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Aging well: a preventive occupational therapy service in naturally occurring retirement communities

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BOSTON UNIVERSITY
SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES

Doctoral Project

**AGING WELL:
A PREVENTIVE OCCUPATIONAL THERAPY SERVICE IN
NATURALLY OCCURRING RETIREMENT COMMUNITIES**

by

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Submitted in partial fulfillment of the
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DEDICATION

I would like to dedicate this work to Charlie, Lily and Joey. Dream big, work hard and always believe in yourselves. Mami loves you, always.

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I began this program during the COVID-19 Pandemic with two little children and many recent life changes. Without my family's support, I would not have been able to make it through this journey. Thank you Eitan, Mami, Papi, Charlie, Lily, Joey and the rest of our Big Team. Your encouragement and endless help kept me going, even when it did not look like there would be an end to the to-do pile.

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Lastly, thank you to our village, especially Aliza, Alyssa, Sipporah, Tamar, Yael and Yani. We did this together and I have felt your support throughout.

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SOPHIE BUCHBINDER**

Boston University, Sargent College of Health and Rehabilitation Sciences, 2024

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ABSTRACT

Aging in place is a process, and a choice, where older adults remain in their homes as they age. As the number of retirees rises in the US, the topic of where to live as age related changes occur gains more importance. Naturally Occurring Retirement Communities (NORCs) are buildings or neighborhoods that house a large number of older adults and support them in remaining healthy and in the community (The AP-NORC Center for Public Affairs Research, 2021). Occupational therapy practitioners (OTPs) can play a key role in aging in place at NORCs, as the profession specifically addresses participation in meaningful daily activities (American Occupational Therapy Association [AOTA], 2021).

Understanding community dwelling older adults through the Social Ecological Model (Bronfenbrenner, 1974) facilitates viewing the individual surrounded by a collection on layers that impact the individual at the center, and considers factors such as skills, caregivers and support systems, neighborhoods and laws, and how they affect a person's life (Cole & Gauvain, 2005). Lack of mobility and balance, home safety,

appropriate equipment, functional independence, communal support, and access to care may result in older adults' need to leave their homes as they age.

A literature review on factors that impact successful aging found that age, chronic conditions, mobility, balance, and functional independence all play a role in balancing the challenges that arise during aging (Jeste et al., 2017; Plys & Kluge, 2016). Receiving healthcare was also found to be a barrier to older community dwellers (Vladeck & Segel, 2010), but there is limited evidence of OTPs' role in aging in place at NORCs. This gap in the literature highlights the need for occupational therapy (OT) in supporting older adults to successfully age in place at a NORC.

Home safety, including mobility, balance, appropriate equipment, and safe participation in functional tasks has been found to be linked to impact successful aging in the community (DiGennaro Reed et al., 2014; Ozturk et al., 2010; Plys & Kluge, 2016). Interventions that addressed these barriers to community-dwelling were found to be helpful to older adults (Plys & Kluge, 2016). Additionally, wellness, functional independence and social participation were found to positively impact older adults residing in the community, and the use of technology also plays a significant role in aging in place (Lee et al., 2017; Shipee, 2011; Smith et al., 2014).

Aging Well: A preventive occupational therapy service in Naturally Occurring Retirement Communities (Aging Well) proposes the addition of OT services to NORCs to support older adults' ability to age in place. Providing preventive services will equip NORC residents with the skills and support needed to remain in their homes as they age. The pilot program consists of individual home evaluations and interventions to address

mobility and balance concerns, as well as safety during daily functional tasks and use of medical equipment. Group programming will be capped at 10 participants, meet weekly for cycles of six weeks, and focus on skill-development activities, such as digital literacy to promote independence in daily tasks and engagement in healthy habits that promote wellness. The author's proposed program has potential to increase older adults' ability to age in place successfully and establish a formal role in an emerging setting for the field of OT. A detailed overview of *Aging Well* is presented in this doctoral project.

