Highly Reliable Rounding: Bringing Patient Safety and Quality to the Bedside

Valerie Allusson: Chief medical Officer
Jennifer Yoo: Lead Physical Therapist
The hospital is altogether the most complex human organization ever devised

Peter Drucker
Complexity

Multi-level organization fundamentally pluralistic. Everything comes in multiple (missions, hierarchies, cultures...)

Chronic coordination problems and inter-unit conflict

Weak linkages to hierarchical levels
Modern Medicine - what do we see?

• The nurse: Dr X is not answering the phone; Can I remove the Foley catheter? What is the plan of care?

• The physician: Phone/beeper constantly ringing; roaming on the floors; what is the plan of care?

• The patient: Too many doctors; don’t know who they are; what is my plan of care?
Modern Medicine

Asynchronous

Inefficient

Redundant

Fragmented

Craftsman attitude

Poor team work

Excessive autonomy of actors
Why hospitals should fly

“The culture of healthcare is not only unsafe, it is incredibly dysfunctional. Though the culture of each health care organization is unique, they all suffer many of the same disabilities that have so far stymied progress: an authoritarian structure that devalues many workers, lack of a sense of personal accountability, autonomous functioning and majors barriers to effective communication”.

Lucian Leape
Background:

**Quality Assurance**
- What went wrong
- Reactive
- Often punitive
- Tries to find who was at fault
- Focus on the specific incident

**Quality Improvement**
- What can we do to improve
- Pro-active
- Avoid blame
- Foster system change
- Focus on the entire system
Quality Assurance versus Quality Improvement

Before

Quality Assurance

Quality Improvement

After
Highly Reliable Organizations, Are We Really That Different?

High Reliability Organizations “operate under very trying conditions all the time and yet manage to have fewer than their fair share of accidents”
Five principles of HROs

3 principles of anticipation

Preoccupation with failure (regarding small inconsequential errors as symptoms that something is wrong)

Sensitivity to operations (paying attention to what is happening on the front line)

Reluctance to simplify (encouraging diversity in experience, perspective and opinion)

2 principles of containment

Commitment to resilience (developing capabilities to detect, contain and bounce back from events that do occur)

Deference to expertise (pushing decision making down and around to the person with the most related knowledge and expertise)
Could Healthcare apply the principles of HRO’s?

Insist on uniform culture of safety

Develop optimal structures and procedures that minimize variability

Provide intensive and continuing training of individuals and teams

Through regular feedback conduct thorough organizational learning and safety management
“We need not to ignore huge opportunities for improving healthcare’s quality, increasing its availability and reducing its cost. What I am talking about here are opportunities that will not require any legislation or market reconfiguration, that will need little capital investment and perhaps most importantly—that can be started today and realized in the near term by the nurses, doctors, administrators and technicians who are already at work.” Steven Spears HBR
The Pioneers: Accountable Care Units (Jason Stein)

**Geographic** inpatient area **consistently responsible** for the **clinical service** and **cost outcomes** it produces
The Accountable Care Unit Model (*Jason Stein*)

1. GEOGRAPHY - Unit-based physician and nurse teams
2. Patient Centered workflow - structured interdisciplinary bedside rounds (SIBR)
3. Unit level performance reports
4. Partner leadership model - Unit-level physician and nurse partners (dyad)
Preparation Stage and Implementation
Leaders who successfully transform businesses do eight things right (and they do them in the right order).

Leading Change
Why Transformation Efforts Fail

by John P. Kotter
Kotter’s 8 Steps for Leading Change

1. Establish A Sense Of Urgency
2. Create The Guiding Coalition
3. Develop A Change Vision
4. Communicate The Vision for Buy-In
5. Empower Broad Based Action
6. Generate Short-Term Wins
7. Never Let Up
8. Incorporate Change Into The Culture

- Implement & Sustain Change
- Engage & Enable The Whole Organization
HUMC-MSH: Preparation Stage for *Highly Reliable Rounding-HRR*

Led by DOM leadership

Engagement of all stakeholders

- Residency program, Nursing, Pharmacy, Nutrition, Rehabilitation Medicine, Social Work and Case Management
- HRR Meetings every 2 weeks
- Multiple meetings with Med Executive Committee and C-suite, formal presentation to Medical Staff
Vision, The “North Star”

“Have multi-disciplinary teams using system-wide resources to deliver the right care at the right place for every patient, at the right time with the right cost and the right transition of care”

Highly Reliable Rounding
Goals of Highly Reliable Rounding

Standardization and homogenization of operator performance (no craftsman attitude)

