CONNECT for Fall Prevention: Results of a Randomized Controlled Pilot Study

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Background

- Multifactorial interventions required for geriatric syndromes
- Effective in randomized trials using outside study staff
- Less successful when using existing NH staff

Cameron et al., Cochrane Databases of Systematic Reviews, Dec. 2012
Conceptual Model – Complexity Science

- Number & quality of connections
- Information flow
- Cognitive diversity

Local Interactions → Alter → Self-Organization → Care Behaviors

Effective Local Interaction Strategies (examples)

Connection
- Be approachable
- Pitch in
- Show appreciation
- Seek assistance

Information Exchange
- Listen
- Verify meaning
- Give information
- Explain

Cognitive Diversity
- Pay attention
- Ask questions
- Suggest alternatives
- Sense making
Research Question

• Does an intervention in which staff learn to purposefully use effective local interaction strategies (CONNECT) improve uptake of a falls quality improvement intervention (FALLS)?
Study Design – Cluster Randomized Trial

4 NHs
- 2 VA
- 2 community

- CONNECT
- FALLS (6 mo.)

Outcomes
- Staff interactions
- Falls QIs
- Fall rates (exploratory)

4 NHs
- 2 VA
- 2 community

- None
- FALLS (6 mo.)
CONNECT Intervention

- Classroom sessions (2)
- Individual mentoring
CONNECT Intervention

- Relationship Maps
  - Facility level
  - Individual
- Self-monitoring
- Feedback
- Mentoring
FALLS Intervention

- Team training
- Modules
- Teleconferences
- Audit and feedback
- Academic detailing
Measures

Pre-Intervention

6 months

CONNECT/Control

3 mo.

FALLS

3 mo.

Post-Intervention

6 months

Staff Surveys Communication

- Falls QIs
- Fall Rates

- Falls QIs
- Fall Rates
Analysis

- Intention to treat
- Glimmix procedure to account for clustering
- Models estimated assuming no treatment variation over time
  - Treatment by time interaction controlling for baseline measurement
  - Adjusted for confounders
Participants

Intervention NHs (n=4)
- Eligible Staff (n=881)
  - No consent or participation (n=553)
    - Withdrew or lost (n=7)
    - Classes only (n=108)
    - Surveys only (n=50)
    - Surveys & other (n=183)

Control NHs (n=4)
- Eligible Staff (n=755)
  - No consent or participation (n=394)
    - Withdrew or lost (n=12)
    - Classes only (n=64)
    - Surveys only (n=130)
    - Surveys & other (n=108)
Staff Measures - All

Mean Staff Survey Response

- Intervention - mean all staff items
- Control - mean all staff items

Baseline | 3 months | 6 months
---|---|---
Control | 4.8 | 4.6 | 4.6
Intervention | 4.0 | 4.2 | 4.2

Graphical representation illustrates the mean staff survey response over 6 months for both the intervention and control groups.
Staff Measures - Subset

**Mean Staff Survey Response**

- **Baseline**
- **3 months**
- **6 months**

- **Control**
- **Intervention**

$p < 0.01$. 

**Intervention - mean subset items**  
**Control - mean subset items**
Staff Measures - Community

Mean Staff Survey Response

Control

Intervention

Baseline 3 months 6 months

N=4

p<0.01.
Falls Quality Indicators

Proportion of Potential Fall Risk Reduction Processes Completed

Control

Intervention

Baseline  Post-Intervention  Change
Fall Rates

Hazard Ratio
1.01 (0.62, 1.65)

Hazard Ratio
0.88 (0.56, 1.37)
Conclusions

• CONNECT feasible
• Improves staff communication
  – Ceiling effect in VA
• Possible impact on fall rates
• No impact on fall QIs
  – No relation between individual facility QIs and fall rates
Collaborators

- Study homes and staff
- Dick Landerman, PhD
- Kelly Simpson, PhD
- Julie Beales, MD
- Blake Lipscomb, MD
- Kitty Hancock, RN
- Mark Toles, PhD
- Melissa Aselage, PhD
- Tracey Yap, PhD
- Research Interventionists