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Hospital Flow Professional Development Program
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These presenters have nothing to disclose.
Transforming Care on Medical and Surgical Units

Care teams in most medical and surgical units are facing increased demand due to shorter lengths-of-stay, aging of the population, increased complexity and acuity of patients, inefficient care processes and challenges in discharging patients with the “appropriate care” in a timely fashion. Delayed transfers of patients between nursing units and lack of available beds are significant problems that increase costs and decrease quality of care and satisfaction among patients and staff. The overwhelming majority of discharge occur on medical and surgical units, and discharge delays often create bottlenecks that negatively impact patient flow throughout the hospital.

Nursing shortages and high turnover of nursing staff on medical and surgical units adds additional challenges in many hospitals. To address restore the vitality of the nursing staff, hospitalists and the entire care team, create more efficient care processes, and improve outcomes for patients and family members, medical and surgical units must undergo a fundamental transformation.
Smaller hospitals and units have to run at lower average occupancy. This explains the observed higher nursing cost per bed day in smaller wards and the lower average occupancy observed to be associated with the smaller specialty bed pools.

The figure of 3% turn-away was considered to be a pragmatic compromise between operational efficiency and the capital cost issues applicable to the UK but comes at the cost of not being able to guarantee waiting time targets.

'turn-away' - a measure of the chaos, difficulty and effort implied in running the hospital, i.e. ambulances diverted elsewhere, patients held on trolleys in the emergency department, medical patients in surgical beds, cancelled operations, managers and clinicians hastily re-arranging schedules, bed management meetings and general operational complexity.

Session Objectives

- Describe various staffing models for medical and surgical units that provide adequate nursing time per patient in the context of acuity and census variability.
- Describe the key strategies developed in the Transforming Care at the Bedside (TCAB) initiatives for engaging front-line nurses and other care team members in innovations and quality improvement efforts.
- Identify successful changes that have improved the work environment for staff, created more patient-centered care processes and increased nurses’ time at the bedside.
Nurse Staffing.....

Why should we care about it and what should we do about it?
Nurse Staffing and Patient Outcomes in Hospitals

This study found statistically significant relationships between nurse staffing variables and the following patient outcomes in acute care:

- **Medical Patients:** urinary tract infection, pneumonia, shock, upper gastrointestinal bleeding, length of stay
- **Patients Undergoing Major Surgery:** urinary tract infection, pneumonia, failure to rescue (defined as the death rate among patients with sepsis, pneumonia, shock, upper gastrointestinal bleeding, or deep vein thrombosis)

- High RN staffing associated with 3-12% decrease in likelihood of events, high total nursing staffing associated with 2-25% decrease
- No effects of staffing on mortality in either medical or surgical patients
- Main Analyses involved 1997 discharges from 799 hospitals across 11 states (AZ, CA, MA, MD, MI, NV, NY, SC, VA, WI, WV)

Staffing Ratios and Adverse Events

Recent studies show that lower nurse-to-patient staffing ratios are associated with higher rates of adverse events, including:

- Nosocomial infections (e.g. UTI, post-op infection, and pneumonia)
- Pressure ulcers
- Cardiac and respiratory failure and “failure to rescue”
- Increased length of stay

Aiken et al, 2002; Needleman et al, 2002; Seago, 2001 and Kovner, 2002
Hospital Nurse Staffing, and Patient Mortality, Nurse Burnout and Job Dissatisfaction

University of Pennsylvania study: 10,000 nurses and 230,000 patients from 168 hospitals in Pennsylvania from 1998-1999.

For each additional patient assigned to a nurse findings showed:

- 30-day patient mortality increases by 7%
- failure-to-rescue rates increase by 7%
- the odds of nursing job dissatisfaction increase by 15%
- the odds of nurse burnout increase by 23%

If nurses had eight patients instead of four, their patients had a 31% higher chance of dying within 30 days of admission.

43% of the nurses surveyed were burned out and emotionally exhausted.

Nurse staffing, burnout, and health care-associated infection

There was a significant association between patient-to-nurse ratio and urinary tract infection (0.86; P = .02) and surgical site infection (0.93; P = .04).

