CAPTURE Falls: The Eight “Rights” of Fall Risk Reduction

Heartland Health Alliance QI Task Force
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Objectives

1. Explain how taxonomies and definitions create the basic foundation for measurement and improvement in patient safety and quality

2. Educate your staff about the current best evidence for what works in fall risk reduction based on finding from CAPTURE Falls
Objective 1.

Explain how taxonomies and definitions create the basic foundation for measurement and improvement in patient safety and quality
Taxonomies and Definitions

• Classification schemes and standardized terminology allow aggregation of data to determine system causes of error and comparative benchmarking.

• If you can’t measure (accurately and reliably), you can’t improve!

• Comparative benchmarking reveals the scope of risks to patients and supports prioritization of resources.

Definitions for Fall Event Benchmarking

• 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 (e.g. bed, chair, or bedside mat). (AHRQ Common Formats)

• Assisted Fall: when a patient begins to fall and is assisted to the ground or other lower object by staff (not family or other visitor). (NDNQI)
Harm Taxonomy for Fall Events

Extent of harm *(NDNQI)*

- **Death**: Patient died as a result of injuries sustained from the fall.
- **Major**: Fall resulted in surgery, casting, traction, consultation for neurological or internal injury or need for blood products.
- **Moderate**: Fall resulted in suturing, application of steri-strips/skin glue, splinting or muscle/joint strain.
- **Minor**: Fall resulted in application of dressing, ice, cleaning of wound, limb elevation, topical medication, bruise or abrasion.
- **None**: Patient had no injuries (no signs or symptoms resulting from the fall); x-ray, CT scan or other post fall evaluation resulted in finding of no injury.
- **Unknown**
Objective 2.

Educate your staff about the current best evidence for what works in fall risk reduction based on finding from CAPTURE Falls…

What are the RIGHTS of fall risk reduction?
“Rights” of Fall Risk Reduction

Right …
1. Frame of Reference
2. Team
3. Coordination of Program
4. Training
5. Risk Assessment
6. Event Reporting/Learning System
7. Interventions
8. Response to a fall…Post-Fall Huddle
Right Frame of Reference: Why do patients fall?

System Factors

Hourly Rounding

http://quotesgram.com/patient-rounding-quotes/

PLEASE CALL DON'T FALL

Your safety is important to us. If you need to get up, use the call button for assistance.

http://2.bp.blogspot.com/-2cYcmtSyHrW0/T1euBpCWzI/AAAAAAAAAABvw/LCsQLxvPh4U/w1200-h630-p-nu/Beers+Criteria.jpg

https://www.acep.org/content.aspx?id=104618
Right Frame or Reference: Why do patients fall?

Patient Factors

Table 1. Results of Univariate Analysis* of Most Common Risk Factors for Falls Identified in 16 Studies* That Examined Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Significant/Total†</th>
<th>Mean RR-OR‡</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle weakness</td>
<td>10/11</td>
<td>4.4</td>
<td>1.5–10.3</td>
</tr>
<tr>
<td>History of falls</td>
<td>12/13</td>
<td>3.0</td>
<td>1.7–7.0</td>
</tr>
<tr>
<td>Gait deficit</td>
<td>10/12</td>
<td>2.9</td>
<td>1.3–5.6</td>
</tr>
<tr>
<td>Balance deficit</td>
<td>8/11</td>
<td>2.9</td>
<td>1.6–5.4</td>
</tr>
<tr>
<td>Use assistive device</td>
<td>8/8</td>
<td>2.6</td>
<td>1.2–4.6</td>
</tr>
<tr>
<td>Visual deficit</td>
<td>6/12</td>
<td>2.5</td>
<td>1.6–3.5</td>
</tr>
<tr>
<td>Arthritis</td>
<td>3/7</td>
<td>2.4</td>
<td>1.9–2.9</td>
</tr>
<tr>
<td>Impaired ADL</td>
<td>8/9</td>
<td>2.3</td>
<td>1.5–3.1</td>
</tr>
<tr>
<td>Depression</td>
<td>3/6</td>
<td>2.2</td>
<td>1.7–2.5</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>4/11</td>
<td>1.8</td>
<td>1.0–2.3</td>
</tr>
<tr>
<td>Age &gt;80 years</td>
<td>5/8</td>
<td>1.7</td>
<td>1.1–2.5</td>
</tr>
</tbody>
</table>

