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*School of Occupational Therapy*

The Role of Occupational Therapy in a Community-Based Falls Prevention Program

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A capstone project submitted in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree from the University of Indianapolis, School of Occupational Therapy.

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# A Capstone Project Entitled

The Role of Occupational Therapy in a Community-Based Falls Prevention Program

Submitted to the School of Occupational Therapy at University of Indianapolis in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree.

By

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### **Abstract**

The purpose of this doctoral capstone experience and project was to explore and evaluate the role of occupational therapy in a community-based falls prevention program. The goal of the program was to address falls prevention among community-dwelling older adults to increase their ability to safely engage in meaningful occupations and remain in their homes. A doctor of occupational therapy student completed this program as part of the doctoral capstone experience with members of a senior's program at a local non-profit community center. The program was based on B. Howard's *My Safe and Sound Plan: For Staying Falls-Free* (2018), which is an evidenced-based falls prevention guide. Each of the six sessions consisted of education, demonstrations, and interactive activities. At the conclusion of the program, 90% of the participants demonstrated an increase in understanding of how to prevent falls and 80% plan to make changes to decrease their fall risk. To ensure sustainability of the program, staff members received education and resources on falls prevention to provide to future members. After completion of the program, it was concluded that an occupational therapist led falls prevention program in a community-based setting is effective for increasing older adults' awareness of how to prevent falls and decrease fall risk.

### **Literature Review**

Falls among older adults are extremely common, with more than one in four adults over the age of 65 falling each year. Falls are often devastating for older adults, causing 7 million injuries and 27,000 deaths annually (Centers for Disease Control [CDC], 2016c). A fall is defined as “an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (World Health Organization, 2018). Additionally, the number of falls results in an annual Medicare cost of \$31 billion (CDC, 2016b). As the baby boomers continue to age, the population of older adults over the age of 65 in the United States is expected to more than double from 46 million in 2016 to 98 million in 2060 (Mather, 2016). With the increase in the aging population, it is important to address the issue of falls prevention, in order to help improve the health and wellbeing of the older adult population and decrease healthcare costs related to falls.

### **Role of Occupational Therapy**

*The Occupational Therapy Practice Framework: Domain & Process 3<sup>rd</sup> Edition* supports the involvement of occupational therapists (OT) in falls prevention. OTs have the unique ability to address multiple facets related to falls prevention, including the person’s physical and mental wellness, environment, and performance patterns in order to decrease falls and increase occupational performance (American Occupational Therapy Association [AOTA], 2014). Research shows that OT involvement in falls prevention has focused on environmental modifications, exercise interventions, and multicomponent interventions (Leland, Elliott, O’Malley, & Murphy, 2012). However, OT can also be involved in areas such as medication management, management of postural hypotension, and reducing the fear of falling (Leland et al., 2012).

## National Organizations

Many organizations nationwide have recognized the need to reduce falls in the older adult population. In 2015 the National Council on Aging (NCOA) released their *2015 Falls Free National Falls Prevention Action Plan* (NCOA, 2015). This plan is a combination of goals and strategies that NCOA intends to implement over the next ten years. The five main topics addressed in NCOA's plan are; 1) physical mobility, 2) medication management, 3) home safety, 4) environmental safety in the community, and 5) cross cutting. Cross cutting involves NCOA's plan to fund, promote, and expand evidence-based falls prevention programs (NCOA, 2015). The CDC is also taking steps to help reduce falls through their Stopping Elderly Accidents, Deaths, & Injuries (STEDI) initiative (CDC, 2016a). STEDI is a toolkit that provides healthcare providers with access to free online information, resources, and training. STEDI resources include fall risk assessments and screens, and falls prevention resources that providers can give to their patients and families (CDC, 2016a).

In 2001 the American Geriatrics Society (AGS), the British Geriatrics Society (BGS), and the American Academy of Orthopedic Surgeons created *The Guideline of the Prevention of Falls in Older Persons*. Then in 2010, *AGS/BGS Clinical Practice Guideline: Prevention of Falls in Older Persons (2010)* was published by AGS and BGS as an update to the first guideline and to include recent falls prevention literature. The revision was created along with other falls prevention experts, including members of AOTA. The purpose of this guideline is to provide clinicians with evidence-based knowledge for assessing and managing fall risk of their older adult patients (AGS & BGS, 2010).

*AGS/BGS Clinical Practice Guideline: Prevention of Falls in Older Persons (2010)* uses evidence from the literature to make recommendations regarding assessments and interventions

for older persons who may be at risk of falling. A detailed assessment aids clinicians in creating a client-centered intervention plan that addresses the client's unique risk factors. AGS/BGS recommends multifactorial interventions that include these topics: medication management, exercise, vision impairments, postural hypotension and other heart conditions, vitamin D, foot problems and footwear, home environment modification, and general falls prevention education (AGS & BGS, 2010).

### **Exercise Interventions**

Many falls prevention interventions and strategies have been researched, including exercise (Li, Harmer, & Fitzgerald, 2016; Power & Clifford, 2011; Zhao, Chung, & Tong, 2016). Zhao et al. (2016) found that a community-based Exercise for Balance Improvement Program, increases the balance in older adults and also decrease the fear of falling. Li et al. (2016) implemented an evidence-based falls prevention program called Tai Ji Quan: Moving for Better Balance (TJQMBB) at four community senior centers. TJQMBB was found to be effective in reducing falls by 49% (Li et al., 2016). Power and Clifford (2011) conducted a detailed review of the literature to determine the characteristics of optimum falls prevention exercise programs. Power and Clifford (2011) found that the most effective exercises were completed three times a week. The intensity of exercises was highly variable; however, the researchers found that exercises were most effective if the intensity slowly progressed as the clients' abilities progressed. Furthermore, comprehensive exercise programs that included balance, strength, endurance, and flexibility exercises, were found to be effective in reducing fall risk (Power & Clifford, 2011).

