A Step Forward: Implementation of Hourly Rounding, Step Tracking, and Staff Perceptions of Barriers and Solutions

Dr. Aimee Burch, DNP, APRN-CNS, CMSRN, SCRN
Disclosures to Participants

Dr. Burch would like to note that there are no financial or other conflicts to disclose.

Learning Objectives:
• After completing this activity, the learner will:
  – identify key data analysis showing the relationship between an electronic hourly rounding (HR) tool and nurses’ steps
  – identify the relationship between electronic HR and patient safety
  – define nursing staff identified barriers and solutions to HR implementation
Nebraska- The Good Life!
CHI Health St. Francis
Why Hourly Rounding?

• HR is used to improve:
  – patient safety
  – patient satisfaction
  – nursing staff satisfaction

• Implemented successfully, HR can decrease:
  – call lights
  – patient falls
Why Hourly Rounding?

• Little data available regarding nursing perceptions related to HR
• Investment of bedside nurses in HR is essential to successful:
  – implementation
  – sustainability
Something needed to be done

• CHI Health St. Francis had tried 4 times in the past
  – Used:
    • Paper
    • White board
  – These were not successful
• Staff were not on board
• Current process not effective
Initial Hourly Rounding Study

- Qualitative pre- and post- design
- Convenience sample of bedside nurses and patient care assistants (PCAs)
  - Included staff at two separate data points
    - n=159 (2014)
    - n=137 (2016)
- Interventions included:
  - Education on HR
  - Demonstration of skills
  - Implementation of electronic HR software
Initial Hourly Rounding Study

• Validated survey tool
  – Dr. Donna Fabry
  – Tool included questions about:
    • barriers and solutions to HR
    • reasons for HR
    • thoughts surrounding computerized HR tool
Additional Step Intervention

• The electronic HR vendor hypothesized that:
  – implementation of electronic HR tool would decrease call lights
  – decreasing call lights using electronic HR tool would decrease nurse staff steps
Additional Step Intervention

- Nursing staff on the medical-surgical unit documented steps taken each shift
  - 2 month baseline pre-implementation of HR system
  - 6 months post-implementation
- Call light usage, on-time rounds (OTR), and falls were tracked
How did we do it?

• Step trackers
• Manual data aggregation
  – Nurse assignment data from electronic medical record (EMR) report
• Call light data
• Falls data from database
  – Same numbers that are entered for National Database of Nursing Quality Indicators (NDNQI)
• HR data from electronic HR tool
<table>
<thead>
<tr>
<th>Date</th>
<th>First Name, Last Initial</th>
<th>Nurse Type</th>
<th>Time-In</th>
<th>Steps-In</th>
<th>Time-Out</th>
<th>Steps-Out</th>
<th>Patient Load</th>
<th>Patient Room Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/6</td>
<td>Becky S</td>
<td>RN PCA Charge</td>
<td>0555</td>
<td>0</td>
<td>1835</td>
<td>8399</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/7</td>
<td>Julie</td>
<td>RN PCA Charge</td>
<td>0553</td>
<td>0</td>
<td>1843</td>
<td>6550</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>Whitney W</td>
<td>RN PCA Charge</td>
<td>1850</td>
<td>1753</td>
<td>2359</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>Whitney W</td>
<td>RN PCA Charge</td>
<td>0600</td>
<td>0</td>
<td>0630</td>
<td>3250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8</td>
<td>Claudia S</td>
<td>RN PCA Charge</td>
<td>0635</td>
<td>3358</td>
<td>1845</td>
<td>11053</td>
<td></td>
<td>7695</td>
</tr>
<tr>
<td>7/8</td>
<td>Susie</td>
<td>RN PCA Charge</td>
<td>1845</td>
<td>11053</td>
<td>MN</td>
<td>110095</td>
<td>16430</td>
<td>9054</td>
</tr>
<tr>
<td>7/9</td>
<td>Leticia</td>
<td>RN PCA Charge</td>
<td>0630</td>
<td>4012</td>
<td>1830</td>
<td>12993</td>
<td></td>
<td>18981</td>
</tr>
<tr>
<td>7/9</td>
<td>Susie</td>
<td>RN PCA Charge</td>
<td>MN</td>
<td>0</td>
<td>0800</td>
<td>28996</td>
<td></td>
<td>3996</td>
</tr>
<tr>
<td>7/10</td>
<td>Mary P</td>
<td>RN PCA Charge</td>
<td>0600</td>
<td>0</td>
<td>1920</td>
<td>8096</td>
<td></td>
<td>8096</td>
</tr>
<tr>
<td>7/11</td>
<td>Stephanie</td>
<td>RN PCA Charge</td>
<td>0600</td>
<td>0</td>
<td>1830</td>
<td>12109</td>
<td></td>
<td>12109</td>
</tr>
<tr>
<td>7/11</td>
<td>Susie</td>
<td>RN PCA Charge</td>
<td>1830</td>
<td>12109</td>
<td>MN</td>
<td>19027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/11</td>
<td>Susie</td>
<td>RN PCA Charge</td>
<td>MN</td>
<td>0</td>
<td>0640</td>
<td>5163</td>
<td></td>
<td>12071</td>
</tr>
<tr>
<td>7/12</td>
<td>Narci</td>
<td>RN PCA Charge</td>
<td>0630</td>
<td>5153</td>
<td>1830</td>
<td>20068</td>
<td></td>
<td>14910</td>
</tr>
<tr>
<td>7/13</td>
<td>Julie</td>
<td>RN PCA Charge</td>
<td>0554</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Electronic HR tool
Rounding Map at Nurses’ Station
Tap and Go - essential!
Rounding Screen-Icons Individualized to Unit
Fall Assessment - Fall Risk Settings

