Reflections on the CAPTURE Falls Project: Lessons Learned from Implementing Organizational Change

CIMRO Quality Forum
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http://unmc.edu/patient-safety/capture_falls.htm
Acknowledgement: Research Team

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• 17 small rural hospitals (16 CAHs)
• 1 PPS hospital
Learning Objectives

1. Explain the rationale for the CAPTURE Falls project

2. Classify the evidence-base for inpatient fall risk reduction into structure, process, and outcomes.

3. Describe lessons learned from the CAPTURE Falls project and potential future directions
Definition of fall: For the purposes of patient safety, a fall is a sudden, unintended, uncontrolled downward displacement of a patient’s body to the ground or other object. This definition includes unassisted falls and assisted falls (i.e., when a patient begins to fall and is assisted to the ground by another person)¹
Rationale for CAPTURE Falls

• The etiology of falls is multifactorial, thus falls require a multifactorial/interprofessional approach for prevention.²

• Fall risk has been reduced in studies where interprofessional team members were actively engaged in fall risk reduction efforts.³⁻⁵

• An interprofessional team (vs. nursing only strategy) and use of benchmarks are associated with sustained improvement.⁶⁻⁸

• Effective teams are the fundamental structure for learning in organizations.⁹
Rationale for CAPTURE Falls

• TeamSTEPPS™ (Team Strategies and Tools to Enhance Performance and Patient Safety) is a training program to teach effective teamwork skills to healthcare professionals. http://teamstepps.ahrq.gov/

• We have disseminated TeamSTEPPS™ to 53/65 (82%) of Nebraska’s Critical Access Hospitals (CAHs). http://www.unmc.edu/patient-safety/teamstepps.htm

• Many NE hospitals are uniquely positioned to merge clinical fall risk reduction skills with teamwork skills.
## Background and Rationale

<table>
<thead>
<tr>
<th></th>
<th>Falls per 1000 Patient Days</th>
<th>Injurious Falls per 1000 Patient Days</th>
<th>p value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NE Hospitals 2010</td>
<td></td>
<td></td>
<td>.025</td>
<td>.029</td>
</tr>
<tr>
<td>Non-CAHs (n = 14)</td>
<td>4.2</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAHs (n = 56)</td>
<td>6.3</td>
<td>1.8</td>
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<td></td>
</tr>
</tbody>
</table>

**Risk of falls greater in CAHs than non-CAHs**

1. CAHs care for higher proportion of older adults
2. CAHs provide skilled nursing care with goal of rehabilitation
3. CAHs less likely to implement organizational level fall risk reduction interventions including designating accountability
4. CAHs less likely to externally benchmark fall rates
5. CAHs continue to receive payment for healthcare acquired conditions including falls with injury
Baseline Fall Rates CY 2010

**No One (n=13)**
- Total Fall Rates: 8.1
- Injurious Fall Rates: 5.3

**Individual (n=13)**
- Total Fall Rates: 5.2
- Injurious Fall Rates: 1.1

**Team (n=34)**
- Total Fall Rates: 3.6
- Injurious Fall Rates: 1.2

**NDNQI* (n=1263; 06-08)**
- Total Fall Rates: 3.3
- Injurious Fall Rates: 0.93

*p=.083
*p=.005

Prevalence of Organizational Level Fall Risk Reduction Practices in Nebraska by Hospital Type (CY 2011)

- Conduct fall risk reduction annual competency training and new employee orientation:
  - CAHs (n=56): 11%
  - Non-CAHs (n=14): 50%

- Benchmark fall rates to external organizations:
  - CAHs (n=56): 23%
  - Non-CAHs (n=14): 64%

- Team Reflexivity: Collect and analyze data, modify p\p based on data, conduct RCAs of injurious falls:
  - CAHs (n=56): 29%
  - Non-CAHs (n=14): 64%

- Direct patient care staff from multiple disciplines discuss a patient’s fall risk in the context of daily care:
  - CAHs (n=56): 30%
  - Non-CAHs (n=14): 57%

- Report injurious falls to an external organization:
  - CAHs (n=56): 32%
  - Non-CAHs (n=14): 71%
<table>
<thead>
<tr>
<th>Practice</th>
<th>CAHs (n=56)</th>
<th>Non-CAHs (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrate evidence from multiple disciplines to continually improve...</td>
<td>34%</td>
<td>71%</td>
</tr>
<tr>
<td>Staff receive feedback about actions taken to improve care as a result of...</td>
<td>48%</td>
<td>64%</td>
</tr>
<tr>
<td>Communicate fall risk status across units/departments</td>
<td>50%</td>
<td>54%</td>
</tr>
<tr>
<td>Communicate fall risk status across shifts</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Analyze and track outcomes over time</td>
<td>85%</td>
<td>100%</td>
</tr>
</tbody>
</table>
CAPTURE Falls

