Role of Academic Medical Centers in the National Quality Agenda

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Toward eliminating all harm; the need for new narratives

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The Johns Hopkins University
I will ...
Three Narratives that hinder progress

• Harm is inevitable rather than preventable
• Safety is a local project rather than an integrated operating management system
• Safety is based on the heroism of clinicians rather than the design of safe systems
New Narrative: Harm is preventable
Change in US CLABSI Rates

Why did CLABSI Work at Policy Level?

► Reliable and valid measurement system
► Evidence-based practices from clinical and basic research
► Investment in implementation (improvement) science*
► Local ownership (CUSP team) and peer learning communities
► Align and synergize efforts of many around a common goal and measure

Pronovost; 15 years after to err is human: a success story to learn from; BMJQS 2015

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What did this work at organizational level

Pronovost J Health Outcomes and Management 2017
What did this work at a team and individual level

Dixon-Woods; Explaining Michigan Milbank Quarterly
New Narrative: Safety is an integrated operating management system rather than a project.
The Armstrong Institute

• Purpose: To partner with patients, their loved ones, and others to end preventable harm, continuously improve patient outcomes and experience and eliminate waste

• Principles
  • I am humble, curious, and compassionate
  • I respect, appreciate, and help others
  • I am accountable to continuously improve myself, my organization, and my community

• Programs: advance science, build capacity, implement interventions, inform policy
High Reliability Organizations

Pursuit of excellent performance under complex and dynamic conditions

Weick & Sutcliffe 2015

Photo credit: U.S. Navy
HRO Industries Created Operating Management Systems

To assure customer satisfaction, organizations must produce, and continually improve, safe, reliable products that meet or exceed customer, statutory and regulatory requirements.

Integrated approach for organizational learning and continuous improvement
JHM Operating Management System
5 Core Elements

1. Governance, Leadership and Accountability
   - Respect for Patients and Clinicians
   - Build Resiliency to Recover from Mishaps
   - Continuous Learning and Improvement
   - Standardize Work to Prevent Mishaps

2. Systems Thinking, Risk Identification and Mitigation

3. Capacity and Infrastructure

4. Transparency, Communication and Teamwork

5. Insight and Innovation

The Way We Work Together

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Element 1 – Governance, Leadership and Accountability

- Can you name the accountable quality leaders for your entire delivery system from board to care delivery sites?
- Can you map the flow of quality measures from the care delivery sites up to board?
- Do you have explicitly defined shared leadership accountability processes?
- Do you have a fractal management structures in which each higher level of the organization creates a structure in which each lower level has a voice providing horizontal links for learning and vertical for accountability?
- Do you have a standard framework to organization quality work throughout your delivery system?
Change Progresses at the Speed of Trust
Use the levers and adaptive leadership to strengthen the links

Responsibility, Role Clarity, and Feedback
Capacity
Time and Resources

Weaver; J Healthcare Management
Framework for Organizing Quality and Safety Work

**LEAN**
- LEAN Analytics
- Learning and Development
- Analytics
- Marketing and Communications
- Infection Prevention
- Strategic Partnerships
- Research

**PATIENT SAFETY**
- MEASURES
  - Risky providers, units & systems
- WORK
  - CUSP
  - Mindful organizing
  - Culture measurement improvement
- Event reporting
  - Safety case

**EXTERNAL REPORTING**
- MEASURES
  - Survival PSI/HAC
  - HAI Rankings
- WORK
  - PMO
  - Robust Process Improvement
  - A3 Project management

**PATIENT EXPERIENCE**
- MEASURES
  - CAHPS
  - Narratives
  - Grievances
- WORK
  - Common language
  - PFACs
  - Include patients
  - Patient and families education
  - Care coordination
  - Family involved in decision-making

**VALUE**
- MEASURES
  - Quality versus cost
- WORK
  - Measure development
  - PMO
  - Clinical Communities
  - Supply chain

**HEALTHCARE EQUITY**
- MEASURES
  - stratified by Race
  - Ethnicity
  - Primary language
- WORK
  - Measure development
Element 2 – Systems Thinking, Risk Identification and Mitigation

• Do you have mechanisms to identify and mitigate risky providers, units, systems, and management systems

• Do you have unit based improvement teams (CUSP)
Element 3 – Capacity and Infrastructure

• Have you defined and ensured capabilities and capacity to eliminate harm, continuously improve outcomes and experience and eliminate waste among all staff, those who manage quality and those who lead quality

• Have you defined and ensured competencies to prevent the common causes of harm among all staff

• Have you created an enabling infrastructure to coordinate project managing, learning and development, analyt improvement science, communications, and research
Element 4 –
Transparency, Communication and Teamwork

• Do leaders declare and communicate purpose, principles and goals
• Do leaders create a culture of respect, build trust and instill a hunger to learn and improve
• Do leaders ensure all staff are respected, have resources and are recognized
• Do leaders create a culture where all can speak out and up, addressing the “untouchables”
• Do you create structures and build trust c between upstream and downstream teams
• Do you implement huddles (daily management) at a unit, department, and organizational levels
Element 5 – Insight and Innovation