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LIST OF ABBREVIATIONS

ADLs.....	Activities of Daily Living
AOTA	American Occupational Therapy Association
BADLs	Basic Activities of Daily Living
BU.....	Boston University
CAPABLE	Community Aging in Place Advancing Better Living for Elders
CINAHL	Cumulative Index to Nursing and Allied Health Literature
DFTA	Department For The Aging
DME.....	Durable Medical Equipment
FTE	Full Time Employee
GIA	Grant-in-Aid Program
HUD.....	Department for Housing and Urban Development
IADL.....	Instrumental Activities of Daily Living
MICS.....	Multi-Functional Interactive Computer System
NORC	Naturally Occurring Retirement Community
NYC	New York City
NYSOFA.....	New York State Office For The Aging
OAHP	Older Adult Home Modification Program
OT	Occupational Therapy
OTP.....	Occupational Therapy Practitioner
OTPF.....	Occupational Therapy Practice Framework
PsycINFO.....	Psychology Abstracts Digital Version

SDT Self-Determination Theory
SIBA Social Internet Based Activities

GLOSSARY

Activities of Daily Living (ADLs)

Activities oriented towards taking care of own's own body.

(AOTA, 2020)

Aging in place

Older adults' ability to remain in their homes as they age.

Digital literacy

The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

(American Library Association, 2023)

Durable Medical Equipment (DME)

Equipment and supplies ordered by a healthcare provider used for everyday use.

(US Department of Health & Human Services, n.d.)

Instrumental Activities of Daily Living (IADLs)

Activities to support daily life within the home and community that often require more complex interactions than those used in ADLs.

(AOTA, 2020)

Naturally Occurring Retirement Community (NORC)

Buildings or neighborhoods that house a large number of older adults and support them in remaining healthy and in the community.

(The AP-NORC Center for Public Affairs Research, 2021)

Occupational Therapy (OT)

The only profession that helps people across the lifespan to do the things they want and need to do through the therapeutic use of daily activities (occupations). (AOTA, 2021)

Occupational Therapy Practitioners (OTPs)

OTPs work with people across the entire lifespan, from young children through to older adults, where they work to support individuals' engagement in occupations that are desirable to and/or expected of them at different stages of life.

(Humphry, 2002 in Willard & Spackman, 2009, AOTA, 2021)

Preventive health services

Routine health care...to prevent illness, disease, or other health problems.

(US Department of Health & Human Services, n.d.)

Successful aging

Managing changes that arise during aging and challenge older adults' independence.

CHAPTER ONE – Introduction

Occupational Therapy

Occupational therapy (OT) is a health profession that optimizes individuals' daily functioning. It is a wide field that can make significant impact in someone's life. The American Occupational Therapy Association (AOTA, 2023, para 2) defines OT as:

“The only profession that helps people across the lifespan to do the things they want and need to do through the therapeutic use of daily activities (occupations). Occupational therapy practitioners enable people of all ages to live life to its fullest by helping them promote health, and prevent—or live better with—injury, illness, or disability.”

At its core, OT believes there is an important connection between occupation, health, and people's identities (Unruh, 2004). Using the value of occupation, occupational therapy practitioners (OTPs) engage their clients in meaningful activities that will improve their daily functioning and quality of life.

OTPs work with people across the entire lifespan, from young children through to older adults, where they work to support individuals' engagement in occupations that are desirable to and/or expected of them at different stages of life (Humphry, 2002 in Willard & Spackman, 2009, AOTA, 2021). Often OT services follow a model beginning with an evaluation to understand the individual's unique needs, followed by an intervention plan with measurable goals that are client-centered, and will support what is important to each person (AOTA, 2020).