- **Collaboration** and **Proactive Teamwork** Used to **Reduce** Falls funded by AHRQ 8/2012 – 7/2014
- Partner with 18 Nebraska Hospitals (16 CAHs)
  - Develop customized Action Plan based on gap analysis
  - Support implementation of Action Plan
  - Evaluate implementation of Action Plan
  - Develop and disseminate a toolkit

**Ultimate Goal** = **Decrease Risk of Harm from Falls in CAHs**
CAPTURE Falls Toolkit

http://unmc.edu/patient-safety/capture_falls.htm

CAPTURE Falls
Collaboration And Proactive Teamwork Used to Reduce Falls

Action Plan
Fall Event Reporting
Learning Modules
Tool Inventory
Monthly Support Calls

FUTURE WEBINARS
January 14, 2014—Best Practices In Using Data to Reduce Fall Risk
10:00 AM - 11:00 AM

Access previous webinars under Learning Modules in the left menu.

GRAND圓 AND LESSONS LEARNED CONFERENCE
Panel Discussion of Lessons Learned

AIMS:

- **Aim 1:** We are partnering with 19 Nebraska hospitals to develop a customized CAPTURE Falls action plan to improve the structure and process of fall risk reduction.
- **Aim 2:** We are supporting 19 Nebraska hospitals to implement a customized CAPTURE Falls action plan.
- **Aim 3:** We are evaluating the implementation of the CAPTURE Falls action plans in 19 Nebraska hospitals using the Context, Input, Process and Product (CIPP) model.
Donabedian’s Framework to Assess Quality

Quality is inferred by measuring elements of care

- **Structure**—conditions under which care is provided (human resources, equipment, environment); **capacity for work**—primary determinant of the average quality of care a system can offer

- **Process**—what was done (diagnosis, treatment, rehabilitation, prevention, patient education)

- **Outcome**—changes in individuals and populations that are due to health care
Structure to Support Fall Risk Reduction

Multi-Team System\textsuperscript{14} supports a chain of accountability
Teams are more likely to learn from errors and mistakes and adapt their actions to minimize future risks when they reflect on outcome data, and the policies and procedures that produced those outcomes.

Paradigm shift: Interprofessional fall risk reduction teams should coordinate and facilitate organizational learning and innovation as they implement and evaluate a hospital’s fall risk reduction program.
## Variability in Creating the Team

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Nursing</th>
<th>QI</th>
<th>PT/OT</th>
<th>Pharmacist</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>B</td>
<td>1</td>
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<td>P</td>
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<td>3</td>
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<tr>
<td>Q</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

**Key**

0 = No Participation  
1 = Min Participation  
2 = Some Participation  
3 = Full Participation
### Changing Structure—Assessment Tool

<table>
<thead>
<tr>
<th>Fall Risk Assessment Tool</th>
<th>Beginning of Project</th>
<th>Current</th>
<th>% Fallers Determined to be at Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Judgment/No specific tool</td>
<td>2</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>FRASS</td>
<td>0</td>
<td>2</td>
<td>91.7</td>
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<tr>
<td>Home Grown Tool</td>
<td>5</td>
<td>2</td>
<td>89.1</td>
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<tr>
<td>Hendrich II</td>
<td>1</td>
<td>1</td>
<td>51.6</td>
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<tr>
<td>Johns Hopkins</td>
<td>0</td>
<td>2</td>
<td>88.9</td>
</tr>
<tr>
<td>Morse</td>
<td>9</td>
<td>7</td>
<td>87.6</td>
</tr>
<tr>
<td>Schmid</td>
<td>0</td>
<td>3</td>
<td>96.3</td>
</tr>
</tbody>
</table>
Changing Structure—Fall Kit

- Chair alarm & call light connector cord
- Chair alarm sensor pad
- Fall alert door magnets
- Fall alert wrist band
- Non-skid chair mat
- Fall alert sign
Call, Don’t Fall!

Changing Structure—Communication
Coordinating Team Processes

**Develop policy/procedures**
- Risk assessment tools
- Choose interventions based on evidence from multiple disciplines
- Fall event reporting form
- Conduct audits to assess reliability of interventions
- Collect and analyze data
- Conduct RCAs
- Modify policy/procedure based on data

**Train/Educate**
- Policy/procedures
- Use of risk assessment tools (reliability?)
- Match interventions to severity and cause of risk
- REPORT ALL FALLS
- Provide feedback to core team
- Annual competencies
- New employee orientation
Changing Process

Training in Safe Transfers and Mobility
Multiple Videos available on CAPTURE Falls website in near future
Changing Process

Training in Safe Transfers and Mobility
Multiple Videos available on CAPTURE Falls website in near future
Does Transfer/Mobility Training Matter?