- Have leaders created a culture to increase mindful variation and reduce mindless variation
- Have leaders engaged clinicians in clinical communities
- Have leaders triangulated data and analytics to learn and improve
- Does the organization at all levels run experiments and learn, including from outside organizations

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Clinical Communities

- Self-governing networks with representation from entire health system

- Led by local physicians (1 academic lead, 1 community lead) with interdisciplinary membership that includes patients and families

- Set and communicate clear goals and measures related to purpose

- Armstrong Institute provides vertical support for project management, peer learning, analytics, and robust process improvement

- Work collaboratively on quality improvement projects, empowered to make changes
Clinical Communities

- Joint Replacement
- Blood Management
- Spine
- Surgery
- Cardiac Surgery
- ICUs
- Congestive Heart Failure
- Diabetes
- Palliative Care
- Cardiac Rhythm Management
- Hospitalists (EQUIP)
- Stroke
- Craniotomy
- Psychiatry and Behavioral Sciences
- Patient and Family Centered Care
- Patient Centered Care/Maternal Health
- Cleaning, Disinfection, Sterilization
- Medication Safety
Red Blood Cell Use in JHHS
Transfusion in Hip and Knee replacement across JHHS
HIP Volumes
JHBMC: 200 cases/year
Suburban: 500 cases/year
Sibley: 500 cases/year

KNEE Volumes
JHBMC: 300 cases/year
Suburban: 900 cases/year
Sibley: 500 cases/year

~$2,000 per case reduction in variable direct cost at JHBMC
Supply Chain Initiatives

- **Spine**
  - Vendor capping initiative- $3.3 million

- **ICU**
  - CVL kits
  - Foley Kits
  - Pharmaceuticals
    - **Blood Management**
      - $1.3 million

- **Joint**
  - Cement- $150,000
  - Vendor capping initiative- $1.5 million

- **Surgery**
  - $780,000 savings by reducing the number of vendors for sutures and endomechanicals
  - Hemostasis

- **Cardiac Surgery**
  - Opportunity by reducing Nitric oxide usage- $920,000
Accomplishments to date:

- Development and implementation of ACDF pathway- LOS

<table>
<thead>
<tr>
<th></th>
<th>On Pathway</th>
<th>Off Pathway</th>
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<tbody>
<tr>
<td>Ortho</td>
<td>1.63</td>
<td>2.71</td>
</tr>
<tr>
<td>Neuro</td>
<td>1.64</td>
<td>3.95</td>
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</tbody>
</table>

Current initiatives:

- Final review and implementation of Lumbar Fusion Pathway
- Development of pathway for deformity procedures
- Partnership with JHHC to develop a bundling strategy
Colorectal CUSP/ERAS Surgical Site Infection Rate

Baseline 27%

Hospital Target 15%

Colorectal Operating Room CUSP

ERAS

Post-ERAS 6%

ACS-NSQIP data
SSI Rates in JHH GYN ONC Colon Cases: 2013 - 2014
Narrative 3: Safety is based on design of safe systems
ICU Current State

- Hand Calculations
- Unreliable Systems
- Constant False Alarms
- Devices don’t share data → Low Productivity
Potential of Productivity
Possible Improved Productivity Effects Of Health Information Technology On Future National Health Spending, 2002-16

Source: Kellerman, Health Affairs, 2013
# Harms to be eliminated – Associated Tasks

<table>
<thead>
<tr>
<th>Harms</th>
<th>DELIRIUM</th>
<th>CLABSI</th>
<th>VAP</th>
<th>Failure to provide care consistent with patient goals</th>
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</thead>
<tbody>
<tr>
<td>Delirium</td>
<td>CAM ICU assessments</td>
<td>Hand washing</td>
<td>Head of Bed Elevation (HOB) (≥ 30 degrees)</td>
<td>Family meetings</td>
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<tr>
<td>Acquired Physical Impairment</td>
<td>Automated screening</td>
<td>Chlorhexidine</td>
<td>Spontaneous Awakening and Breathing Trials (SAT &amp; SBT)</td>
<td>Advanced directives</td>
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<td>Ventilator associated infections and harms</td>
<td>Modifiable factors</td>
<td>Full Barrier Precautions</td>
<td>Oral Care</td>
<td>All teams meetings</td>
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<tr>
<td>DVT-PE</td>
<td>Non-pharmacologic interventions</td>
<td>Avoid femoral site</td>
<td>Oral Care with Chlorhexidine</td>
<td>Ethics engagement</td>
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<tr>
<td>CLABSI</td>
<td>Sedation management</td>
<td>Remove Unnecessary line</td>
<td>Subglottic Suctioning ETTs</td>
<td>Palliative Care</td>
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<tr>
<td>Loss of Respect and Dignity</td>
<td>Pain Scores</td>
<td>Use of checklist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide care consistent with patient goals</td>
<td>Family education</td>
<td>Availability of cart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Loss of Respect and Dignity
- Interpersonal communication
- Scheduling
- Education
- Goals alignment
- Access to care team
- Inclusion
- Continuity

## Acquired Physical Impairment
- Early ambulation
- Adjunctive physical therapy
- Pharmacologic management
- Prospective testing
- Family engagement
- Transition of care planning