The Occupational Therapy Practice Framework (OTPF) can facilitate an understanding of how OTPs work to effect meaningful change in clients' lives (AOTA, 2020). Through careful breakdown of activities of daily living (ADLs) and instrumental activities of daily living (IADLs), as well as other occupations such as social participation, rest and sleep, health management and leisure, OTPs begin to understand a client's identity and develop a broader understanding of what matters to them. Analyzing and optimizing a person's environment can also positively impact their independence and quality of life. OTPs also consider people's roles and habits and how these relate to the occupations people engage in. Breaking down activities, tailoring environments to client's abilities and needs and focusing on what matters to our clients is how OTPs provide unique therapeutic interventions that promote health and independence (AOTA, 2020).

Occupational Therapy's Role with Older Adults

In recent decades, America's older adult population has grown, and will continue to grow, as Baby Boomers (born 1946 – 1964) age and longevity continues to increase (Guo & Castillo, 2012). Many older adults continue to live in their own homes; however, as they age, maintaining independence can be challenging, particularly when managing multiple health conditions. For many, assistance at home may be limited or unaffordable, leaving them to rely on their own ability to carry-out basic activities of daily living (BADLs) and IADLs. Home health aides and durable medical equipment (DME) to support aging in place can both be expensive and there are often limitations on what is covered by insurance. Due to this, many community-dwelling older adults choose to live

in shared living arrangements such as co-housing, or home-sharing to allow for an added layer of support (Seetharaman et al., 2020). Conversely, some older adults move into alternative living settings such as assisted living facilities and skilled nursing facilities; however, these are not always the right fit for all individuals.

OTPs may become involved with community-dwelling older adults who experience difficulty engaging in meaningful and purposeful occupations, mostly due to physical or mental health conditions (Semaan, 1993). For example, mild cognitive impairment is common among older adults who have chronic illnesses, which can lead to impaired executive functioning and problem-solving skills, impacting their ability to perform ADLs safely in their own home. For many community-dwelling older adults, OTPs recommend DME, and provide education about adaptations or compensations to the environment and/or specific tasks, to increase occupational performance and safety.

The Community Aging in Place Advancing Better Living for Elders (CAPABLE) program (Szanton et al., 2021), initially designed by Johns Hopkins University, is one example of OTPs working with community-dwelling older adults to optimize home safety and aging in place. In this program the OT assesses each participants including a mobility, home safety and DME needs and develops participant-centered goals related to aging in place. The CAPABLE program has gathered substantial data on how a low-budget team comprised of an OTP, a nurse and a handyworker can improve the safety, health, and overall functioning of older community dwellers with short-term and low-cost changes to homes (Szanton, et al. 2021).

Occupational Therapy Services in NORCs

Naturally Occurring Retirement Communities (NORCs) are a type of shared living arrangement which provides support for community dwelling older adults. Many older adults in NORCs are largely independent, however, as they age, they often face challenges maintaining their ability to engage in occupations which are meaningful and purposeful.

In 1985, Michael Hunt, human ecology professor at the University of Wisconsin-Madison, first coined the NORC term as a “housing development that is not planned or designed for older people, but which over time comes to house largely older people” (Hunt & Gunter Hunt, 1985, p. 3). According to Hunt, older adults often prefer to age in their places of residence where there is familiarity, support networks and family ties. Since the 1980s, NORCs have evolved from an “accidental” occurrence to a more intentional one. Supportive services in place are a way of allowing residents to have their needs met while maintaining a degree of community independence (Hunt & Gunter-Hunt, 1985).

In New York City (NYC) alone, there are approximately 60 NORCs that offer residential services to older adults (NYC Department for the Aging, 2023). The New York State Office for the Aging (2021) states that the goals of NORCs are to maximize community health, expand and strengthen connections older adults have before crises occur, and have a comprehensive program that uses social work, groups and health care related services that support individual and community health needs. Moreover, Elder Law 209 in New York State details that NORCs need to offer health care management

and assistance, health promotion and linkages to prevention services and screenings (New York Senate, 2023).