**Hospital A**
Annual training program for safe transfers and mobility conducted by PT emphasizing use of gait belts

**Hospital B**
No training program for safe transfers and mobility conducted by PT; infrequent use of gait belts
Core Team Processes

Universal Interventions\(^{16-20}\)

• Assess & reassess risk
• Call light in reach
• Appropriate lighting
• Declutter environment
• Patient/Family education
• Communicate risk to patient/family/across shifts & departments
• Purposeful rounding
• Nonskid footwear
• Post-fall huddles

Targeted Interventions\(^{20,21}\)

• Signage
• Communicate level of assist for transfers and assistive devices
• Alarms
• Low beds, mats
• Gait belts for transfers/ambulation
• Medication Review
• OT/PT consults, evaluation
• Sitters
Proportion of Falls with a Post Fall Huddle by Project Quarter (Aug. 2012 - April 2014)
Do Post Fall Huddles Matter?

- Percent of Falls Attributed to Multiple Fallers
- Percent of Falls with a Post-Fall Huddle

[Chart showing the percentage of falls in small rural hospitals]

Small Rural Hospitals

Percent of Falls

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Data Summary

Fall Events Reported by 17 Hospitals
August 2012 - February 2014

- Physical Injury
- No Physical Injury

Total Fall Count

Small Rural Hospitals

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
**Data Summary**

**Did fall result in physical injury to patient? (n=264)**
- **YES (n=87), 33.0%**
- **NO (n=173), 65.5%**
- **Unknown (n=4), 1.5%**

**What was the level of harm? (n=87)**
- **Mild Harm (n=81), 93.10%**
- **Severe Harm (n=3), 3.45%**
- **Mod Harm (n=3), 3.45%**
Data Summary

Association Between Age and Physical Injury for 258 Falls Reported by 17 Hospitals

- **19 - 64 yrs (n=61)**
  - Physical Injury: 18%
  - No Physical Injury: 82%

- **65-80 yrs (n=83)**
  - Physical Injury: 35%
  - No Physical Injury: 65%

- **81+ yrs (n=114)**
  - Physical Injury: 60%
  - No Physical Injury: 40%

*p*=.011 Chi-Square Test
Data Summary

Association Between Activity and Physical Injury for 260 Falls Reported by 17 Hospitals

- Toileting (n=74):
  - Physical Injury: 46%
  - No Physical Injury: 54%

- Ambulating (n=71):
  - Physical Injury: 31%
  - No Physical Injury: 69%

- Transferring (n=38):
  - Physical Injury: 37%
  - No Physical Injury: 63%

- Changing Position (n=30):
  - Physical Injury: 13%
  - No Physical Injury: 87%

p=.037 Chi-Square Test
Data Summary

Fall Events Reported by 17 Hospitals
August 2012 - February 2014

Unassisted Fall (n=197)  Assisted Fall (n=67)

Total Fall Count

Small Rural Hospitals
Data Summary

Association Between Assistance and Physical Injury for 260 Falls Reported by 17 Hospitals

- Assisted Fall (n=67):
  - Physical Injury: 24%
  - No Physical Injury: 76%

- Unassisted Fall (n=193):
  - Physical Injury: 37%
  - No Physical Injury: 63%

p=.05 Chi-Square Test
Data Summary

Association Between Contributing Factors and Physical Injury for 297 Falls Reported by 17 Hospitals

Contributing factors may reflect high prevalence of frailty and four affect a patient's ability to understand information.
Changing Outcome Fall Rates

Trends in Fall Rates 17 NE Small Rural Hospitals
2010 - 2013

*Since 8/12 injurious falls included mild harm. Prior to 8/12, injurious falls may not have included mild harm.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Fall Rate</th>
<th>Injurious Fall Rate*</th>
<th>Total Fall Rate NE CAHs (n=47)</th>
<th>Injurious Fall Rate NE CAHs (n=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>7.08</td>
<td>2.54</td>
<td>6.30</td>
<td>1.80</td>
</tr>
<tr>
<td>2011</td>
<td>5.50</td>
<td>1.95</td>
<td>6.30</td>
<td>1.80</td>
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<tr>
<td>2012</td>
<td>6.78</td>
<td>2.89</td>
<td>6.30</td>
<td>1.80</td>
</tr>
<tr>
<td>2012.5 (n=15)</td>
<td>5.31</td>
<td>1.82</td>
<td>6.30</td>
<td>1.80</td>
</tr>
<tr>
<td>2013</td>
<td>4.08</td>
<td>1.15</td>
<td>6.30</td>
<td>1.80</td>
</tr>
</tbody>
</table>
Multiple Lessons Learned