### **Multicomponent Interventions**

The effectiveness of exercise interventions alone in reducing falls is moderate (Chase, Mann, Wasek, & Arbesman, 2012). Similarly, the evidence for the effectiveness of home modifications and assessments alone is moderate. However, when falls prevention programs include exercise interventions, home modifications, education, and vision and medication checks, the strength of evidence is strong. Therefore, evidence suggests that multicomponent falls prevention programs are the most effective (Chase et al., 2012).

Falls prevention programs such as A Matter of Balance, Tai Chi: Moving for Better Balance, Stepping On, and Otago are becoming more available around the United States (Peterson, 2011). A Matter of Balance is an evidence-based, multicomponent falls prevention program that was developed in the 1990s at Boston University (Chen, Edwards, & Janke, 2015; Haynes, League, & Neault, 2014). The program includes exercises and information along with a cognitive-behavioral approach to reduce the fear of falling (Chen et al., 2015; Haynes et al., 2014). A Matter of Balance has been shown to significantly improve physical risk factors of falling in community-dwelling older adults (Chen et al., 2015).

### **Falls in the Community**

Chippendale and Bear-Lehman (2011) call to attention that outdoor falls are almost as common as indoor falls, yet most falls prevention programs focus only on home modifications and exercise. Chippendale and Bear-Lehman (2011) state that adults who go outdoors are more likely to maintain their functional status. OTs can help their clients become aware of potential hazards in the community in order to help limit outdoor falls. Additionally, OTs can collaborate with community leaders to make positive changes in the community that will limit fall hazards for older adults when they are outside their homes (Chippendale & Bear-Lehman, 2011).

### **Fear of Falling**

Approximately 33-55% of community-dwelling older adults have a fear of falling (Borska et al., 2016). Choi, Jeon, and Cho (2017) found that fear of falling is one of the strongest risk factors of falling in older adults. Fear of falling is related to activity restrictions and greater functional decline, which increases the risk of falling (Choi et al., 2017; Painter et al., 2012). Painter et al. (2012) also found a relationship between fear of falling and depression and anxiety. Additionally, Schepens, Sen, Painter, and Murphy (2012) define fall-related efficacy as “confidence or belief in one’s ability to perform activities without losing balance or falling” (p.137). Schepens et al. (2012) completed a meta-analytic review and found that older adults with a higher fall-related efficacy were more likely to engage in activities.

### **Theoretical Basis**

As a future OT, I recognize the impact that fear of falling and fall-related efficacy have on activity engagement for older adults. The Cognitive Behavioral Frame of Reference (FOR) focuses on how emotional and psychological barriers affect an individual’s ability to engage in activities (Cole & Tufano, 2018). During this Doctoral Capstone Experience (DCE), I will use the Cognitive Behavioral FOR to help older adults achieve a positive and realistic mindset about their fall-related efficacy and fear of falling (Cole & Tufano, 2008). Helping older adults increase their fall-related efficacy and decrease their fear of falling, should in turn improve their ability and wiliness to safely engage in meaningful occupations, and decrease their fall risk.

I will also use the Canadian Model of Occupational Performance (CMOP) during my DCE to create a client-centered falls prevention program. The CMOP focuses on the interaction between the person, the environment, and occupation in order to achieve occupational performance (Cole & Tufano, 2008). The CMOP views the person in three parts, physical, cognitive, and affective. I will address the physical person through exercise, and the cognitive

and affective person through discussion of fear of falling and what motivates each individual. Occupations are different for each older adult, and may require different modifications in order to be completed safely. I will make individualized suggestions on modifications and adaptations that clients can make in their home and community environments (Cole & Tufano, 2008). By focusing on each client's unique person, occupation, and environment, I will be able to help them improve their occupational performance and reduce their fall risk.

Hu, Vance, and Strak (2016) gathered information from community-based OTs and adults 65 years of age and older regarding essential elements of falls prevention programs for medically underserved older adults. Common themes that emerged were trust, autonomy, cost, readiness to change, and health literacy (Hu et al., 2016). I will be working with older adults who live in a medically underserved area during my DCE. I will use evidence from the literature along with these themes in order to create and implement an effective client-centered falls prevention program.

### **Screening and Evaluation**

The initial screening process for this DCE consisted of speaking with the senior program director and deputy director at the site (Flanner House). Both individuals have experience working with the older adults who attend the senior's program at Flanner House. During the initial needs assessment these individuals stated that the older adults in the program would be interested in falls prevention, as many of them have previously fallen. Additionally, one of the members of the seniors program recently fell and passed away in their home and another member fell and broke their hip while out in the community. Gaining background information from the staff in this community-based setting, is similar to obtaining information from a chart review in a traditional OT inpatient or outpatient setting with an individual service delivery

model. After speaking with staff members and determining the need for a falls prevention program at Flanner House, extensive research was completed. A literature review over incidence of falls, community-based falls prevention programs, reasons for falls, and fall risk assessments was conducted to determine the needs of this population.

