Designing Hospital Units for Collaborative Care and High Performance

Webinar
The Advisory Board
June 2016

Jason Stein MD SFHM
Chief Executive Officer
1Unit
A Remedy for Fragmented Hospital Care

by Jason Stein, David J. Murphy, Christina Payne, Diaz Clark, William A. Bornstein, David Tong, Bryan Castle, and Susan Shapiro

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Fragmented hospital care has been associated with higher hospital mortality and length of stay, and failures of communication and teamwork are the most commonly identified sources of “sentinel events” in hospitals – unexpected occurrences that result in actual deaths or the risk of deaths, or physical or psychological injuries.

Organizational Context

To address this problem, Emory Healthcare (EHC), the clinical delivery arm of the
Reorganizing a Hospital Ward as an Accountable Care Unit

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Traditional hospital wards are not specifically designed as effective clinical Microsystems. The feasibility and sustainability of doing so are uncertain, as are the possible outcomes. To reorganize a traditional hospital ward with the tools of an effective clinical microsystem, we designed it to have 4 specific features: (1) unit-based teams; (2) structured interdisciplinary bedside rounds; (3) unit-level performance reporting; and (4) unit-level nurse and physician co-leadership. We called this type of unit an accountable care unit (ACU). In this narrative review, we describe our experience implementing each feature of the ACU. Our aim was to introduce a progressive approach to hospital care and team performance at Emory University Hospital, Emory University Hospital, a 579-bed tertiary academic medical center. Here we provide a brief report on our experience and lessons we learned over the ACU over a 4-year period to help others gauge feasibility and sustainability.

FEATURES OF AN ACU

Unit-Based Teams

**Design**

Geographic alignment fosters mutual respect, cohesiveness, communication, timeliness, and face-to-face problem solving, and has been linked to improved patient satisfaction, decreased length of stay, and reductions in morbidity and mortality.14,15 At our hospital, though, patients newly admitted or transferred to the hospital medicine service traditionally had been distributed to physicians without regard to geography, typically based on physician call schedules or traditions of balancing patient volumes across col-
Structured Interdisciplinary Bedside Rounds (SIBR® rounds)
Global Spread of ACU and SIBR (2012-2016)
U.S. Spread of ACU and SIBR (2012-2016)
SIBR A CONVERGENT SOLUTION

- Clinical Outcomes
- Costs & Risks
- Throughput
- Staff Retention and Recruitment
- Patient Satisfaction
# Deaths on the Unit

**6G**

- ACU

**5G**

- ACU
Resilience: How ACUs Create Proactive Care

The Slippery Slope of Deterioration

SIBR Certification

Foresight
- Prevent predictable adverse events
- Overcome deficits in situation awareness & clinical inertia
- Quality-Safety Checklist triggers protocols

Coping
- Detect & avert deterioration
- Overcome normalization of deviance & cognitive error
- Collaborative Cross Checking triggers fresh clinical review

Recovery
- Respond to frank deterioration

Rapid Response

ACLS

Patient Condition

Resilient → Brittle
Traditional hospital care

- **Fragmented**
- **Reactive**
- **10⁻¹ Reliability**

Provider

**Communication?**

Nurse

**Coordination?**

Family

- **10:10a**
- **10:30a**
- **11:00a**
Reactive care vs Proactive care

Reactive Care

"The hospital is altogether the most complex human organization ever devised." - Peter Drucker

- No predictability or consistency
- No ownership or accountability
- Chance interactions
- Weak coordination
- Chaotic clinical operations
- Patients passive & frustrated
- $10^{-3}$ reliability

Proactive Care

- Predictability & consistency
- Ownership & accountability
- Strong relationships & routines
- Strong coordination
- Control over clinical operations
- Activated patients & families
- $10^2$ reliability

Identify-and-mitigate

"Normal"

- Pages, phones, and notes
- Stairs, logins, searching
- Tribes & silos
- Illusion of teamwork
Structured Interdisciplinary Bedside Rounds (SIBR® Rounds)

1. **Location:** home unit, in the room, at the bedside
2. **Time:** consistent start time, less than 60 minutes
3. **Management:** SIBR rounds manager calls next nurse
4. **Content:** 6-step communication protocol
5. **High-performance:** SIBR® Certification
Structured Interdisciplinary Bedside Rounds (SIBR® Rounds)

High-Performance

Shared Mental Model

10:30a

6-Step Communication Protocol

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

2. Update hospital course
   a. Review active problems & response to treatment
   b. Discuss interval test results & consultant inputs
   c. Cross check with patient and family, then nurse...
   ≤ 45 sec

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 & functional status
   ≤ 45 sec

4. Checklist Quality-Safety
   - Urinary catheter
   - Central venous catheter
   - VTE prophylaxis
   - Glycemic control
   - Pressure ulcer & stage
   ≤ 15 sec

5. Invite inputs from other disciplines present

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 sec

Collaborative cross checking

Quality-safety checklist

Interdisciplinary plan of care

EVERYONE activated
SIBR® Rounds

6-Step SIBR® Communication Protocol

**Steps 1-2: Lead provider**

1. **Introduce**
   - Lead team into room, greet patient & family
   - Say name of nurse & roles of team members