Teaming

Increase safety margins
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Geographic based Team

Pilot on teaching services (2 of 4 teams)

Created geographic homes for 2 teams

(5 East and 5 West)

• Multiple meetings with Emergency Room, Bed Board, and Residency Leadership for patient assignment

• Started Geographic assignment of patients one month BEFORE implementation of HRR

Challenge: Moving from traditional physician centric to a geographic approach...
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Threefold Goals of SIBR (HRR)

1. Assessing the patient’s overall clinical progress, making sure all members of the interdisciplinary team share their relevant information

2. Performing a Quality and Safety Check

3. Engaging the patient in discharge planning and assuring a safe transition of care
HRR: Key Elements

- Time Commitment: 30 to 35 minutes per team (~ 3 minutes per patient)
- 5 East Start time: 11am (*gather at 10:58)
- C2 Start time 9:30 am
- Prep Work of Team
- Setting Expectations of Patients
- Structured Presentations/Stage Play Format
- HRR Worksheet for Data Collection
Structured Interdisciplinary Bedside Rounds: Roles and Processes

This diagram proved extremely helpful in getting all the members of the interdisciplinary team involved in an “accountable care unit” at Emory University Hospital to have a shared understanding of the standard approach they should use in communicating and coordinating patients’ care.

1. Introduce
   a. Lead team into room, greet patient & family
   b. Say name of RN & SW, roles of team members
   ≤ 15 seconds

2. Update hospital course
   a. Review active problems & response to treatment
   b. Discuss interval test results/consultant inputs
   c. Invite inputs from patient & family, then nurse...
   ≤ 45 seconds

3. Update current status
   a. Overnight events & patient’s goal-for-the-day
   b. Vital signs & pain control
   c. Fluid & food intake
   d. Urine & bowel output
   e. Mental status & ADLs
   ≤ 45 seconds

4. Review Quality-Safety Checklist
   a. Foley catheter
   b. Central line
   c. VTE prophylaxis
   d. Pressure ulcer & stage
   e. Hypo / Hyperglycemia
   ≤ 15 seconds

5. Invite inputs from allied health
   a. Clinical Pharmacist
   b. Social Worker
   ≤ 30 seconds

6. Synthesize plan using all inputs
   a. Propose Plan-for-the-Day & assign responsibilities
   b. Propose Plan-for-Discharge
   • Discharge needs & next site of care
   • Anticipated day of discharge
   ≤ 30 seconds

Enter orders in real-time
- Management decisions
- Quality-Safety Checklist items

Confirm Plan for Discharge
- Discharge needs & next site of care
- Anticipated day of discharge

Ensure High Level SIBR Performance
- Coach team members as needed
- Stop into intern or resident role as needed

Manage SIBR Rounds
- Ensure next bedside nurse ready for SIBR team
- Orient float nurses

Rounds Manager

Source: Emory Healthcare
HRR Worksheet
Front
HRR Worksheet Back with Joint Commission Requirements
Quality and Safety Checklist

Nurse

- Foley Catheter
- Lines
- VTE Prophylaxis
- Pressure Ulcer
- Hypo/Hyperglycemia
- Telemetry
- Falls Score

Pharmacy Input
Simulation/Pit Crews/Role Play

Cast – Patient, Patient’s family, Attending, Nurse, Intern, Resident, Pharmacist, Physical Therapy, Nutrition, Case management/Social Work

Had simulations of HRR with housestaff prior to start date of 3/16/2015
Cowboys and Pit Crews  Atul Gawande

“We have every indication, however, that where people in medicine combine their talents and efforts to design organized service toward common goals for patients, extraordinary change can result. They are pit crews.”
Setting Expectations with Patients

Tri-fold brochure to the patient that explains what to expect during this round and introduce different roles

First Law of Service: \( \text{Experience} = \text{Perception} - \text{expectation} \)
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“A SINGLE DEATH IS A TRAGEDY, A MILLION DEATHS IS A STATISTIC.”

JOSEPH STALIN (WHO KILLED MORE THAN 17 MILLION OF HIS OWN RUSSIAN PEOPLE)
Performance Metrics

LOS
Mortality
Readmission rates
Patient satisfaction
Care givers satisfaction survey  
  • Housestaff and nurses

Medication errors
Utilization of resources  
  • Telemetry  
  • PPI use
CAUTI
Results – What was the outcome?

