Thinking of Going Lean? A 360-degree view of changing the culture of a healthcare system through a Lean Transformation

AHA Leadership Summit

Thursday, July 27, 2017

Please note that the views expressed are those of the conference speakers and do not necessarily reflect the views of the American Hospital Association and Health Forum.
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Goals for today

- Overview of Lean deployment
- Leaders’ perspectives of Lean
- How it has changed our culture
- What are your goals?
A unique health system

- System with hospitals, health centers, physician practices and affiliates throughout Indiana
- Affiliated with IU School of Medicine—one of the nation’s largest medical schools and a national leader in medical education and research
- IU Health Transplant is one of the nation’s largest transplant programs
- IU Health Methodist: Level 1 Trauma Center
- Riley at IU Health: Level 1 Pediatric Trauma Center
- Admissions: 112,355
- Outpatient visits: 2,690,074
- Available beds: 2,673
- ER visits: 455,762
- Surgery cases: 107,257
- Team members: 27,421
- Residents and fellows: 1,167
- Research grant funding: $320,066,316
- Research studies: 1,485
- Physicians: 3,680
- Advanced practice providers: 1,195
- Community benefit: $522 million
Who is IU Health?
How are we organized?

Business Units

Regional Business Units

AHC Adult
AHC Peds
Indy Suburban
East Central Region
South Central Region
West Central Region

Physician Organization
System Clinical Services
Pop Health Risk Mgt.

System Business Services
(Centralized)

System Collaboratives
(Coordinated Functions)
Where we started
The IU Health Transformation
Reason for action

The world is changing.
Healthcare costs too much.
Our patients deserve more.

IU Health Transformation Reason for Action
In this time of unprecedented change and in an environment of scarce resources, we must transform our existing care and operating models for the betterment of our patients.
We must achieve breakthrough improvements in care quality and efficiency to deliver our promise of assurance and fulfill our mission.
What is Lean?

• Lean is a way of thinking that enables the true performance potential of a process or business to be realized

• Lean achieves this performance through the application of principles, tools and techniques that identify and eliminate waste

Lean is an approach that enables revolutionary levels of performance: 10%, 25%, 50%, 100%, 200% gains
What does Lean mean to our leaders?
Two distinct Lean methodologies

Performance Improvement
• How we operate the business
• A3 Thinking

Strategy Deployment
• How we change the business
• X-Matrix

<table>
<thead>
<tr>
<th>#1: Reason for Action</th>
<th>#4: Gap Analysis</th>
<th>#7: Completion Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2: Current State</td>
<td>#5: Solution Approach</td>
<td>#8: Confirmed State</td>
</tr>
<tr>
<td>#3: Target State</td>
<td>#6: Rapid Experiments</td>
<td>#9: Insights</td>
</tr>
</tbody>
</table>
Driving improvement

System TPOC

Site TPOC

Performance improvement

Value Stream Analysis A3

RIE and Project A3

Metrics and focus

MDI
Infrastructure guided by A3 thinking

Transformational Plan of Care (TPOC) A3 – How we operate the business

Value Stream Analysis (VSA) A3

Rapid Improvement Event (RIE) A3

Executive Steering Team

Value Stream Steering Team #1

Value Stream Steering Team #2

Etc.

Rapid Improvement Events x 12
Our journey

Pace and Dedicated Resources to Continuous Improvement
Challenges and future priorities

• Narrowing our focus
• Quality coordination
• Enterprise value streams and missions
• Self-sustainment
• Spread
• Changing leaders
• Data vs. information
• Lingo
• Talent generation and expertise
• Pace of system vs. sites
Diving into a business unit

Business Units

Regional Business Units

AHC Adult  AHC Peds  Indy Suburba  East Central  South Central  West Central

Physician Organization  System Clinical Services  Pop Health Risk Mgt.

System Business Services (Centralized)
System Collaboratives (Coordinated Functions)
Questions?

The IU Health Transformation
Transformation at Riley

The IU Health Transformation
Riley by the numbers

- Admissions: 8,423
- Outpatient visits: 255,793
- Available beds: 415
- Surgery cases: 9,707
A leading health system for all children
How does Riley use Lean?

