ACCOUNTABLE CARE UNIT MODEL OF INPATIENT CARE: Merging Team-Based Care and Quality Improvement Approaches – A Path Forward for Patient Safety

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LEARNING OBJECTIVES

- To understand the importance of patient-centered, team-based inpatient care in improving patient safety.
- To understand the importance of being accountable for clinical outcomes in an inpatient setting.
- To implement a patient care system modeled on an accountable care unit.

OUTLINE

- Iatrogenesis and Preventing Error
  - Patient safety and hospital care
  - Errors and why we fail to improve
  - The quality improvement / patient safety movement
  - The role of teamwork in reducing error

- Teamwork and the Accountable Care Unit
  - A look at our inpatient team-based units – academic, hospitalist, and specialty
  - Description of structured interdisciplinary bedside rounding (SIBR)
  - Unit performance review

- Implementation Challenges / Change Management Strategies
Iatrogenesis and Preventing Error
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Iatrogenesis: Patient Safety and Hospital Care

Leading Causes of Death

Heart disease continues to be the most common cause of death, followed by cancer. In 1999, heart disease caused 37% of deaths, while in 2013, it caused 35%.

2013 data

1999 data

Source: Centers for Disease Control and Prevention. Published Nov 4, 2016.

http://www.cdc.gov/nchs/nvss/mortality_tables.htm
IATROGENESIS:
PATIENT SAFETY AND HOSPITAL CARE

It has been estimated that each year as many as 210,000 - 440,000 hospitalized patients suffer some type of preventable harm that contributes to their death.

IATROGENESIS:
ERRORS AND WHY WE FAIL TO IMPROVE

- If you think our numbers are over-estimates, consider that it is does not include harms from unnecessary care
  - Overuse of PCI
  - HCV epidemic (blood transfusions)
  - Aggressive prostate cancer treatment
  - Numerous back surgeries
  - Opioid epidemic
- Also numbers do not include morbidity
  - Think CLABSI, VAP, ulcers, physical harm in the hospital

IATROGENESIS:
ERRORS AND WHY WE FAIL TO IMPROVE

- Estimating error and harm is difficult
- Diagnostic errors are common: <5% - 10-15%
  - Overconfidence best predictor
- Medication errors are too: ~8% of Rx’s
- “Cascade analysis” 80% of errors initiated by communication failures
  - Handoffs especially
    - Shift change
    - Hospital discharge

IATROGENESIS: ERRORS AND WHY WE IGNORE THEM

- The status quo is not acceptable

As high as smoking or as low as alcohol... Is that where we want to be?

PREVENTING ERROR: QUALITY IMPROVEMENT & PATIENT SAFETY

"Everyone in healthcare has two jobs when they come to work; to do their work and to improve it. This is the essence of Quality Improvement (QI)."

– Paul B Batalden
PREVENTING ERROR
QUALITY IMPROVEMENT & PATIENT SAFETY

- Growth in the science of improvement
- Tremendous amount of resources available

Basic changes = significant improvement gains

Some methods with good evidence are already part of routine care:
- Ultrasound-guided central lines
- Care bundles for catheter-related bloodstream infection
- “Read-backs” for critical communications
- Post-discharge telephone calls to patients
- Structured discharge summaries
- Structured handoff communications
- Medication reconciliation


PREVENTING ERROR
QUALITY IMPROVEMENT & PATIENT SAFETY

What does cheese have to do with healthcare?

The Swiss Cheese Model: James Reason – 1990
Atul Gawande popularized


PREVENTING ERROR
QUALITY IMPROVEMENT & PATIENT SAFETY

Teamwork is crucial1
   - 70% of medical errors “attributable to dysfunctional team dynamics”
   - QI is inherently a social process – latent tension
Furthermore… these are complex systems2
   - QI goals, measures, and methods struggle with change management3


PREVENTING ERROR
PEOPLE, TEAMS, AND CHANGE

- Teamwork literature growing
  - Origins with Crew Resource Management
- Absence of teamwork as problem known
- Mostly positive, moderate quality
  - Provider satisfaction
  - Staff engagement and retention
  - LOS
  - Inpatient mortality
  - Patient Satisfaction
- Measurement and “the how” is still a challenge


Consider the usual hospital organization
- Geographic nurses and SW/CM physicians
- Scattered pharmacists, physicians, PT/OT, etc.