- **Hourly Rounding Tasks**
  - Pain
  - Personal Needs
  - Position
  - Additional Comfort Needs
  - Environmental Assessment

- **Complete All Tasks**
- **Hand-Washing Procedures**
  - Upon Entry
  - Upon Exit

- **Patient Comments**
  Add comments for friends and family using the icons below...

- **Alert Message**
  - This patient is a high fall risk.
  - Please ensure that either the TABS monitor or bed alarm is set.

- **Time**
  - 22mins, N Health
  - 4mins, N Health
  - 7mins, N Health
  - 31mins, N Health

- **Rounder**
  - N Health
First Round - Room Code

1. Educate the patient about why we hourly round at our hospital.
2. Inform the patient and their family about the available Friends and Family Portal.

Active Room Code

820D

Please note: The comments that you enter will be seen by the patient’s friends and family. Meaningful comments will be appreciated.

Done
<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Comments on the patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 Nov - 6:35 PM</td>
<td>Patient is currently working with Physical Therapist.</td>
</tr>
<tr>
<td>19 Nov - 5:40 PM</td>
<td>Patient is awake and feeling much better since last night. She's holding down liquids and has even managed to eat</td>
</tr>
<tr>
<td>19 Nov - 4:42 PM</td>
<td>Patient visited with her mother and father. Seeing family really made her happy.</td>
</tr>
<tr>
<td>19 Nov - 3:58 PM</td>
<td>Patient’s bandages were changed this hour. Patient took medication with her dinner.</td>
</tr>
<tr>
<td>19 Nov - 3:02 PM</td>
<td>Patient is up and out of bed, and watching a movie. She drank an 8 oz glass of water this hour.</td>
</tr>
<tr>
<td>19 Nov - 2:15 PM</td>
<td>Patient was visited by her doctor this hour. If she maintains a low pain level, she should expect to be discharged</td>
</tr>
<tr>
<td>19 Nov - 1:07 PM</td>
<td>Patient was rounded by her doctor, who administered a small dosage of pain medication, as she complained of a dull</td>
</tr>
<tr>
<td>19 Nov - 12:22 PM</td>
<td>Patient was assisted to restroom this hour. She reported feeling much better this afternoon, compared to this</td>
</tr>
<tr>
<td>19 Nov - 11:47 AM</td>
<td>Patient is still watching a movie, and requested a small snack.</td>
</tr>
</tbody>
</table>
Data Analysis
Day Shift: Call Lights vs. Steps

Correlation = 0.08 (no correlation)

Correlation = 0.42 (moderate correlation)
Night shift: Call Lights vs. Steps

Correlation = -0.18 (no correlation)

Correlation = 0.01 (no correlation)
Day Shift: OTR vs Steps

Correlation= 0.04 (no correlation)

Correlation= 0.12 (no correlation)
Night shift: OTR vs. Steps

Correlation= 0.78 (strong correlation)

Correlation= 0.73 (strong correlation)
How did this affect patient safety and satisfaction?
Call Lights
Call Light Outcomes Hospital vs. Med-Surg

Average Calls per Patient per Day

<table>
<thead>
<tr>
<th></th>
<th>Pre-study</th>
<th>Baseline</th>
<th>Intervention</th>
<th>Study</th>
<th>Post-study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calls</td>
<td>6.3</td>
<td>8.3</td>
<td>5.6</td>
<td>7.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Lights</td>
<td>5.6</td>
<td>6.5</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
</tr>
</tbody>
</table>
# Average Patient Calls

