Human-centered Design of Quality Improvement Projects in a Department of Medicine
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BACKGROUND
- The Improvement Capability Development Program (ICDP) is an annual incentive program for clinical departments to develop and execute yearlong improvement projects. Each department is responsible for identifying at least 2 new ICDP projects every year.
- Quality and wellness leaders were engaged in a design thinking process to identify Department of Medicine's ICDP project ideas for FY21.
- Human-centered design is an empathy-driven process, responsive to "user" diversity, though it is limited by the lack of rigorous application of implementation science principles. The Stanford Presence 5 team merged Human-centered Design with the more rigorous principles of Implementation Science to develop the Approach to Human-centered, Evidence-driven Adaptive Design (AHEAD) framework.

PURPOSE
- Apply human-centered design approach to the development of department-wide QI initiatives for FY21.

METHODS
- Quality directors (n=10) representing each division in the Department of Medicine were interviewed using a semi-structured tool.
- Interviews were transcribed using Rev.com and codes were analyzed using Dedoose software.
- Three rounds of ideation and prototype testing were conducted in focus groups of quality and wellness leaders (n=13).
- The human-centered design process led to an additional intervention - a mentorship program for clinically active faculty in Department of Medicine.

OUTCOMES

**Table 1. Characteristics of Quality Directors Interviewed (n=10)**

<table>
<thead>
<tr>
<th>Department of Medicine Divisions represented</th>
<th>Endocrine (1)</th>
<th>Pulmonary (1)</th>
<th>Nephrology (1)</th>
<th>Infectious Disease (1)</th>
<th>Gastroenterology (1)</th>
<th>Palliative Care (1)</th>
<th>Primary Care and Population Health (1)</th>
<th>Rheumatology (1)</th>
<th>Cardiology (1)</th>
<th>Oncology (1)</th>
</tr>
</thead>
</table>

**Table 2. Pain Points identified N (%)**

<table>
<thead>
<tr>
<th>Pain Points identified</th>
<th>55</th>
<th>47</th>
<th>43</th>
<th>43</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHR–related burden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navigation</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staying</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unclear career path</td>
<td>38</td>
<td></td>
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</tr>
</tbody>
</table>

**Table 3. New ICDP Interventions for FY21**

1. Deploy a non-MD multidisciplinary team to support Epic inbasket tasks
2. Launch communications and teamwork training, based on TEAMTOPICS

**Table 4. Proposed Institutional Initiative**

- Mentorship Program for Clinically Active Faculty (>0.40 FTE)
  - Quarterly workshops
    - Session 1: Careers Reflections in Academic Medicine
    - Session 2: The Organizational Workshop
    - Session 3: Information Systems
    - Session 4: Health Care Finance, Payment, and Policy
  - Individual mentor-mentee meetings, at least 3 times a year
  - 1:1 consultation with an Academic Research Coach

DISCUSSION
- To my knowledge this is the first implementation of the AHEAD framework in the real world outside of the Stanford Presence 5 group.
- The AHEAD framework integrated design thinking principles and practices with evidence-grounded research methods to engage diverse faculty in the department and achieve
- The human-centered design process led to an additional “out-of-the-box” intervention - a mentorship program for clinically active faculty in Department of Medicine.

SUMMARY
- Human-centered design involves interdisciplinary teams that harness expertise from diverse fields to provide a range of perspectives allowing design teams to identify unique possibilities and creative solutions.
- Human-centered design approach was an engagement tool in the development of department-wide QI initiatives, in addition to providing a framework for the creation of the “The Mentors Lab” for the department.
- Future efforts include evaluating the effect of this adapted design thinking approach on engagement during The Mentors Lab pilot in FY21.

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