Implementation and improvement science education needs across the academic-health system landscape

**STUDY TEAM**

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**BACKGROUND**

- Implementation and improvement science focus on producing theories, tools and methods for effectively implementing evidence into practice and improving existing or developing new practices
- However, educational needs for the two fields across the academic-health system landscape are neither comprehensively specified nor standardized

**PURPOSE**

Identify implementation and improvement science competency domains and learning modalities for implementation/improvement science stakeholders across a range of disciplines and settings

**METHODS**

- Rapid review of PubMed literature
- 31 structured interviews with academic and health professional stakeholders
- Data synthesis

**RAPID LITERATURE REVIEW FINDINGS**

- Records identified through PubMed improvement science training (n=94)
- Implementation science training (n=849)
- Knowledge translation training (n=838)
- Records screened (n=1732)
- Duplicates excluded (n=49)
- Records excluded (n=1608)
- Full-text articles assessed for eligibility (n=124)
- Excluded, not relevant (n=85)

- Most (but not all) publications focused on specific researcher knowledge needs rather than the broader learning needs of the diverse implementation and improvement workforce
- Identified overarching competency domains for curriculum development:
  - History/motivation for implementation and improvement science
  - Scope and definitions
  - Key theories/frameworks
  - General strategies, tools, and approaches, including scale-up and spread
  - Evaluation methods
  - Team science/participatory approaches

**STAKEHOLDER INTERVIEW FINDINGS**

<table>
<thead>
<tr>
<th>Interview demographic characteristics</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>15 (48%)</td>
</tr>
<tr>
<td>Health System</td>
<td>14 (45%)</td>
</tr>
<tr>
<td>Health Agency</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Role</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>17 (55%)</td>
</tr>
<tr>
<td>Clinical</td>
<td>6 (19%)</td>
</tr>
<tr>
<td>Administrative</td>
<td>8 (26%)</td>
</tr>
<tr>
<td>Career Stage</td>
<td></td>
</tr>
<tr>
<td>In training</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Early career (0-5 years)</td>
<td>6 (19%)</td>
</tr>
<tr>
<td>Established career (6 years and above)</td>
<td>24 (77%)</td>
</tr>
<tr>
<td>Level of improvement/implementation training</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>12 (38%)</td>
</tr>
<tr>
<td>Some experience</td>
<td>9 (29%)</td>
</tr>
<tr>
<td>Experienced</td>
<td>10 (32%)</td>
</tr>
</tbody>
</table>

- A number of respondents primarily based in health systems or agencies were unfamiliar with implementation and improvement science terms/concepts
- Those more familiar spoke to specific implementation and improvement science competency domains that were most relevant for their needs
- Training needs included: partners for implementation, methodological support, experiential learning opportunities, and grant-writing support
- Preferred learning modalities included: short courses/workshops, online training, and mentored project-driven experiences

**IMPLICATIONS AND FUTURE GOALS**

We identified needs and gaps in implementation and improvement science education that translational science institutes can use to work together and develop curriculum content that bridges the academic-health system divide

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