OT provides a unique perspective which differs from other members of the healthcare team by focusing on occupation and client-centered optimization, however currently in NYC, and seemingly across the US, NORCs do not employ OTPs. NORC staff almost exclusively consists of nurses and social workers. NORC residents who require OT services are typically seen by OTPs from other clinical settings (e.g., acute care, rehabilitation, restorative home care services or outpatient services) only after a medical event, fall or functional decline has occurred. In these other settings, OTPs typically adopt a rehabilitative approach. Currently, there are no on-site OT services for NORC residents, and no preventive OT services available that focus on maximizing NORC residents' safety and wellness while living independently. One potential reason for this gap in OT service delivery is that OTPs have not sufficiently profiled themselves as key players in optimizing people's independence and safe participation in functional desired tasks within the NORC setting. Many other health and social care professionals may not understand how OTs can be instrumental in addressing this issue.

Proposed Project

To address the OT service delivery gap in NORCs, this doctoral project will develop, establish, and plan to pilot a new OT role at a NORC in NYC. Since NORCs are not medical environments, but rather a community, this new position will specifically adopt a preventative OT role, focused on maintaining NORC residents' current roles and functions. The OTP will implement adaptive and compensatory interventions that can be

incorporated into daily life, which can support NORC residents to age in place. Providing preventative measures to better support NORC residents' independence would support the NORC's mission of avoiding crises while optimizing residents' ability to continue engaging in occupations which are important to them.

In the planned new role, OT services would be ongoing and on an as needed basis. The OTPs presence at the NORC would allow for long-lasting relationships with residents which will also ensure a holistic, client-centered, individualized approach is provided.

In order to pilot establish a new OT position in the NORC, this doctoral project developed a job description stipulating:

- 1) what will be the responsibilities and expectations of the OTP, and
- 2) the types of interventions that will be carried out at the NORC, including what groups and individual meetings will consist of.

Additionally, a proposal for grant application will be developed to secure funding for the OT line. Referral pathways to streamline who gets preventative OT will be designed including policies and frameworks to be used. This will ensure the nature of the preventative role in the OT line is maintained and appropriate rehabilitative OT services can be outsourced to home care agencies or outpatient clinics. Gathering quantitative data on the impact and results generated by the OT line will be made possible by designing an evaluation tool when providing preventative OT services at the NORC.

Creating OT roles focused on wellness would be new to NORCs but has been done in other settings. Currently OTPs work in assisted living facilities and day centers.

OT has also been found to be beneficial in independent older adults, such as in the Well Elderly studies (Clark et al., 1998; Lamarre et al., 2019). Supporting older adults in maintaining and optimizing their independence is an important step towards aging in place. Additionally, improving home safety and establishing fall prevention strategies will better support mobility, which is key to ensure socialization can occur and community integration is maintained.

Impact of Proposed Project

Piloting an OT position at a NORC with emphasis on preventive health, home safety, fall prevention, and maintenance of physical functioning and social connectedness is a novel way to support community-dwelling older adults age in place. The overarching aim of the new OT position is to improve the health and wellbeing and reduce adverse medical events of NORC residents. By targeting independent individuals and implementing safe use of devices, adaptations and caregiver education, OTs could positively impact these individuals' lives, prolong their independence in the community and prevent negative outcomes.

Having an OT on-site at a NORC, who can work with existing staff including maintenance, would be beneficial to residents as it has been shown by the CAPABLE program (Szanton et al., 2021). Since financial barriers, limited insurance coverage and lack of long-term care are prevalent issues among older adults, having access to preventative OT services and environment modification may be beneficial in supporting NORC residents in preparing their homes to support their needs as they age. Even though the skillset of OTPs sometimes overlaps with nurses and social workers, OTPs would

provide unique input on home adaptations, functional optimization and biopsychosocial factors that directly impact individuals' safety and daily functioning.

