Development of the ABOS Behavioral Web-Based Assessment Tool – A Collaboration with CORD

2020 CORD MEETING UPDATE

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THANK YOU

THE CONCEPT

PROFESSIONALISM

INTERPERSONAL SKILLS AND COMMUNICATION

PRACTICE BASED LEARNING

RESIDENT BEHAVIOR

RESIDENT BEHAVIOR

RESIDENT BEHAVIOR

RESIDENT BEHAVIOR

RESIDENT BEHAVIOR
MEASURING PROFESSIONALISM

• arises from long-term combination of experiences and reflection on those experiences

• Grounded in what the physicians actually do and how they act, individually and collectively

• requires multiple observations over time (faculty, peers, medical students, nurses, staff)
ABOS Behavioral Tool
ABOS Blueprint to Assess Professionalism

5 Main Domains of Assessment

1. Adherence to ethical principles
2. Effective interaction with patients and with people who are important to those patients
3. Effective interactions with other people working within the health system
4. Reliability
5. Commitment to autonomous maintenance and continuous improvement of competence in self, others, systems

Wilkinson et al, 2009
“ABOS Behavior Tool”

1. The resident adheres to ethical principles

2. The resident effectively interacts with other people working within the health system

3. The resident is reliable

4. The resident is committed to autonomous maintenance and continuous improvement of competence in self, others, systems

**DESCRIPTORS**

- **Demonstrates Honesty and Integrity** (ie. Worthy of the trust bestowed upon us by the patients and the public's good faith, reports and analyzes medical errors, maintains confidentiality, understands their scope of practice with appropriate use of knowledge and skills, trustworthy)

- **Exhibits Ethical Behavior in Professional Code of Conduct** (ie. Student recognizes that being an orthopaedic surgeon is a “way of life” that serves the patient and community, advocates in the best interest of the patient, goes “above and beyond”, they “do the right thing, respects diverse patient populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation)

- **Shows Compassion/Empathy** (ie. Collaborates with patient, enhances the relationship)

- **Demonstrates Communication and Listening skills** (ie. Attentive, shows patience, respect patient autonomy and empower them to make informed decisions, manages communication challenges with patients and families)

- **Shows Respect for Patient needs** (ie. Respects patients’ viewpoints and considers his/her opinions when determining healthcare decisions, regards the patient as a unique individual, treats the patient in the context of his/her family and social environment, takes time to educate the patient and their family)

- **Shows Ability to work with faculty, peers, and medical students** (ie. Shows respect, supports faculty mission to provide quality patient care, works collaboratively, can work with a team and cares for other members of the team, able to resolve conflicts effectively, creates effective personal interactions)

- **Students’ Level of Composure** (ie. Ability to handle difficult situations with ease, has good coping strategies and manages stress well)

- **Students’ Identity Formation** (ie. Ability to “fit in” with their role as a student learner, shows maturity in their specific role as a student physician learner and socialized to the medical environment)

- **Work ethic** (ie. Shows interest and available, protects patients interests, driven, willingness to conduct patient care without prompting, committed to maintaining quality of care)

- **Punctuality** (ie. Shows to clinic, OR, conferences, call cases on time)

- **Level of Responsibility/Accountability** (ie. Ability of resident to answer for his/her conduct, timely completion of medical records or other required tasks, acknowledges their limitations, strives for excellence, shows pride in their actions and thoroughness, Level of confidence that a task will be carried out)

- **Students’ Ability to self-assess** (ie. Resident recognizes their limits, ability to self-reflect and hold themselves accountable, commits to life-long learning, identifies strengths, deficiencies, and limits in one’s knowledge and expertise, personal responsibility to maintain emotional, physical, and mental health)

- **Students’ Receptiveness to critique** (ie resident responds to feedback by accepting criticism, looks at others with open mind)
ABOS Behavior Tool

• A mobile-optimized web page to request an evaluation:
  – The resident logs in, selects the Professional Behavior Assessment/faculty, and click Send. The evaluator receives a text/email with a link to be taken to the assessment form.

