Implementing a Fall Prevention Protocol for High Fall-Risk Older Adults in a Skilled Nursing Facility.

STACEY ELETU

Touro University, Nevada

Course Title: In partial fulfillment of the requirements for the Doctor of Nursing Practice DNP Proj

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Project Overview

Project Aim: Reduce fall incidents in older adults residing in the skilled nursing facility (SNF)

Achievements:

- Reduction in falls in older adults at the SNF.
- Improved staff knowledge and compliance with fall prevention.

Practice Pearls:

Factors to reduce the number of falls by older adults in a skilled nursing facility.

1. Implement a fall prevention protocol such as the STEADI initiative.
2. Teach and increase staff knowledge
3. Ensure staff compliance

DNP Problem

Falls

- A significant health problem
- Serious injuries, such as hip fractures, subdural hematomas
- Death in older adults
- Increase in health care system costs up to $100 billion in 2030 (Mark & Loomis, 2017).

DNP Problem contd.

Significance to host site

- Higher older adult fall rates in SNFs
- Increased facility costs: approximately 1.9–10% of the annual income of the facility
- Falls and fall-related injuries are nursing-quality indicators
- Fall reduction represents reduced adverse outcomes for the older adults, the facility, and the nursing staff (King et al., 2018).

Significance to Nursing

- Crucial role- preserving patient safety and preventing harm
- Must take fall reduction measures in care settings (Vaismoradi et al., 2020).

Project Problem and Purpose Statement

Problem

- Project site
  - no specific care plans for high-risk fall patients
  - Risk for fall-related monetary loss

Project Purpose

- Prevent falls in older adults residing in the skilled nursing facility (SNF) by educating staff on implementing the STEADI fall prevention protocol initiative.

Project Objectives

In the timeframe for this DNP project, the plan was for the host site to:

I. Implement the STEADI toolkit as a protocol for fall prevention within a 4-week time frame.

II. Administer a training seminar on properly implementing the STEADI fall prevention protocol to 100% of the full-time staff within a 4-week time frame.

III. Increase staff compliance in implementing the STEADI fall prevention protocol evidenced by documented fall risk screenings, assessments, and interventions on all high fall risk older adults.

IV. Reduce the number of falls by 20% within a 4-week time frame.

Literature Review

- Literature review themes and key phrases:
  - “Falls in older adults,”
  - “Fall prevention protocols,”
  - “STEADI initiative,”
  - “Staff education on falls”,
  - “Fall prevention programs”
  - “Fall screening tools”,
  - “Falls in nursing homes”
  - “Falls in skilled nursing facilities”

Literature Review Contd.

Fall outcomes in older adults

- Morbidity and mortality (Uymaz & Nahcivan, 2016).
- Abrasions to traumatic brain injuries or hip fractures (Schoberer et al., 2019).

Fall Risks in Older adults

- Use of psychotropic medications, cardiovascular medications, spasmodic urinary medications, antidepressants, and benzodiazepines (Andersen et al., 2020).
- Decrease in visual functions such as visual acuity, contrast sensitivity, and stereo acuity (Saftari & Kwon, 2018).
- Orthostatic Hypotension (Mol et al., 2019).
- Reduced by Vitamin D supplementation (Dyer et al., 2019).

Literature Review Contd.

- Fall prevention
  - Systematic screening older patients for fall risk
  - Assessing modifiable fall risk factors
  - Treating the identified risk factors using evidence-based interventions

    (Eckstrom et al., 2017).
- A training program for nursing and other front-line staff on resident falls, and injuries in a care facility
  - 5% net reduction in falls and injuries
  - 10 saved events per year in an average-sized facility (Teresi et al., 2018).

Literature Review Contd.

- Effective educational delivery methods for staff
  - Didactic lectures
  - Video presentations
  - Interactive learning activities
  - Experiential learning,
  - Supported learning such as coaching,
  - Written learning material

(Shaw et al., 2020).

Literature Review Contd.