Summary

OT's unique focus on biopsychosocial factors and their impact on functional performance in meaningful occupations make the profession uniquely suited to support older NORC residents to remain in their homes as they grow older. Addressing mobility, home safety, access to rehabilitative services when needed and offering skill-acquisition based groups will promote safe and successful aging in place. Establishing a pilot program delineating the role of preventive OT would play at a NORC will also include stipulating the OTP's job responsibilities, address funding sources, and collaborate with existing NORC staff.

CHAPTER TWO – Project Theoretical and Evidence Base

Theoretical Framework

The Social Ecological Model (Bronfenbrenner, 1974) was selected to understand older adults functioning in a NORC environment. While the model was originally developed to understand the interactions between individual and environmental factors influencing child development, the Social Ecological Model has had broad application especially related to public health issues.

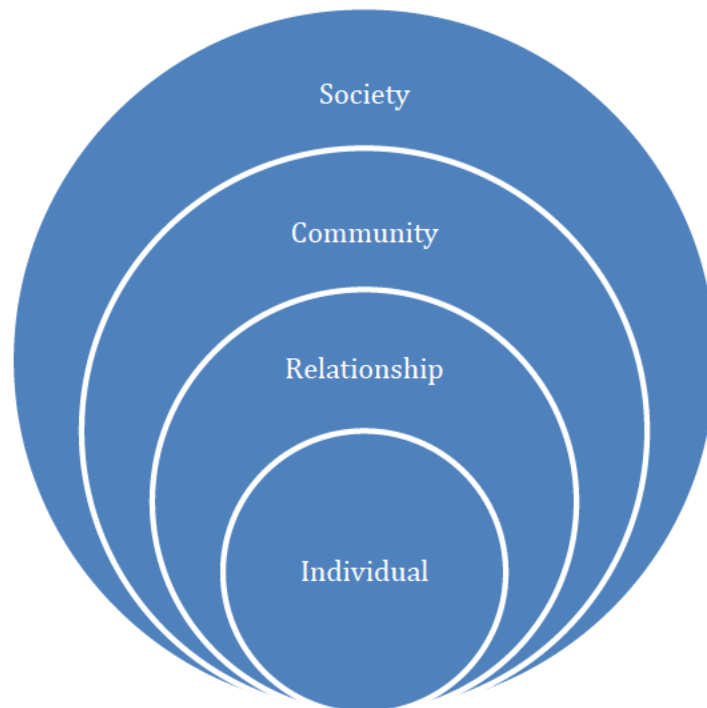
According to Urie Bronfenbrenner, human development and how individuals function throughout the lifespan can be understood and analyzed by social, as well as cultural factors that affect each other and the individual throughout lived experiences. Known as ecological systems, this approach believes a person is composed of a collection of layers that influence the individual.

Bronfenbrenner's research about ecological models began in the 1970s and differed from the rest of the scientific community but proved to be valuable in understanding behavior (Gauvain & Cole, 2005). Up until Bronfenbrenner, researchers believed child development was random. His theory, which he refined over decades of work, used *Systems*, or layers, to explain behavior and how individuals function. Understanding how a collection of biopsychosocial factors affecting one another on a regular basis, and for a significant amount of time, allowed for a deeper understanding of the contextual significance of factors outside the person to understand their behavior (Gauvain & Cole, 2005).

The Social Ecological Model illustrates four layers that influence the individual: Individual, Relationship, Community, and Society, as shown in Figure 2.1. *Individual* factors are intrinsic, such as a person's biological characteristics, and their personal characteristics such as their skillset, beliefs, and attitudes. The next layer, *Relationship*, includes the network that individuals interact with socially, such as their family, friends, or direct caregivers. *Community* is the settings in which people live, work, and play in which social relationships occur, such as schools, groups, and neighborhoods. Lastly, *Society* relates to the broad societal factors that influence culture, such as policy, laws, and cultural norms (Gauvain & Cole, 2005).

