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

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Why Are We ALL So Focused on Safety???

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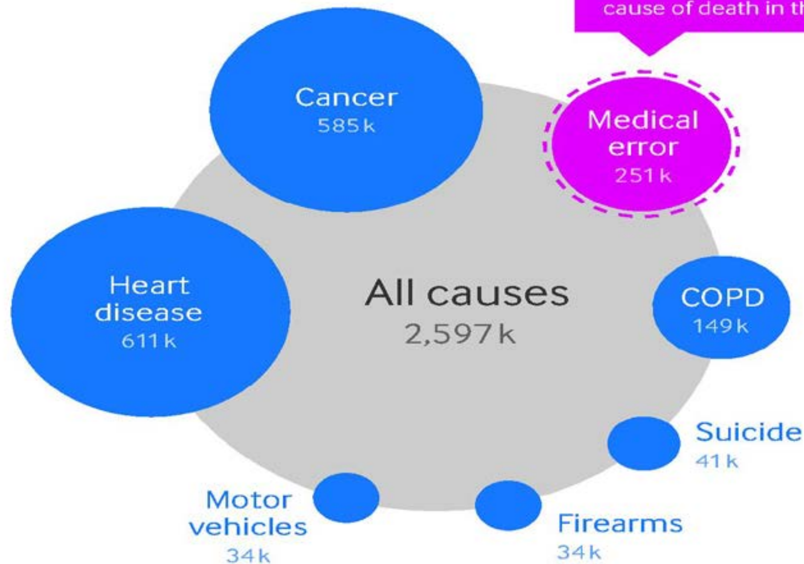
Medical error—the third leading cause of death in the US



M. Makary *et al*,
BMJ 2016;353:i2139

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EXPECT

BETTER

Crossing the Quality Chasm (IOM 2001)

IOM Framework – 6 pillars

Quality medical care is STEEEP

- Safe
- Timely
- Effective
- Efficient
- Equitable
- Patient-centered

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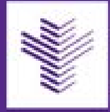
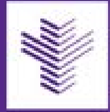
We are on a Journey



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”



5 Common Characteristics of HROs

- 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.

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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

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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

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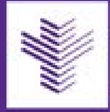
2. RELUCTANCE TO SIMPLIFY

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

- **<u>Global Patient Access</u>**
  - Find an issue in one component, assess and address them all



Global Patient Access Initiative

Map all patient access points and related flow

Call centers, other phone numbers, MyChart, email box

Create reporting tools to assess the status of each access points

E.g. # of answered calls, avg. wait time, # of unread messages, etc.

Identify issues or opportunities for improvement

E.g. lack of standardization or ownership, backlog, high TA time, not patient friendly, etc.

Develop a comprehensive future state

Protocols and workflows, targets and related accountability, etc.

Implementation of future state

Accountability to be determined based on previous steps

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

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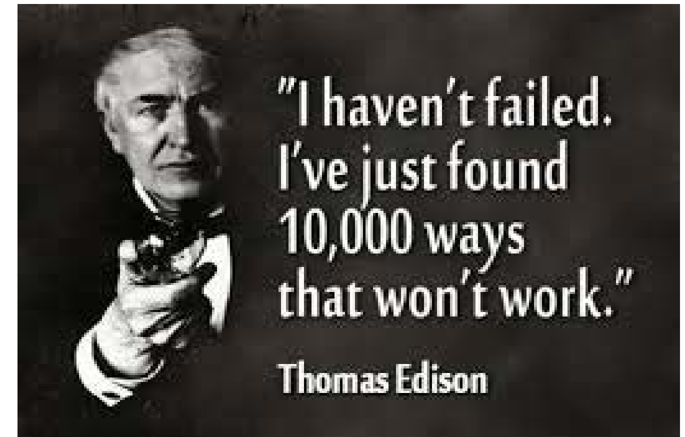
3. PREOCCUPATION WITH FAILURE



- **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

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Blood Borne Pathogen Exposure

INITIATIVES

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

RESULTS

New IV Angiocatheter implementation follow up:

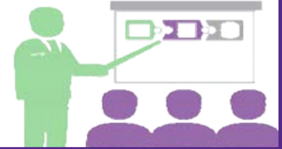
- For FY16: 6% (n= 288 total injuries) = 17 injuries
- For FY17: 5% (n=259 total injuries) = 13 injuries (between 11/1/16 and 6/2/17); no injuries from June (post implementation) – September 31