Where do we go from here?
TEAMWORK AND THE ACU

OUR ACADEMIC INTERNAL MEDICINE ACCOUNTABLE CARE UNIT

- Recognizing the role of team-based care in improving care, PHR invested in the development of ACUs
  - Quality Improvement
  - Team-based care
  - Patient safety
- Based on Emory's ACU model
- Best practices per SHM

TEAMWORK AND THE ACU

- Accountable Care Unit: a geographic inpatient area consistently responsible for the clinical, service, and cost outcomes it produces
TEAMWORK AND THE ACU

Three Tenants
1. Geographic placement
2. Team Rounds: SIBR
   - a large portion of preventable adverse events are attributable to communication and teamwork failures
3. Unit level management:
   - physician-nurse leader dyad
   - performance report review

AHRQ website: https://www.ahrq.gov/teamstepps/instructor/essentials/pocketguide.html

PALMETTO HEALTH ACU JOURNEY

- PHR Geriatrics / Hospitalist Unit (Geriatric Leadership) – April 2014
- PHR Heart Failure (Cardiology Leadership) – April 2015
- PHR Academic Family Medicine – August 2015
- PHR Academic Internal Medicine – October 2015
- PHR Academic Neurology / Hospitalist (Neurology / Hospitalist co-leadership) – January 2016
- PHB Hospitalist – September 2016

TRADITIONAL ROUNding – ASYNCHRONOUS PATIENT CARE

10:10a 10:30a 11:00a
**SIBR – STRUCTURED INTERDISCIPLINARY BEDSIDE ROUNding – SYNCHRONIZED PATIENT CARE**

**Location:** home ACU, in the room, at the bedside

**Time:** consistent start time (late morning)
- <60 minutes
- <5 minutes per patient

**Management:** Rounds Manager leads

**Content:** standard communication protocol

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**WHAT TO EXPECT FROM SIBR**

- Done in addition to physician daily rounding, assessment and exam of the patient
- Prepared team members
- Mutual respect for all team members
- Ability to address clinical concerns, patient safety issues at bedside with real-time order entry
- Brief encounter with team and ideally patient’s family
  - OK to redirect patient / family to avoid prolonged discussion
  - Not a time for lengthy discussions (such as end-of-life discussions)

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**TEAMWORK AND THE ACU**

ACUs with SIBR are resilient: prepared, proactive, reliable, and safe
SAFETY IN THE HOSPITAL

Barriers to Safety
- Clinical Inertia
- Diagnostic Error
- Normalization of Deviance
- Fragmented Care
- Communication breakdown

Resilient Design
- Quality Safety Checklists
- Collaborative Cross Checking
- Situation Awareness
- Shared Mental Model of Teamwork

TEAMWORK AND THE ACU
TEAMWORK AND THE ACU

UNIT PERFORMANCE REVIEW – DASHBOARD EXAMPLE

UNIT PERFORMANCE REVIEW

USC IM ACU – Harms 2015-2017

**Unit Performance Review**

<table>
<thead>
<tr>
<th>ACUs</th>
<th>FY 2014-2015 (PRE)</th>
<th>FY 2016-2017 (POST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad Spectrum Antibiotic Use (days/patient days)</td>
<td></td>
<td></td>
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<tr>
<td>Geriatric ACU</td>
<td>3206/8116 (40.6%)</td>
<td>2074/428 (27.9%)</td>
</tr>
<tr>
<td>USC IM ACU</td>
<td>5400/10560 (51.1%)</td>
<td>3459/5716 (35.6%)</td>
</tr>
<tr>
<td><strong>CLABSI/CAUTI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geriatric ACU</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>USC IM ACU</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Control non-ACU</td>
<td>3</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>HCAHPS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Communication</td>
<td>Geriatric ACU</td>
<td>79%</td>
</tr>
<tr>
<td>USC IM ACU</td>
<td>76.4%</td>
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<tr>
<td>Control non-ACU</td>
<td>78.5%</td>
<td></td>
</tr>
<tr>
<td><strong>Physician Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geriatric ACU</td>
<td>83.3%</td>
<td></td>
</tr>
<tr>
<td>USC IM ACU</td>
<td>85.4%</td>
<td></td>
</tr>
<tr>
<td>Control non-ACU</td>
<td>71.7%</td>
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</table>