## VAP
- Initial VTE risk stratification for all ICU patients
- Computerized clinical decision support (CDS) tool to aid ordering of best-practice VTE prophylaxis
- Ongoing risk re-stratification
- Reminders when contraindications change to prompt addition of pharmacologic prophylaxis
- Ultrasound screening of appropriate patients
- Prevent missed prophylaxis doses
- Optimal Mechanical Prophylaxis Use (Sequential Compression Device [SCD] and compression stockings [TEDS])

## DVT-PE
- Daily sedation vacation (SAT)
- Daily spontaneous breathing trials (SBT)
- Automated ventilator management
- Lung Protective Ventilation for ALI
- Low Volume Ventilation if not ALI
Questions for Discussion

• What narratives are you telling that are holding you back
  • Have you declared a goal of eliminating harms
  • Is quality a project or an integrated management system

• Does your quality governance structure function with the same rigor as finance

• Do you have trust building structures that support peer learning and accountability

• Do you have a common framework for organizing the work throughout your system

• Have you instilled a culture of respect, trust and learning
  • Would all your employees answer yes when asked if they are treated with respect, have necessary resources, and are recognized
  • Do all employees feel free to speak up and out
  • Does all employees feel have a hunger to learn and improve.
I will ...
New Narrative: Harm is preventable
Element 1 – Governance, Leadership and Accountability

- The Board shall ensure that management creates a structure and reporting system such that the Board has oversight for quality and safety of care everywhere that care is delivered within the health system.
- To accomplish this comprehensive oversight, management shall map the delivery system from...
Element 1 – Governance, Leadership and Accountability

- The Board shall ensure that a framework for reporting quality and safety of care mirrors the rigor and comprehensiveness of a consolidated financial statement.
Element 1 – Governance, Leadership and Accountability

- The Board shall define an accountability system for quality and safety when any part of the organization misses quality goals or has an unacceptable level of risk.
Element 2 — Systems Thinking, Risk Identification and Mitigation

• Management shall seek to anticipate and prevent mishaps by standardizing work whenever possible

• Safety culture surveys, event reporting and ”near miss” data shall be continually utilized to inform and develop corrective and preventive actions

• Risk identification and mitigation shall be informed by triangulated evidence such as indicators of risky providers, units and systems
Element 2 — Systems Thinking, Risk Identification and Mitigation

- Management shall ensure that staff understand the upstream and downstream implications of their work, and partner effectively with colleagues in both directions.

- Unit-based clinical teams shall be created to improve patient safety culture and provide frontline caregivers the tools and support to eliminate harm.

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CUSP Growth

Total CUSP Teams at JHM
Element 3 – Capacity and Infrastructure

- Management shall create a fractal management structure for quality in which management defines the delivery system structure and ensures that every higher level of the organization creates a forum in which every lower level helps co-create the quality approach.

- Management shall structure a learning model with quality and safety training targeted and tailored systematically for all staff including leadership.

- Clinical staff shall demonstrate skills and competencies to prevent the common causes of preventable harm in their area.
Element 4 – Transparency, Communication and Teamwork

- Leadership shall establish a Patient and Family Advisory Council with representatives on key quality and safety committees.
- Management shall empower all staff to speak up and stop hazardous conditions to prevent harm and share wisdom to improve patient outcomes and experience.
- Management shall address disruptive staff with no one “untouchable.”
- Leadership shall enact a bundle of human resource practices to recruit, reward and retain staff that embrace the culture of safety and teamwork.
Element 4 – Transparency, Communication and Teamwork

• Senior leaders shall declare and communicate goals
• Managers empower staff to speak up and stop hazardous conditions to prevent harm and share wisdom to improve patient outcomes and experience
• Lean Daily Management strategies shall be employed to support peer learning and accountability
Element 5 – Insight and Innovation

- Strategies shall be developed to systematically promote the realization, preservation, availability and application of new knowledge.
- Management shall create clinical communities to integrate knowledge, standardize practices, promote innovation, efficiency and value.
- An integrated analytics capability shall be created to support improvement work and synthesize information from multiple sources to identify strengths and weaknesses.

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Examples of Habits for HRO

• Habits to anticipate and prevent mishaps through standard work
  • Observe work; get ground truth daily
  • Shadow another role
  • Ask daily, how will this and next patient be harmed
  • Leaders ask how will operational and financial decisions introduce risks
  • Leaders ask will all employees say they are are treated with respect by everyone, they have the resources and competencies they need and they are recognized

• Habits to recover from mishaps
  • Conduct daily rounds
  • Managers create structures to link up and down stream teams
  • Leaders create a culture of speaking up and speaking out
  • Leaders actively seek our new information especially bad news
  • Leaders address untouchables and disruptive behavior
  • All build in pause points in confusing situations
  • All use standard protocols for communicating (STICC
References; Patient Harm is Preventable not Inevitable

2Pronovost et al. An intervention to decrease catheter-related bloodstream infections in the ICU. NEJM 2006;355;2725-2732.
References; Safety is an operating management system


Safety is based on design of safe systems