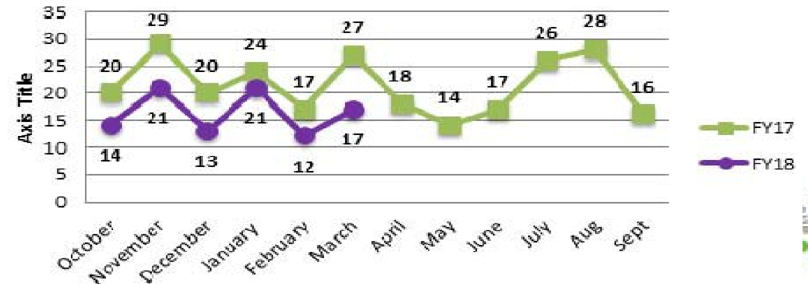
OB/L&D sharp injuries follow up:

- 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

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





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AHRQ Survey Response Rate by Year

Culture of Safety Survey Responses by Year

Year	Responses
2014	23
2015	28
2016*	55
2017 *	50

4. DEFERENCE TO EXPERTISE

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Reported Patient Falls

Reported Patient Falls per 1000 Equivalent Patient Days

Compared to ADC

May 2017 through April 2018

Month	ADC	RATE
May 2017	747	2.13
Jun 2017	744	1.60
Jul 2017	743	2.31
Aug 2017	746	2.08
Sep 2017	725	2.21
Oct 2017	745	1.72
Nov 2017	714	2.17
Dec 2017	736	2.04
Jan 2018	771	2.18
Feb 2018	742	2.42
Mar 2018	723	2.65
Apr 2018	695	2.46

Left axis: 1.20, 1.70, 2.20, 2.70, 3.20, 3.70
Right axis (ADC): 640, 660, 680, 700, 720, 740, 760, 780

Legend: ADC; RATE; MEAN; MEAN + 2SD; MEAN - 2SD; NDNQI TARGET; NDNQI STRETCH GOAL; Linear (ADC); Linear (RATE)

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 Gender and Age

May 2017 through April 2018

80
70
60
50
40
30
20
10
0

1 2 10 3 5 12 13 22 12 14 15 24 18 41 28 45 35 71 39 59 18 29 17 19 10 3 9 3 1 2 1 1

0-4 5-9 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74 75-79 80-84 85-89 90-94 95-99 100-104

FEMALE MALE

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Reported Patient Falls

Reported Patient Falls
Distribution by Reported Activity Prior to Fall
May 2017 through April 2018

Activity	Percent
Toileting-related activities	25.3%
Other (specify)	15.3%
Unknown and/or found on floor	12.4%
Ambulating without ssistance or...	11.5%
Transferring to or from bed, chair, etc.	9.5%
Reaching for an item	4.6%
Showering or bathing	4.5%
Ambulating WITH assistance &/or assistive...	3.8%
Ambulating WITH assistance &/or medical...	2.4%
Climbing over / around bedrails	2.4%
Threw self to the floor	2.1%
Ambulating off the unit	1.7%
(blank)	1.7%
Dressing or undressing	1.5%
Changing position (e.g. rolling over in bed)	1.4%

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Reported Patient Falls

Reported Patient Falls
Distribution by Reported Contributing Factors
May 2017 through April 2018

Contributing Factor	Percent
Abnormalities of gait or balance	21.6%
Patient did not call for help	21.0%
Unable to rise or ambulate without...	9.3%
Altered mental status / cognitive impairment	9.2%
Behavioral / mental health issue	7.5%
Tripped / slipped	7.3%
Dizziness / vertigo	5.0%
Other patient or environmental factors...	4.8%
Altered elimination (urgency,...	4.2%
Side effects of medication	2.4%
Depression	1.2%
Visual impairment	1.1%
Items not within reach	0.9%
Orthostatic hypotension	0.9%
Lock for movable transfer equipment...	0.8%
Blank	0.8%
Side rails found down	0.8%
Grab bar or hand rail placement	0.5%
Lighting	0.5%
Low glucose / sodium levels	0.1%

Y-axis: 0%, 4%, 8%, 12%, 16%, 20%, 24%

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Reported Patient Falls
Distribution by Reported Time of Fall

May 2017 through April 2018

Reported Time of Fall	Percent
00:00 - 03:59	11.3%
04:00 - 07:59	22.7%
08:00 - 11:59	11.0%
12:00 - 15:59	13.2%
16:00 - 19:59	31.1%
20:00 - 23:59	10.7%