Figure 2.1

Social Ecological Model



Understanding a NORC resident's life through the lens of the Social Ecological Model facilitates a broad understanding of the factors that influence successful age in place at a NORC. For example, at the *Individual* level, successful aging is influenced by the NORC resident's individual physical, mental, cognitive, and social functioning. Mobility has been found to be an important predictor of success for older adults who wish to age in the community (Umstadd et al., 2013). Additionally, safety awareness and other executive functions are also key in allowing for independent living (Makizako et al., 2015). OTPs can intervene at the *Individual* level, through fall prevention efforts, environment modifications and compensatory strategies for desired tasks.

On the next level, *Relationship*, caregivers, family support and friendships at the NORC and beyond, will play an important role will influence an individual's ability to age in place. Having positive relationships are also beneficial for mental health and well-being, as well as providing practical support. This is important as residents may choose institutionalization over remaining in the community due to lack of support and social isolation.

NORCs are a *Community* by name and by nature. NORC residents build relationships with each other, each other's loved ones, and with NORC staff. As such, there is often a strong sense of community with multi- and inter-generational ties. NORC programming supports these relationships to further build community. NORCs also exist in a wider community with the neighborhoods in which they are located. In these communities, NORC residents live alongside and build relationships with others in the neighborhood; access shops, services, and public spaces; and contribute to the society in

many meaningful ways.

The last layer, *Society*, is critical to NORC residents because NORCs are influenced by public policy which outlines key programming and services that should be provided to NORC residents. In some states, NORCs are also mostly publicly funded. As the older adult population grows, there is a greater need for appropriate and fair options for people to age as they choose. Adding OT to existing NORC services will be valuable to residents and improve their ability to successfully age in the community.

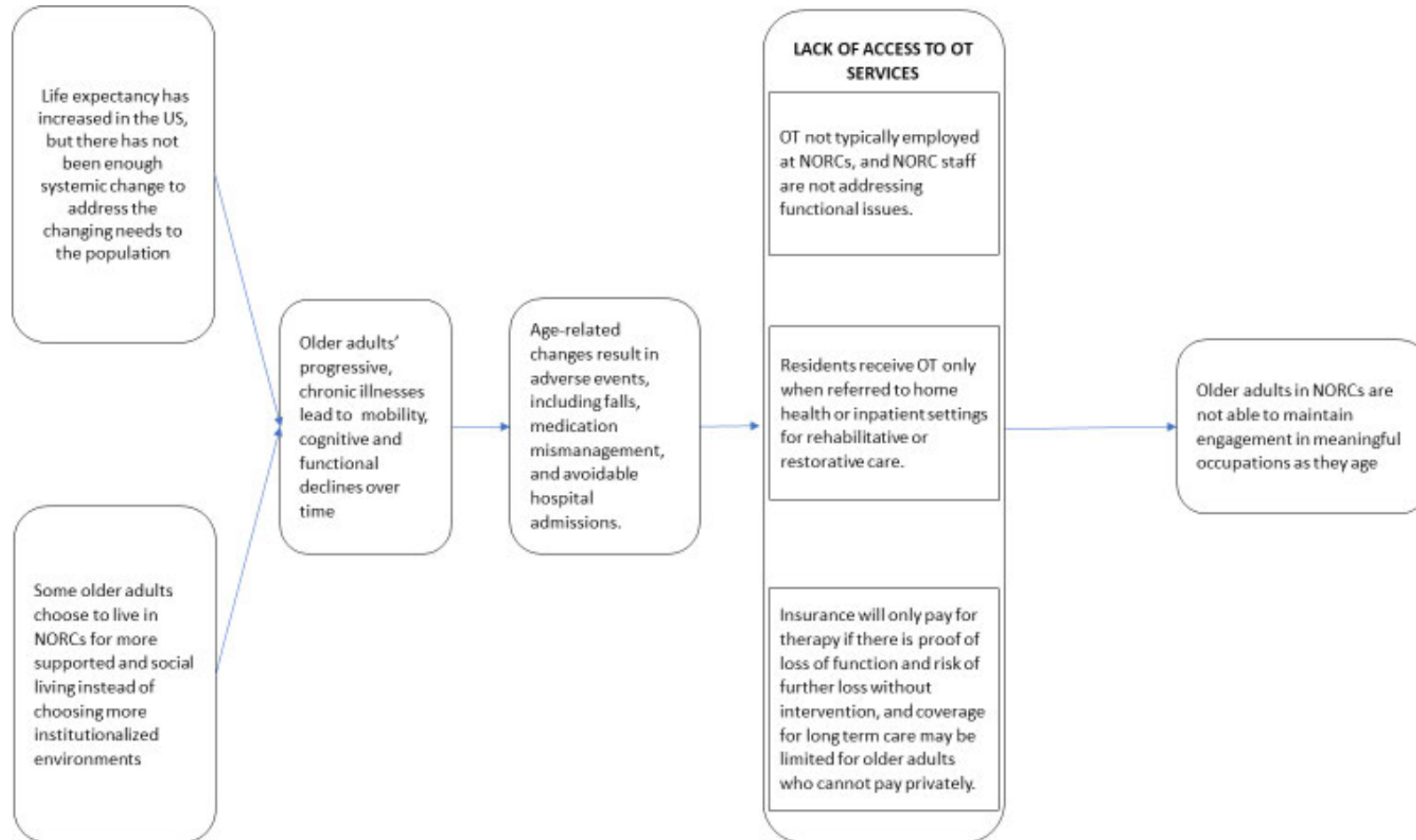
In the literature, the Social Ecological Model has been used to understand successful aging among community-dwelling adults with significant results. According to Jang (2020), *Individual* factors such as gender, age and educational level, among others, are correlated with the ability to age successfully in the community. Additionally, satisfaction with spouse and amount of contact with other family, which represent the level of *Relationship* also impact aging in place. Frequency of neighborly contact and ability to access community resources were analyzed and found to be relevant, which falls under the level of *Community* (Jang, 2020). Using the Social Ecological Model allows for a wide understanding of factors within and outside an individual and how successful aging can be optimized among the growing population of older adults.