(Oliver et al., 2004)
Right Biomechanical Frame

• Problem: Fall occurs because center of mass is outside base of support
  
  (O’Sullivan & Schmitz, 2007; p. 253)

• Solution to problem: Control the center of mass
CAPTURE Falls Solution

Collaboration And Proactive Teamwork Used to Reduce Falls

Improve structure and coordination of organizational processes

- Standardize definitions for reporting & benchmarking
- View fall risk reduction as an organizational goal that multiple teams coordinate to achieve
Right Team

**Coordinating Team**—nurse champion, CNA, pharmacist, PT/OT, QI, senior leader

- Manage resources
- Coordinate fall risk reduction program and interventions
- Hold core team accountable for reliably implementing evidence-based interventions…
- Span location, status/hierarchy, and knowledge boundaries across disciplines (Edmondson, 2012)

St. Francis Memorial Hospital Fall Risk Reduction Coordinating Team

[Image of team members with titles: RN/UR, QI, PharmD, RN, MSN/CQO, PT, RD]
Right Coordination

Plan → Standardize → Adjust → Accountability

Predictability → Shared Mental Model

(DeChurch et al., 2009; Okhuysen et al., 2009)
Right Coordination among MTS

- Component teams achieve proximal goals (scorecard)
- Coordination across MTS components achieves organizational goal

(Zaccaro, Marks, & DeChurch, 2012)

Coordinating: Develop/coordinate fall risk reduction program/conduct training

Core: Implement targeted and universal interventions at bedside

Management: Aware of gaps, holds coordinating team accountable for ability (training) and action

Contingency Team: Real time adjustment of care plan
Right Coordination among Core Team

- Component teams achieve proximal goals
- Coordination across core team components achieves organizational goal

(Zaccaro, Marks, & DeChurch, 2012)

- Nursing: Assess fall risk based on observation / implement interventions at bedside
- Pharmacy: Assess fall risk based on medication side effects / medication debridement
- PT/OT: Assess fall risk based on performance / ensure competency in safe transfers & mobility
- Contingency Team: Real time adjustment of care plan
Right Coordination
See p. 3 of Scorecard

- Select fall risk assessment tools
- Integrate evidence from multiple disciplines
- Select interventions to reduce fall risk
- Link targeted interventions to risk factors
- Educate staff to use fall risk assessment tools
- Educate staff to report all falls
- Provide frontline staff with information about actions taken
- Create policies and procedures
- Conduct audits to monitor adherence
- Select/develop/revise Fall Reporting Form
- Educate staff about policies and procedures
- Educate staff to choose appropriate interventions
- Educate staff about outcomes of program
- Communicate program barriers and successes to leaders
- Communicate results of audits to staff
- Share program outcomes with hospital board members
Lesson Learned: Effective Coordinating Teams Make Healthcare Safer

Association Between Effectiveness of Fall Risk Reduction Coordinating Teams and 2014 Total Fall Rates

Spearman
rho = -.51

Effectiveness Score - Fall Risk Reduction Team Activities
Sum of 16 Activities Scored 0 (Not Done) to 4 (Very Effective)
Right Training

1. Overall fall risk reduction program (purpose, interventions, outcomes)
2. Administration of fall risk assessment tool
3. Safe transfers and mobility
4. Mechanical lifts
5. Post-fall Huddles

See training modules in CAPTURE Falls Toolkit

http://www.unmc.edu/patient-safety/capturefalls/tool-inventory.html
Right Risk Assessment

• Does it facilitate critical thinking about targeting interventions to risk factors?
• Do you know the sensitivity, specificity, predictive value of your tool?

Sensitivity: \( \frac{a}{a+c} = \frac{20}{50} = 40\% \)
Specificity: \( \frac{d}{d+b} = \frac{15}{50} = 30\% \)
PV+: \( \frac{a}{a+b} = \frac{20}{55} = 36\% \)
PV-: \( \frac{d}{c+d} = \frac{15}{45} = 33\% \)

<table>
<thead>
<tr>
<th>Assessment Results</th>
<th>Did the patient fall?</th>
<th>Fall</th>
<th>No Fall</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Result (Morse ≥ 45)</td>
<td>a = 20 (true +)</td>
<td>b = 35 (false +)</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>- Result (Morse &lt; 45)</td>
<td>c = 30 (false -)</td>
<td>d = 15 (true -)</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>50</td>
<td>100</td>
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Click on Fall Risk Assessment Team Tools for a Worksheet to calculate these values.
Report the Right Events

- Unassisted Falls that result in injury
- Unassisted Falls that DO NOT result in injury
- Assisted Falls that result in injury
- Assisted falls that DO NOT result in injury

Why?

