Patient Safety, Infection Prevention and One Hospital’s Journey Toward High Reliability

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Why Are We ALL So Focused on Safety???
Medical error—the third leading cause of death in the US

Based on our estimate, medical error is the 3rd most common cause of death in the US.

Cancer 585k
Heart disease 611k
COPD 149k
Suicide 41k
Motor vehicles 34k
Firearms 34k

All causes 2,597k

ITEM: MANY MEDICAL MISTAKES GO UNREPORTED...

THE GOOD NEWS... I FOUND MY CELL PHONE!

THE BAD NEWS... I LEFT IT ON VIBRATE!

However, we’re not even counting this - medical error is not recorded on US death certificates.

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Data source:
http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

M. Makary et al,
BMJ 2016;353:i2139
IOM Framework – 6 pillars

Quality medical care is STEEEP

- Safe
- Timely
- Effective
- Efficient
- Equitable
- Patient-centered
We are on a Journey
5 Common Characteristics of HROs

• 1. SENSITIVITY TO OPERATIONS: Maintaining consistent awareness of the state of systems and processes that impact patient
  • Allows identification and elimination of threats

• 2. RELUCTANCE TO SIMPLIFY: Be open to understanding the complexity of threats and failures
  • Uncover the true causes that lead to patient harm
  • Avoid accepting oversimplification of the story

• 3. PREOCCUPATION WITH FAILURE: Regard near misses as symptoms that the process or system may need attention
  • Avoid the “we caught it before something bad happened so our system works”
4. DEFERENCE TO EXPERTISE: Leaders and supervisors must be willing to listen and respond to the insights of staff who know how processes really work and the risks patients really face.

5. RESILIENCE: Leaders and staff are trained and prepared to know how to respond when system failures occur and rapidly correct the process that led to the bad outcome.
1. SENSITIVITY TO OPERATIONS

Throughput

- We are always overflowing!
- Only 3 ways to save the bathroom floor
  - Close the faucet
  - Get a bigger tub
    - Toyota Partnership
    - Fast Track
  - Open the drain
    - MSA discharge goals

- Necessity is the mother of invention
1. SENSITIVITY TO OPERATIONS

- POD T
  - County-wide behavioral health crisis
  - Pressures on capacity leading to operational and safety concerns
  - Assess operational impact and inventory potential resources
  - Repurpose existing, incompletely utilized resources
  - Create clear workflows and SOPs
2. RELUCTANCE TO SIMPLIFY

- **RCA/ACA volume**
  - Favorable shift in Harm
  - Continue to peel back the onion

- **Global Patient Access**
  - Find an issue in one component, assess and address them all
Global Patient Access Initiative

Deliverables:
1. Global strategy for enhanced, patient-centered access and map of patient access points
2. Detailed workflows linking services to access points
3. Metrics, targets and related accountability for each patient access point
3. PREOCCUPATION WITH FAILURE

- FMEAs
  - Proactively assessing complexity
  - Mitigation of risk
    - BBPE
    - Infant Security
    - Correctional Health suicide risk

- Collection, trending and investigation of good catch data

- Assess and drive Organizational Culture
  - AHRQ Culture of Safety Survey

“I haven’t failed. I’ve just found 10,000 ways that won’t work.”

Thomas Edison
INITIATIVES

- Enforce Safe Passing Zones to reduce sharps injuries during hand-offs in OR & LD
- Identify ways to provide

TRAINING & EDUCATION

- On-call ‘Needlestick or Splash Exposure’ Pager available (NAO manages after hours)
- On-call ‘Bloodborne Pathogen Exposure’ Pager available to contact Infectious Disease for assistance with determining risk associated with exposure
- Exposure Workgroup meets monthly on first Monday at 11:00AM

RESULTS

New IV Angiocatheter implementation follow up:
- For FY16: 6% (n= 288 total injuries) = 17 injuries
- For FY17: 5% (n=259 total injuries) = 13 injuries (between 11/1/16 and 6/2/17); no injuries from June (post implementation) – September 31

OB/L&D sharp injuries follow up:
- For FY16: 32% (n=288 total injuries) = 92
- FY17: 11% (n=259 total injuries) = 28; post implementation of protocol for safe passing zone and visible signage with days since

Sharps Injuries
FYTD - March 31st
AHRQ Survey Response Rate by Year

Culture of Safety Survey Responses by Year

- 2014: 23
- 2015: 28
- 2016*: 55
- 2017*: 50
Confidential for investigation and review by quality assurance/improvement committee or designated agent(s).