2. **Update hospital course**
   - Review active problems & response to treatment
   - Discuss interval test results & consultant inputs
   - Cross check with patient and family, then nurse...
Steps 3-4: Bedside nurse

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 & functional status

4. Checklist Quality-Safety
   - Urinary catheter
   - Central venous catheter
   - VTE prophylaxis
   - Glycemic control
   - Pressure ulcer & stage

< 45 sec

< 15 sec
**SIBR® Nurse Prep Sheet**

**Areas of Concentration**

1. **Overnight events**
2. **Patient’s Goal for the Day**
3. **Nurse’s concerns** (address only those items of concern; if not normal discussion required):
   - Vital signs (if abnormal)
   - Pain control (and last pain med given)
   - Intake (inadequate fluids or nutrition)
   - Output (inadequate urine output or bowel movement)
   - Mental status (confused/delirious)
   - Malnourishment (dependence for ADLs)
4. **Quality & Safety Checklist** (each item must be addressed)
   - Foley (insertion date)
   - Central line (insertion date)
   - VTE prevention (pharmacologic or mechanical)
   - Skin integrity (pressure ulcer staging and plan)
   - Hypo- or hyperglycemia (values < 70 or > 180)

**Steps 3-4: Bedside nurse**

3. **Update current status**
   - Overnight events & patient’s goal for the day
   - Vital signs & pain control
   - Fluid & food intake
   - Urine & bowel output
   - Mental status & functional status

4. **Checklist Quality-Safety**
   - Urinary catheter
   - Central venous catheter
   - VTE prophylaxis
   - Glycemic control
   - Pressure ulcer & stage

**Notes:**

- < 45 sec
- < 15 sec
6-Step SIBR® Communication Protocol

Steps 5-6: Lead provider

5. Invite inputs from other disciplines present

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

10:30a
Confirm plan for discharge
- Discharge needs & next site of care
- Anticipated day of discharge

Steps 5-6: Lead provider

5. Invite inputs from other disciplines present

6. Synthesize plan using all inputs
   - a. Propose plan for the day & assign responsibilities
   - b. Propose plan for discharge
   - Anticipated day of discharge
SIBR® Rounds

Care & Discharge Plan

Steps 5-6: Lead provider

5. Invite inputs from other disciplines present

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

Active Listener

10:30a
Manage SIBR® Rounds
a. Ensure readiness of next nurse
b. Ensure SIBR Ground Rules
c. SIBR performance & accountability
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SIBR® Rounds

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   a. Ensure readiness of next nurse
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   c. SIBR performance & accountability

10:30a
SIBR® PERFORMANCE THE DIFFERENCE BETWEEN SUCCESS & FAILURE

Without attention to SIBR performance

% unit staff SIBR certified

SIBR® App

SIBR® P ERFORMANCE THE D IFFERENCE BETWEEN SUCCE$$ \& F AILURE
Accountable Care Unit

definition: a geographic inpatient area consistently responsible for the clinical, service, and cost outcomes it produces.
Accountable Care Unit: 4 features

1. **Unit-based teams:** physicians assigned to units creates predictability, cohesiveness, communication

2. **Structured Interdisciplinary Bedside Rounds (SIBR):** patient-family centered teamwork

3. **Unit-level performance reporting:** vastly superior to traditional facility or service level reports

4. **Unit-level nurse & physician co-leadership:** manage unit structure, processes, & outcomes
<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Clinical</strong></td>
<td>25% reductions in-hospital mortality(^1) (ARR 1.8% relative to controls)</td>
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<tr>
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<td>25% reductions in complications of care(^2) / hospital-acquired conditions</td>
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<tr>
<td><strong>Cost and Throughput</strong></td>
<td>9-15% reduction in length-of-stay(^1,2) (0.4 days relative to controls)</td>
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<td>5-50% reductions in 30-day readmissions (relative to controls)</td>
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<td>$100-$1,500 reduction in direct variable costs per hospitalization(^2)</td>
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<td>$240K-$2.7MM reduction in direct variable costs per unit in 1st two years(^2)</td>
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<td>10-25% reduction in nursing turnover</td>
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<tr>
<td><strong>Satisfaction</strong></td>
<td>2-3x higher patient satisfaction scores(^2)</td>
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<tr>
<td></td>
<td>2-3x higher employee engagement scores and teamwork scores(^3)</td>
</tr>
<tr>
<td><strong>Sources</strong></td>
<td>Hospitals: GA, SC, FL, OH, PA, NY, VT, OR, CA</td>
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<tr>
<td></td>
<td>Case studies: The Advisory Board, University Health Care Consortium</td>
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<tr>
<td></td>
<td>Peer reviewed literature: Medical Care [in press]</td>
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</tbody>
</table>

\(^1\) = The Impact of Accountable Care Units on Patient Outcomes. Medical Care, 2016, in peer review.  
\(^2\) = Portability and Success of a Clinical Microsystem Model in Improving Safety, Quality, and Cost at a Community Teaching Hospital. Oral presentation, Society of Hospital Medicine Annual Meeting, 2016, Washington DC.  
\(^3\) = Structured nursing communication on interdisciplinary acute care teams improves perceptions of safety, efficiency, understanding of care plan and teamwork as well as job satisfaction. Journal of Multidisciplinary Healthcare 2016:8 33–37.
Interested in SIBR? Ask about:

SIBR® Innovation Collaborative

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