• The assessment form is a mobile-optimized web page with one question per page. Faculty using smartphones with dictation capability may dictate the feedback comments.
4. **The resident is reliable** (Work ethic, Punctuality, Level of Responsibility/Accountability)

- 1. Strongly Disagree
- 2. Somewhat Disagree
- 3. Neutral
- 4. Somewhat Agree
- 5. Strongly Agree

**Work ethic** (ie. Shows interest and available, protects patients interests, driven, willingness to conduct patient care without prompting, committed to maintaining quality of care)

**Punctuality** (ie. Shows to clinic, OR, conferences, call cases on time)

**Level of Responsibility/Accountability** (ie. Ability of resident to answer for his/her conduct, timely completion of medical records or other required tasks, acknowledges their limitations, strives for excellence, show pride in their actions and thoroughness, Level of confidence that a task will be carried out)
Based on the resident’s profile in Knowledge, Surgical Skills, & Behavior, and based on the performance during 60 months of training, I certify that this resident meets the content, accreditation, and requirements to independently practice orthopedic surgery.
ABOS Behavioral Tool Pilot Implementation
Pilot Implementation - July 1, 2018

- 18 programs – IRB approval
- Program Director Evaluation
  1--------2--------3--------4
  Unacceptable Below Meets Exceeds expectations
- Residents request evaluation at end of each rotation from faculty
  – No immediate feedback
- 360 Degree Program Evaluation
  – Resident selected 360 degree
- Faculty Survey

<table>
<thead>
<tr>
<th>Northwestern University</th>
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<tbody>
<tr>
<td>University of Iowa</td>
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<tr>
<td>Henry Ford Health System</td>
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<tr>
<td>Pennsylvania State University</td>
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<tr>
<td>Johns Hopkins University</td>
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<td>University of Michigan</td>
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<td>Loyola University</td>
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<tr>
<td>University of Minnesota</td>
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<tr>
<td>Carolinas HealthCare System</td>
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<td>Stanford University</td>
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<td>University of Vermont</td>
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<td>Greenville Health System</td>
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<td>Western Michigan University</td>
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<tr>
<td>Maimonides Medical Center</td>
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<tr>
<td>Geisinger Medical Center</td>
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<tr>
<td>University of Rochester</td>
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<td>Emory University</td>
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</table>
RESULTS
RESULTS

• 9,892 evaluations completed for 449 residents
• 1,016 different evaluators
  – 468 faculty evaluations – 1,702 evaluations completed at end of rotation
  – 7,540 evaluations completed by individuals the program identified as part of the resident environment
    • ER faculty
    • Inpatient nurse
    • PA/NP
    • OR nurse
    • Ortho fellow
    • Outpatient staff
    • Faculty
    • Residents

<table>
<thead>
<tr>
<th>Behavior evaluations completed by resident year in training</th>
<th>PGY-1</th>
<th>PGY-2</th>
<th>PGY-3</th>
<th>PGY-4</th>
<th>PGY-5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>1558</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15.8</td>
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<tr>
<td>PGY-2</td>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20.1</td>
</tr>
<tr>
<td>PGY-3</td>
<td>1921</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.4</td>
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<tr>
<td>PGY-4</td>
<td>2179</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.0</td>
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<tr>
<td>PGY-5</td>
<td>2244</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.7</td>
</tr>
<tr>
<td>Total</td>
<td>9892</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>
RESULTS

• 5 Behavior domains
  – 5 point scale
  1. Strongly disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly agree

• Overall, low domain scores in 2.4% of evaluations

• Highest percent of low scores selected during 360 Program selected (p<0.0001)

• A 360 program driven evaluation is an important component of the ABOS Behavior Tool

<table>
<thead>
<tr>
<th></th>
<th>Sample</th>
<th>Low Scores (1,2,3) Numbers</th>
<th>Low Score % of Evaluations</th>
</tr>
</thead>
<tbody>
<tr>
<td>360 Push Program Selected</td>
<td>37,700</td>
<td>1059</td>
<td>2.8%</td>
</tr>
<tr>
<td>360 Push Resident Selected</td>
<td>3,250</td>
<td>35</td>
<td>1.1%</td>
</tr>
<tr>
<td>End of Rotation Faculty (Resident Selected)</td>
<td>8,510</td>
<td>84</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>49460</td>
<td>1178/49460</td>
<td>2.4%</td>
</tr>
</tbody>
</table>
RESULTS

- 90 percent of all evaluations were reported as “strongly agrees” across all 5 behavior domains.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical Behavior</td>
<td>30</td>
<td>13</td>
<td>106</td>
<td>472</td>
<td>9271</td>
<td>9892</td>
</tr>
<tr>
<td>Communication</td>
<td>23</td>
<td>28</td>
<td>202</td>
<td>838</td>
<td>8801</td>
<td>9892</td>
</tr>
<tr>
<td>Interaction</td>
<td>28</td>
<td>54</td>
<td>191</td>
<td>937</td>
<td>8682</td>
<td>9892</td>
</tr>
<tr>
<td>Reliability</td>
<td>27</td>
<td>46</td>
<td>179</td>
<td>733</td>
<td>8906</td>
<td>9891</td>
</tr>
<tr>
<td>Self Assessment</td>
<td>17</td>
<td>30</td>
<td>204</td>
<td>807</td>
<td>8834</td>
<td>9892</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
<td>171</td>
<td>882</td>
<td>3787</td>
<td>44494</td>
<td>49459</td>
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</tbody>
</table>