The American Geriatric Society and the British Geriatric Society recommend that assessments and screens should be multifactorial and ideally include a focused history, physical examination, functional assessment, and environmental assessment (AGS & BGS, 2010). A variety of assessment tools and screens have been used to determine fall risk in community-dwelling older adults. Tomita, Saharan, Rajendran, Nochajski, and Schweitzer (2014) found that the Home Safety Self-Assessment Tool (HSSAT) is a valid and reliable tool to pinpoint fall risk at home. The HSSAT is used by community-dwelling older adults in order to help them identify fall risk factors in their home (Tomita et al., 2014). Elliott et al. (2012) used a modified version of the Falls Risk for Older People: Community Setting (FROP-Com), which includes fall history, home environment, functioning, and daily tasks, and the Activities-specific Balance Confidence (ABC) scale at a community adult falls prevention event.

The evaluation for this DCE was completed through a needs assessment with the clients. The needs assessment consisted of a survey (See Appendix A). Assistance was provided to each participant while completing the survey to ensure correct understanding of each question. The survey was developed based on common themes found in the research, such as fear of falling. Fear of falling is a major risk factor for falls; therefore, it was important to address in the needs assessment (Choi et al., 2017; Painter et al., 2012). Of the older adults that completed the survey, 83.3% said that they strongly agreed or agreed that they were afraid of falling in the community. Additionally, 50% of the older adults answered strongly agree or agree that they

were afraid of falling at home. However, only 33.3% of the older adults strongly agreed or agreed that fear of falling keeps them from participating in activities.

Another risk factor for falls is a lack of physical activity or exercise, as older adults who are active are less likely to fall compared to older adults who are inactive (Carlson, Kruger, Kohl, & Buchner, 2006). Of the older adults that completed the survey, 66.7% stated that they strongly agreed or agreed that they participate in some form of exercise 3 times a week. Another area assessed in the survey was the older adults' level of understanding on how to prevent falls in their home and in the community. Ideally, the student would visit the home and community of each older adult in order to make recommendations on how each client could prevent falls; however, that was not an option in this setting. Many assessments such as the HSSAT and the FROP-com focus on the safety of the home environment when determining an older adult's fall risk (Elliott et al., 2012; Tomita et al., 2014). Surprisingly, only 33.3% of the older adults answered disagree with having a good understanding of how to prevention falls while at home and while in the community.

Age was another important piece of the evaluation, as the prevalence of falls increases from about one and 4 older adults over the age of 65 falling each year, to about 50% of adults over the age of 80 falling each year (CDC, 2016c; Plaksin, 2014). The average age of the older adults who completed the survey was 76, with 2 older adults being over the age of 80. Fall history was included in many of the assessments found in the literature and was found to be a major risk factor for having multiple falls (Dionyssiotis, 2012; Elliott et al., 2012; Plaksin, 2014). AGS/BGS (2010) also recommend that a fall risk screening include fall history. Furthermore, about half of the falls in adults over the age of 65 occur in adults who have previously fallen

(Dionyssiotis, 2012). Of the older adults who completed the survey, 83.3% reported that they have fallen in the past.

Completing the survey one-on-one with each older adult also provided the opportunity to gain further knowledge about each individual's fall risk and fall history. Other fall risks noted by the older adults were history of osteoarthritis, chronic obstructive pulmonary disease (COPD), diabetes, and congestive heart failure. Many of the older adults stressed that they would like more information on falls prevention so they can remain in their homes. The needs assessment and speaking one-on-one with each older adult in this community-based setting, would be similar to completing an occupational profile in an outpatient or inpatient setting with an individual service delivery model.

Standardized tests are commonly used in traditional areas of practice such as outpatient and inpatient settings. Due to the nature of this project, the community-based setting, and this particular population; a standardized test was not used to evaluate the fall risk of this group. Although the needs assessment survey provided valuable information about each of the participants, AGS/BGS (2010) suggests that fall risk assessments should also include a functional assessment. In order to test the physical and functional abilities of the participants, the fall risk screening from B. Howard's *My Safe and Sound Plan: For Staying Falls-Free* (2018) was used (See Appendix B). This assessment assesses the strength, endurance, balance, functional reach, and balance confidence of each participant in order to determine their fall risk (Howard, 2018).

Falls in the inpatient setting are also very common, with thousands of falls reported annually in the United States and about 30-50 % of falls causing an injury (Joint Commission, 2015). Similar to community-based fall risks, Hayakawa et al. (2014) found that age and history

of falling are two of the major fall risk factors for patients in the inpatient setting. Falls in community-dwelling old adults and patients in the inpatient setting can be devastating and can lead to a loss of independence, functional impairment, and decreased ability to complete activities of daily living and instrumental activities of daily living (Chase et al., 2012; Hayakawa et al., 2014). The goal of this DCE is to help older adults at Flanner House prevent falls and decrease their fall risk by using the unique role of OT to help them maintain their independence and functional abilities in order to remain engaged in meaningful activities (AOTA, 2014).

### **Implementation Phase**

#### **Program Planning**

Program planning for this DCE project began with a needs assessment with key staff members and the older adults at Flanner House. A review of the literature was conducted in order to determine what elements needed to be addressed within the falls prevention program. The review of the evidence included falls prevention programs, interventions, and reasons for falls. After review of the literature, it was concluded that B. Howard's *My Safe and Sound Plan: For Staying Falls Free* (2018) would be used as a guide for the falls prevention group, as it contains many of the suggested elements of a falls prevention program according to *AGS/BGS Clinical Practice Guideline: Prevention of Falls in Older Persons* (2010).

