Improving Patient Safety 2019 and Beyond:
American Perspectives from a Newfound Irish Citizen

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Mentice Inc
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UNC Gillings School of Global Public Health
The University of North Carolina at Chapel Hill

Quality & Patient Safety Conference 2019
Royal College of Surgeons of Ireland

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DISCLOSURE OF POTENTIAL CONFLICTS

I have had leadership roles in several health care organizations, including:

1. Chief Quality Officer of Baylor Scott & White Health (the largest health care system in Texas) and member of several of its governing boards (1999-2018).

2. Editorial Board and Healthcare Policy Section Editor of the Mayo Clinic Proceedings, with a mission “to promote the best interests of patients by advancing the knowledge and professionalism of the physician community.”

3. Ascension Health (at the time, the largest predominantly hospital-based health care system in the United States) Gulf Coast Board Member and Board Quality Subcommittee Chair (2016-2018).

4. Currently, I am a board member/director and executive team member (chief clinical officer, president) with Mentice AB, a global endovascular performance solutions company, headquartered in Gothenburg, Sweden.
Topics to be Covered

1. Start with Why: Influence of Family, Training and Mentors
3. The Paramount Role of Measurement in Guiding Patient Safety Improvement
4. Observations of Patient Safety Initiatives in Ireland
5. Some Examples of Patient Safety Initiatives across the U. S.
6. Final Comments: Patient Safety and Efficiency
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Whether individuals or organizations, we follow those who lead not because we have to, but because we want to.

We follow those who lead not for them, but for ourselves.

Start with Why

Simon Sinek
2009
In 1942, during World War II, Margaret Mary Somers was learning how to teach nursing at Massachusetts General Hospital when she asked herself, “What am I doing here?” Perhaps her introspection had something to do with the fact that the Army recruiting office was right across the street from Massachusetts General Hospital. And, even more, that the United States was embroiled in the war. “I thought, what am I doing here in Boston? ... when I should be out joining the service,” she asked herself. She joined the U.S. Army Nurse Corps, 811th Air Evacuation Unit. “We were at war. I joined the Army Air Corps because I thought I could make a contribution”. Mary Somers Ballard, who was 23 at the time, served two years in England where, following D-Day, she took care of wounded soldiers being flown from France and Germany to Britain.
Mayo Clinic's commitment to safety is best summarized in the words of one of Mayo Clinic Health System's founders:

"The best interest of the patient is the only interest to be considered."

Dr. William J. Mayo
June 15, 1910
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The nation’s health care delivery system has fallen far short in its ability to translate knowledge into practice and to apply new technology safely and appropriately.

Overly devoted to dealing with acute, episodic care needs and lacking the multidisciplinary infrastructure required to provide the full complement of services needed by people with common chronic conditions.

Delivery of care often is overly complex and uncoordinated, requiring steps and patient “handoffs” that slow down care and decrease rather than improve safety.

Bringing state-of-the-art care to all Americans in every community will require a fundamental, sweeping redesign of the entire health system…
SIX AIMS FOR HEALTH CARE IMPROVEMENT, UNITED STATES, 2001-PRESENT

**Safe**
Avoids injuries to patients from care that is intended to help them

**Timely**
Reduces waits and harmful delays impacting smooth delivery of care

**Effective**
Provides services based on scientific knowledge to all who could benefit & refrains from providing services to those not likely to benefit (avoids overuse & underuse)

**Efficient**
Uses resources to achieve best value by reducing waste, production, and administration costs

**Equitable**
Does not vary in quality according to personal characteristics such as gender, income, ethnicity & location

**Patient Centered**
Respectful of and responsive to individual patient preferences, needs, and values
The STEEEP acronym was trademarked by BHCS in 2002 to communicate the challenge of achieving its objective to provide ideal care in terms of the IOM’s call for care that is **safe, timely, effective, efficient, equitable, and patient-centered**
The BHCS patient safety vision:

- Achieving no preventable deaths (hospital-standardized mortality ratio)
- Ensuring no preventable injuries (hospital-acquired adverse events)
- Seeking no preventable risk

Strategies and Tactics:

- **Culture**: Employee patient safety culture survey, hospital and clinic biennial patient safety survey, data review, site visits, formal report to leaders and shared goal setting

- **Processes**: e.g., increased evidence-based order set use, reduce adverse drug events, National Patient Safety Goals, National Quality Forum Safe Practices… …

- **Technology**: Electronic medical record (EMR) and clinical decision support, computerized physician order entry, bar code medication administration
Achieving no preventable deaths (hospital-standardized mortality ratio)

Ensuring no preventable injuries (hospital-acquired adverse events)

Seeking no preventable risk

These goals require strategic efforts in the categories of culture, processes, and technology.
Patient Safety Framework

Building the Foundation
- Governance Structure & Commitment
- Aligning Goals & Establishing Accountability
- Key Roles / Committees
- Training Programs

Creating a Culture
- Transparency
- Communication
- Patient Safety Assessment Program

Integrating the Culture
- Key Stakeholders / Collaborators

Building the Process
- Patient Safety Improvement Tools

Leveraging Technology
- EHR
- Devices
- Metrics / Reporting
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“Health statistics represent people with the tears wiped off.”

