Patricia Hicks supported by the Pediatrics Milestones Assessment Collaborative
Presentation Objectives

• Discuss challenges associated with meaningful assessment of, and for, learning
• Provide strategies for how to construct and align instruments to inform Pediatrics Milestones
• Work through example of constructing items based on PPD-8 (Uncertainty) to inform inference for fellow readiness to...
Background: Needs to be Met

- Guide development of learners
- Determine learner readiness for a particular activity or progression/promotion to new level
- Assist learner in life-long learning and improved retention of knowledge, skills, attitudes
- Inform program of its effectiveness
- Fulfill reporting obligations; provide evidence to public
Assessment of Direct Observation: Difficulties

- Assessors struggle with providing stable ratings
Performance: Not a stable measurement

- Variability of human performance
- Context specificity – inherent differences within authentic workplace environment
- Decay – limits interpretation / decisions based on prior assessments
Assessment of Direct Observation: Difficulties

- Assessors struggle with providing stable ratings
- Learners struggle with receiving feedback
Do Learners Really Want Feedback?

- Intra-learner responses
- Between learner and assessor
- Learning/practice environment
- Tensions are both intra-individual and inter-individual
  - both professional and institutional
  - culturally situated

Mann K, 2011
McConnell M , 2011
Archer J, 2010
Responsiveness to Feedback

- Confidence and fear impact ability to receive feedback
- Attribution of feedback helps reduce cognitive dissonance with self-appraisal
  - Good outcomes attributed to talent
  - Bad outcomes attributed to situational factors or circumstances

Assessment of Direct Observation: Difficulties

- Assessors struggle with providing stable ratings
- Learners struggle with receiving feedback
- Assessors struggle with providing feedback
Workplace-based Assessment
Judgments of Raters

- Raters make and justify ratings based on personal theories and performance constructs\(^1\)
- Experts may process more when generating ratings\(^2\)
- Person model – immediate impression
  - Social judgment
  - Bias

\(^1\)Govaerts, 2011; Kogan, 2011
\(^2\)Govaerts, 2012
\(^3\)Gingerich, 2011
Faculty use various frames of reference in assessing learners

- High inference
- External factors influence decisions

‘He walked in and he’s like, I have some bad news. I would never do that.’

‘A lot of it is just instinct. A lot of it is when I’ve been a patient myself what I’ve looked for in a good doctor.’

Order Matters & Context Matters

PM Contribution
Pediatrics Milestones: Contribution to Assessment

- Assist assessors in giving constructive feedback
- Specifies direction of growth, learning behaviors
Learner Survey - Analysis

Thinking about the feedback you received at the end of your rotation, please indicate your level of agreement with the following statements.

1. It helped me understand how those with whom I work perceive my performance.
   - 12 respondents
   - 28 strongly agree (47.5%)
   - 28 agree (47.5%)

2. It was useful for constructing future goals or identifying a developmental path.
   - 11 respondents
   - 30 agree (50.8%)
   - 21 strongly agree (35.6%)

>95%
>86%
Pediatrics Milestones: Contribution to Assessment

- Assist assessors in giving constructive feedback
- Specifies direction of growth, learning behaviors
- Ability to report through the continuum
1. What decisions are you trying to make?
2. What specific growth/development or advice are you aiming to affect?
3. What Pediatrics Milestones align with your primary question(s) [#1 and/or #2 above]?
4. What required Pediatrics Milestones are left after above steps?
   - What curriculum (activities, processes) need to be added to explicitly inform assessment?
Important Aspects of Assessment Strategy

• Design items to explicitly reduce the “thinking fast”\textsuperscript{1-3} of “I know it when I see it”
  • You cannot “read minds”
  • High inference items risk bias

\textsuperscript{1}Kahneman D. Thinking Fast and Slow. New York: Farrar, Straus and Giroux; 2011
\textsuperscript{3}Croskerry P. Context is everything or how could I have been that stupid? Healthcare Quarterly. 2009;12 Spec No Patient:e171-176.
Important Aspects of Assessment Strategy