**Current GM LOS vs. Expected LOS**

<table>
<thead>
<tr>
<th>Observed Readmission Rate (%)</th>
<th>Expected Readmission Rate (%)</th>
<th>DRG Weight</th>
<th>Expected LOS (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatric ACU</td>
<td>9.2</td>
<td>15.73</td>
<td>4.14</td>
</tr>
<tr>
<td>CHF ACU</td>
<td>13.43</td>
<td>14.91</td>
<td>3.85</td>
</tr>
<tr>
<td>COPD/HF/MI</td>
<td>13.51</td>
<td>14.50</td>
<td>4.29</td>
</tr>
</tbody>
</table>
UNIT PERFORMANCE REVIEW

- Resident QI project

- Staff and patient reports (if not HCAHPS) have been resoundingly positive
  - Creation of each ACU takes effort, cooperation, and willingness to change
  - Culture shift started
  - We have incorporated best-practice of standardized checklists, daily team rounds, geographic placement


CHANGE MANAGEMENT

- Intravenous and Preventing Error
  - Patient safety and hospital care
  - Errors and why we fail to improve
  - The importance of patient safety management
  - The role of teamwork in reducing error

- Teamwork and the Accountable Care Unit
  - A look at our inpatient team-based units – academic, hospitalist, and specialty
  - Description of structured interdisciplinary bedside rounding (SIBR)
  - Using data to set unit goals

- Implementation Challenges / Change Management Strategies

- First, do no harm. After that, go nuts.
- Benjamin Schwartz
IATROGENESIS AND CHANGE MANAGEMENT: ERRORS AND WHY WE FAIL TO IMPROVE

- MD-reported barriers to change include:
  - Unrealistic planning/timelines, failure to create buy-in, one-way communications, lack of accountability, unclear performance expectations
  - Burdensome mandates and measures
  - Disincentives of ill-advised measures or change itself


CHANGE MANAGEMENT

- Literature advises on leadership strategies and describes improvement efforts
- BUT human aspect of change is under-emphasized
- What to expect and plan for
  - Initial disbelief needs strong, dedicated unit leadership and institutional support
  - Excitement and energy will wane to disengagement and initial improvements in outcomes will decline
  - Re-engagement is challenging but necessary
  - Communication and coaching are key
  - Creating a safe environment that allows admission of errors and respect for the input of all members is crucial

The Change Curve on an ACU: Stages of Change Management on ACUs at Palmetto Health (derived from Kubler-Ross and The Change Curve)
DISCUSSION – LEARNING OBJECTIVES REVISITED

- To understand the importance of patient-centered, team-based inpatient care in improving patient safety.
  - Escaping iatrogenesis, preventing medical errors, saving lives
  - The accountable care unit and SIBR
- To understand the importance of being accountable for clinical outcomes in an inpatient setting.
  - Unit performance review
- To implement a patient care system modeled on an accountable care unit.
  - Change management strategies

CONCLUSIONS - TAKE-HOME POINTS

- Patients suffer many preventable harms while receiving inpatient care annually that contributes to excess morbidity and mortality.
- Accountable care units use patient-centered, team-based care to address the issues of patient safety.
- SIBR allows for synchronized rounding on patients by the entire care team and addresses the patient quality-safety checklist at the bedside.
- Unit performance review allows for targeted goal setting for improved care on the unit.
- The human aspect of change must be considered when implementing a team-based system change in patient care.