In a multivariate model controlling for patient severity and nurse and hospital characteristics, only nurse burnout remained significantly associated with urinary tract infection (0.82; P = .03) and surgical site infection (1.56; P < .01) infection.

Hospitals in which burnout was reduced by 30% had a total of 6,239 fewer infections, for an annual cost saving of up to $68 million.
In this retrospective observational study, staffing of RNs below target levels was associated with increased mortality, which reinforces the need to match staffing with patients' needs for nursing care.

For hospitals that generally succeed in maintaining RN staffing levels that are consistent with each patient's requirements for nursing care, this study underscores the importance of flexible staffing practices that consistently match staffing to need throughout each patient's stay.

Our findings suggest that nurse staffing models that facilitate shift-to-shift decisions on the basis of an alignment of staffing with patients' needs and the census are an important component of the delivery of care.

We also found that the risk of death among patients increased with increasing exposure to shifts with high turnover of patients. Staffing projection models rarely account for the effect on workload of admissions, discharges, and transfers.
Cost Impacts of Adverse Events

While inadequate staffing levels place heavy burdens on the nursing staff and adverse events are painful for patients, there is also a considerable financial cost to be considered.

An AHRQ-funded study found that all adverse events studied (pneumonia, pressure ulcer, UTI, wound infection, patient fall/injury, sepsis, and adverse drug event) were associated with increased costs.

- The cost of care for patients who developed pneumonia while in the hospital rose by 84 percent. Treating pneumonia raised total treatment costs by $22,390-$28,505, while the length of stay increased 5.1-5.4 days and the probability of death rose 4.67-5.5 percent.

- Pressure ulcers, another category of adverse patient event sensitive to nursing care, are estimated to cost $8.5 billion per year.


Summary of Issues

- The issues of acuity and the need for more flexibility in determining staffing levels need to be considered.
- The idea of mandating more nurses at the bedside won’t necessarily make that a reality.
- Complexity of variables which effect the nurse-to-patient ratios make it difficult for researchers to determine optimal nursing levels.
- Increasing staffing ratios without other improvements in the work environment and in processes of care is unlikely to dramatically improve the quality and safety of patient care.
Admissions and Discharges

Hospital: hourly hospital inpatient admission and discharge profile, 1 Apr to 26 May 2013

Average daily hospital admissions and discharges (excl. elective LoS = 0 day stays in non-inpatient areas), n; by hour of day
Source: local unvalidated TrakCare extract, taken Jun 2013; note: results are intended for management information only

Legend:
- Grey line: Total admissions
- Red line: Total discharges
- Gray bars: Emergency admissions
What nurse staffing is needed to consistently provide safe and quality care?

Staffing for >95% census/occupancy

Staffing for > average census/occupancy
Nurse Staffing, Hospital Operations, Care Quality, and Common Sense

1. Staff hospitals 24/7 according to the peaks in both bed occupancy and admissions.
2. Be "creative" by introducing dynamic PNRs that will fluctuate in a synchronous manner with census and admissions.
3. Legislate PNRs
4. Preserve the status quo and do nothing.
5. Change hospital patient flow management.

Litvak E, Laskowski-Jones, L; Nurse staffing, hospital operations, care quality, and common sense; *Nursing*, August 2011.
Flex Capacity to Meet Seasonal, Day of the Week and Hourly Variations in Demand

- Can you anticipate which units need more bed capacity? (which services consistently have a large number of “off-service” patients?)
  - Use data analytics to quantify needs of each service
- Can you predict a surge in admissions for patients with medical conditions in the winter months?
  - Use seasonal flex units to manage increases in medical patients during the winter months (or flu season)
- Do you have a regular surge of activity mid-week with the hospital census regularly reaching >95% occupancy?
  - Smooth elective surgical schedules (particularly for patients who will require ICU care post-op)
- Do you have increased workload between ~12N and 6PM due to admissions and discharges?
  - Redesign discharge processes
Staffing Prediction – Proactive Planning

- Data to Front Line Leaders – Updated daily
- Right Staff for the Right Patients
  - Correct Number and Competency
  - Flexible with Changing Environment
  - Prediction of Needs – Be Prepared – Be Resilient