- Unassisted falls represent system failure and are more likely to result in injury
- Assisted falls that do not result in injury to patient or staff represent system success
Rates of injury appeared to increase for some hospitals because injury was under-reported at baseline.

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<tr>
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</thead>
<tbody>
<tr>
<td>Low Coordination (n=5)</td>
<td>5.6</td>
<td>5.8</td>
<td>4.8</td>
<td>4.7</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Unassisted falls/1000 patient days, mean (SD)</td>
<td>4.5</td>
<td>5.1</td>
<td>2.7</td>
<td>3.6</td>
<td>1.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Injurious falls/1000 patient days, mean (SD)</td>
<td>2.4</td>
<td>3.4</td>
<td>1.0</td>
<td>1.6</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Moderate Coordination (n=6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Coordination (n=5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
KNOW Falls Learning System

- See Handouts
  - Fall Event Form
  - Post Fall Huddle and System Learning Form
-Know Falls uses the Research Electronic Data Capture (REDCap) software platform hosted on UNMC servers
  - Designed to support secure online clinical research (HIPAA compliant)
  - Users log in through an internet browser ([https://unmcredcap.unmc.edu](https://unmcredcap.unmc.edu)) using a password protected user account
  - Users assigned to data security groups that limit access to ONLY their hospital data and reports
  - Users create a fall record and proceed through a series of three forms which make up the unique learning system

- Contact Anne Skinner for more information about KNOW Falls (askinner@unmc.edu)
Lesson Learned: Focus on Making it Easier to Assist Mobility

- Unassisted falls MORE likely to result in injury and represent system failure

![Association Between Assistance and Injury for 353 Adult Patient Falls Reported by 17 Small Rural Hospitals 8/12 - 7/14](chart)

- **Unassisted Falls (n=263):**
  - Moderate-Major Injury: 4.6%
  - Minor Injury: 31.2%
  - None: 64.3%

- **Assisted Falls (n=90):**
  - Moderate-Major Injury: 2.2%
  - Minor Injury: 17.8%
  - None: 80.0%

*p = .021 Pearson Chi-Square*
Right Interventions

• See p. 5 of Scorecard
• Universal...
  – **Purposeful Hourly Rounding** associated with increased likelihood of assisted falls
• Targeted...
  – **Toileting Schedules** and having a culture of **gait belt usage** increases likelihood of assisted falls and decreases injury
• Organizational…
Lesson Learned: Focus on Making it Easier to Assist Mobility

All other factors being equal, falling UNassisted is associated with...

Patient Characteristics
- Age ≥ 65 (OR 2.55)
- Cognitive impairment (OR 3.70)

System Characteristics
- In the bathroom (OR 1.70)
- Gait belt NOT identified as an intervention (OR 6.97)
Lesson Learned: Assist with a Gait Belt to Control Center of Mass

All other factors being equal, falls resulting in injury are associated with...

**Patient Characteristics**

- Age $\geq$ 65 (OR 2.55)

**System Characteristics**

- Being in the bathroom (OR 2.48)
- NOT Doing this (OR 3.65)
Right Response to a Fall

Contingency Team—members from various teams conduct post-fall huddle

• Meet immediately after a fall to determine what happened, why it happened, what will be done differently

• Goals:
  1. Decrease risk of future falls for an individual patient
  2. Apply what is learned to decrease risk across system
  3. Build trust and share knowledge
     (Reiter-Palmon et al., 2015)

Post-Fall Huddle Tools
http://www.unmc.edu/patient-safety/capturefalls/tool-inventory.html
Lesson Learned: Post-Fall Huddles Decrease Repeat Falls

Association Between Post-Fall Huddles and Repeat Falls per Patient (n=353 falls)

$r = -.73$
CAPTURE Falls Toolkit

Publicly Available at:
http://www.unmc.edu/patient-safety/capturefalls/

- Scorecard for coordination
- Fall Risk Assessment
- Worksheet to Compare Predictive Values of Risk Assessments
- Fall Risk Reduction Interventions
- Learning Forms
- Teamwork and Multiteam System
- Effective Meetings
- Post-Fall Huddles and Post-Fall Huddle Guide
- Using Data
- Mobility Assessment
- Safe Transfers & Mobility (16 videos)
- Medication Review
- Health Literacy
- Frailty & Geriatric Syndromes