#### **Implementation**

The falls prevention program was held at the Flanner House in the senior's room, with 6 to 10 older adults attending each session. Each session was about 45 minutes in length and began with an icebreaker or game to engage the older adults. The icebreaker or game lasted for approximately 15 minutes and the other 30 minutes were spent discussing falls prevention utilizing B. Howard's *My Safe and Sound Plan: For Staying Falls Free* (2018). The falls

prevention program materials were printed and made into a booklet for each participant. The participants followed along in their booklets as the capstone student verbally and visually provided education to them on each topic area. Due to the varying cognitive and physical levels of the older adults in the falls prevention program, there were not a specified number of sessions scheduled. The capstone student used clinical reasoning to determine the amount of material covered each session by taking into consideration the needs of the older adults and the time available. The program concluded after six sessions, and upon completion of all of the information in the booklet. Once the group was finished, participants took their booklets home to use as a reference in the future. Principles of lifestyle redesign were used to implement each session, with the intent to help the older adults make positive life changes in order to safely engage in meaningful occupations (Jackson, Carlson, Mandel, Zemke, & Clark, 1998). The sessions were structured in the format of a lifestyle redesign group, beginning with a didactic presentation or teaching component. The sessions then progressed through peer exchange, active engagement, and self-reflection (Jackson et al., 1998).

The initial session focused on completion of the pre-assessment and introductions between the capstone student and the older adults. The capstone student spent time talking with each older adult in order to build rapport with each of the participants. The capstone student then introduced the falls prevention program and discussed both internal and external reasons for why people fall. Risks for falls in older adults were discussed and the participants were encouraged to reflect on reasons why they have fallen or why they might be concerned about falling.

During the second session, six participants engaged in a holiday themed game and completed the fall risk screening tool in B. Howard's *My Safe and Sound Plan: For Staying Falls Free* (2018). The screening consisted of five yes or no questions. Of the five questions,

four required the participants to physically test their skills. Skills that were physically tested were strength, endurance, balance, and functional reach. The participants completed the screening while sitting in or standing by a chair with supervision provided by the capstone student for safety. Participants were encouraged to stop at any time if they felt too unsteady or that they might fall. If a participant answered “no” to any of the questions, they are considered to be at risk for falling. Of the older adults who completed the screening, 83.3% answered “no” to at least one question, indicating that they are at risk for falling. See Table 1 for fall risk screening results.

Table 1

*Fall Risk Screening Results (n=6)*

Question Category	Yes	No*
Strength	6	0
Endurance	1	5
Balance	3	3
Functional Reach	6	0
Balance Confidence	6	0

Note: \*No response indicates risk for falls

The third session focused on three topics: 1) being open to thinking in new ways, 2) managing medications, and 3) heart health. Participants were encouraged to share what changes they may make in order to limit their fall risk. A few participants shared that they could ask for help from family members if they thought the task was unsafe. However, the participants had a

difficult time giving examples of what they may change. The capstone student made suggestions such as: placing commonly used items on waist height shelves, removing clutter from the floor, and moving rugs off the floor. Next, the group discussed the impact that medications may have on their fall risk. Participants shared how they manage their medications and their strategies for knowing when to take their medications. Most of the participants displayed good knowledge of their medications and when to take them. Lastly, the capstone student educated the group on the importance of blood pressure, heart rate, and heart rhythm. The participants were very interested in this topic and ways that they could improve their blood pressure.

Session four topics included: vision, footwear and foot care, vitamin D and calcium. Participant engagement and discussion was increased during this session. Participants were willing to share what changes they had experienced in their eyesight and how it was affecting them. Many participants said that they keep a nightlight in their bathroom or bedroom to increase their safety when getting up during the night. The older adults were educated on the importance of wearing the correct shoes and taking care of their feet to decrease fall risk. Each of the participants had on appropriate shoes during the session. The importance of vitamin D and calcium were also discussed. Many of the participants were already taking vitamin D or calcium supplements. If a participant was not currently taking a vitamin D or calcium supplement, they were encouraged to talk to their doctor to determine if these supplements would be beneficial for them.

The fifth session covered exercises for falls prevention. The capstone student explained the importance of exercise and how it can reduce fall risk. The group discussed the importance of slowly easing into exercising and building upon exercises, as they get stronger. Strength, endurance, balance, and stretching exercises were demonstrated and discussed. The participants

were encouraged to engage in the exercises within their own abilities. About 75% of the seniors participated in the exercises, 25% refused. The capstone student closely supervised the participants for safety while they completed the exercises. Clinical reasoning and judgment were used to help modify some of the exercises to ensure safety of all participants. After completion of the exercises, the group discussed which exercises they would perform at home and how they would do so safely.

The sixth and final session include home safety and a post-assessment. The group discussed home safety and how to check each room of the house for fall hazards. The group went through a safety checklist for: entrances, halls, steps, kitchen, bathroom, bedroom, and living room. In addition to home safety, the group talked about ways to modify activities and behaviors. Although the group went through the checklist during the session, participants were encouraged to go through the checklist a second time once they were at home. Next, the capstone student briefly went through all the topics that were covered during each session and participants had the chance to ask any questions they had regarding falls prevention. Finally, ten older adults completed the falls prevention post-assessment to determine the effectiveness of the program. Overall, post-assessment results showed the falls prevention program was effective in increasing the older adults' understanding of falls prevention. Results are further discussed in the outcomes section.