### Weekly Census Prediction Report

<table>
<thead>
<tr>
<th>Monday</th>
<th>PICU</th>
<th>HI</th>
<th>NICU</th>
<th>Complex</th>
<th>TCC</th>
<th>CBDI</th>
<th>Medical</th>
<th>Surgical</th>
<th>Overflow</th>
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<tbody>
<tr>
<td>3/7/2016</td>
<td>35</td>
<td>25</td>
<td>17</td>
<td>50</td>
<td>11</td>
<td>24</td>
<td>36</td>
<td>32</td>
<td>12</td>
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<tr>
<td>Total Capacity: 36</td>
<td>25</td>
<td>17</td>
<td>50</td>
<td>11</td>
<td>24</td>
<td>36</td>
<td>32</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Actual Midnight Census</td>
<td>33</td>
<td>19</td>
<td>15</td>
<td>58</td>
<td>6</td>
<td>21</td>
<td>30</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>OR elective</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OR add on</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>ED</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>7</td>
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<tr>
<td>Direct Admits</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<td>Other</td>
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<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Predicted Discharges</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Predicted Demand</td>
<td>41</td>
<td>19</td>
<td>25</td>
<td>50</td>
<td>11</td>
<td>21</td>
<td>30</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Predicted Unit Occupancy</td>
<td>35</td>
<td>10</td>
<td>17</td>
<td>50</td>
<td>11</td>
<td>21</td>
<td>35</td>
<td>25</td>
<td>12</td>
</tr>
</tbody>
</table>
Stressed Microsystems: Objectives

**Identify**
Quantitative metrics and qualitative measures indicative of microsystem stress

**Mitigate**
Describe mitigation strategies at the unit, microsystem, and organizational levels to prevent serious harm and other types of poor outcomes in stressed systems.

**Predict**
Discuss a systematic approach to predict stressed Microsystems.
Why redesign work on nursing units?

- Nurses spend 31-44% of their time in direct patient care activities
- Nurses experienced an average 8.4 work system failures per 8-hour shift
  - Medications
  - Orders
  - Supplies
  - Staffing
  - Equipment
- Nurses spend 42 minutes of each 8-hour shift resolving operational failures
- ….and we are experiencing a nursing shortage!!!
## Increasing Nurses’ Time in Direct Care

<table>
<thead>
<tr>
<th></th>
<th>Before Redesign</th>
<th>After Redesign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before Redesign</strong></td>
<td>40% of a 12 hour shift = 4.8 hours in direct care</td>
<td>60% of a 12 hour shift = 7.2 hours in direct care</td>
</tr>
<tr>
<td></td>
<td>8 patients = .6 hours per patient</td>
<td>8 patients = .9 hours per patient</td>
</tr>
<tr>
<td></td>
<td>6 patients = .8 hours per patient</td>
<td>6 patients = 1.2 hours per patient</td>
</tr>
<tr>
<td></td>
<td>4 patients = 1.2 hours per patient</td>
<td>4 patients = 1.8 hours per patient</td>
</tr>
</tbody>
</table>
Transforming Care at the Bedside
October 2008

TRANSFORMING CARE AT THE BEDSIDE: All medical and surgical units are transformed and have achieved and sustained unprecedented results.

Successful changes that achieved new levels of performance on the pilot site(s) are spread to all med/surg units

SAFE AND RELIABLE CARE: Care for moderately sick patients who are hospitalized is safe, reliable, effective and equitable.
- Codes on med/surg units are reduced to zero
- Patient harm from high hazard drugs is reduced by at least 50% per year
- Incidents of patient injury from falls (moderate or higher) are reduced to 1 (or less) per 10,000 patient days
- Hospital-acquired pressures ulcers are reduced to zero

VITALITY AND TEAMWORK: Within a joyful and supportive environment that nurtures professional formation and career development, effective care teams continually strive for excellence.
- Increase staff vitality and reduce annual voluntary turnover by 50%

PATIENT-CENTERED CARE: Truly patient-centered care on medical and surgical units honors the whole person and family, respects individual values and choices, and ensures continuity of care. Patients will say, "They give me exactly the help I want (and need) exactly when I want (and need) it."
- 95% of patients are willing to recommend the hospital
- Readmissions within 30 days are reduced to 5% or less

