Milestones Preliminary Data: Thoracic Surgery

Stephen C. Yang, MD,
Stanley J. Hamstra, Ph.D. and Eric S. Holmboe, MD
TSDA, 1/23/16
Overview

- Summarize “Milestones 2.0 Summit”
- Preliminary thoracic surgical Milestone data (with a focus on nine I6 programs)
Milestones is about feeding data back to programs to improve training and respond to public accountability.
Milestone 2.0 Summit:  *Purpose*

- All ACGME specialty training programs as well as some AOA specialties assembled (~170)
- **Goals:**
  - Reflect on implementation, and how it is used
  - Possible collaboration with other specialties
  - Discuss strengths and weaknesses in moving forward with future reporting
Milestone 2.0 Summit: 
Errors in Reporting

- Variable interpretation of MS language
- Variation of levels between specialties
- Rater bias
- CCC process
- Poor quality assessment tools were used
- Institutional culture around education
- Construct irrelevance error: “straight-lining numbers”
2.4 Million Data points every 6 months!

- >120,000 residents
- ~20 sub-competencies
- 9752 programs
Number of Residents

- Milestone data from (June 2015):
  - Neurosurgery (N = 1,305)
  - Orthopedic surgery* (N = 3,597)
  - Emergency Medicine (N = 5,950)
  - Diagnostic Radiology* (N = 4,668)
  - Urology* (N = 1,164)
  - Internal Medicine* (N = 24,352)
  - Pediatrics* (N = 8,893)
  - Ophthalmology* (N = 1,423)
  - Thoracic Surgery (I6) (N = 117)

*Started 2013
# of Sub-Competencies per Specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Total # Sub-comp</th>
<th>PC</th>
<th>MK</th>
<th>SBP</th>
<th>PBLI</th>
<th>PROF</th>
<th>ICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurosurgery</td>
<td>24</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Orthopedic surgery</td>
<td>41</td>
<td>16</td>
<td>16</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>23</td>
<td>14</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Urology</td>
<td>32</td>
<td>9</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>22</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>21</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>24</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Thoracic Surgery</strong></td>
<td><strong>25</strong></td>
<td><strong>8</strong></td>
<td><strong>9</strong></td>
<td><strong>3</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

For all the specialties: Range # milestones 11-47, average 23, 1916 total
Percentage of Senior-Most I6 Residents Attaining Level 4 or Higher (June 2015)

<table>
<thead>
<tr>
<th>Specialty</th>
<th>PC</th>
<th>MK</th>
<th>SBP</th>
<th>PBLI</th>
<th>PROF</th>
<th>ICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurosurgery (n=127)</td>
<td>55%</td>
<td>69</td>
<td>81</td>
<td>79</td>
<td>89</td>
<td>84</td>
</tr>
<tr>
<td>Orthopedic surgery (n=701)</td>
<td>50</td>
<td>55</td>
<td>90</td>
<td>93</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>Emergency Medicine (3 yr) (n=1326)</td>
<td>48</td>
<td>71</td>
<td>60</td>
<td>75</td>
<td>68</td>
<td>73</td>
</tr>
<tr>
<td>Diagnostic Radiology (n=1151)</td>
<td>87</td>
<td>90</td>
<td>84</td>
<td>88</td>
<td>89</td>
<td>91</td>
</tr>
<tr>
<td>Urology (n=271)</td>
<td>80</td>
<td>92</td>
<td>83</td>
<td>77</td>
<td>86</td>
<td>87</td>
</tr>
<tr>
<td>Internal Medicine (n=7268)</td>
<td>75</td>
<td>82</td>
<td>78</td>
<td>75</td>
<td>82</td>
<td>86</td>
</tr>
<tr>
<td>Pediatrics (n=2848)</td>
<td>59</td>
<td>64</td>
<td>45</td>
<td>40</td>
<td>55</td>
<td>69</td>
</tr>
<tr>
<td>Ophthalmology (n=467)</td>
<td>77</td>
<td>67</td>
<td>72</td>
<td>57</td>
<td>76</td>
<td>72</td>
</tr>
<tr>
<td><strong>Thoracic Surgery (n=9)</strong></td>
<td>67</td>
<td>56</td>
<td>78</td>
<td>89</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Residents Attaining Level 4 or Higher

Thoracic Surgery (16 programs)
N= 9 (June 2015)
Residents Attaining Level 4 or Higher for PC Sub-Competencies

Thoracic Surgery (16 programs)
N=9 (June 2015)

- **Achieved most**
  - PC03 Valvular Disease
  - PC07 Chest Wall/Pleura/Mediastinum

- **Achieved least**
  - PC05 Esophagus
  - PC01 Ischemic Heart Disease
  - PC06 Lung and Airway
  - PC08 Critical Care
  - Etc.
Residents Attaining Level 4 or Higher &

Thoracic Surgery (2 & 3 year programs)
N = 125 (June 2015)

Proportion

PC  MK  SBP  PBLI  PROF  ICS
Residents Attaining Level 4 or Higher for PC Sub-Competencies

Thoracic Surgery (2 & 3 year programs)
N = 125 (June 2015)

Achieved most
- PC05 Esophagus
- PC06 Lung and Airway
- PC07 Chest Wall/Pleura/Mediastinum

Achieved least
- PC02 Cardiopulmonary Bypass, Myocardial Protection and Temporary Circulatory Support
- PC03 Valvular Disease
- PC04 Great Vessel Disease
Milestone 2.0 Summit: 
**Summary**

- Validation and analysis of data continues
- Standardization/harmonization of language with other similar specialties (e.g. surgery) “1.1 vs 2.0”
- Get more feedback from programs and public
- Begin education research and analysis
Milestone 2.0 Summit:

*Future: Feedback to Programs*

- Provide feedback, and potential outliers
- Issues:
  - Resident’s underlying ability
  - Curriculum problem
  - Rating/MS interpretation issue
  - Lack of effective evaluation tools
  - Need for faculty development
Thoracic Surgery Specific: Suggestions

- Survey feedback from PD, PC and residents for ACGME
- Deeper dive into the data, using it to have....
- Closer work between ABTS, JCTSE and TSDA in revising MS and curriculum
- TS MS Steering Committee:
  - Original MS Development Committee
  - MS Research Group (draw from TECOG)
- Using Milestones for MOC (subspecialty sp)
- Entrustable Professional Activities (AAMC)
Thoracic Surgery Specific: Research Projects

- Basic analysis of MS data – do the scores become more varied with time
- Compare CCC scores to resident self-ratings: perception that residents over-rate themselves
- Use STS DB to tie into MS
- Can MS predict ABTS performance?
- Use MS data for individual program feedback and improvement
Thanks!!! ACGME Milestones Team

- **Milestone Development and Revision**
  - Laura Edgar EdD (Executive Director)
  - Megan Bluth BS
  - Sydney Roberts BS

- **Research and Evaluation**
  - Stan Hamstra PhD (VP for Milestones R&E)
  - Kenji Yamazaki PhD (statistician)
  - Lisa Conforti MPH
  - Nicholas Yaghmour MPP
  - Eric Holmboe, MD (SVP for Milestones R&E)