### **Leadership**

Many leadership qualities were needed in order to plan and implement the falls prevention program. The capstone student was required to have good communication skills in order to effectively communicate with staff members to plan and determine the need for the falls prevention program. Additionally, effective communication skills were necessary when leading

the falls prevention group. It was important to understand the cognitive levels of the participants to make sure they understood the material. The capstone student had to communicate the falls prevention information in a clear way to ensure understanding of the material. While leading the groups, the capstone student had to be assertive enough to capture the attention of participants while encouraging active engagement. Adaptability was needed in order to modify or change sessions based on the needs of the group. This included knowing when to stop each session based on the engagement of the participants and the time available. Overall, the capstone student had to continue to develop appropriate leadership skills in order to successfully implement the program and to assist with staff development.

### **Staff Development**

Throughout the implementation process, the capstone student updated the senior coordinator and the deputy director about the group's progress and topics covered. Although the falls prevention program will conclude prior to the capstone student leaving, it is important that the seniors continue to be aware of their fall risk in order to preserve their safety. The senior coordinator and deputy director were educated on ways to encourage the seniors to continue decreasing their fall risk. This included encouraging them to: engage in exercise, stay active, and be cautious while out in the community. Upon the capstone student's departure, the staff can continue to lead the seniors in exercises that have been provided along with the falls prevention program.

Staff members were given a copy of B. Howard's *My Safe and Sound Plan: For Staying Falls Free* (2018) to reference if the seniors have questions. The capstone student educated the staff members on the idea of lifestyle redesign so they can continue to encourage the seniors to engage in healthy activities at home, in the community, and while at Flanner House.

In addition to the falls prevention program, the capstone student worked with staff members on professional development. The capstone student educated the staff on depression, work stress management, and reflective coloring. The staff at Flanner House recently discovered that many of the clients they serve experience signs and symptoms of depression. Therefore, the staff felt that it would be beneficial to increase their knowledge of depression and the impact it can have on individuals. The capstone student provided the staff with an educational handout on depression that included: signs and symptoms, statistics, causes, risk factors, impact on work performance, and how to work with someone who has depression. The capstone student and staff discussed additional community resources available to individuals with depression and their own personal experiences of working with someone with depression.

Reducing work stress is a great way to reduce burnout, increase job satisfaction, and boost staff morale, so that they can provide their clients with the best possible care. The work stress presentation addressed ways to minimize stress at work, how to organize their time and desk to limit stress, the benefits of sleep, healthy eating, exercise, and how to fight the Monday blues. The staff members were receptive to various ways to reduce stress at work and indicated that they were specifically interested in yoga and reflective coloring. The capstone student led a reflective adult coloring session focused on resilience and how it could be applied to their daily work. Staff members reported that they learned valuable information on how to improve their job performance and satisfaction through the staff development meetings.

### **Discontinuation Phase**

#### **Outcomes**

The goal of the falls prevention program was to decrease participants' fall risk and increase their knowledge of how to prevent falls. Upon completion of the falls prevention

program, the participants completed a four question post-assessment (See Appendix C) to measure the effectiveness of the program. Ten participants completed the survey, with 90% reporting an increase in understanding of how to prevent falls. More than half of the participants reported a decreased fear of falling. Many participants also reported they plan to continue exercising regularly or start exercising regularly, and they plan to make changes to prevent falls (Table 2). Overall, results indicate that the program was effective in increasing awareness and knowledge of how to prevent falls.

Table 2

*Fall Prevention Post-Assessment Results (n=10)*

Question	Yes	Neutral	No
I have a better understanding of how to prevent falls	9	1	0
I am less afraid of falling	6	3	1
I plan to continue to exercise regularly or start exercising regularly	9	0	1
I plan to make changes to prevent falls	8	2	0

### **Continuous Quality Improvement**

Continuous quality improvement was used throughout the falls prevention program. Before, during, and after each session, participants were asked if they had any questions regarding previously covered material. Questions were answered using knowledge

from the literature and clinical reasoning to ensure the participants had a good understanding of the information. At the end of each session, all of the information was summarized in an effort to clarify any questions from the group. After each session, the capstone student reflected on what went well and what could have gone better. Then, the capstone student would determine what changes needed to be made to the structure of the session in order to make it more successful and meaningful for the group. Small changes were made prior to the start of each session. Some of the changes included: repositioning a few participants so they could better participate, speaking louder while presenting, and encouraging participants to increase their participation in discussion. Additionally, after each session, the deputy director of Flanner House was briefly educated on topics covered, so that she could gain a better understanding of falls prevention and ways that she may be able to help the seniors in the future.

Although the falls prevention program formally concluded, continuous quality improvement was utilized in order to continue to reduce the fall risk of older adults at Flanner House. At a staff meeting, which included the deputy director and senior coordinator, the capstone student presented information regarding the falls prevention program. During the meeting, the staff gained knowledge on the importance of falls prevention, basic information on how to prevent falls, and the outcomes of the program. The deputy director and senior coordinator were each given a paper and PDF copy of B. Howard's *My Safe and Sound Plan: For Staying Falls Free* (2018). Staff members have been encouraged to provide the falls prevention booklet to seniors who come to Flanner House in the future. Additionally, staff members were encouraged to keep at least one booklet in case any of the seniors had questions on falls prevention. During the rest of capstone student's time at Flanner House, she continued to work on various aspects of lifestyle redesign with the older adults. This included healthy

cooking demonstrations, activities with children from Flanner House, education on Alzheimer's, and adult coloring for relaxation and stress management. The seniors were encouraged to ask any questions they had regarding falls prevention, home modifications, or anything else related to safe completion of daily activities.

