Collaboration and Proactive Teamwork Used to Reduce (CAPTURE) Falls

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Conflicts of Interest

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Objectives

1. Explain the background, rationale, and context of Collaboration and Proactive Teamwork Used to Reduce (CAPTURE) Falls

2. Identify CAPTURE Falls as a complex social intervention (CSI)

3. Evaluate the outcomes of CAPTURE Falls based on extent of implementation and consistency with theory
Falls: Quality and Safety Problem

• **Prevalence** (Oliver et al., 2010)
  – 2% - 3% of hospitalized patients fall each year
  – 30% - 51% of falls result in injury

• **Benchmarks from National Database of Nursing Quality Indicators** (Staggs et al., 2014)
  – 3.4 falls/1000 pt. days
  – 0.8 injurious falls/1000 pt. days

• **Outcomes**
  – Cost...$14,000 greater for 2% of fallers with serious injury (Wong et al., 2011);
  – 1/11 Healthcare Acquired Conditions (HACs) PPS hospitals not reimbursed for
  – Falls contribute to 40% of nursing home admissions (Tinetti et al., 1988)
  – Fear of falling limits mobility (Tinetti et al., 1994)
As compared to other HACs, little progress made in decreasing falls since CMS ceased paying hospitals for conditions not present on admission.

Why?

(AHRQ Interim Update)
Evidence indicates that teams decrease fall risk…but how?

- **Systematic review:** Etiology of falls is multifactorial (Oliver et al., 2004), thus falls require a multifactorial/interprofessional approach for prevention.

- **Systematic review:** Themes specific to successful implementation of fall risk reduction programs include multidisciplinary implementation and changing attitudes of nihilism (Miake-Lye et al., 2013).

- **Cohort pre-post designs:** Fall risk has been reduced in studies where interprofessional team members were actively engaged in fall risk reduction efforts (Gowdy et al., 2003; von Renteln-Kruse et al., 2007).

- **Theory:** Effective teams are the fundamental structure for managing complexity/learning and implementing change in organizations (Edmondson, 2012; Higgins et al., 2012).
# Teamwork as a Structure of Care...Donabedian’s Quality Assessment Framework

(Donabedian, 2003)

<table>
<thead>
<tr>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>How care is delivered, organized, financed</td>
<td>Tasks performed that are intended to produce an outcome</td>
<td>“Ultimate Validator”</td>
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<tr>
<td>People, equipment, policies/procedures</td>
<td>Most closely related to outcomes</td>
<td>Changes in individuals and populations due to health care</td>
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<tr>
<td>Equivalent to system design, capacity for work</td>
<td>Causal relationship between process &amp; outcomes</td>
<td>Time to develop, multifactorial, random component</td>
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Hypothesis: Rates higher in Critical Access Hospitals (CAHs) (Jones et al., 2014)

1. Care for higher proportion of older adults
2. Provide skilled rehabilitation
3. Limited QI resources
4. Lack valid fall rate benchmarks
5. Continue to receive payment for HACs

Fall Risk Reduction Context

2011 cross-sectional survey of all 83 community hospitals
- No significant differences in prevalence of bedside interventions
- CAHs reported performing significantly fewer organizational level evidence-based processes than non-CAHs
- Risk of falls significantly greater in CAHs than non-CAHs
- After adjusting for volume, hospitals in which teams integrated evidence from multiple disciplines and reflected/learned from data had significantly lower fall rates

Conclusion: shift from nursing-centric to team-centric paradigm to decrease fall risk
CAPTURE Falls in 17 NE Hospitals

- Purpose: decrease risk of falls in nation’s smallest hospitals
  - Support implementation of customized action plan by interprofessional coordinating team
  - Evaluate implementation (structure-process-outcomes)
  - Develop and disseminate toolkit

http://teamstepps.ahrq.gov/
MTS Definition and Typology

• “Two or more [component] teams that interface directly and interdependently in response to environmental contingencies toward the accomplishment of collective goals.” (Mathieu, Marks, & Zaccaro, 2001, p. 290)
  – Component teams achieve proximal goals
  – MTS achieves overarching/organizational goal

• Typology
  – Composition
  – Linkages
  – Development

(Zaccaro, Marks, & DeChurch, 2012)

Nursing: Fall Risk Assessment with High +/- Predictive Value
PT: Consistent/Safe Transfers & Mobility
Fall Risk
QI: Standardize reporting taxonomy
Pharmacy: Safe Medication Use/Debridement
Conduct Gap Analysis: Integrate Evidence from Mult. Disciplines
Conduct Annual/New Emp. Training & Assess Competencies
Develop Policies/Procedures (e.g. Communication of Fall Risk)
Choose Fall Risk Assessment Tool(s)
Develop Fall Event Reporting Forms
Collect, Analyze Fall Event Data
Provide Feedback about Actions Taken
Complex Social Intervention
(Ovretveit, 2014)

Characteristics
- Multiple components
- Multiple organizational levels
- Requires behavior change
- Multiple outcomes
- Flexible to match gaps and context of each hospital

Evaluation
- Context
  - Culture assessments, site visits
- Extent of implementation of coordinating team activities
  - Mean = 43.6/64
  - Range = 31-57/64
- Outcomes explained by theory

Structure  ➔ Process  ➔ Outcome
Extent of implementation of post-fall huddles

Conduct and Composition of Post-Fall Huddles by Project Quarter

- Interprofessional Huddle
- Nursing Only Huddle

Percent of Falls (n=356)

### Perceptions of Teamwork and Readiness to Change (TPQ-F)

#### Change in % Positive Over Time (’13 vs. ’14) and Huddle Participation (PFH; 0 vs. >0)

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<th>Coord. Team (n≈312)</th>
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<th>Ancillary Team (n≈253)</th>
<th>Support Serv. (n≈149)</th>
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*p<.05; random effects ANOVA, adj. for nesting by hospital; Time adjusted for participation in PFH
Change in Fall Rates Over Time for 17 Small Rural Hospitals in CAPTURE Falls

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<tr>
<th>Years</th>
<th>Total Falls/1000 Pt Days</th>
<th>Injurious Falls/1000 Pt Days</th>
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<tr>
<td>2010-2012</td>
<td>5.9</td>
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<td>2013-2014</td>
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Extent of Implementation Associated with Outcome

Association Between Coordinating Team Activities and 2014 Total Fall Rates

Spearman
rho = -0.53
Extent of Implementation Associated with Outcome

Association Between Coordinating Team Activities and 2014 Injurious Fall Rates

Total Falls Per 1000 Patient Days

Effectiveness of Fall Risk Reduction Team Activities

Spearman rho = -0.42
Outcome: Changing Attitudes

Nurse: “What did we learn about falls? I remember being a student nurse years ago, and one of my patients … had fallen at home. I kind of giggled—so she fell. And the nurse working with me said, ‘Oh, no! In the elderly falls can be lethal, but that’s just part of getting old.’ And we’ve learned that’s not just what happens– we can put things out there to prevent that.”

Physical Therapist: “Teams hold you accountable and build you up.”

Pharmacist: “I might look at something differently than a nurse or QI, so we can kind of talk about it together [in the huddle] and then identify why we think the fall happened and what we can do to improve.”
Summary

• CAPTURE Falls is a complex social intervention developed to decrease fall risk in CAHs

• Evaluation must assess extent of implementation, consistency with theory, and consideration of context…

• Conclusion: Use of MTS increased capacity of small rural hospitals to implement evidence-based fall risk reduction interventions by leveraging complementary skills and diverse thinking of multiple professions and teams

• Next Steps: Online reporting, sustain, spread; opportunity to understand MTS “in the wild”
References


References