• Think about **who** (assessor) and **where** (setting, activity or context) is best
  • Naturally occurring = authentic environment
  • Simulated = contrived or standardized set-up
Important Aspects of Assessment Strategy

- Think about the **method** of assessment that is best
  - Similar to process of best curricular method\(^1\)
  - A combination of methods, utilized over time, will likely produce the best evidence for important decisions\(^2\)

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Example
Example: PPD8 - Uncertainty

- Recognize that ambiguity is part of clinical medicine and \textit{respond by utilizing appropriate resources in dealing with uncertainty}\textsuperscript{1}

- What is the so-what factor?

\textsuperscript{1}Hicks P. Competency 8. Recognize that ambiguity is part of clinical medicine and respond by utilizing appropriate resources in dealing with uncertainty. \textit{Academic Pediatrics}. 2014;14(2):S94-S97.
Physician Response to Uncertainty affects Clinical Behavior

- Physician *affective* responses to uncertainty accounted for variance in clinical decisions
  - “Stress from uncertainty”
  - “Reluctance to disclose uncertainty to others”
- Physician uncertainty is associated with excessive ordering of tests and withholding information from patients

Effective and safe care of patients depends on clinician knowledge and understanding of the patient’s status, anticipated events and readiness to implement appropriate response – described as a “shared mental model”

- Physician uncertainty lowers functional mental model and impacts response to patients, especially with status change\(^1\)

Limitations in Recognition of Uncertainty

- No signals – wrong “feels” right
- Metacognitive errors
- Perception or interpretation of senses
- Situational awareness
Recognize that ambiguity is part of clinical medicine and respond by utilizing appropriate resources in dealing with uncertainty

- Response to uncertainty
  - Recognition (metacognitive errors; other human factor/error; level of awareness – relates to PBLI1 and PPD-5)
  - Resources sought to resolve (relates to help-seeking = PPD1; relates to pursuit of KSA to close gaps = PBLI 2-3)
  - Actions taken to resolve (e.g. magical thinking; avoidance; over-use of tests v. pursuit of mastery through increased meta-knowledge; seeking shared decision-making; diminished drive of risk)
Recognize that ambiguity is part of clinical medicine and to recognize the need for and to utilize appropriate resources in dealing with uncertainty.

PPD-5
= Trustworthiness that makes colleagues feel secure when one is responsible for the care of patients.

PPD-8
= Recognize that ambiguity is part of clinical medicine and to recognize the need for and to utilize appropriate resources in dealing with uncertainty.

PBLI-1
= Identify strengths, deficiencies, and limits in one’s knowledge and expertise.
Who Sees Performance?  How?  Where is it Seen?  When?

- **Who** is in best position to “see” behaviors
  - Nurse, supervisory resident, peer, subordinate trainee, parent, attending physician, other

- **How** will they see them?
  - Read, listen, listen & discuss

- **Where?**
  - Location, service; conditions – qualifier (acuity, etc.)

- **When?**
  - Night, day, qualifier
# Uncertainty Items

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Item: Format, Stem, Scale</th>
<th>Instrument / Method</th>
<th>Assessor Role</th>
<th>Setting /Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recognition</strong></td>
<td></td>
<td>SCO-Rounds</td>
<td>Faculty; Nurse; lab post-doc</td>
<td>Cath lab; operative suite; inpt care; lab</td>
</tr>
<tr>
<td>- internal:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>metacognitive, perceptual, awareness; <strong>external</strong> – process response</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Resources sought</strong></td>
<td></td>
<td>MSF; post-presentation assessment</td>
<td>Faculty</td>
<td>Conf. room; rounds</td>
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<tr>
<td>- human - error; non-human - primary source, secondary source</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Action taken</strong></td>
<td></td>
<td>Chart A/P analysis</td>
<td>S.O.C.; Nurse; Peer; Faculty; editor</td>
<td>Inpt unit; advisor/ S.O.C.; office</td>
</tr>
<tr>
<td>- response of clinical action, seeking new KSA, communication with patient</td>
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Acknowledgements