REDEI System at Oregon Health & Science University

OHSU Implemented a time-varying Competency-based Curriculum in 2014

Needed a longitudinal database to track competency development over time

Avoided recreating multiple data systems by pulling data from multiple sources using downloads or APIs

Virginia Commonwealth University

- Interviews with 40 practicing physicians indicated that ability to adjust to change in health care is central to being a skilled clinician.
- The Master Adaptive Learner (MAL) - construct characterized by a capacity to learn new information, openness to reflect and reassess, and a commitment to learning improvement - occurs through planning, learning, assessing, and adjusting views with ACME/ABMS competency of practice-based learning and improvement.
- We explored the relationship between individual differences in MAL and program director ratings of intern performance.
- We collect data on competencies and evaluations from intern evaluations through the fourth year of the curriculum. Metrics representing practice-based learning and improvement were reviewed and mapped to MAL characteristics and processes (Table 1). Program director ratings of intern performance were collected approximately one year after beginning internship.

RESULTS
- 99/180 (55%) of students who graduated and began a residency program in 2017 received a performance rating that was just as or worse prepared than other interns on their performance ratings.
- Correlations between survey instruments were computed between MAL metrics and performance ratings.
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Table 2. Mean scores on individual difference measure for interns rated just as or worse prepared than other interns in performance ratings.

<table>
<thead>
<tr>
<th>MAL Construct Measure</th>
<th>Performance Score</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifelong Learning (n=61)</td>
<td>3.47 (.56)</td>
<td>.14</td>
<td>.11</td>
</tr>
<tr>
<td>other</td>
<td>3.73 (.56)</td>
<td>.15</td>
<td>.12</td>
</tr>
</tbody>
</table>

Table 3. Correlations between PD ratings, standardized measures of ability, and individual differences.

<table>
<thead>
<tr>
<th>MAL Construct Measure</th>
<th>Step 1 score</th>
<th>Step 2 score</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>System based learning</td>
<td>0.07</td>
<td>0.15</td>
<td>0.01</td>
<td>.18</td>
</tr>
<tr>
<td>Specialty fit</td>
<td>0.02</td>
<td>0.12</td>
<td>0.01</td>
<td>.16</td>
</tr>
<tr>
<td>Variable Board willingness to share data for research</td>
<td>0.04</td>
<td>0.16</td>
<td>0.01</td>
<td>.17</td>
</tr>
</tbody>
</table>
| Note. Bolded items indicate t-test showed statistically significant mean difference at p < .05.

No comprehensive conceptual model for how the following things interact to affect patient care:
- Individual physician skill
- Health system resources, tools, and management
- Patient characteristics (needs, values, preferences)
- Without a conceptual model (or models, which might vary across boards), very difficult to identify high-priority measures and research questions
- No standing mechanism to survey nationally representative samples of physicians (independent from recertification)
- Variable Board willingness to share data for research
- Incomplete data on board in some cases

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Data Sources
- Medicare Part A, B, and D claims data (longitudinal)
- Mapping of physicians to health systems
  - National: e.g., SK&A, TIN, NPPES
  - Local partners in 4 states
- CABP survey respondents
- EHR and registry-based measures from local partners in 4 states
- ABMS and ABMS Member Boards (as available)

Data Challenges
- Linking individual physicians to health systems
  - Possibility of multiple memberships
  - Mergers, changes in ownership
  - Linking Medicare beneficiaries to themselves over time
  - Censoring in Medicare data (due to Medicare Advantage entry/exit)
  - Inconsistent data and measure availability
  - Changes in data structure (e.g., ICD-9 to ICD-10 transition)
  - Substantial data cleaning needed

Research Challenges
- Center of Excellence on Health System Performance (AMHR U19)
  - Mission: To describe the features of high-performing health systems—especially those that implement patient-centered outcomes research (PCOR) findings more quickly than others
  - Opul Mazmanian for ABMS:
    - Evaluate the effectiveness of recertification as an educational intervention
    - Identify the most effective ingredients
    - Describe how recertification effects might vary by goal, by health system, and by specialty

Rand Corporation

- RAND Corporation
  - Data Sources
  - Data Challenges
  - Research Challenges
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