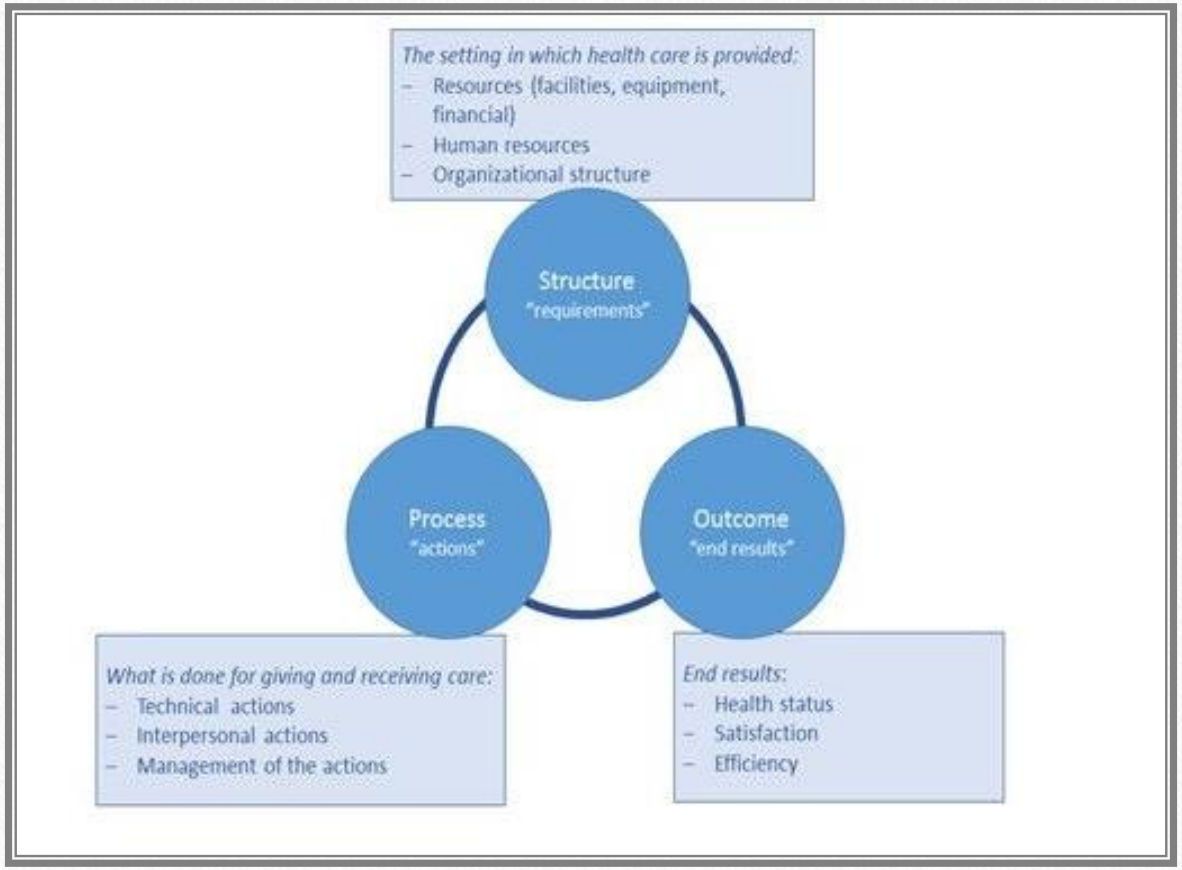
The CDC's STEADI initiative

- A practical framework
- Resource for fall prevention and interprofessional education (IPE) activities
- Effective in improving staff knowledge on fall prevention

(Taylor et al., 2019).

Theoretical Model of the DNP Project

The Donabedian Model



(Tossaint-Schoenmakers et al., 2021)

Project Design

- Quality Improvement Initiative
  - Institutional Review Board (IRB) not applicable
  - Ethical considerations: patient benefits, confidentiality, and participant consent (Hall et al., 2020).
  - Mandatory staff participation

Project Design

- Project Site- a corporately owned 65-bed skilled nursing facility in Berkeley, CA
- Project Site- Direct care staff
  - Certified nursing assistants (CNAs)
  - Registered nurses (RNs),
  - Licensed vocational nurses (LVNs),
  - Physical therapists, occupational therapists, and a speech therapist.

Project Design Contd.

- Project Time frame: 4 weeks
  - Fall data collection
  - Fall rates analysis
  - Chart evaluation
  - Staff Compliance review
- Project Overview:
  - Staff training seminar on STEADI fall prevention protocol
  - Observation and data collection of staff implementation
  - Evaluation of initiative in reducing falls