### **Response to Society's Needs**

As mentioned in the literature review, more than one in four adults over the age of 65 fall each year and many of these falls are devastating (CDC, 2016). OTs have unique qualities and training that allow them to address client and environmental factors related to fall risk. *The Occupational Therapy Practice Framework: Domain & Process 3<sup>rd</sup> Edition* states that OTs can use their knowledge of the relationship between an individual and their occupations in order to facilitate a positive change in client factors that allow the individual to more effectively engage in meaningful occupations (AOTA, 2014). Throughout the falls prevention program, client factors such as fear of falling, blood pressure, vision, and physical fitness were addressed. Home environmental factors such as lighting, clutter, placement of items, stairs, and rugs also were discussed. During each session, the group examined how the relationship between each individual's own unique client and environmental factors affect their risk of falling. Participants worked through the falls prevention booklet to gain a better understanding of how they could change their client and environmental factors in order to decrease their fall risk.

A majority of the older adults at Flanner House live in their homes and plan to continue living there. In order to do so safely, it is important that they understand how to prevent falls so they can remain safe. Making small mental and physical changes will help them continue to age in place (AOTA, 2011). As society continues to age, it has become more important to consider the safety needs of older adults. It is the duty of occupational therapists to help preserve the

safety and well-being of older adults in order to help facilitate their ability to engage in occupations and live as independently as possible.

### **Overall Learning**

#### **Communication**

Effective communication with the seniors and staff at Flanner House was one of the most vital tools used throughout this DCE. Written and verbal communication with the seniors was challenging to do their varying cognitive levels. First, the language used had to be clear, concise, and easy to comprehend to allow for maximum understanding. I had to make a few adaptations to my communication style in order to better articulate the information to the seniors. For example, the pre-survey for the program was too complicated for some of the seniors to fill out correctly, and many of the seniors required individual assistance to complete the survey. Therefore, I simplified the post-survey to allow for easier completion. When presenting information to the seniors, I had to speak loud and clear in order for them to hear everything I was saying. Second, to make interventions and activities with the seniors successful, I clearly explained the value and role of OT related to this community-based setting. In return, they were able to express their needs relative to occupational therapy. Communication with the seniors continued to improve as I built rapport with them and as they felt more comfortable sharing their needs with me. Lastly, I had to make sure I used proper nonverbal communication with the seniors in order to express my genuine desire to help them meet their needs. There were many times when I had to be conscious of my facial expressions to show that I being an active listener.

In order to successfully implement the falls prevention program, I had to effectively communicate with the seniors' program coordinator and deputy director. I had to express what I needed to facilitate and complete the program. These needs included adequate time with the

seniors, and various tools and equipment. Additionally, prior to beginning the program, I completed a needs assessment with the seniors' program coordinator and deputy director to better prepare for the anticipated needs of the seniors. Throughout the program, I continued to communicate with key staff members regarding the seniors schedule and what continuation of this program would look like once I was gone.

### **Leadership and Teamwork**

In order to be self-directed, I had to be an advocate for myself. I had to effectively use time management to get projects and assignments done. I also had to be disciplined and focused to stay on task throughout the day and to learn as much as possible throughout this experience. Leading the falls prevention group gave me a great opportunity to improve my leadership skills. I had to learn how to facilitate conversation and encourage engagement from participants. I also had to learn how to capture and hold the group's attention during educational and activity sessions.

During this DCE I had the opportunity to work with many different staff members including: social workers, social work students, community builders, childcare workers, and administrative assistants. While at Flanner House, I learned how important good teamwork is at a non-profit organization. There were many events and programs that required help from multiple individuals to be successfully completed. In order for that to happen, it was imperative that everyone used their unique skills and abilities to complete tasks. I witnessed how well events and programs such as job fairs, skills to success classes, family dinners, and support groups can go when everyone works together. One of the biggest things I learned from this experience is the importance of operating as a team, and that everyone's job matters, no matter how big or how small.

**Preparation for Practice**

Through my experiences at Flanner House, I have learned and developed many new skills that will be beneficial for future practice. I had the opportunity to work with and learn from many different cultural, ethnic, and age groups. Working with different groups of people has increased my cultural competency and my ability to connect with all types of individuals. In addition to leading the falls prevention program with the seniors, I led a fine motor skills group with two year olds each week, and I led a stress management session with staff members. This gave me the chance to improve my group leadership skills with children, adults, and older adults. Having the opportunity to lead and plan several different groups improved my confidence for leading and developing various types of group interventions.

**Overall Learning**

Overall, this DCE has been a great learning experience. I have learned how to effectively manage my own time and how to advocate for myself. I also gained a better understanding of the role and the value of OT in a community-based setting. Understanding my role as a capstone student at Flanner House took time, energy, and research. However, after many discussions with the staff at Flanner House, OT faculty, and other OT students, I was able to find several ways to incorporate OT into various programs and services. As a result of this experience, I have a greater appreciation for the role of OT in falls prevention and in a community-based setting. Most importantly, I have improved my confidence as a future OT and I now feel more prepared to join the OT workforce.