Explanatory Model of the Problem

This project aims to address the lack of preventive OT services offered to older NORC dwellers who are seeking to age in place. The explanatory model presented in Figure 2.2 below, as well as its description, illustrates the factors that impact individuals' ability to age in place at NORCs.

Figure 2.2

Explanatory Pathway Model



To summarize the figure, life expectancy in the US has increased over the past few decades, resulting in older adults needing to rethink how and where they age. NORCs have evolved over time and become environments where older adults may age in place with some social support. Even with the NORCs' support, older adults may experience age-related changes leading to preventable adverse events. Since access to OT is limited to the community-dwelling population, older adults may not be able to maintain their independence and right to remain in their homes, engage in their preferred occupations and optimize their safe participation in functional tasks.

Literature Review of Factors Contributing to the Issue

To investigate how OT services at a NORC could impact community-dwelling older adults, a literature search was conducted to answer these research questions:

1. What age-related changes impact people's ability to maintain functional independence?
2. Which factors influence successful aging for community dwellers?
3. What are the barriers to accessing healthcare professionals for NORC residents?

A search of the literature was conducted using five databases: APA PsycINFO, CINAHL, Social Services Full Text and PubMed.

Research Question 1.

Table 2.1 shows search terms used for the first research question, "What age-related changes impact people's ability to maintain functional independence?".

Table 2.1*Search terms used for Research Question 1*

Age-related changes	Functional independence	Older adults
“chronic illness” OR “cognitive decline” OR “adverse event” OR “life expectancy” OR “chronic disease” OR “chronic health”	independen* OR ADLs OR “activities of daily living” OR “functional status” OR function*	“older adult” OR gerontolog* OR geriatric* OR elder* OR senior* OR retire*

The search yielded 40 studies that were relevant to the question. Abstracts and full-text of the retrieved articles were reviewed against the following criteria: 1) participants ages 65 and older, 2) article primarily addressed age related changes, 3) studies published in English. Study protocols were excluded from this review. Following this, 10 studies were selected for inclusion in this review.