Project Implementation: Tools

STEADI Protocol tools

Pretest and Posttest

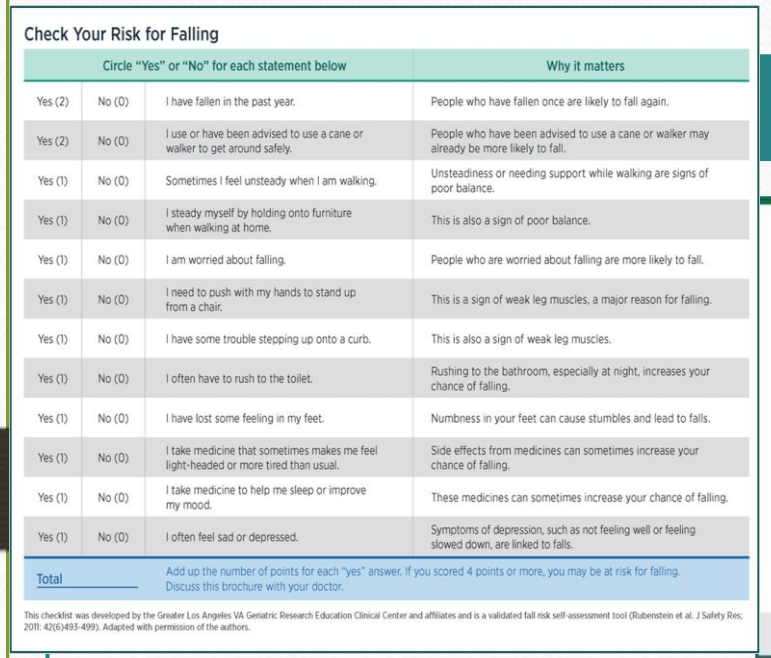
Fall Reduction and STEADI Compliancy Chart Audit

Project Implementation

- 1-hour mandatory direct staff training
- 4-week project observation

Project Implementation Contd.

STEADI Tools



Check Your Risk for Falling

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
Total		Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.	

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. J Safety Res; 2011: 42(6)493-499). Adapted with permission of the authors.

SIB questionnaire

ASSESSMENT

Timed Up & Go (TUG)

Timed Up & Go (TUG)

The 4-Stage Balance Test

4-Stage Balance

30-Second Chair Stand

30-Second Chair Stand

Measuring Orthostatic Blood Pressure

Measuring Orthostatic Blood Pressure

Project Evaluation

Evaluation data post STEADI protocol implementation- to determine:

1. Increased staff knowledge of the STEADI fall prevention protocol.
2. Increased staff compliance with implementing the STEADI protocol.
3. A reduction in the number of falls in the project site in one month.

Project Evaluation

- Data Analysis and Evaluation
  - Pre/Post project fall numbers
  - Staff knowledge on STEADI
  - Staff compliance on STEADI implementation
  - Data analysis with SPSS statistical software

Project Evaluation Contd.

Evaluating Staff Knowledge

Pre-test Vs Post-Test Scores

- N=14
- A two-tailed paired samples *t*-test
- No statistically significant differences (alpha .05, $t(13) = -1.71$, $p = .110$)

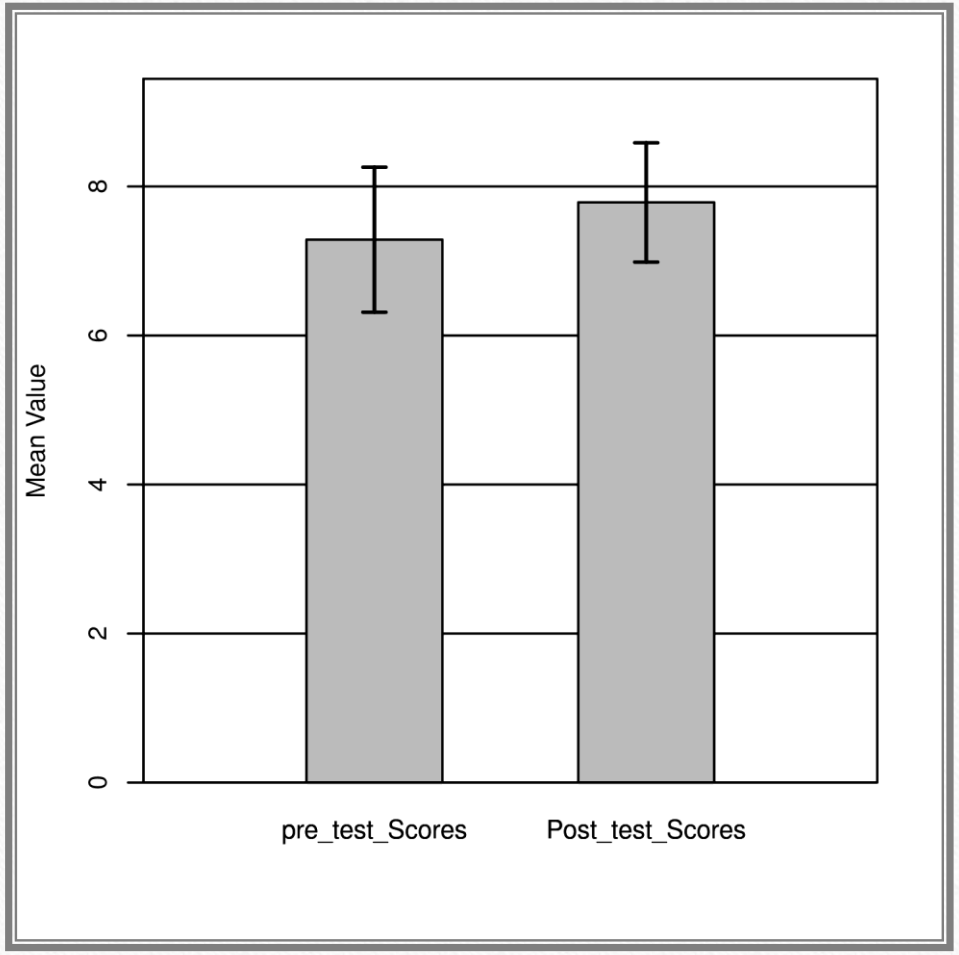
PRE-TEST SCORES		POST-TEST SCORES				
M	SD	M	SD	t	p	d
7.29	1.86	7.79	1.53	-1.71	.110	0.46