VALUE-ADDED CARE PROCESSES: All care processes are free of waste and promote continuous flow
- Nurses spend 60% or more of their time in direct patient care

GOALS / NEW LEVELS OF PERFORMANCE

LEADERSHIP LEVERAGE POINTS

KEY DESIGN THEMES

HIGH LEVERAGE CHANGES

Create early detection & response systems (including rapid)
Devolve hospice & palliative care programs
Build capability of frontline staff in innovation & process improvement
Implement a framework for nursing practice based on the forces of magnetism
Develop m/c level managers & clinical leaders to lead transformation
Optimize communications and teamwork among clinicians & staff
Create patient-centered healing environments
Involves patients & families on all QI teams
Multidisciplinary rounds involving patients & family members
Create agility adaptable beds
Optimize the physical environment for patients, clinicians and staff
Eliminate waste & improve work flow in admission process, medication administration, handoff, inpatient care & discharge process

Green = best practices exist on 25 or more med/surg units
Yellow = best practices exist on 5 med/surg units
Gray = innovation and testing of new ideas are needed
IHI’s Idealized Design Process…. the “how” of TCAB

• Link TCAB aims to the hospital’s strategic plan
• Generate New Ideas for Prototype Testing
  ✓ “Snorkel” (adaptation of IDEO’s “Deep Dive”)
  ✓ Adapt strategies from other Industries
  ✓ Adapt “best practices”
  ✓ Create a Learning Community (Site Visits, Storyboard Sessions, Collaborative Learning, etc.)
• Test New Ideas and Measure Outcomes
• Implement and Spread Successful Changes
TCAB Themes and High Leverage Changes....the “what” of TCAB

- Transformational Leadership
- Safe and Reliable Care
- Vitality and Teamwork
- Patient-Centered Care
- Value-added Care Processes
Improve the Work Environment through Physical Space Design

- Streamline and standardize supplies and equipment throughout the unit.
- Relocate essential supplies and equipment near or in patients’ rooms.
- Decentralize nursing workstations and pods.
- Organize just-in-time supplies for special treatments and procedures so that staff do not have to hunt and gather.

Eliminate Waste and Redesign Key Processes on Medical and Surgical Units

- Admission Processes
  - Admission Team Trio at ThedaCare
- Discharge Processes
  - “Ticket Home” at Virginia Mason
- Medication Administration
  - Locate Meds in or Near Patient Rooms
- Handoffs and inter-professional team communications
- Routine Care
  - Intentional Rounding

Admission Trio Team

The Trio:
Physician
Nurse
Pharmacist

Results:
• Interdisciplinary assessment
• Single care plan
• Med reconciliation
• Reduced documentation
Admission Trio

• Tons of duplication for our patients and staff are removed from the admission process
  – 288 items reduced to 135 of the “right” items
  – 78 duplicate items eliminated
  – Documentation of assessment in one place from 4 places
• Decreases in interruptions by having the pharmacist involved at the beginning
• Defect-free med reconciliation process with pharmacy involvement at the bedside
• Completion of screening tools done on admission to improve outcomes and core quality measures (i.e. CMS bundles, DVT, palliative care, smoking cessation, skin breakdown, etc.)
• Reduction in time required for completing admission (from 5 to 12 hours down to 45-90 minutes)
**Keys to Success:**
- Discharge date, time
- Patient milestones
- Discharge goals

**Results:**
- Improved communication
- Better understanding of “what it takes to go home”
Locate Meds in or Near Patient Rooms
Rounding occurs on all patients. Explain process to patients on admission. Use key words ‘our goal is to provide better than expected care’

Schedule: Nurses round on odd hours; NA/PMC round on even hours

Rounding Checklist:
- Pain Assessment
- Toileting – Assist patient to restroom
- Positioning
- Environmental scan
  - Fall risk hazards: bed in low position, cords secured
  - Ensure items are within reach: phone, water, tissue, urinal, bedside table, trashcan, & call light within reach
  - Comfort: temperature of room, blankets, pillows
- Ask “Is there anything else I can do for you? I have the time.”
- Remind the patient that a staff member (let them know who) will be back in about an hour to round on them again.
TCAB Resources