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Average Call Lights</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.2015-May.2015 (Pre-study)</td>
<td>6.32</td>
<td>N/A</td>
</tr>
<tr>
<td>Jun.2015-Jul.2015 (Baseline)</td>
<td>6.1</td>
<td>3.5% decrease from pre-study</td>
</tr>
<tr>
<td>Sep.2015-Feb.2016 (Study)</td>
<td>5.89</td>
<td>6.8% decrease from pre-study</td>
</tr>
<tr>
<td>Sep.2015-Aug.2016</td>
<td>5.64</td>
<td>10.8% decrease from pre-study</td>
</tr>
<tr>
<td>Sep.2015-Jul.2017</td>
<td>5.8</td>
<td>8.2% decrease from pre-study</td>
</tr>
</tbody>
</table>
Initial Overall OTR and Calls

On-Time Rounds vs Calls

Correlation= -0.52 (moderate correlation)
Post-Intervention Overall OTR and Calls

Correlation = -0.6532 (strong correlation)
Post-Intervention OTR and Calls-Progressive Care

Correlation= -0.6498 (strong correlation)
Post-Intervention OTR and Calls- Med-Surg and Inpatient Rehabilitation

**Correlation= 0.1087 (no correlation)**

**Correlation= -0.0691 (no correlation)**
Falls
# Patient Falls per 1000 Patient Days

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Fall Rate</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.2015-May.2015</td>
<td>2.99</td>
<td>N/A</td>
</tr>
<tr>
<td>(Pre-study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun.2015-Jul.2015</td>
<td>3.98</td>
<td>33.11% increase from pre-study</td>
</tr>
<tr>
<td>(Baseline)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep.2015-Feb.2016</td>
<td>2.62</td>
<td>34.17% decrease from baseline</td>
</tr>
<tr>
<td>(Study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep.2015-Aug.2016</td>
<td>3.34</td>
<td>16.08% decrease from baseline</td>
</tr>
<tr>
<td>After intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep.2015-Jul.2017</td>
<td>3.19</td>
<td>19.85% decrease from baseline</td>
</tr>
</tbody>
</table>
Initial Overall OTR and Falls

On-Time Rounds vs Falls


Correlation= -0.69 (strong correlation)
Post-Intervention Overall OTR and Falls

On-time Rounds vs. Falls for Hospital

Correlation= 0.0382 (no correlation)
Post-Intervention OTR and Falls- Med-Surg

Correlation= -0.2855 (weak correlation)
Post-Intervention OTR and Falls-Progressive Care and IRU

Correlation= 0.1895 (no correlation)

Correlation= -0.1983 (no correlation)
Hourly Rounding Perceptions, Barriers, and Solutions Survey
Hourly Rounding Survey

• 2 questions applicable to electronic HR tool
  • Having a computerized tool would make HR more convenient to complete
  • There is a good way to determine if HR is being done

• 3 questions added for electronic tool vendor
  • I feel that I am more efficient with the use of HR
  • I feel that when I complete HR, I decrease return visits to the patient room each hour
  • I feel that I walk less with proper HR
Computerized Tool Makes HR More Convenient

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>42.1</td>
<td>73.5</td>
</tr>
<tr>
<td>Undecided</td>
<td>23.6</td>
<td>15.0</td>
</tr>
<tr>
<td>Disagree</td>
<td></td>
<td>34.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.5</td>
</tr>
</tbody>
</table>

Percent
Good Way to Determine HR Completed

<table>
<thead>
<tr>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.9</td>
<td>12.4</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Percent

CHI Health
More efficient: 3.65
HR equals fewer return visits: 3.21
Walk less: 2.84
Significant Positive Outcomes

• Higher OTR = fewer lights per patient; Hospital & Progressive Care were significant
  • Maintained an 8.2% decrease in call lights from pre-study data
• Reduced calls on Med-Surg by 1/patient; Hospital by 0.6/patient
  • Average Med-Surg census of 20, **10 fewer lights/shift**
  • Average Hospital census 60-90, **15-23 fewer lights/shift**
• Higher OTR = fewer patient falls on Med-Surg
  • Maintained **19.85% decrease** in falls from baseline
• Staff agrees/strongly agrees having an electronic documentation tool
  ✓ = HR **more convenient** to complete
  ✓ = **easier** to determine that HR is being completed
Other Outcomes

• Reduced call lights ≠ higher or lower walking steps
• Higher or lower OTR percentage ≠ higher or lower day shift steps
  • Higher OTR percentage = higher night shift steps
  • There was some reluctance to go into rooms at night to round, so was not completed on a schedule prior to the electronic tool
Special Thanks

• Katie Hottovy, Co-founder and Director of Client Services, Nobl Health
• Beth Bartlett, MSN, RN, CENP; Vice President of Patient Care Services, CHI Health St. Francis
• Dr. Brenda Bergman-Evans, PhD, APRN-NP, APRN-CNS; CHI Health, for initial data analysis
• Natasha Quinones, BSN, RN for initial research assistance
Questions & Follow-up

- Aimee Burch, CHI Health St. Francis
  www.chihealthstfrancis.org | aburch@sfmc-gi.org