Assessing the utility of an evaluation app for Diagnostic Radiology Residents on a Transition to Practice rotation

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Disclosure

• We have had no affiliation with a pharmaceutical, medical device or communications organization within the previous 24 months (financial or otherwise).
Introduction

• Transition to Practice (TTP) rotation
  – Postgraduate year five (PGY-5) Diagnostic Radiology Residents
  – Move between subspecialty areas on a daily basis
  – Fill in knowledge or skill gaps
Introduction

- TTP format makes evaluation challenging
  - Supervisors potentially changing on a daily basis
  - Rotation supervisor may have limited direct observation of Resident performance
Purpose

• To **assess** the **utility** of a daily evaluation app created for the TTP rotation
  1) Allows each subspecialty supervisor to provide feedback
  2) Immediate and face-to-face interaction
  3) Based on daily, direct observation
Methods

- PGY-5 Diagnostic Radiology Residents on a **four-week** TTP rotation
  - Moving between subspecialty areas of their choice
- Daily subspecialty supervisors
  - **Daily app** evaluation
  - Review Resident performance at end of shift
- Overall rotation supervisor
  - Traditional **end-of-rotation** in-training evaluation report (ITER)
Methods

- TTP app based on CanMEDS Roles and Likert scale
- Evaluation questions include:
  - Name of Resident
  - Majority of cases encountered
  - CanMEDS Roles and subsections
  - Resident’s strengths and areas needing improvement
  - Overall performance
  - Volume of cases encountered
- Encounter forms compiled to produce final summative evaluation report

Transition to Practice Daily Evaluation Form

<table>
<thead>
<tr>
<th>Medical Expert Detection</th>
<th>1 (Unsatisfactory)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (Outstanding)</th>
<th>N/A</th>
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<tr>
<td>Scale:</td>
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<tr>
<th>Anatomy</th>
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<th>4</th>
<th>5 (Outstanding)</th>
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<th>Knowledge</th>
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<th>5 (Outstanding)</th>
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Results – TTP rotation

- 13 Residents completed 14 TTP rotations
  - Median of 9 app and 1 ITER evaluation completed per rotation

- Residents moved between a median of 3 subspecialty areas during their TTP rotation
Results – ITER vs. TTP app

• TTP evaluation using the ITER
  – Median time to completion was 6.5 days
    • Wide range of 0 to 144 days
  – 79% face-to-face feedback
  – Comments were provided 60% of the time

• TTP evaluation using the app
  – Immediate completion of evaluation
  – 100% face-to-face feedback
  – Comments were provided 77% of the time
Results – ITER vs. TTP app

- TTP app shows an **acceptable agreement** with the ITER gold standard
  - Bland-Altman plot bias of -0.57 (SD=0.85)
Results – Satisfaction Survey

• Satisfaction survey of Residents
  – Do you think that the TTP app is a useful assessment tool?

![Bar chart showing satisfaction survey results]

- Yes: 70%
- No: 30%
Results – Satisfaction Survey

- Satisfaction survey of Residents
  - Were the subspecialty supervisors cooperative using the TTP app?

[Bar chart showing the distribution of responses]
Discussion – ITER vs. TTP app

• TTP app provides immediate feedback
  – Direct observation from daily shift
  – Minimizes recall bias
  – Specific feedback on daily performance and competencies

• Physical mobile device with app ensures face-to-face encounter between Resident and daily supervisor

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<th>ITER</th>
<th>TTP app</th>
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<tbody>
<tr>
<td>Time to completion</td>
<td>6.5 days (range 0-144)</td>
<td>Immediate</td>
</tr>
<tr>
<td>Face-to-face feedback</td>
<td>79%</td>
<td>100%</td>
</tr>
<tr>
<td>Comments provided</td>
<td>60%</td>
<td>77%</td>
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Discussion – Satisfaction Survey

• Residents found the TTP app to be a useful assessment tool
  – Real time feedback and addresses issues on the spot
  – Daily supervisor knows Resident well versus ITER supervisor who may have had limited contact with Resident

• No cooperation issues with subspecialty supervisors completing the daily TPP app evaluations
Conclusion

• TTP app provides immediate feedback for residents based on direct observation
  – Direct observation by radiologists
    • Multiple evaluators give different types of feedback
  – Face-to-face feedback guaranteed
  – Same-day evaluation (formative feedback given during learning process)
    • Focuses on specific details of everyday performance

• TTP app was found to be an appropriate and useful evaluation tool
Next Steps

• Implement TTP rotation for Residents in other postgraduate years

• Develop app that can be downloaded onto all personal mobile devices, not just department-owned iPads
  – Offline functionality → Wi-Fi is not reliable at all hospital sites