Sir Austin Bradford Hill (1897-1991)

“Have a little statistical compassion and take a look at the quantitative information before providing inadequate care or wasting millions of dollars.”

Kerr L. White (1917-2014)
The Problem: Current Industry Standard for Identifying Patient Safety Problems Performs Poorly

Patient harm now estimated to be the 3rd leading cause of death in the United States...

...with overwhelming evidence showing industry standard safety method detects only ~1-10%

<table>
<thead>
<tr>
<th>Causes of Death in United States in 2010*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>597</td>
</tr>
<tr>
<td>Cancer</td>
<td>577</td>
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<tr>
<td>Patient Harm</td>
<td>440</td>
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<td>Chronic Lower Respiratory Disease</td>
<td>143</td>
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<tr>
<td>Stroke</td>
<td>129</td>
</tr>
<tr>
<td>Accidents (Unintentional)</td>
<td>126</td>
</tr>
<tr>
<td>Alzheimer’s Disease</td>
<td>85</td>
</tr>
<tr>
<td>Diabetes</td>
<td>74</td>
</tr>
<tr>
<td>Influenza &amp; Pneumonia</td>
<td>54</td>
</tr>
</tbody>
</table>

Based on recent James study, adverse events now estimated to be ~1-10% of the 1999 IOM estimates of PIH that sparked patient safety movement.

"Using the EHR": Now a Field Imperative – Starting with Safety
The Foundation: Automated Global Trigger Tool the “First Step” to Real-time Patient Safety

Author Insight Video - Donald Berwick, MD (3:25)
In this video, Donald Berwick, MD, offers additional insight into the article, "Measuring Patient Safety in Real Time: An Essential Method for Effectively Improving the Safety of Care."

Founder of modern patient safety & quality movement: “All hospitals should use their EHRs [”as a lens”] to measure harm and better guide and monitor the real effect of their patient safety efforts.”
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Areas of Strength (% Positive Responses)

Teamwork Within Units/Departments (Staff support each other, treat each other with respect and work together as a team) 79% / U.S. = 81%, 82%

Organisational Learning – Continuous Improvement (There is a learning culture in which mistakes lead to positive changes and changes are evaluated for effectiveness) 70% / U.S. = 73%, 72%

Supervisor/Manager Expectations & Actions Promoting Patient Safety (Supervisor/Manager consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems) 67% / U.S. = 76%, 80%

Irish Hospital Personnel Response % = 13% (range 1% - 39%)
U.S. Hospital Personnel Response % = 54% (range 6% - 100%)
Areas with Potential for Improvement (% Positive Responses)

Non Punitive Response to Error (Staff feel that their mistakes and event reports are not held against them) 47% / U.S. 44%, 47%

Handoffs and Transitions (Important patient care information is transferred across hospital units/departments and during shift changes) 42% / U.S. 47%, 48%

Staffing (There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients) 40% / U.S. 55%, 53%

Irish Hospital Personnel Response % = 13% (range 1% - 39%)
U.S. Hospital Personnel Response % = 54% (range 6% - 100%)
RCSI Hospital Group 2016
Clinical Incident Themes

Number of clinical Incidents

- Clinical Procedures: 3895
- Slips, Trips, Falls: 2180
- Medication: 788
- Violence, Harassment and Aggression: 728
- Other: 1709
RCSI Hospital Group Website project

In the context of an RCSI Hospital Group philosophy for maximal transparency in relation to performance measurement and in order to enable patients, relatives and the general public to see and understand current performance, a Website Project commenced in Q3 and Q4 2016. The remit of this project was to facilitate the publishing of key metrics on a cumulative basis on an RCSI Hospital Group web site. These performance metrics were organised within 7 core dimensions: – (1) Access and Patient Flow, (2) Infection Control and Management, (3) Medication Management, (4) Maternity Services, (5) Patient Care and Treatment, (6) Patient and Family Experience, (7) Staff.

