Transforming the ED Patient Experience: Building in change

MA Hospital Lean Network

Josh Kosowsky, MD, Clinical Director
Heidi Crim, RN, Nursing Director
Kristin Kadera, RN, Sr. Consultant Performance Improvement
John Rossi, Sr. Consultant Performance Improvement

Oct 2011
Objectives

• To learn about the Emergency Department front-end redesign: there is more to this change than construction

• To explore the principles of change management as they apply to change in the BWH Emergency Department

• To discover the key change concepts that can be applied to other organizational initiatives
We are facing similar challenges to other EDs, and we are employing similar methods to make improvements

ABC News July 2010: Fast Treatment Rare in Emergency Departments, Survey Says. While ERs in Some States Improve, Others Leave Patients Waiting Eight Hours or More

• “The AHA reports that 69% of urban hospital EDs...are operating at or over capacity. Wait times to being treated by a physician has the most powerful association with satisfaction.”

• “The need for improvement in emergency departments (EDs) with respect to the cost of care, the speed of service, crowding, and patient safety is now widely accepted. In an attempt to achieve broad improvement, health care organizations worldwide increasingly adopt an approach called “lean thinking.”

---

1 Optimizing Emergency Department Front-End Operations, Annals of Emergency Medicine, Volume 55, No. 2, February 2010
The traditional journey through the ED

The traditional process – which occurred daily and affected all patients – included:

- **Serial processing**
  - Providers worked individually; only one provider saw the patient at a time
  - Patient told his/her story 3-5 times
- **Long wait times** existed between and within each step

Lean analysis shows that many non-value added tasks slowed door-to-doc time.
Drivers for change

- Low patient satisfaction
- ED overcrowding
- Imperative to improve access

Structural, process and cultural changes

*A new status quo: VIP care for all patients*
Vision: Improve the patient experience by eliminating non-value added wait time

2008: BWH allocated 2,500 square feet of space for an expansion of its ED

New, more efficient processes were essential

Transform waiting room space into clinical care space, and the physical setting would support and enhance the re-engineered process.
Measuring success: redesign metrics

<table>
<thead>
<tr>
<th>Goal</th>
<th>Baseline (FY09)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce ALOS</td>
<td>5.0 hours <em>(overall)</em></td>
</tr>
<tr>
<td>Improve “door-to-doc” time</td>
<td>70 min <em>(average waiting room time)</em></td>
</tr>
<tr>
<td>Reduce walkouts</td>
<td>3.3%</td>
</tr>
<tr>
<td>Improve patient satisfaction</td>
<td>Ranged between 6&lt;sup&gt;th&lt;/sup&gt; and 40&lt;sup&gt;th&lt;/sup&gt; percentiles*</td>
</tr>
<tr>
<td>Increase volume</td>
<td>57,532 <em>(FY09)</em></td>
</tr>
</tbody>
</table>

*among Level I trauma centers with 30K+ visits annually
Starting assumptions for the change process

- Strong leadership support and involvement is essential
- Front line staff must be involved from the beginning
  - Buy-in and a sense of ownership is critical to successful and sustainable change
- We can only change that over which we have control
  - We will focus efforts on input and throughput; output requires a hospital-wide effort
- Lean concepts can help us make necessary improvements
Six key components of the redesign addressed using “Lean” concepts

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Lean Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process improvement</td>
<td>Patient-centered focus (Design a system around the most valued components)</td>
</tr>
<tr>
<td>Registration</td>
<td>Check-in at arrival; full registration at bedside (Prioritize “value enabling” steps)</td>
</tr>
<tr>
<td>Triage/waiting room</td>
<td>Eliminate steps when a bed is available (Remove “non-value added” steps)</td>
</tr>
<tr>
<td>Pod capabilities</td>
<td>Any patient in any pod - patient can go to the next available bed (Standardize processes)</td>
</tr>
<tr>
<td>Team assignment</td>
<td>“A bed ahead” – team always prepared to take the next arriving patient (Promote continuous flow)</td>
</tr>
<tr>
<td>Oversight</td>
<td>Flow manager role (Provide real-time response)</td>
</tr>
</tbody>
</table>
The ED redesign process has been phased

**DESIGN THE NEW PROCESS**

- **WORK-OUTs**
  - March – September 2010
  - All-day events at which ED staff worked together to design the new ED processes.