• As comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback
  - Run our daily business: TPOC
  - Strategically grow our business: Strategy deployment
  - Solve problems: A3 thinking
  - Manage our people: Supportive leadership
  - Develop ourselves: Personal Development Plans (PDPs)
  - Develop our team: Team member PDPs
  - Ensure our patients receive the best care possible
Developing leaders

Failure to prepare is preparing to fail

John Wooden
Success of Lean leadership
Becoming a Lean leader
Model for Improvement and A3 Thinking

**The Model for Improvement**

What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?

Source: The Improvement Guide
**Strategy deployment**

<table>
<thead>
<tr>
<th>Resource Area of Focus</th>
<th>1 Year Strategic Objectives</th>
<th>Measures and Target</th>
<th>5 Year Strategic Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nursing</td>
<td></td>
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<tr>
<td>Administration</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Finance</td>
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</tbody>
</table>

- **Evaluating the Transformation Plan of Care**
  - Design and implement care models that enable patient success for both outcomes and value.
  - Focus on patient safety and health outcomes.

- **Building internal alignment and accountability**
  - Develop a partnership model(s) to align care delivery and support the vision.
  - Provide a platform for real-time tracking of strategic development and alignment.

- **Improvement initiatives**
  - Identify and prioritize areas for improvement.
  - Implement solutions to address identified gaps.

- **Strategic initiatives**
  - Establish strategic goals and initiatives.
  - Align resources and initiatives to support the strategic vision.

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*6/30/2017*
TPOC Box 1: Burning platform

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### Active Value Streams

<table>
<thead>
<tr>
<th>Value Stream Name</th>
<th>Launch Date</th>
<th>Executive Sponsor</th>
<th>V5 Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Department</td>
<td>1/31/2014</td>
<td>Cherie Cox</td>
<td>Teri Slabon</td>
</tr>
<tr>
<td>Periop</td>
<td>9/1/2014</td>
<td>Dalt Cook</td>
<td>Shane Elias</td>
</tr>
<tr>
<td>Maternity Services</td>
<td>10/1/2015</td>
<td>Liz Parson</td>
<td>Erin Kline</td>
</tr>
<tr>
<td>NICU</td>
<td>10/1/2015</td>
<td>Theresa Fuller</td>
<td>Kathy Doughten</td>
</tr>
<tr>
<td>Patient Flow</td>
<td>1/17/2017</td>
<td>Paula Kalt</td>
<td>Liz Linden</td>
</tr>
</tbody>
</table>

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### Key Notes

- **Riley’s Care Model**
  - Not provide efficient and effective service to patients, families, and referring physicians resulting in poor patient and physician satisfaction.
  - Delays in patients’ ability to access the care they need due to long waiting times and inefficient processes.

- **Riley’s TPOC Framework**
  - **Root Cause Analysis**
    - **A:** Increased workload due to increased patient visits.
    - **B:** Limited staffing resources.
    - **C:** Inefficient communication processes.

- **Actions Taken**
  - Implement virtual triage systems.
  - Increase staffing levels in high-demand areas.
  - Enhance communication and collaboration across departments.

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*Date: 6/30/2017*
## TPOC Box 2 and 3: Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Initial State</th>
<th>Year End Target</th>
<th>% Improve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventable Harm Events</td>
<td>210.0</td>
<td>192.0</td>
<td>-9%</td>
</tr>
<tr>
<td>LOS Index</td>
<td>1.0</td>
<td>1.1</td>
<td>5%</td>
</tr>
<tr>
<td>Pediatric Population Health Dashboard</td>
<td>0.0</td>
<td>March</td>
<td></td>
</tr>
<tr>
<td>30 Day Readmit Pct</td>
<td>9.1%</td>
<td>13.1%</td>
<td>0%</td>
</tr>
<tr>
<td>Overall Rating of Care - IP</td>
<td>75%</td>
<td>76%</td>
<td>1%</td>
</tr>
<tr>
<td>Overall Rating of Care - OP</td>
<td>76%</td>
<td>76%</td>
<td>1%</td>
</tr>
<tr>
<td>Physician Office Visits</td>
<td>84%</td>
<td>83%</td>
<td>-1%</td>
</tr>
<tr>
<td>First Year Turnover</td>
<td>24%</td>
<td>21%</td>
<td>-9%</td>
</tr>
<tr>
<td>Employee Engagement</td>
<td>4.1</td>
<td>3.9</td>
<td>0%</td>
</tr>
<tr>
<td>Physician Engagement</td>
<td>3.6</td>
<td>3.6</td>
<td>1%</td>
</tr>
<tr>
<td>Education - # of Students Placed</td>
<td>806.0</td>
<td>0.0</td>
<td>-100%</td>
</tr>
<tr>
<td>Health Plan Lives/YTD Member Months</td>
<td>0.0</td>
<td>goal</td>
<td></td>
</tr>
<tr>
<td>Primary Care - New Patients</td>
<td>0.0</td>
<td>29,491.00</td>
<td></td>
</tr>
</tbody>
</table>
We have different groups pursuing different strategies. We struggle to understand performance on a daily basis (clinical and operational). We don't recognize nor leverage our interdependencies to optimize patient flow.
## TPOC Box 5: Solution approach