RWJF’s Website
http://www.rwjf.org/qualityequality/product.jsp?id=30051

IHI’s Website
http://www.ihi.org/IHI/Programs/StrategicInitiatives/TransformingCareAtTheBedside.htm
http://www.ihi.org/IHI/Programs/InnovationCommunities/TransformingCareattheBedside.htm

AJN Supplement
http://journals.lww.com/ajnonline/Pages/TCAB.aspx
Strategic Objectives at MGH

- To develop improvements and innovations on nursing care units that will:
  - Improve the quality and safety of patient care
  - Increase patient-centeredness
  - Create more effective care teams
  - Improve staff satisfaction and retention
  - Improve efficiency
- Leadership development of frontline staff and manager
- Transformational leadership
- Nurse autonomy and ownership of practice
- Quality measures are tracked
- Health care reform
The TCAB Process

- Frontline teams generate new ideas: not the quality department, not administration
- Testing ideas and measuring outcomes: Rapid-cycle testing facilitates change: “one nurse, one patient, one shift”
- Implementing and spreading successful changes

- Collaborative learning
TCAB at MGH

Why TCAB at MGH?

– Aligns with values and mission
– Aligns with focus on innovation
– Supports evidenced based practice
– Strategically positions MGH for the future
Identified Problem: Staff felt they were spending too much time “hunting and gathering” for frequently-used supplies.

Aim Statement (or Goal): Relocate frequently-used clinical supplies into the patient’s room, to decrease the amount of walking (non-value added), and increase the amount of time spent in patient care activities (value added).

PLAN-DO-STUDY-ACT: Staff were educated on rapid cycle change and utilized this model to work on the identified problem.
### Planning Phase

**Prediction**
- Staff will spend less time looking for supplies
- Supplies will be easily accessible
- More time spent at bedside with patient and family
- Increased patient satisfaction
- No increase in nosocomial infections

**Measure**
- Staff utilized special personal digital assistants (PDAs) to track time and motion
- Staff feedback
- PDA measures of direct care time
- Patient satisfaction scores
- Nosocomial reports
PLAN-DO-STUDY-ACT

- **Plan:**
  - What supplies should be kept in the room?
  - What should they be housed in?
  - Who should stock the supplies?
  - When and how often should they be stocked?
  - What protocol should be used for accessing supplies?
  - What education is required?

- Small work groups comprising of all role groups assembled to design the new process

- Utilizing the TCAB principle of “small tests of change,” supply bins were trialed in two rooms for one week.
**Do:** Describes what actually happened when they ran the test

- Staff liked not having to leave the patient’s bedside and walk to the supply room to retrieve a supply.
- Staff were compliant with performing hand hygiene (using Cal Stat) prior to touching the supply bin.
- No new nosocomial cases in the targeted 2 rooms.
- Staff realized there were some supplies not included that would be helpful.
PLAN-DO-STUDY-ACT

**Study:** Describes the measured results and how they compared to the predictions

**Prediction**
- Staff will spend less time looking for supplies
- Supplies will be easily accessible
- More time spent at bedside with patient and family
- Increased patient satisfaction
- No increase in nosocomial infections

**Actual Result**
- Time spent looking for supplies decreased by over 80%.
- Staff stated supplies were more accessible
- Direct care time increased as non-value-added time decreased
- Patient satisfaction improved with decreased interruptions in care
- No new nosocomial cases
**Act**: Describe what modifications to the plan will be made for the next PLAN-DO-STUDY-ACT cycle from what you learned.

- A family member and non-unit based care provider were observed accessing the bins without using CalStat. Signage on the bins was needed and added.
- Drinking straws and Sharpie pens were added to the par list.
- Bins would be rolled out to 3 more rooms, monitor nosocomial rates, compliance with CalStat, monitoring of supplies (do we have the correct supplies, and the correct par level)
- Bins rolled out to the remaining rooms
Tracking Progress – Time and Motion

- PDAs used to measure nurse time and motion
- Nurses carry the device for one week, around the clock
- For more information, please go to: www.rapidmodeling.com
### PDA Screen shot - layout