- **TABLE TOPs**
  - Summer 2009, April – Dec. 2010
  - Patient flow simulations

**VALIDATE THE NEW PROCESS**

- **Testing / Implementation**
  - November 2010 – Oct 2011
  - Weekly testing, then daily testing, of process segments

**2010 - 2011**

- Role of flow manager
- Patient transfer to pod
- Team-based care
- Informal simulations
- Formal simulation

**2010**
Table-top sessions
The staff designed the future state process, which would be tested in segments

ED High-Level Process Map

<table>
<thead>
<tr>
<th>Standard Process</th>
<th>Exception Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance Patient</td>
<td>Check-in</td>
</tr>
<tr>
<td>Walk-in Patient</td>
<td>Rapid Assessment/Check-in</td>
</tr>
<tr>
<td></td>
<td>No pods “a bed ahead”?</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Door to Provider Process</td>
</tr>
<tr>
<td></td>
<td>Team Assessment</td>
</tr>
</tbody>
</table>
A team was created to test the new processes; Result: increased staff buy-in

Team Composition: 1 NIC, 2 MDs, 1 PA, 1 ESA, 4 RNs, 1 Resident

Test Team objectives:
- Prioritize and sequence individual tests
- Design tests using formal testing model (PDSA)
- Collect data, analyze what worked well and what did not
- Update and confirm future state standard work following testing

Test Team committed to:
- Giving each test a real try – keeping an open mind
- Communicating with peers about the tests
- Helping staff to develop ownership of the processes
- Continuous improvement: testing and re-testing as necessary
A team was created to **implement** the new processes; Result: increased staff buy-in and sustain the changes

**Team Composition:** 2 NIC, 1-2 MDs, 4 RNs, 1 Resident, 1 Educator, Flow Manager

**Implementation Team objectives:**
- Continue to standardize roles and expectations for the redesigned process
- Hardwire the changes by supporting the team decisions
- Lead by example

**Team committed to:**
- Attending the weekly 1 hour meetings
- Communicating with peers and collecting feedback and concerns
- Continuous improvement: revisiting changes as necessary
Improvements as of April 2011 (before Charlie pod)

### LOS in ED
- **Reduced by 56 minutes**

<table>
<thead>
<tr>
<th>Hours</th>
<th>FY'09</th>
<th>Apr '11</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5.00</td>
<td>4.06</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Patient Arrival to Room
- **43% less delay**

<table>
<thead>
<tr>
<th>Minutes</th>
<th>FY'09</th>
<th>Apr '11</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>65</td>
<td>37</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Walk-Out Rate
- **Improved 30%**

<table>
<thead>
<tr>
<th>% of Patients</th>
<th>FY'09</th>
<th>Apr '11</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>3.3%</td>
<td>2.3%</td>
</tr>
<tr>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Patient Satisfaction
- **26 percentile points better**

<table>
<thead>
<tr>
<th>L1 Trauma Ctrs</th>
<th>FY'09</th>
<th>Apr '11</th>
</tr>
</thead>
<tbody>
<tr>
<td>%ile Rank</td>
<td>40</td>
<td>66</td>
</tr>
</tbody>
</table>

Ranged from 6th to 40th %ile
Improvements as of September 2011 (Charlie pod open)

- **LOS in ED**: Reduced by 49 minutes
  - FY'09: 5.00 hours
  - Now: 4.18 hours

- **Patient Arrival to Room**: 54% less delay
  - FY'09: 65 minutes
  - Now: 30 minutes

- **Walk-Out Rate**: Improved 34%
  - FY'09: 3.30%
  - Now: 2.18%

- **Patient Satisfaction L1 Trauma Ctr**: 58 percentile points better
  - FY'09: 40th %ile
  - Now: 98th %ile

Note: FY11 Q4 data
Challenges

- Developing buy-in of large and diverse staff
  - Multidisciplinary
  - Range of experience levels
- Managing resistance
  - Change is difficult, and the familiar tends to be comfortable
- Staying the course
  - Big process changes will encounter multiple bumps in the road
  - Our doors never close while we make change
  - Standardizing expectations
- Maintaining our academic mission
Lessons learned

- Maintaining focus on the patient & family experience is key
- Crucial to have the support of hospital sponsors
- Front-line involvement from the beginning is extremely important
- Leadership team must be visible, accessible, and always in alignment
  - RN Director, Clinical Director, Administrative Director
Patient response to the redesign

“No delays ... I didn’t have to wait at all from time I [checked in] until the time I was in the room ... it was less than 5 min. ER staff the best!!”

(Press Ganey, 2011)