QI Project Barriers and Facilitators: Perceptions of QI Team Leaders Before and After Project Implementation

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Background

- Improving healthcare quality is a priority

- The pace of improvement is often slow and inconsistent

- There is a need for enhanced understanding of barriers and facilitators in improving quality
Clinical Safety & Effectiveness Course (CSE)

- Experiential, project-based QI course
- 8 didactic sessions over 6 months
  - Team meetings between sessions
- Offered 2-3 times/year
  - 12-15 projects per cohort
- Team coach for all teams
- Project focus: Health Care Quality domains- STEEEP
Objectives

1. Describe barriers and facilitators reported by QI teams before and after project implementation

2. Compare barriers and facilitators reported by more and less successful teams
Methods: Study Design & Participants

Semi-Structured Interviews:

- Pre & Post: At the beginning & the end of course
- In-person or phone interviews
- Piloted in one CSE Cohort

Interview Participants: QI team leaders
Methods: Assessing Project Outcomes

**Outcome Measure of Success**

‘Gap Closed’: The extent to which teams closed the gap between baseline performance and stated goals.

\[
\frac{(Post-Pre)}{(Goal-Pre)} \times 100\%
\]

Dichotomized:

- Higher values = More successful
- Lower values = Less successful
Data Analysis Methods

Consolidated Framework for Implementation Research

CFIR
Results
Sample Sizes & Team Locations

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Health System</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>UT Health outpatient clinics</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>South TX Veterans Health Care System</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total respondents, n</strong></td>
<td><strong>31</strong></td>
<td><strong>38</strong></td>
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<table>
<thead>
<tr>
<th>Less Successful Teams, n</th>
<th>More Successful Teams, n</th>
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<tbody>
<tr>
<td>19</td>
<td>18</td>
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Results: Barriers
Barriers Anticipated (Pre) & Experienced (Post)

- A lack of resources
- Project complexity
- Knowledge/information
- Structural characteristics

% of respondents

Pre

Post
<table>
<thead>
<tr>
<th>Construct</th>
<th>Domain</th>
<th>Examples of Reported Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Complexity</td>
<td>Intervention Characteristics</td>
<td>§ “Push-back from changes in daily routines &amp; learning curve creating perceived workload.”</td>
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<tr>
<td></td>
<td></td>
<td>§ “It takes longer for us to get the information back... We have to wait for healing of the patient and then for the appointment and do the measurement.”</td>
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<tr>
<td>A Lack of Resources</td>
<td>Inner Setting</td>
<td>§ “Huge amount of nursing turnover.”</td>
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<tr>
<td></td>
<td></td>
<td>§ “Time constraints. No time to meet.”</td>
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<tr>
<td></td>
<td></td>
<td>§ “Sometimes the message would be lost for technical reasons.”</td>
</tr>
<tr>
<td>Construct</td>
<td>Domain</td>
<td>Examples of Reported Barriers</td>
</tr>
<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td>Knowledge/Information</td>
<td>Inner Setting</td>
<td>“Staff did not know how to gather preliminary data from EMR.”</td>
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<tr>
<td></td>
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<td>“The hard part is about the education to the house staff.”</td>
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<tr>
<td>Structural Characteristics</td>
<td></td>
<td>“The way that the floor is set up...is isolating for families...it also keeps nurses and doctors at a distance...to get one nurse to round they are walking back and forth all day long.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Physicians are really tied up in the clinic, so work is pending like approval and it can get stuck there. And, so that is the bottleneck.”</td>
</tr>
</tbody>
</table>
Post-Interview: Barriers in Less vs. More Successful Groups

- Available Resources
- Knowledge/Information
- Structural Characteristics
- Complexity
- Networks/Communications
- Implementation Climate

% of respondents

Less Successful | More Successful

0% | 10% | 20% | 30% | 40% | 50% | 60% | 70%

UT Health San Antonio
Results: Facilitators
Facilitators Anticipated (Pre) & Experienced (Post)

Networks/Communication
Knowledge/Information
Key Stakeholders
Champions

% of respondents

Pre
Post

18
<table>
<thead>
<tr>
<th>Construct</th>
<th>Domain</th>
<th>Examples of Reported Facilitators</th>
</tr>
</thead>
</table>
| Networks/Communication     | Inner Setting     | § “Multi-departmental effort.”  
§ “Regular clinic team meetings ..was the one place we could get everyone together.”  
§ “The support of the committee... people in the quality department were helpful.”  
§ “Teamwork.”                                                                                                                                               |
| Leadership Engagement      |                   | § “The leadership identified the topic.”  
§ “... and with Dr. X as the medical director driving the importance of the changes”  
§ “The involvement of Quality Director and trying to help design capturing data.”                                                                          |
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<th>Examples of Reported Facilitators</th>
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<tbody>
<tr>
<td>Knowledge/ Information</td>
<td>Inner Setting</td>
<td>- “IT”</td>
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<tr>
<td></td>
<td></td>
<td>- “Education to providers on the importance of documentation.”</td>
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<tr>
<td></td>
<td></td>
<td>- “… and tools that I learned from CSE.”</td>
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<td>Supportive Climate</td>
<td></td>
<td>- “The docs wanted it to happen”</td>
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<tr>
<td></td>
<td></td>
<td>- “The clinic was really receptive.”</td>
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<tr>
<td></td>
<td></td>
<td>- “That we had clinical staff buy-in…”</td>
</tr>
<tr>
<td>Construct</td>
<td>Domain</td>
<td>Examples of Reported Facilitators</td>
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<tr>
<td><strong>Key Stakeholders</strong></td>
<td><strong>Process</strong></td>
<td>“...involving all healthcare providers.. faculty, fellowship directors, residency directors. ..people that can make those changes. Convinced them and they started convincing others.”</td>
</tr>
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</table>
| **Champions**     |          | “We transitioned a nurse to keep charge and be the change agent there. And, she helped progress with this project and keep it going.”  
|                   |          | “My team member was an advocate. Dr. X” |
Post-Interview: Facilitators in Less vs. More Successful Groups

- Networks/Communications
- Leadership Engagement
- Champions
- Formal QI Leader
- Key Stakeholders
- Knowledge/Information
- 22 Supportive climate/of change

% of respondents

Less Successful
More Successful
Conclusions

- Barriers were typically anticipated:
  - Infrastructure in local context
  - Complexity of the intervention

- Facilitators were less consistently anticipated:
  - Leadership & supportive climate less important than anticipated
  - Patient needs seemed less critical than expected
  - Relational aspects a theme in facilitators actually experienced
  - Data acquisition, technical expertise, & education/training also important
Commonalities among Successful Teams

- More engagement from key stakeholders
- Greater access to data and expertise
- More supportive climate/support for change
- Fewer barriers related to
  - Project Complexity
  - Networks/Communication
  - Implementation Climate
Applying the CFIR Framework

- **Organizational Characteristics:**
  Most factors related to this category

- **Intervention Characteristics:**
  Only one attribute- “complexity”

- **Process of Implementation:**
  Only one type of process- “engaging”

- **Outer Settings, Individual Characteristics:**
  Little influence
Strengths & Limitations

Limitations
- Team perspectives from one interview informant
- Majority of teams worked in 2 healthcare organizations
- Sample sizes preclude tests of significance

Strengths
- Patterns of the results suggest potentially significant trends
- Interviewees were QI team leaders
- Use of CFIR
Thank you!