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Reported Patient Falls

Reported Patient Falls
Distribution by Occurence Date Day of Week

May 2017 through April 2018

Day	Percent
MONDAY	17.0%
TUESDAY	13.4%
WEDNESDAY	16.8%
THURSDAY	15.6%
FRIDAY	11.2%
SATURDAY	13.1%
SUNDAY	12.9%

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Reported Patient Falls

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

Witnessed Status	Percent
Not Witnessed	63.1%
Witnessed	35.7%
Unknown	1.2%

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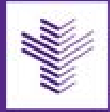

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Expert Consultant Take-aways

- Enterprise Fall Reduction Committee took away 3 recommendations to focus on in 2018
- Orthostatic Hypotension education
- Post Fall Huddle revamp
- Ambulatory screening for falls

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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

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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

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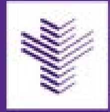

Reduce Infections Together in Everyone

- 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

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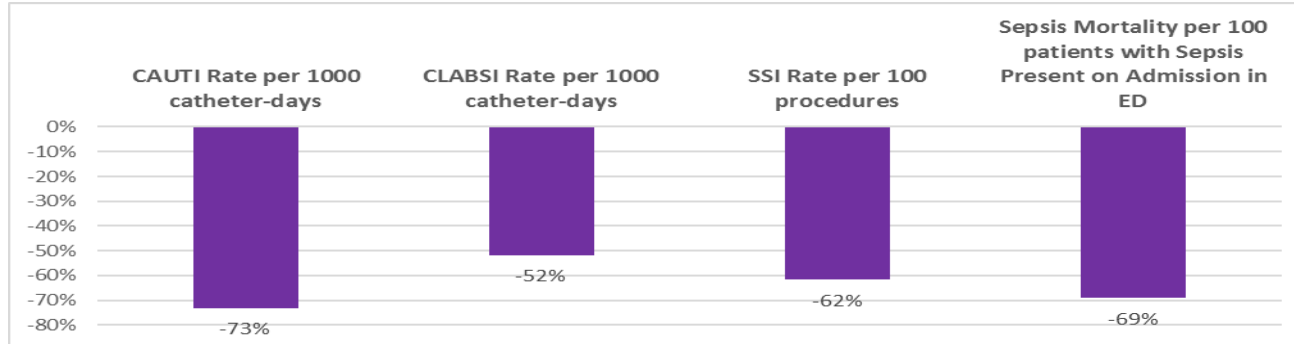
Reduce Infections Together in Everyone

- **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

	FY2013	FY2017	#Prevented
CAUTI Rate	4.7	1.26	318
CLABSI Rate	1.6	0.77	119
SSI Rate per 100 procedures	3.4	1.3	580
Sepsis Mortality per 100 patients in ED w Sepsis Present on Admission	9.4	2.9	526



Net Impact to Health System: 567 lives saved; $17M+ in cost avoidance

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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**

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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)

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RITE PROGRAM CATEGORY 3 OUTCOMES

Cumulative Outcomes	FY14	FY15	FY16	FY17 to date
CLABSI-ICUs & Wards Rate per 1000 device days (aggregate all)	1.1	1.1	0.77	0.72
CLABSI-ICUs & 8 select Wards - SIR (2015 baseline)	0.47	0.62	0.31	0.298
CAUTI-ICUs & Wards Rate per 1000 device days (aggregate all)	2	2.2	1.93	1.32
CAUTI-Adult ICUs & 8 select Wards – SIR (2015 baseline)	1.3	0.945	0.835	0.653
CAUTI – Inpatient Rehab – SIR (2015 baseline)	na	na	na	Semi annual
SSI Overall Rate – 18 procedures **	2.8	1.5	1.25	1.39
SSI-deep+organ/space Overall Rate- 18 procedures **	1.1	0.4	0.18	0.215
SSI SIR – 8 reportable procedures (2015 baseline)**	1.6	0.942	0.749	0.766
SSI deep+organ/space SIR – 8 reportable procedures (2015 baseline)**	0.31	0.167	0.257	0.000
Sepsis Bundle Adherence POA in ED – Percent	25.9	25.5	32.3	33.8
Sepsis Mortality Adult – POA in ED - Percent	8.6	3.8	2.3	2.7

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

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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

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Caring for the Caregivers

- ‘Safe Zone’ to discuss their response to events
- Confidentiality
- Knowledge regarding next steps
- Voluntary Involvement
- 24/7 access
- Peer to Peer:
  - *‘Scrubs not Suits’*

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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

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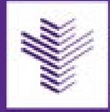
…And the Journey Continues

ENDLESS JOURNEY

one destination



New Parkland at Dawn