The performance metrics, first published in October 2016, are available: http://www.rcsihospitals.ie
1. Were the Patient Safety Culture Survey Results Useful for Hospitals and Acted Upon?
2. Are there Plans to Assess Patient Safety Culture on an Ongoing Basis?
3. How Useful is the Transparency Information for Patients and Their Caregivers?
4. Are there Plans for Surveillance of Patient Harm via EHR Data Mining or via Chart-Based Global Trigger Tools, in Addition to the Current Method of Incident Reporting?
5. Are there Plans for the Operational Improvement Use of Measurement of Clinical Performance by Nurse Staffing Levels Across Hospital Units?
Topics to be Covered

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One area of focus is on laying the foundation for high reliability through the building of trusting, interdependent Operating Room teams. The tactic that I am using to get there is through alterations in the “debrief” that ostensibly occurs at the completion of all surgical procedures. My assessment is that this has heretofore been practiced as a rote exercise in “box checking.” My hope is to transform this activity into one where a group of situationally aware professionals quickly share concerns and observations.

Robert A. Probe MD, MBA
Chief of Surgical Safety
Baylor Scott and White Health
A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population


Mortality from 1.5% to 0.8%
Hospital Complications 11% to 7%

Before the patient leaves the operating room:
- Nurse reviews items aloud with the team
- Name of the procedure as recorded
- That the needle, sponge, and instrument counts are complete (or not applicable)
- That the specimen (if any) is correctly labeled, including with the patient’s name
- Whether there are any issues with equipment to be addressed
- The surgeon, nurse, and anesthesia professional review aloud the key concerns for the recovery and care of the patient
Building a System of “high-reliability” Surgical Teams
**Pre-Closure Timeout/Pause**

**Surgical/Procedure Case**

**Start Time**

**Completion Time**

**Start Time** – Obvious

**Completion Time** – Last stitch/staple or gloves off
What have we done with the feedback?

1st Draft

**Pre-completion Timeout**
(Before final closure)*

**Required Elements**
- Procedure
- Specimens
- Counts
- Instrument integrity
- EBL
- Lines, tubes, drains
- Any concerns from any team member

**Other Considerations**
- Wound Class
- Meds given by surgeon
- Is an image needed?
- Family location
- Patient condition & destination
- Implants / Explants
- Procedure specific concerns

*Observable pause and participation by All Surgical Team Members

*We are all experts to receive your feedback on the PCT process and this portion of the checklist!

*For cases without closure, the PCT must be completed before the surgeon's gloves are removed.

2nd Draft

**Debrief Timeout**

**Required Elements**
(Before final closure)

<table>
<thead>
<tr>
<th>Role</th>
<th>Required Elements</th>
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</thead>
<tbody>
<tr>
<td>Surgeon</td>
<td>Procedure, Specimens</td>
</tr>
<tr>
<td>RN</td>
<td>Counts</td>
</tr>
<tr>
<td>CST</td>
<td>Instrument integrity</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>Fluids/EBL</td>
</tr>
<tr>
<td>All</td>
<td>Any concerns from any team member</td>
</tr>
</tbody>
</table>

**Other Considerations**
- Wound Class
- Meds given by surgeon
- Is an image needed?
- Lines, tubes, drains
- Family location
- Patient condition & destination
- Implants / Explants
- Procedure specific concerns
- Plans for the next case
Memorial Herman Health System

As part of its commitment High Reliability Safe Care, the MHHS goal is Zero Preventable Harm.

M. Michael Shabot, MD, FACS, FCCM, FACMI
Executive Vice President
System Chief Clinical Officer
Memorial Hermann Health System
MHHS Safety Culture Training
Completed in 2007

Hospital Training Complete

>20,000 Employees Trained

>4,000 Physicians Trained (later)

>540 Safety Coaches Trained

>$18M Expense
Support Each Other: CUSS Words

- I am **Concerned**
- I am **Uncomfortable**
- This is for **Safety**
- **Stand** up and **Stand** Together
Safety Success Stories

Questioning Attitude
Supporting Each Other
Safety Success Stories

Questioning Attitude
Supporting Each Other

- MH Southeast surgeon closing fascia
- Sponge count incorrect
- RFID wand positive
- Surgical tech advised surgeon
- Surgeon wanted to close skin & finish
- Surgical tech withdrew all instruments
- Surgeon upset, wanted to close
- OR manager to room, supported tech
- Surgeon more upset......but re-opened fascia and found sponge, so no RFB
- Surgical tech honored at hospital and by Board Quality Committee