Percentile

<table>
<thead>
<tr>
<th>Percentile</th>
<th>97.7%</th>
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97.7%
Based on the resident’s profile in Knowledge, Surgical Skills, & Behavior, and based on the performance during 60 months of training, I certify that this resident meets the content, accreditation, and requirements to independently practice orthopedic surgery.
RESULTS

• 431 Residents with 7 or more evaluations (18 residents excluded)

• Low scoring residents with 2 or more low scores within one domain

• Not one domain outranked another for poor performance

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of Residents with &gt;2 low scores within the same domain</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical Behavior</td>
<td>26</td>
<td>6%</td>
</tr>
<tr>
<td>Communication</td>
<td>23</td>
<td>5%</td>
</tr>
<tr>
<td>Interaction</td>
<td>19</td>
<td>4%</td>
</tr>
<tr>
<td>Reliability</td>
<td>18</td>
<td>4%</td>
</tr>
<tr>
<td>Self Assessment</td>
<td>20</td>
<td>4.6%</td>
</tr>
</tbody>
</table>
**RESULTS – External validation**

- Program Director Initial Evaluation
  - 35 residents identified as “Below expectations”
  - 32 residents has at least 8 evaluations (3 excluded from analysis)
  - Low scores in each behavior domain by at least 2 evaluators
  - Not one domain outranked the others

<table>
<thead>
<tr>
<th>Behavior</th>
<th># residents with low scores on behavior tool by at least two evaluators (N=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical Behavior</td>
<td>17</td>
</tr>
<tr>
<td>Communication</td>
<td>20</td>
</tr>
<tr>
<td>Interaction</td>
<td>23</td>
</tr>
<tr>
<td>Reliability</td>
<td>22</td>
</tr>
<tr>
<td>Self-Assessment</td>
<td>21</td>
</tr>
</tbody>
</table>
RESULTS

• SENSITIVITY – 81%
  – Comparing the ABOS behavior tool assessment to PD “poor” baseline assessment
  – ie. ABOS Behavior tool identified those residents that the PD identified as unprofessional 81% of the time (true positive)

• SPECIFICITY – 57%
  – Comparing the ABOS behavior tool assessment to PD “good” baseline assessment
  – ie. ABOS Behavior tool identified those residents that the PD identified as professional 57% of the time (true negative)
RESULTS – Faculty Survey

- 32% response rate (148/468)
- 86% felt the length of the assessment was “just right”

<table>
<thead>
<tr>
<th>Feature</th>
<th>Agreed or Strongly Agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td>User interface was intuitive</td>
<td>98 %</td>
</tr>
<tr>
<td>Easy to complete assessment</td>
<td>96%</td>
</tr>
<tr>
<td>Able to complete the assessments</td>
<td>97%</td>
</tr>
<tr>
<td>Behavior tool was beneficial compared to other methods</td>
<td>82%</td>
</tr>
<tr>
<td>Behavior tool was effective to assess resident professionalism</td>
<td>81%</td>
</tr>
<tr>
<td>Five domains of tool were effective</td>
<td>86%</td>
</tr>
<tr>
<td>Descriptors for five domains were helpful</td>
<td>89%</td>
</tr>
</tbody>
</table>
SUMMARY

• ABOS Behavior Tool is easy to use and an effective tool to assess resident professional behavior

• 97.7% of all evaluations were scored “strongly agreed” or “agreed” across of 5 domains
  – supports the theory that it should be used to identify “outliers”

• ABOS Behavior tool identified 26 out of 32 residents who were scored “below expectations” by the PD at the start of the project
  – 81% concordance with the PD

• ACTIONABLE TOOL – develop performance improvement plans and can be domain specific and focused
Steps Moving Forward

a. Expansion to other residency programs

b. Milestones 2.0
   • Would like to see integration of ABOS Behavior Tool
Welcome to your Dashboard, Dr. Davis

Resident Progress

- Skill 1: My Required Competency Procedures
- Skill 2: My Required Exposures Procedures

Knowledge: My ITE Scores
- Coming Soon

Timed: My Week of Surgical Experience PCT 1-5
- Coming Soon

Behavior: My Professional Behavior Assessments
- Coming Soon

Skills: New Operations
- Coming Soon

Part I Application Opens up October 1, 2020
Thank You

www.abos.org