Note. N = 14.
Degrees of Freedom for the t-statistic = 13.
d represents Cohen's d.

Project Evaluation Contd.

Evaluating Staff Knowledge

- Post-test average scores (M= 7.79)
- Pre-test average scores (M= 7.29).



The Means of Pre-test Scores and Post-test Scores with 95.00% CI Error Bars

Project Evaluation Contd.

Evaluating Staff Compliance

- Descriptive statistics of frequencies
- Staff compliance data results:
  - Screening (n= 5, 100.00%)
  - Assessment (*n* = 4, 80.00%)
  - Intervention(*n* = 4, 80.00%)

Frequencies and percentages for screening, assessment, and intervention.

Variable	*n*	%
Screening		
Performed	5	100.00
Missing	0	0.00
Assessment		
Not Applicable	4	80.00
Performed	1	20.00
Missing	0	0.00
Intervention		
Not Applicable	4	80.00
Performed	1	20.00
Missing	0	0.00

Project Evaluation Contd.

Evaluating Fall Reduction

- Fall reduction: 3 to 1
- 66% decrease in the number of falls.
- Fall rate calculation: number of patient falls x 1,000 divided by the number of patient days.
- Decline in fall rates: 1.9 to 0.6 after post STEADI protocol.

Fall rates (per 1000 occupied bed days) prior to project implementation	Fall rates (per 1000 occupied bed days) after project implementation
3 falls x 1000/ 1620 bed days = 1.9 falls	1 fall x 1000/ 1629 = 0.6 falls

Project Evaluation Contd.

Evaluating Fall Reduction

- Paired t-test analysis pre-project falls vs post-project falls.
- No statistical significance ($p = .159$)

Pre-project fall numbers		Post-project fall numbers				
M	SD	M	SD	t	p	D
0.06	0.23	0.02	0.14	1.43	.159	0.19

Note. N = 54. Degrees of Freedom for the t-statistic = 53. d represents Cohen's d.

Project Evaluation Contd.

Evaluating Fall Reduction

- Decline in Falls

Variable	*n*	%
Pre-project Falls		
Fall Occurred	3	5.56
No Fall	51	94.44
Missing	0	0.00
Post-Project Falls		
Fall Occurred	1	1.85
No Fall	53	98.15
Missing	0	0.00

Project Limitations

Project design:

Quality Improvement study design

Data Recruitment:

Limited Participants- COVID-19 pandemic staffing shortages

Collection Methods:

Limited time frame- 4-weeks

Conclusion

- The DNP project
  - Donabedian model
  - Fall prevention
  - Staff education on STEADI
- STEADI algorithm
  - Fall risk screening
  - Assessment
  - Interventions
- Data collection
  - Fall reduction,
  - Training effectiveness
  - Staff compliance
- Results
  - Improved staff knowledge
  - Increased staff compliance
  - Reduction in falls.

Dissemination

Presentations

- Project key stakeholders
  - project mentor
  - facility administrator
  - care staff at the project site.
- Touro University, Nevada DNP program Faculty and Students

Dissemination Contd.

Submission

- Three other local skilled nursing facilities sister facilities
- Doctor of Nursing Practice Repository
- The Sixteenth Annual Doctor of Nursing Practice Conference, 2023
  - Target Audience: Nursing colleagues and other health care professionals at
- The MAHEC and Western NC 2022 Annual Interprofessional Falls Prevention Conference
  - Target Audience: Healthcare Providers and Aging Services Providers.

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