Chen Nguyen
MH Southeast Scrub Tech
High Reliability Certified Zero Award

1. Zero Events

2. 12 Consecutive Months

3. Certified Zero Category
High Reliability 2011-2019
Certified Zero Awards

ICU Central Line Associated Bloodstream Infections (19)
ICU Catheter Associated Urinary Tract Infections (24)
Hospital-Wide Central Line Associated Bloodstream Infections (7)
Hospital-Wide Catheter Associated Urinary Tract Infections (9)
Ventilator Associated Pneumonias (23)
NHSN Hip Arthroplasty Surgical Site Infections (5)
NHSN Knee Arthroplasty Surgical Site Infections (7)
Retained Foreign Bodies (57)
Iatrogenic Pneumothorax (29)
Accidental Punctures and Lacerations (11)
Pressure Ulcers Stages III & IV (40)
Hospital Associated Injuries (12)
Deep Vein Thrombosis and/or Pulmonary Embolism (4)
Deaths Among Surgical Inpatients with Serious Treatable Complications (2)
Birth Traumas (22)
Obstetric Trauma in Natural Deliveries with Instrumentation (14)
Serious Safety Events 1&2 (30)
Serious Safety Events 1 & 2 for 1000 Days (2)
All Serious Safety Events (1)
Early Elective Deliveries (18)
Manifestations of Poor Glycemic Control (29)
State of South Carolina

A State-Wide Focus on Zero Harm
In 2013 the South Carolina Hospital Association established the Certified ZERO HARM Award.

www.SCZeroHarm.com
Zero Harm Awards were first presented in 2014

Results to date:

• Altogether, South Carolina hospitals have earned over **550 Zero Harm Awards**

• **Two-thirds** of South Carolina’s acute care hospitals have received at least one Zero Harm Award

• This year’s award winners amassed **96,860** central line days without an infection

• They also performed **13,842** harm-free surgical procedures

• And **16** of this year’s winners were recognized for **58 consecutive months** without harm
Sentara Healthcare

- Led by a Volunteer Board of Directors who are Community Leaders
- 128-year not-for-profit mission
- 12 hospitals, 2,727 beds, 3,749 physicians on staff
- 7 Magnet Nursing Hospitals
- 300 Sites of Care
- 12 long term care/assisted living centers/PACE
- Extended stay hospital
- 4 Medical Groups (1,000+ providers)
- 450,000 - member health plan
- Sentara College of Health Sciences
- 27,000+ members of the team
Need for Sustainability

- Assessment in 2014 of our current culture of High Reliability
  - Lacking sustainment through executive succession
- Quality measures
  - Increase in “Wrong” events
  - CLABSI rate did not meet 2015 goal
  - Serious Safety Events outnumbered prior years
  - Fall with Injury rate greater than previous years
- Customer Satisfaction
  - Many divisions not meeting patient satisfaction goal
Current Clinical Appropriateness Organization Structure

Executive Leadership Team

Executive Sponsors
COO, CPE, CNO

Sentara Clinical Appropriateness Initiative
(CQO, VP Clinical Effectiveness, Pres, VPMA, NE, PI, Variation Lead)

Clinical Leadership Council (CLC)
- CLC Charter
- Set and monitor clinical goals, priorities, and processes including sustainability.
- Review of applicable clinical care standards.

HPTs/Service Lines
- Improve quality, safety, service, and cost
- Produce consistently excellent outcomes across the continuum of care
- Set standards for clinical best practice
- Service line—growth
- Identify strategies to increase the probability of sustainability
- Value analysis for Physician Preference Items

CPI Teams x 6
- Focused effort on key clinical and patient experience processes across the system
- Quality, service, and cost
- Identify strategies to increase the probability of sustainability

Clinical and Operational Variation
- Identify and eliminate non-value added clinical and operational variation in order to maximize patient value
- Identify strategies to increase the probability of sustainability
Clinical Leadership Council

– Comprised of leadership from all divisions
  • Voting (54) and non-voting members
  • 32 physicians voting members
  • 22 administrative voting members
– Sets the clinical agenda for the year
– Establishes Clinical Performance Improvement goals
– Oversees work of High Performance Teams
– Approves Clinical Change requests
Sisters of Charity of Leavenworth (SCL) Health

We have focused over the past 5 years on Serious Safety Events with a 49% reduction in events over time. We have plateaued in 2018 in total number of events but severity has continued to drop. We had 9 SSE 1 (death) in 2016, 5 in 2017 and 1 in 2018. *We consider zero the only possible target.* We review the events and categorize into either the 5 taxonomies of Individual Failure Modes or 5 System Failure Modes. We then evaluate our greatest opportunity (which is usually communication and critical thinking in the Individual modes and process and culture in the System Failure Modes).

