Did not ask father age at MI
  - Did not ask about occupation
  - Lacked pt centeredness
  - Did not ask about heart disease in other family
  - Did not ask if pt had questions
Frame of Reference Training

• A trainee interviews and examines a patient in the ER. Use the following scale
  – 1-3 Unsatisfactory
  – 4-6 Satisfactory
  – 7-9 Superior
  – N/A

• Write your ratings of the following skills on a piece of paper
  – Interviewing
  – Physical exam
  – Professionalism
  – Clinical judgment
  – Counselling
  – Organization/Efficiency
  – Overall competence
Rating of ‘3’ or Lower

• Primary
  – Failed to introduce himself
  – No open-ended questions
  – Leading questions (‘pressure or squeezing’)
  – Failed to ask if patient is having chest pain now
  – Did not ask what made pain better (alleviating)...

• Secondary
  – Lacked patient centeredness
  – Did not ask about smoking, occupation, father’s age at MI,
  – Did not ask if patient had questions
  – Failed to reassure...
Some Issues in Selecting Videos

- How many videos?
- Pros and cons of good, bad, or borderline trainees?
- Does it help/hurt to see the same trainee?
  - With the same patient?
- Does it help/hurt to see the same patient?
  - With different trainees?
Faculty Preparation

- Direct Observation of Competence training (Holmboe, Hawkins, Huot, 2004)
  - Behavioral observation
    - Know what to look for
    - Prepare resident and patient
    - Minimize intrusiveness and interference
  - Performance dimension training
    - Decide which dimensions of performance are important
Faculty Preparation

• Direct Observation of Competence training
  – Frame of reference training
    • Improve accuracy and discrimination
    • Reduce stringency differences
  – Practice

• Workshop
  – Didactic mini-lectures
  – Small group and videotape evaluation exercises
  – Practice with standardized residents and patients
Faculty Preparation

• Study of the DOC model (RCT)
  – Faculty who underwent training
    • Thought the workshop was excellent
    • Felt more comfortable performing direct observation
    • Were more stringent than control group faculty
Feedback

• Trainees are rarely observed with patients
  – Limits evaluation and feedback
• When observed feedback is sometimes poor
• Mini-CEX requires observation and offers the possibility for educational feedback

“The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.”

John Dewey
Video Exercise

• A trainee interviews and examines a patient in the clinic. Use the following scale
  – 1-3 Unsatisfactory
  – 4-6 Satisfactory
  – 7-9 Superior
  – N/A

• Rate the following skills
  – Interviewing
  – PE
  – Professionalism
  – Clinical judgment
  – Counseling
  – Org./Efficiency
  – Overall competence

• What feedback would you give the trainee?
Feedback

• Feedback needs to address three learner questions (Hattie & Timperley, 2007)
  – Where am I going?
  – How am I going?
  – Where to next?

• Factors affecting the impact of feedback
  – Focus
  – Trainee
  – Technique
  – Creating an action plan
  – Mentoring
Feedback: Focus

• Four areas of focus (Hattie & Timperley, 2007)
  – Feedback about the task
    • Quality of the performance
  – Feedback about the process of the task
    • Encourages deeper learning and transfer
  – Feedback about self-regulation
    • Help-seeking, self-assessment, self-efficacy, etc.
  – Feedback about the self as a person
    • Rarely effective
Feedback: Trainee

• Response to feedback is influenced by
  – Trainee’s level of achievement (Shute, 2008)
  – Culture (DeLuque & Sommer, 2000)
    • Collectivist vs. individualist
  – Perceptions of accuracy (Sargent et al, 2005)
  – Perceptions of credibility and trustworthiness (Albright et al, 1995)
  – Perceptions of usefulness (Brett et al, 2001)
Feedback: Technique

• Technique influences impact (Hewson et al, 1998)
  – Establish an appropriate interpersonal climate
  – Use an appropriate location
  – Elicit the learner's thoughts and feelings
  – Reflect on observed behaviors
  – Be nonjudgmental
  – Be specific
  – Offer the right amount of feedback
  – Offer suggestions for improvement
Feedback: Action Plan and Mentoring

• Creation of an action plan leads to change
  – Answers the “Where to next?” question
  – Feedback alone does not cause change, it is the goals that people set in response to feedback (Locke et al., 1990)

• Mentoring increases the likelihood of change following feedback
  – Broad management literature (Luthans et al., 2003; Walker et al., 1999)
Feedback

• Many plans for giving good feedback
    • Learner talks about what went well
    • Faculty talks about what went well
    • Learner talks about what needs improvement
    • Faculty talks about what needs improvement
    • Learner and faculty talk about how to improve
      – Action plan and closure
Implementation: Challenges

• What are some of the obstacles faculty face in implementation of WPBA?
  – I don't have enough time to do this
    • There is too much paperwork
  – What is the evidence?
  – What is the purpose?
  – What is the focus?
Implementation: Strategies

- Make it mandatory
- Provide the faculty
  - Time/compensation
  - Training/practice
  - Documentation
  - Clear guidelines
  - Feedback
  - Recognition
- Use core faculty-champions
- Increase efficiency
  - Adapt locally
  - Electronic
Positive Deviance

“In every community or organization there are certain individuals or groups whose uncommon practices/behaviors enable them to find better solutions to problems than their neighbors or colleagues who have access to the same resources”

Jerry and Monique Sternin
www.positivedeviance.org
Positive Deviance: Model

1. Define the problem
2. Determine if anyone exhibits the behavior
3. Discover their uncommon strategies
4. Community develops an action plan
5. Implement and evaluate local solutions
Positive Deviance: Vietnam Case Study

• 63% of children in 4 villages were malnourished
• Community volunteers charted nutritional status and surveyed common practices
• Identified-observed children from very poor families who were well nourished
  – Collected tiny shrimps, etc. from the rice paddies
  – Used greens from sweet potato tops
  – Engaged in good hygiene
  – Fed children 4-5x a day instead of 2x
• Volunteers taught caretakers how to prepare/feed meals
• Created group meals where caretakers were required to bring shrimp, etc. as the price of admissions
  – Routinized trips to the rice paddy
Positive Deviance:
When to use it

• The problem is not completely technical and it requires social-behavioral change
• Other solutions have not worked
• Positive deviants exist
• There is leadership commitment to change
Summary

• Workplace-based assessment addresses some of the needs of the clinical setting
  – Focus on relevant skills
  – Encourage learning
  – Provides formative assessment and feedback

• Faculty preparation is critical
  – Assessment and feedback