Utilizing Lean for Breakthrough Improvements in Healthcare

Findings from Interviews with National Healthcare Leaders and Executives

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Background and Context

Lean management:
The development of a culture that enables an overall management system to create value for customers by eliminating waste and solves problems through the daily application of the scientific method in creating standard work.

Many hospitals and health systems are using lean management for performance improvement, daily management, quality, and safety.

Research Question

How are health systems utilizing lean management to achieve breakthrough improvements in care delivery?
Methods & Assessment

Interviews

- 10 semi-structured interviews
- Purposive sampling method to obtain expert opinions
- Audio-recorded, 30–45 minute phone interviews
- Discussion led by interview guide

Analysis

- Qualitative analysis
- Thematic analysis framework
Interview Guide

- Open-ended questions
- Follow-up questions and probes to go into more depth
- Questions evolved over time

Interview Topics Addressed:

- Years of experience in lean management
- Definition of breakthrough improvement (BI)
- How lean has been utilized for achievement of BIs
- Examples of utilization of lean for BIs in care delivery
- Key learnings from experiences
- Barriers and facilitators to achieving BIs
- Failures and examples of ineffective initiatives

What is breakthrough improvement?

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<tr>
<th>Major Outcome Change</th>
<th>Fundamental Redesign</th>
<th>Both</th>
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<tbody>
<tr>
<td>Major outcome improvements in patient outcomes and/or processes</td>
<td>Redesign of care delivery process or product</td>
<td>Redesign of care delivery process or product, measured by a significant improvement in outcomes or processes</td>
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Development of “Breakthrough” Categories

- The first five participants were asked an open-ended question to define “breakthrough improvement”
- “Breakthrough” definitions emerged after first two interviews (outcome change, fundamental redesign, or both)
- The last five participants were asked the same question, but prefaced by the suggested definitions

Major Outcome Change

- Institute for Healthcare Improvement (IHI) defines breakthrough improvement as major outcome improvements completed by short-term, dedicated performance improvement initiatives
- IHI’s breakthrough collaboratives have addressed:
  - Patient waiting time reduction > 50%
  - Reducing absenteeism > 25%
  - Reducing ICU costs > 25%
  - Reducing CHF hospitalizations > 50%
Fundamental Redesign

- Process or product redesign which requires design thinking and/or innovation design, typically employing non-traditional ideas
- Promotes generation of new ideas through divergence

"Healthcare is missing a process to ‘disrupt’ itself."
- Interviewee

Findings

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<tr>
<th>Table 1: Perceptions of Breakthrough Improvement and Lean</th>
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<tbody>
<tr>
<td>Organization</td>
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✓ = Indicates acknowledgment, but not full support.
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*BI – Breakthrough Improvement
How are breakthrough improvements initiated?

- **Hoshin Kanri** - Method of strategy deployment and alignment that targets areas for breakthrough improvement and ensures consistent progress and action at every level of the organization

- **Strategic Planning** - Other organization specific methods for strategic planning

- **Crisis/Emergency Situations** - Issues that are flagged from within the organization (typically on front lines) as crises or emergency situations arise

“We started with hoshin at a regional level, with clear targets to align key performance indicators. That A3 then became tied to incentive plans for administrators, and also became deployed into the most critical workflows (38 kaizen events and workshops, 8 gap workshops, implemented DMS).... Unless executives work on their part of lean management (*hoshin kanri*), they create [unintentionally] more barriers downstream.”
- *Interviewee*

Insights

- Lean is perceived as an approach to achieve BIs among 7 out of 10 participants

- Participants who perceive BIs as a fundamental redesign tended not to view lean alone as an approach for BIs (need design-thinking and innovation)

- Facilitators for BIs include: Time, Dedicated Resources, Leader-Driven Commitment

“Breakthrough improvements reflect innovative improvements that reflect new processes. It’s not iterative improvement - breakthrough is about rethinking and redeploying new ways of thinking.”
- *Interviewee*
Detailed Review of Facilitators and Barriers

**FACILITATORS**

- **Cultural/Change Management**
  - Mission-driven/principles-driven
  - Unique management system (e.g. Virginia Mason Management System, Stanford Performance Excellence System)
  - Cultural change
- **Leadership**
  - Commitment and engagement
  - Active, dedicated time
  - Clear selection and communication of priorities

**BARRIERS**

- **Lack of time, dedicated resource and staff, and leader-driven commitment**
- **Cultural/Change Management**
  - Not engaging key stakeholders
    - Executive leadership
    - Early adopters
    - Physician champions
    - Front-line champions
  - Not engaging stakeholders early enough
  - Not sustaining stakeholder engagement
  - Not actually obtaining the “voice of the customer”
- **Development Process**
  - Compromising on a vision (making too many trade-offs too quickly)

"Making too many trade-offs too quickly, sacrificing some objectives to get buy-in or ease up on goals — too much of this too soon and it becomes a game of ‘least-common denominator’ and you just get back to where you started."

- Interviewee
### Examples of Breakthrough Improvements

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<th>Organization</th>
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<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td><strong>Issue Description</strong></td>
<td>Drug administration errors</td>
<td>Lack of care access for homebound, elderly patients [with health and/or social barriers]</td>
<td>Inpatient care redesign</td>
</tr>
<tr>
<td><strong>Type of Breakthrough</strong></td>
<td>Major Outcome Change</td>
<td>Fundamental Redesign</td>
<td>Both</td>
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<tr>
<td><strong>Time Period</strong></td>
<td>18 months</td>
<td>10 months</td>
<td>24 months</td>
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<tr>
<td><strong>Results</strong></td>
<td>72.8% reduction</td>
<td>$800,000 in savings; 40% of participants kept out of ED</td>
<td>Cost of care reductions; Improved patient satisfaction; Improved employee engagement</td>
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### Framework of Lean Application for Breakthrough Improvements
Other examples of successes or learnings in achieving breakthrough improvements?

Future Application

- More robust qualitative and quantitative research that studies application of lean management for breakthrough improvements
- Learning collaboratives
- Application of lean management and innovation/design-thinking for care delivery improvements
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Questions or Comments?