<table>
<thead>
<tr>
<th>Root Cause</th>
<th>If we…</th>
<th>Then we…</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Had established data governance at Riley</td>
<td>Would have standard metrics that would promote accountability</td>
</tr>
</tbody>
</table>
| A          | Standardized the use of MDI | - Decrease dependence on data reports  
- Increases the data collection ownership |
| A          | Trained our people | Do our own data mining |
| B          | Designed a horizontal test model that crosses vertical silo's | Informs us of our pain points |
| B          | Focus redesign of the DOB to facilitate patient throughput | Enables real-time improvements |
| C          | Clarify pediatric governance over the strategy | Enables cohesive implementation |
| C          | Leverage existing MD leadership council | Inform strategy |
# TPOC BOX 6: Value streams

## Active Value Streams

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<tr>
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<td>1/27/2014</td>
<td>Elaine Cox</td>
<td>Terri Stigdon</td>
</tr>
<tr>
<td>Peri-op</td>
<td>9/1/2013</td>
<td>Matt Cook</td>
<td>Shara Eloms</td>
</tr>
<tr>
<td>Maternity Services</td>
<td>9/19/2016</td>
<td>Liz Paxton</td>
<td>Erin Kirby</td>
</tr>
<tr>
<td>NICU</td>
<td>10/17/2016</td>
<td>Marissa Kiefer</td>
<td>Kathy Haughan</td>
</tr>
<tr>
<td>Patient Flow</td>
<td>4/17/2017</td>
<td>Paul Haut</td>
<td>Liz Linden</td>
</tr>
</tbody>
</table>
Riley leader standard work

• Riley executive team huddle
• Daily operations brief
• Leader rounding
• Safety rounds
Questions?

The IU Health Transformation
Riley ED Lean Journey

2011 to present
As the leader in pediatric emergency and trauma services in the state of Indiana, the Riley Emergency Department is committed to delivering safe, high quality, compassionate, timely, patient centered and evidence based care.
Growth

- **2011**: 29,158 visits (80/day)
- **2016**: 45,258 visits (126/day)
- **2017**: 138/day through May
  - February 2017: 43,78 visits (156/day)
Growth requires improvement

• 37% growth from 2011 to 2016!
• How have we handled the growth?
Efficiency: Length of stay (LOS)

- **2011**: 245 minutes
- **2016**: 147 minutes
  - June 2016: 130 minutes

![Graph showing LOS (minutes) from 2011 to 2016. The trend indicates a decrease in LOS over the years.]
Availability: Door to MD

- 2011: 28 minutes
- June 2016: 14 minutes
Safety: Left without being seen (LWBS)

• 2011: 1.2%
• June 2016: 0.2%
  – Now a call to every family for follow up
Why? The team!

• Patient Needs First

• Engagement from EVERY Riley ED team member
  – >50% physicians have participated on RIEs
  – Daily feedback during huddles
  – Self-sustaining, evolving Riley ED Operations Team

• Support from Riley and IU Health leadership
Why? Hard work

• Fast Track
• Improved admission and discharge process
• Improved triage system
• Supplies (organization and stocking)
• Pod organization
  – Patients seen by resident improved from 56% to 70%
• Surge process
• Design of new Fast Track/COH/BH
• Charge nurse empowerment
• Work with units outside the ED
Questions?

The IU Health Transformation
Key points

• Trust the Process
• The solutions are within – created by our multidisciplinary teams!
• This is the next step in our journey to delivering preeminent care
• Leaders cannot delegate their role in Transformation
• Lean is how we accomplish results not “something else we do”
• Must be an aligned and integrated approach – Standard Work
• Active participation and leadership is required, not optional
Thank you!