## References

- American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain & process (3<sup>rd</sup> ed.). *American Journal of Occupational Therapy*, 68(Suppl. 1), S1-S48.
- American Occupational Therapy Association (2011). Remaining in your home as you age. Retrieved from [https://www.aota.org/~media/Corporate/Files/AboutOT/consumers/Adults/AginginPlace/Remaining-in-Place-Aging.pdf](https://www.aota.org/~/media/Corporate/Files/AboutOT/consumers/Adults/AginginPlace/Remaining-in-Place-Aging.pdf)
- American Geriatric Society & British Geriatric Society. (2010). *Clinical practice guideline: Prevention of falls in older persons*. Retrieved from <http://www.medcats.com/FALLS/frameset.htm>
- Borska, E., Groves, M., Huang, Y., Alvarez-Jett, N., Peyton, C., & Erickson, T. (2016). Relationship between fear of falling and fall precautions taken by community dwelling older adults. *American Journal of Occupational Therapy*, 70. doi: 10.5014/ajot.2016.70S1-PO6078
- Carlson, S. A., Kruger, J., Kohl, I. W., & Buchner, D. M. (2006). Cross-sectional relationship between physical activity and falls in older adults, united states 2003. *Journal of Physical Activity & Health*, 3(4), 390-404.
- Centers for Disease Control (2016a- B). Important facts about falls. Retrieved from <https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html>
- Centers for Disease Control (2016b- C). Older adult fall prevention. Retrieved from <https://www.cdc.gov/media/dpk/healthy-living/injury-falls-older-adults/older-adult-falls.html>

Centers for Disease Control (2016c-A ). About CDC's STEDI (stopping elderly accidents, deaths, & injuries) toolkit. Retrieved from <https://www.cdc.gov/stedi/about.html>

Chase, C. A., Mann, K., Wasek, S., & Arbesman, M. (2012). Systematic review of the effect of home modification and fall prevention programs on falls and the performance of community-dwelling older adults. *American Journal of Occupational Therapy, 66*, 284–291. <http://dx.doi.org/10.5014/ajot.2012.005017>

Chen, T.-Y., Edwards, J. D., & Janke, M. C. (2015). The effects of the a matter of balance program on falls and physical risk of falls, tampa, florida, 2013. *Preventing Chronic Disease, 12*. doi: 10.5888/pcd12.150096

Chippendale, T. & Bear-Lehman J. (2011). The issue is- Falls, older adults, and the impact of the neighborhood environment. *American Journal of Occupational Therapy, 65*, e95-e100. doi: 10.5014/ajot.2011.000729

Choi, K., Jeon, G., & Cho, S. (2017). Prospective study on the impact of fear of falling on functional decline among community-dwelling elderly women. *International Journal of Environmental Research and Public Health, 14*. doi: 10.3390/ijerph14050469

Cole, M. & Tufano, R. (2008). Cognitive behavioral frames. In M. Cole & R. Tufano, *Applied theories in occupational therapy: A practical approach* (pp. 149-163). Thorofare, NJ: SLACK Inc.

Dionyssiotis, Y. (2012). Analyzing the problem of falls among older people. *International Journal of General Medicine, 5*, 805-813. doi: 10.2147/IJGM.S32651

Elliott, S. J., Ivanescu, A., Leland, N. E., Fogo, J., Painter, J. A., & Trujillo, L. G. (2012). Feasibility of interdisciplinary community-based fall risk screening. *American Journal of Occupational Therapy, 66*, 161-168. <http://dx.doi.org/10.5014.ajot/2012.002444>

- Hayakawa, T., Hashimoto, S., Kanda, H., Hirano, N., Kurihara, Y., Kawashima, T., & Fukushima, T. (2014). Risk factors of falls in inpatients and their practical use in identifying high-risk persons at admission: Fukushima medical university hospital cohort study. *BMJ Open*, 4. doi: 10.1136/bmjopen-2014-005385
- Haynes, M., League, P., & Neault, G. (2014). A matter of balance: Older adults talking control of falls by building confidence. *Frontiers in Public Health*, 2. doi: 10.3389/fpubh.2014.00274
- Howard, B. (2018). My “Safe and Sound” plan for staying falls-free. Retrieved from [https://issuu.com/bshowardotr/docs/bhoward\\_safe\\_and\\_sound\\_workbook\\_201](https://issuu.com/bshowardotr/docs/bhoward_safe_and_sound_workbook_201)
- Hu, Y.-L., Vance, K., & Strak, S. (2016). Elements of effective fall prevention programs: perspectives from medically underserved older adults. *American Journal of Occupational Therapy*, 70. doi: 10.5014/ajot.2016.70S1-PO1064
- Joint Commission. (2015). Preventing falls and fall-related injuries in health care facilities. Retrieved from [https://www.jointcommission.org/assets/1/18/SEA\\_55.pdf](https://www.jointcommission.org/assets/1/18/SEA_55.pdf)
- Jackson, J., Carlson, M., Mandel, D., Zemke, R., & Clark F. (1998). Occupation in lifestyle redesign: The well elderly study occupational therapy program. *American Journal of Occupational Therapy*, 52(5), 326-336.
- Leland, N. E., Elliott, S. J., O'Malley, L. & Murphy, S. L. (2012). Occupational therapy in fall prevention: Current evidence and future directions. *American Journal of Occupational Therapy*, 66, 149-160. <http://dx.doi.org/10.5014/ajot.2012.002733>
- Li, F., Harmer, P., & Fitzgerald, K. (2016). Implementing an evidence-based fall prevention intervention in community senior centers. *American Journal of Public Health*, 16(11), 2026-2031.