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Room</strong></td>
<td><strong>Nurse Station</strong></td>
<td><strong>On the Unit</strong></td>
</tr>
<tr>
<td><strong>Meds Room</strong></td>
<td><strong>Document Server</strong></td>
<td><strong>Off the Unit</strong></td>
</tr>
<tr>
<td><strong>Narcotic Storage</strong></td>
<td><strong>Kitchen</strong></td>
<td><strong>Conf Room</strong></td>
</tr>
<tr>
<td><strong>Supply Room</strong></td>
<td><strong>Clean Storage</strong></td>
<td><strong>Dirty Storage</strong></td>
</tr>
<tr>
<td><strong>Equip Storage</strong></td>
<td><strong>Dirty Storage</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bedside Procedure</strong></td>
<td><strong>Comm. w/CareTeam</strong></td>
<td><strong>Document-ation</strong></td>
</tr>
<tr>
<td><strong>Vital Signs</strong></td>
<td><strong>Comm. w/Patient</strong></td>
<td><strong>Teaching</strong></td>
</tr>
<tr>
<td><strong>Wound Manage</strong></td>
<td><strong>Patient Services</strong></td>
<td><strong>Meds</strong></td>
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<td><strong>Emergency</strong></td>
<td><strong>Family Services</strong></td>
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<td><strong>ADL</strong></td>
<td><strong>Waiting Delay</strong></td>
<td><strong>Other</strong></td>
</tr>
<tr>
<td><strong>Admit Discharg</strong></td>
<td><strong>Assessment</strong></td>
<td></td>
</tr>
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</table>

Timer: 07:45:10

Timer: 07:19:00
PDAs – What are we Learning?

Value Adding

Necessary

Non-Value Adding

Direct Care

Indirect Care

Documentation

Administration

Personal

Waste

Other

Individual Activities
PDAs – What are we Learning?

March 2009
Central Supply – Actual Travel Distance: 15,791 ft
Distributed Supply – Actual Travel Distance: 14,908 ft
## Comparison and Analysis

<table>
<thead>
<tr>
<th></th>
<th>Travel Distance (ft/hr):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Meds &amp; Supply (where we used to be)</td>
<td>15,791 ft</td>
</tr>
<tr>
<td>Distributed Supply (how things are now)</td>
<td>14,908 ft (5.6% improvement) (savings of 4 miles/24 hrs or 1456 miles/year)</td>
</tr>
<tr>
<td>Distributed Meds (if supplies centrally)</td>
<td>13,973 ft (11.5% improvement)</td>
</tr>
<tr>
<td>Distributed Meds &amp; Supply (if meds were distribute)</td>
<td>13,080 ft (17% improvement)</td>
</tr>
</tbody>
</table>

### Savings
- 2,711 ft/hr
- 12.3 mi/day
- 4,498 mi/yr
- Approximate Yearly Walking Distance = Boston, MA to Moscow, Russia.

### Sports Fans
- 90 First Downs/hr
Spaghetti Diagram

- A spaghetti diagram is the visual creation of actual flow. The keyword is *ACTUAL*, not what it should be or is perceived to be.
- It is a snapshot in time so it may not include all scenarios.
- Items to get started: Overhead views of area, drawn close to scale and labeled.
CHECK IT OUT! THIS IS EVERYWHERE A NURSE WENT IN 2 HRS!! SOME OF THE TCAB WORK WILL BE TO ↓ AMOUNT OF STEPS A NURSE TAKES OVER THEIR SHIFT!