• Fall risk reduction teams
  – Structure matters
    “It’s not just nursing...yes, we implement [the fall risk reduction program] but there are many people in the hospital that can be of value to your culture of safety.”
  – Risk assessment must drive interventions
    “...Before we started this project, we were very unstructured;” now have formal team, updated policy, and valid fall risk assessment.”
  – Measure process reliability
    “...Our processes cannot just be reacting to a fall. It has to begin with audits so we know if we are creating an environment that decreases task errors, reports assisted falls and decreases injury.”
Multiple Lessons Learned

• Fall risk reduction teams
  – Huddles promote learning
    “Post-fall huddles showed us the value of different perspectives—from nursing, the patient, and other disciplines to understand the factors that led to a fall.”
    “Post-fall huddles are teachable moments.”
  – Coordinating Team must review each fall from perspective of the system
    “Before, a fall would happen and we wouldn’t learn from it. And now a fall happens and we can learn patterns that help us develop processes to prevent that from happening again.”
    “We learned how the pieces of our program—our incident report, our fall risk assessment, our audits—fit together to decrease risk.”
• Fall risk reduction teams
  – Success is more than decreasing numbers
  “Success is everybody in the facility understanding the program, participating in the program, filling out the incident report and huddle forms. With the huddle forms, the core team gives feedback to the coordinating team and makes it full circle...so the front line people, their ideas are getting into the program. Success is getting this interdisciplinary team all involved and having it grow. CAPTURE Falls is just a new way of looking at it.”
  – Implementation is hard
    • Lack of buy in
    • Changing policy/procedure
    • Holding people accountable
    • Multiple competing demands
Multiple Lessons Learned

• Research Team
  – Each hospital had different gaps and different needs; all are following same stages
  
  ![Diagram of the Rogers’ Organization Innovation Process](image)

  – Checklists don’t result in learning
  – Hospitals have difficulty transforming multiple sources of data into information
  – Data and results change attitudes
<table>
<thead>
<tr>
<th>Source</th>
<th>Purpose</th>
<th>Who</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture Falls Gap Analysis Score Card</td>
<td>Identify gap between your current structures and processes and best evidence to develop an action plan</td>
<td>Fall Risk Reduction Team</td>
<td>Annually</td>
</tr>
<tr>
<td>Fall Event Report</td>
<td>Data Collection</td>
<td>Core Team</td>
<td>After each fall</td>
</tr>
<tr>
<td>Post Fall Huddle</td>
<td>Immediate learning to decrease risk of repeated fall for a patient</td>
<td>Core Team</td>
<td>After each fall</td>
</tr>
<tr>
<td>Prospective Audit of Interventions</td>
<td>Determine reliability of interventions... closed loop communication with core team</td>
<td>Fall Risk Reduction Team</td>
<td>Regularly (2x/week; weekly, monthly)</td>
</tr>
<tr>
<td>Individual RC A</td>
<td>Learn from an injurious fall</td>
<td>Those involved in the fall</td>
<td>Each fall &gt; minimal physical injury</td>
</tr>
<tr>
<td>Aggregate RCA</td>
<td>Learn from multiple non-injurious falls (minimum of 5, maximum of 20)</td>
<td>Fall Risk Reduction &amp; Core Team</td>
<td>Regularly depending upon volume</td>
</tr>
<tr>
<td>Benchmarking</td>
<td>Reveal scope of risks to patients and supports prioritization of resources for improvement resources.</td>
<td>Fall Risk Reduction Team</td>
<td>Annually</td>
</tr>
</tbody>
</table>
Next Steps

• Post Fall Huddle Quality Improvement Project
• Retrospective Chart Review—Do fallers differ from non-fallers? What is the prevalence of frailty?
• Natural Experiment—Collect falls and patient days from CAHs not participating in CAPTURE Falls
• VISION—Fall event reporting and benchmarking program for CAHs
Summary

• Rationale for the CAPTURE Falls Project
  – Non-payment for healthcare acquired conditions is in the future
  – Keeping patients safe from falls is fundamental
  – CAHs need resources

• Evidence-base
  – Structure determines the average quality of care a system can deliver

• Lessons Learned
  – People who work in teams learn more and are better able to achieve goals


References


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Collaboration and Proactive Teamwork Used to Reduce

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