Pursuant to Section 160.007 of Texas Occupations Code, Texas Health & Safety Code 161.032 and 42 USC Sec. 11101 et seq., this information is confidential and privileged.
Reported Patient Falls

Distribution by Gender and Age

May 2017 through April 2018

Data reflect reported Patient Fall events in locations that generate equivalent patient days for the time period noted. N = 582

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Reported Patient Falls

Distribution by Reported Contributing Factors

May 2017 through April 2018

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Reported Patient Falls

Distribution by Reported Time of Fall
May 2017 through April 2018

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Reported Patient Falls

Distribution by Occurrence Date Day of Week

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Reported Patient Falls
Distribution by Witnessed Status
May 2017 through April 2018

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Expert Consultant Take-aways

• Enterprise Fall Reduction Committee took away 3 recommendations to focus on in 2018

• Orthostatic Hypotension education

• Post Fall Huddle revamp

• Ambulatory screening for falls
Other examples

• Nursing Unit Based Councils driving Evidence Based Practice
  – engagement of front line in improvement

• Staff Innovation Portal
  – Front line improvement ideas submitted to and resourced by leadership

• RITE program
  – Reducing Infection in Together in Everyone
IP Measures Required per Federal and State Quality Programs

Required Federal and State Measures
- CLABSI - all ICUs, 8 wards
- CAUTI - adult ICUs, 8 wards
- SSI - 8 procedures
- MRSA labID
- C. difficile labID

Additionally Addressed at Parkland
- CLABSI & CAUTI - all other wards
- SSI - 10 additional procedures
- IVAC
- Sepsis deaths POA in ED
- CRE/ VRE
Reduce Infections Together in Everyone

- System-wide, unlike prior efforts
- CLABSI - all wards and ICUs
- CAUTI - all wards and ICUs except NICU
- SSI - 18 procedures
- Mortality in Patients with Sepsis - POA in ED
- 2013-2017
  - 2013-baseline year
  - 2014 – setting up processes
  - 2015 & 2016 to demonstrate improvements
  - 2017 to complete items that carried over
- Several multidisciplinary teams
- Several process measures implemented
• Change Strategy
• Reducing variation in care
  • implement new bundles/ improve adherence to previously implemented measures
• Campaign kick-off meeting on June 13, 2014
• Clinician engagement
  • surveys, in-person interviews, lunch and learn sessions in 2013 an 2014
• Training in PI methods
  • ~100 completed CS&E course; ~400 completed 3-hr in person training in key concepts
• Informatics support – BPA, Order sets
• Participation in regional collaborative
Reduce Infections Together in Everyone

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2017</th>
<th>#Prevented</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUTI Rate</td>
<td>4.7</td>
<td>1.26</td>
<td>318</td>
</tr>
<tr>
<td>CLABSI Rate</td>
<td>1.6</td>
<td>0.77</td>
<td>119</td>
</tr>
<tr>
<td>SSI Rate per 100 procedures</td>
<td>3.4</td>
<td>1.3</td>
<td>580</td>
</tr>
<tr>
<td>Sepsis Mortality per 100 patients in ED w Sepsis Present on Admission</td>
<td>9.4</td>
<td>2.9</td>
<td>526</td>
</tr>
</tbody>
</table>

Net Impact to Health System: 567 lives saved; $17M+ in cost avoidance
Infection-Related Ventilator-Associated Condition

• Rate of Infection
  • FY13 Infection Related VAC was 1.4 per 1000 ventilator-days
  • Reduced to 0.74 per 1000 ventilator-days in FY17
  • 34% reduction over 1 year