- Judy S.
Our Medication Practices

- Better understand the workflow of the nurse on White 10 as it relates to our medication practices
- Identify areas in which we could decrease time spent in non-value added activities (waiting for access to the Omnicell, walking)
- Increase time spent in Direct Care activities
Morning Activities (0645-1000)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0645</td>
<td>Retrieves assignment, gathers pens, and notes</td>
</tr>
<tr>
<td>0648</td>
<td>Finds computer, starts report</td>
</tr>
<tr>
<td>0711</td>
<td>Reading report complete, files data sets, hunts for gray chart</td>
</tr>
<tr>
<td>0715</td>
<td>Verbal report from RN #1 (T.B.)</td>
</tr>
<tr>
<td>0720</td>
<td>Waiting to talk to next RN</td>
</tr>
<tr>
<td>0721</td>
<td>Looking for green book</td>
</tr>
<tr>
<td>0722</td>
<td>Verbal report from RN #2 (K.C.)</td>
</tr>
<tr>
<td>0724</td>
<td>Verbal report from RN #3 (J.M.), order clarification</td>
</tr>
<tr>
<td>0725</td>
<td>Starting to sign off signature keys in green book</td>
</tr>
<tr>
<td>0726</td>
<td>Resource asks if she needs help w boost for her pt.</td>
</tr>
<tr>
<td>0727</td>
<td>Gown/glove in to room 28A</td>
</tr>
<tr>
<td>0729</td>
<td>Need pad from linen cart</td>
</tr>
<tr>
<td>0732</td>
<td>Done w boost, sxn, pad change</td>
</tr>
<tr>
<td>0733</td>
<td>Back to nsg station to finish signing off signature keys</td>
</tr>
<tr>
<td>0734</td>
<td>To 36B to retrieve green book</td>
</tr>
<tr>
<td>0735</td>
<td>Into room 30A – assist pt to bathroom</td>
</tr>
<tr>
<td>0736</td>
<td>Into room 36B – “eyeball” pt while waiting for 30A</td>
</tr>
<tr>
<td>0737</td>
<td>Pad added to 30A bed</td>
</tr>
<tr>
<td>0738</td>
<td>Waiting for pt in bathroom “don’t want to leave him, he is heart pt”</td>
</tr>
<tr>
<td>0742</td>
<td>Into room 28A for boost, FS, VS</td>
</tr>
<tr>
<td>0747</td>
<td>Cleans glucometer, into med room</td>
</tr>
<tr>
<td>0748</td>
<td>In med room for 36B, gathering meds</td>
</tr>
<tr>
<td>0755</td>
<td>Into 36B after stopping for cup</td>
</tr>
<tr>
<td>0756</td>
<td>Forgot insulin, back to med room</td>
</tr>
<tr>
<td>0758</td>
<td>Overhead page “Michelle to rounds”</td>
</tr>
<tr>
<td>0759</td>
<td>Back to 36B, another RN to rounds, explains FS, meds, insulin dose to pt</td>
</tr>
<tr>
<td>0803</td>
<td>28A needs third boost</td>
</tr>
<tr>
<td>0806</td>
<td>Into med room, waiting for machine, signs off signature key</td>
</tr>
<tr>
<td>0818</td>
<td>30A for meds, forgot orange juice</td>
</tr>
<tr>
<td>0822</td>
<td>30A set up for breakfast</td>
</tr>
<tr>
<td>0825</td>
<td>Central monitor station, looking at alarms</td>
</tr>
<tr>
<td>0830</td>
<td>Into med room, 28A mds</td>
</tr>
<tr>
<td>0845</td>
<td>Crushing meds in med room</td>
</tr>
<tr>
<td>0846</td>
<td>Talking with psych consult at nsg station</td>
</tr>
<tr>
<td>0847</td>
<td>“Michelle phone call on 45” – call about pt for diagnostic test</td>
</tr>
<tr>
<td>0848</td>
<td>Resumes psych conversation</td>
</tr>
<tr>
<td>0849</td>
<td>Gown/gloves for med administration 28A</td>
</tr>
<tr>
<td>0850</td>
<td>Boost #4 28A</td>
</tr>
<tr>
<td>0851</td>
<td>Start med administration via NGT after confirming placement</td>
</tr>
<tr>
<td>0856</td>
<td>Done with meds 28A</td>
</tr>
<tr>
<td>0903</td>
<td>Nsg station, charting I&amp;Os</td>
</tr>
<tr>
<td>0909</td>
<td>Into rounds with medical team</td>
</tr>
<tr>
<td>0955</td>
<td>Done with rounds</td>
</tr>
</tbody>
</table>

Report (40 mins)

“Check-in” with Patients (16 mins)

Medications (79 mins)