• Decrease LOS 2015 to 2017: **0.22 days**

• Improved Patient Satisfaction:
  
in 2016: **83% HRR** compared to 63% all patients
  
in 2017: **90% HRR** compared to 66% all patients

• Enhanced patient safety (Pharmacy Interventions, Identifications of lapses (DVT prophylaxis, Foley, Fall Risk))

• Decreased costs

• Decreased inappropriate utilization (Telemetry, PPI)
## Pharmacy HRR Interventions from January to June 2016

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Number</th>
<th>Significant Examples</th>
<th>Estimated Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation to Add Medication</td>
<td>67</td>
<td>Iron supplementation ordered for at least 12 patients with low iron parameters/fanemia (labs overlooked)</td>
<td></td>
</tr>
<tr>
<td>Medication Discontinuation (i.e., due to duplication, lab result, other)</td>
<td>46</td>
<td>Duplicate benzodiazepines; D/C KCl in patient with K of 5 (multiple patients); Patient on PO and IV iron</td>
<td></td>
</tr>
<tr>
<td>Antimicrobial Stewardship (Discontinuation, De-escalation, or Change Based on Culture Results)</td>
<td>45</td>
<td>Septic patient (lactate over 4) where antibiotic never administered until HRR (submitted in Trides); Lovenox erroneously entered AC + HS instead of BID in a patient; Patient with seizure history admitted for seizures after taking ultram; team unaware that ultram lowers seizure threshold and should not be resumed in patient</td>
<td></td>
</tr>
<tr>
<td>Safety Issue</td>
<td>43</td>
<td></td>
<td>$12,900.00</td>
</tr>
<tr>
<td>Medication Reconciliation Discrepancy</td>
<td>26</td>
<td></td>
<td>$6,700.00</td>
</tr>
<tr>
<td>DVT Prophylaxis Stop (Patient at low risk)</td>
<td>23</td>
<td></td>
<td>$690.00</td>
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<tr>
<td>Patient Counseling/Education</td>
<td>23</td>
<td>Focus on non-compliant patients</td>
<td>$1,150.00</td>
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<tr>
<td>GI Prophylaxis Stop (Patient at low risk)</td>
<td>22</td>
<td></td>
<td>$660.00</td>
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<tr>
<td>IV to PO Recommendation</td>
<td>21</td>
<td></td>
<td>$1,050.00</td>
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<tr>
<td>Discontinuing Unnecessary Stress Ulcer Prophylaxis</td>
<td>21</td>
<td></td>
<td>$630.00</td>
</tr>
<tr>
<td>Dose Change (i.e., due to lab result, indication)</td>
<td>19</td>
<td>Patient erroneously on DVT dose of intralo bid instead of once daily for atrial fibrillation; 00 yo on digoxin 0.25 mg; recommendation to double enoxaparin frequency to bid in moderately obese to prevent VTE; increase Protocid dosing to bid for suspected bleed; Patient on enoxaparin 100 mg bid but dose corrected to 150 mg bid based on body weight</td>
<td></td>
</tr>
<tr>
<td>Modify Antihypertensive Therapy</td>
<td>10</td>
<td></td>
<td>$1,444.00</td>
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<tr>
<td>DVT Prophylaxis Start</td>
<td>17</td>
<td>300 lb with MD DVT and a lab not on anticoagulation; multiple patients where prophylaxis discontinued for procedures and not restarted</td>
<td></td>
</tr>
<tr>
<td>Resident Education</td>
<td>17</td>
<td></td>
<td>$1,700.00</td>
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<tr>
<td>Vancomycin Dose Recommendation or Monitoring</td>
<td>16</td>
<td></td>
<td>$1,600.00</td>
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<tr>
<td>Leb Monitoring Recommendation</td>
<td>13</td>
<td></td>
<td>$380.00</td>
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<tr>
<td>Drug Interaction Intervention</td>
<td>7</td>
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<td>$532.00</td>
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<tr>
<td>Renal Dose Adjustment</td>
<td>5</td>
<td>Apresban</td>
<td>$525.00</td>
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<tr>
<td>Modify Glucose-Lowering Regimens</td>
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<td></td>
<td>$380.00</td>
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<tr>
<td>Cost Savings Recommendation (Significant)</td>
<td>5</td>
<td>Discontinuation of IV iron therapy</td>
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<tr>
<td></td>
<td>463</td>
<td></td>
<td>$5,683.00</td>
</tr>
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Conclusion – What this all means?

• Highly Reliable Rounding has been a successful model of a structured interdisciplinary rounds that enhances high quality care and patient safety with significant cost savings and improved patient satisfaction

• Limitations: Only captures 30% of patient population; Geographic not always easy; Requires significant amount of resources...
References


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thank you