Shawn Duford, MD
Chief Medical Officer
SCL Health
At MGH we selected the IPASS method for handover safety and did an institution wide training. We now have annual training for new residents. We are working with EPIC on a practical tool to support safe handovers and hopefully scale.

I: Illness Severity  
P: Patient Summary  
A: Action Items  
S: Situational Awareness and Contingency Planning  
S: Synthesis by the Receiver

Elizabeth Mort, MD  
Chief Quality Officer  
Massachusetts General Hospital
# Monthly summary of physician observation results

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<tr>
<td>Observations (n)</td>
<td>96</td>
<td>175</td>
<td>88</td>
<td>114</td>
<td>87</td>
<td>81</td>
<td>85</td>
<td>97</td>
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<tr>
<td>Included or positive (%)</td>
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<tr>
<td>Illness severity</td>
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<td>Patient summary</td>
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<td>Action list</td>
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<td>Situational awareness/contingency planning</td>
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<td>Synthesis</td>
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<td>Giver prepared</td>
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<td>94</td>
<td>94</td>
<td>98</td>
<td>98</td>
<td>99</td>
<td>97</td>
</tr>
<tr>
<td>Receiver engaged</td>
<td>82</td>
<td>97</td>
<td>95</td>
<td>98</td>
<td>98</td>
<td>95</td>
<td>99</td>
<td>96</td>
</tr>
</tbody>
</table>
Mayo Clinic has a robust patient safety program. One novel initiative of note is......

“a system-wide way to respond to recalls, either those that are announced/mandated externally, or those that we feel we should pursue due to safety issues. We can now in a systematic fashion quickly respond by recall of the device/drug, convening a group of clinical experts to determine the risks/actions needed, construct the patient contact list, arrange for legally vetted and appropriate language to contact patients and providers, and then activate our own internal communications to provide the “why” and talking points for our providers.”

Tim Morgenthaler, M.D.
Chief Patient Safety Officer
Mayo Clinic
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Amory Codman (1869 – 1940) was a Boston surgeon considered by many the father of patient safety. He developed an innovative record system, one card to a patient, documenting the end result of each case. Using the cards, he summarized errors and failures. He asked: “Was it the fault of the surgeon, the disease or the patient? What can we do to prevent similar failures in the future?” Codman said: “There’s a general movement, which the public is beginning to demand, toward increasing the efficiency of hospitals.”

For Codman, greater efficiency meant better safety.
“Have a little statistical compassion and take a look at the quantitative information before providing inadequate care or wasting millions of dollars.”

Kerr L. White (1917 – 2014)

For White, who was trained as an economist and an internist, clinical quality and efficiency were closely linked.
Drop in hospital-acquired conditions saves $7.7 billion

By Maria Castellucci | January 29, 2019

The rate of hospital-acquired conditions declined by 13% from 2014 to 2017, saving the providers $7.7 billion and preventing 20,500 hospital deaths, according to preliminary data from the Agency for Healthcare Research and Quality.

In the report released Tuesday, AHRQ said hospitals reported 2.55 million hospital-acquired conditions, or HACs, in 2017 for all inpatients 18 years and older, which is down from the 2.94 million HACs reported in 2014. From 2010 through preliminary 2017 data, the average annual reduction in the overall rate of HACs is about 4.5%, the report said.
What is Value-based Patient Safety?

**Clinical Value**

**Financial Value**

<table>
<thead>
<tr>
<th>Harm Component</th>
<th>Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Days Lost</td>
<td>$1,708,989</td>
</tr>
<tr>
<td>Reimbursements</td>
<td>$49,000</td>
</tr>
<tr>
<td>Productivity Loss</td>
<td>$500,000</td>
</tr>
<tr>
<td><strong>Total Harm Costs</strong></td>
<td><strong>$2,699,429</strong></td>
</tr>
</tbody>
</table>

**Regulatory Value**
The primary goal is to develop a hospital-level electronic measure of multiple dimensions of patient harm.

**Legal Value**

- Near-miss Events: 2%
- Patient Harm: 98%

**Patient/Consumer Value**
Linkage of Patient Safety and Efficiency

“....many informed observers doubt that society is getting the full value of the $6.5 trillion spent every year on healthcare......30%-50% is wasted.....By reducing waste in healthcare systems, we will free up funds for interventions that deliver value by improving patient outcomes.”

Global Coalition for Value in Healthcare
World Economic Forum
2019
Final Comments

1. What are the largest value opportunities at the intersection of patient safety and efficiency in your own care environment?

2. How would you develop a game plan to frame up and execute a scope of work to realize these opportunities?
Thank You!!!

Questions and Comments?