Rounds with MDs (46 mins)
Medication Time

Medication Time in 12-hrs

Minutes

oct '07 | nov '07 | dec '07 | jan '08 | feb '08 | mar '08 | apr '08 | may '08 | jun '08 | jul '08 | aug '08
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
Administration: 78.48 | 66.96 | 69.12 | 78.48 | 79.92 | 106.56 | 95.76 | 84.24 | 71.28 | 90.72 | 66.96
Preparation: 60.48 | 36 | 44.64 | 38.16 | 46.8 | 43.2 | 38.16 | 46.8 | 46.8 | 35.28 | 33.84
Medication Summary

- “Bottlenecking” of activities at beginning of shift
- Minimal direct care time at beginning of shift
- Many competing priorities
- Medications changed during morning rounds
- More chance for error when under pressure
- Centralized medication room contributes to more walking
- 33 – 60 minutes spent in medication preparation
- Waiting delays
Role of the Nurse Manager and Chief Nurse

- Remember it is staff driven
- Facilitate weekly meetings (TCAB Tuesdays, 52 Wednesdays, etc.)
- Leadership, communication, negotiation
- “cut through the red tape”
- Reframe barriers
- Engagement of staff
- Data management
- Spread consultant, resource, mentor
- Celebrate success
Challenges / Obstacles

- Letting go (from management perspective)
- Engagement of the staff (unit-based and multidisciplinary)
- Competing priorities
- Changing culture
Tips for Success

- Start small!
- “one nurse, one patient, one shift”
- Weekly meetings
- Encourage staff champions
- While celebrating successful changes, remember the journey, remind staff of their impact
- Don’t worry about failure, abandon and move on to the next change
TRANSFORMING

Care at the Bedside

Transforming Care at Mass General

Introducing TCAB at a Massachusetts hospital.

Editor's note: Recognizing that medical-surgical units are among the busiest and most challenging areas of many hospitals, the Robert Wood Johnson Foundation sought to find ways to retain bedside nurses by empowering them to make the changes needed to improve care and teamwork on the unit. It developed and funded an initiative called Transforming Care at the Bedside (TCAB—pronounced “teecab”). The Institute for Healthcare Improvement led the first phase of the work with 10 hospitals that had agreed to test a new role for nurses and other team members who are on the front line of care.

TCAB focuses on making improvements in four areas:

- the safety and reliability of patient care
- team viability and teamwork
- patient- and family-centered care
- adding value to care processes (for example, by increasing the time that nurses spend in direct contact with patients)

These aims are achieved by providing frontline staff with the authority and tools needed to make such changes. For example, staff members engage in brainstorming exercises called “smurfs” and “deep dive” to identify barriers and possible solutions. Using the plan-do-study-act, or PDCA, method, staff members test, evaluate, and tweak their ideas as needed and then spread their use.

Taking off from the success of the initial 10 hospitals, the American Organization of Nurse Executives is leading a second phase of TCAB that involves more than 60 hospitals. Additional TCAB initiatives are expected from the Robert Wood Johnson Foundation. A virtual TCAB learning center (see www.rwjf.org/pr/product/sphids=31512), provides more information about TCAB as well as guides and tools that others can use to transform care at hospitals and other settings. Additional information and resources are available at www.ihi.org/IHI/Programs/TransformationalCare/TransformingCareAtTheBedside.htm.

Massachusetts General Hospital, a 908-bed academic medical center in Boston, is a fast-paced, high-volume work environment, with a rich history and very high standards. The nursing staff at this Magnet-designated facility is dedicated to providing excellent clinical care, advancing research and education, and serving the community. Last year, when Mass General joined the Transforming Care at the Bedside (TCAB) initia

Gallivan, MS, RN, associate chief nurse for general medical, emergency, and heart center nursing. She asked that our unit, White 10, serve as the TCAB pilot unit at Mass General. I’d been the nursing director for about a year and a half, and I knew the unit was a great choice. On our unit, we see a wide array of diagnoses and comorbidities and a broad range of acuity; often patients have significant psychological and social challenges and have less than five years. Many are pursuing graduate studies and specialty certifications in medical-surgical and geriatric nursing.

The unit is fully staffed and, according to our most recent staff survey, all agreed or strongly agreed that they are satisfied with the unit’s work environment.

We’re fortunate to have Susan Kilroy, MS, RN, a unit-dedicated clinical nurse specialist, to provide additional guidance in this