• Improvements led by Critical Care Physicians, Nursing and RT
MDRO Prevention

- Adherence to:
  - Hand Hygiene
- Environmental Hygiene
  - Patient Room Cleaning as well as Cleaning of Common Use Equipment
- Isolation Precautions
- Daily Chlorhexidine bathing in adult ICUs
- Active Surveillance Cultures if epidemiologically indicated
- Improve
- Improve timeliness of testing.
  - 4th calendar day and beyond = Hospital Onset per Surveillance Criteria. (Does not apply to CLABSI, CAUTI, SSI or IVAC)
<table>
<thead>
<tr>
<th>Outcomes</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17 to date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLABSI-ICUs &amp; Wards Rate</strong></td>
<td>1.1</td>
<td>1.1</td>
<td>0.77</td>
<td>0.72</td>
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<tr>
<td>per 1000 device days (aggregate all)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>CLABSI-ICUs &amp; 8 select Wards - SIR (2015 baseline)</strong></td>
<td>0.47</td>
<td>0.62</td>
<td>0.31</td>
<td>0.298</td>
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<tr>
<td><strong>CAUTI-ICUs &amp; Wards Rate</strong></td>
<td>2.0</td>
<td>2.2</td>
<td>1.93</td>
<td>1.32</td>
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<tr>
<td>per 1000 device days (aggregate all)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CAUTI-Adult ICUs &amp; 8 select Wards – SIR (2015 baseline)</strong></td>
<td>1.3</td>
<td>0.945</td>
<td>0.835</td>
<td>0.653</td>
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<tr>
<td><strong>CAUTI – Inpatient Rehab – SIR (2015 baseline)</strong></td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>Semi annual</td>
</tr>
<tr>
<td><strong>SSI Overall Rate – 18 procedures</strong></td>
<td>2.8</td>
<td>1.5</td>
<td>1.25</td>
<td>1.39</td>
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<tr>
<td><strong>SSI-deep+organ/space Overall Rate-18 procedures</strong></td>
<td>1.1</td>
<td>0.4</td>
<td>0.18</td>
<td>0.215</td>
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<td><strong>SSI SIR – 8 reportable procedures (2015 baseline)</strong></td>
<td>1.6</td>
<td>0.942</td>
<td>0.749</td>
<td>0.766</td>
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<tr>
<td><strong>SSI deep+organ/space SIR – 8 reportable procedures (2015 baseline)</strong></td>
<td>0.31</td>
<td>0.167</td>
<td>0.257</td>
<td>0.000</td>
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<tr>
<td><strong>Sepsis Bundle Adherence POA in ED – Percent</strong></td>
<td>25.9</td>
<td>25.5</td>
<td>32.3</td>
<td>33.8</td>
</tr>
<tr>
<td><strong>Sepsis Mortality Adult – POA in ED - Percent</strong></td>
<td>8.6</td>
<td>3.8</td>
<td>2.3</td>
<td>2.7</td>
</tr>
</tbody>
</table>

**FY17 = Oct - May for devices/sepsis**

**FY17 = Oct-Apr for surgeries**

**Subject to change pending 90 day reviews**
Each clear crystal represents an infection prevented between 2013-2016.

- **CLABSI**
- **CAUTI**
- **SSI**
- **Sepsis**
5. RESILIENCE

- **Safety Stand downs**
  - Related to recent safety events
  - Webex, taped, trackable

- **SAMA training**
  - De-escalation techniques for relevant staff

- **Enhanced, standardized Sitter training**
  - Suicide precautions, elopement risk

- **Care for the Caregivers Initiative**
  - Developing a program to support our greatest resource
• ‘Safe Zone’ to discuss their response to events
• Confidentiality
• Knowledge regarding next steps
• Voluntary Involvement
• 24/7 access
• Peer to Peer:
  – ‘Scrubs not Suits’
Promoting Resilience

- Staff have a way to get their needs met after going through a traumatic event

- Helps reduce the harmful effects of stress

- Provides some normalization and may help an individual on getting back to their routine after a traumatic event

- Promotes the continuation of a productive careers while building healthy stress management behaviors
…And the Journey Continues