Mather, M. (2016). Fact sheet: Aging in the united states. *Population Reference Bureau*.

Retrieved from <http://www.prb.org/Publications/Media-Guides/2016/aging-unitedstates-fact-sheet.aspx>

National Council on Aging (2015). Falls Free: 2015 national falls prevention action plan.

Retrieved from <https://www.ncoa.org/resources/2015-falls-free-national-falls-prevention-action-plan/>

Painter, J. A., Allison, L., Dhingra, P., Daughtery, J., Cogdill, K., & Trujillo, L. G. (2012). Fear of falling and its relationship with anxiety, depression, and activity engagement among community-dwelling older adults. *American Journal of Occupational Therapy*, 66, 169–176. <http://dx.doi.org/10.5014/ajot.2012.002535>

Peterson, E. W. (2011, September). Reducing fall risk: A guide to community-based programs. *OT Practice*, 16(16), 15-20.

Plaskin, J. (2014). Falls in older adults- risk factors and strategies for prevention. *The NYU Langone Online Journal of Medicine*. Retrieved from <https://www.clinicalcorrelations.org/?p=8114>

Power, V. & Clifford, A. M. (2013). Characteristics of optimum falls prevention exercise programmes for community-dwelling older adults using the FITT principle. *European Group for Research into Elderly and Physical Activity*, 10, 95-106. doi: 10.1007/s11556-012-0108-2

Schepens, S. Sen, A., Painter, J. A., & Murphy, S. L. (2012). Relationship between fall-related efficacy and activity engagement in community-dwelling older adults: A meta-analytic review. *American Journal of Occupational Therapy*, 66, 137-148.  
[Hhttp://dx.doi.org/10.5014/ajot.2012.001156](http://dx.doi.org/10.5014/ajot.2012.001156)

Tomita, M. R., Saharan, S., Rajendran, S., Nochajski, S. M., & Schweitzer, J. A. (2014).

Psychometrics of the home safety self-assessment tool (HSSAT) to prevent falls in community-dwelling older adults. *American Journal of Occupational Therapy*, 68, 711-718. <http://dx.doi.org/10.5014/ajot.2014.010801>

World Health Organization (2018). Falls. Retrieved from

<http://www.who.int/mediacentre/factsheets/fs344/en/>

Zhao, Y., Chung, P., Tong, T. (2016). Effectiveness of a community-based exercise program on balance performance and fear of falling in older nonfallers at risk for falling: A

randomized, controlled study. *Journal of Aging and Physical Activity*, 24, 516-524.

<http://dx.doi.org/10.1123/japa.2015-0224>

## Appendix A

Falls Prevention Pre-Assessment

Please rate your level of agreement from 1 to 5.

5= Strongly Agree    4= Agree    3=Neutral    2=Disagree    1=Strongly Disagree

1. I have a good understanding of how to prevent falls while I am at home:

**5                    4                    3                    2                    1**

2. I have good understanding of how to prevent falls while I am in the community:

**5                    4                    3                    2                    1**

3. I am afraid of falling in the community:

**5                    4                    3                    2                    1**

4. I am afraid of falling at home:

**5                    4                    3                    2                    1**

5. I feel stable when I walk around inside my home:

**5                    4                    3                    2                    1**

6. I participate in some form of exercise 3 times a week:

**5                    4                    3                    2                    1**

7. Fear of falling keeps me from participating in activities:

**5                    4                    3                    2                    1**

8. I have fallen before:

**YES                    NO**

9. How old are you?

## Appendix B

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## **The First Step: A Fall Risk Screening**

Try these simple Fall Risk Screening activities. Remember, do them in a safe place and STOP if you feel you might lose your balance!

1. Strength - Sit in a sturdy chair, such as a kitchen chair. Can you stand up one time WITHOUT using your arms?

Yes                       No

(You need to be STRONG to keep your balance)

2. Endurance - Can you stand up 10 times in 30 seconds, WITHOUT using your arms?

Yes                       No

(You need to be STRONG OVER AND OVER to keep your balance)

3. Balance - Stand in front of the chair. Put your feet together. Fold your arms across your chest. Now, close your eyes. Can you hold this position for a slow count of 30?

Yes                       No

(You need to be able to keep your balance when you cannot use your eyes)

(Continued on next page)

### (Fall Risk Screening, Continued)

4. Functional Reach - Stand by a wall with your feet shoulder-width apart. Do not touch the wall, but stay nearby for balance. Can you stretch forward at least 12 inches (30 cm) without losing your balance or touching the wall?

- Yes                       No

(You need to be able to reach far without falling)

5. Balance Confidence - Are you confident in your balance? Are you able to do all your daily activities without avoiding something because you might fall?

- Yes                       No

(People usually know when their balance is poor)

If you answered “No” to any of these questions, you might be at risk for falling!

What did you learn from your Fall Risk Screening?

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## Appendix C

**Fall Prevention Post-Assessment**

**Please answer the following questions:**

1. I have a better understanding of how to prevent falls:

**YES      NEUTRAL      NO**

2. I am less afraid of falling:

**YES      NEUTRAL      NO**

3. I plan to continue exercising regularly or start exercising regularly:

**YES      NEUTRAL      NO**

4. I plan to make changes to prevent falls:

**YES      NEUTRAL      NO**