Research Question 2.

Table 2.2 shows search terms used for the second research question, “Which factors influence successful aging for community dwellers?”.

Table 2.2*Search terms used for Research Question 2*

Successful aging	Community dwellers	Older adults
“successful aging” OR independen* OR “aging in place” OR “ageing in place” OR “age in place”	Communit* OR NORC OR “Naturally Occurring Retiree Community” OR “Naturally Occurring Retiree Communities” OR “Naturally Occurring Retirement Community” OR “Naturally Occurring Retirement Communities” OR “assisted living” OR “supported living” OR “home dwelling” OR “home dweller” OR “independent living” OR “supported residential” OR “supportive services program” OR “retirement village” OR “retirement community” OR “retirement communities”	“older adult” OR gerontolog* OR geriatric* OR elder* OR senior* OR retire*

The search yielded 76 results after duplicates were removed. Next, abstracts and full-text were reviewed against the following criteria: 1) participants ages 65 and older, 2) studies primarily addressed successful aging and aging in place, 3) studies published in English. Exclusion criteria were: 1) participants living in formal institutions 2) study protocols. Thirteen studies were selected for inclusion in this review.

Research Question 3.

Table 2.3 shows search terms used for the third research question, “What are the barriers to accessing healthcare professionals for NORC residents?”.

Table 2.3

Search terms used for Research Question 3

Healthcare Professions	NORC
“occupational therapy” OR “occupational therapist” OR physiotherap* OR “physical therapy” OR “physical therapist” OR “speech language pathology” OR “speech language pathologist” OR “speech pathology” OR “speech pathologist” OR “speech therapy” OR “speech therapist” OR “language therapy” OR “language therapist” OR dietitian OR dietician OR dietetic OR nutritionist OR “social work” OR “social worker” OR medic* OR physician OR nurs* OR pharmac* OR podiatr* OR chiropod* OR “art therapy” OR “art therapist” OR “music therapy” OR “music therapist” OR psycholog* OR “diversional therapy” OR “diversional therapist” OR “recreation therapy” OR “recreation therapist” OR audiolog*	NORC OR “Naturally Occurring Retiree Community” OR “Naturally Occurring Retiree Communities” OR “Naturally Occurring Retirement Community” OR “Naturally Occurring Retirement Communities”

The search yielded 64 articles. Abstracts and full-text were reviewed against the following criteria: 1) participants ages 65 and older, 2) studies primarily addressed NORCs, 3) studies published in English. Exclusion criteria were: 1) study protocols. Nine articles were selected for inclusion in this review.

A synthesis of the literature for each of the three questions is presented below.

Age-related Changes and Functional Independence

Age-related changes in community dwelling older adults can impact their ability to engage in meaningful daily occupations, and their functional independence. The studies in this review identified several age-related changes that impact older adults' functional independence, as well as their quality of life.

Firstly, it appears that mobility impacts functional independence. Cho et al. (1998) conducted a longitudinal study with 302 community-dwelling older adults where in-home assessments were conducted annually over three years. Over time, participants with gait and balance disorders, experienced declines in BADLs and IADLs. Ozturk et al. (2010) also found that mobility plays a significant factor in older adults with chronic conditions when rating their quality of life.

It is clear that chronic health conditions also have an impact on older adults' functional independence. A US study (Semaan, 1993) involving 5450 older adult community dwellers and found that individuals with chronic health conditions, such as diabetes, cancer, and arteriosclerosis, were less independent with ADLs than those who did not have chronic health conditions. This was supported by Cho et al. (1998), previously mentioned, which also found that individuals with hypertension, urinary incontinence and coronary artery disease experienced declines in IADLs. Similarly, Eramudugolla et al. (2013) evaluated 2551 community dwelling older adults in a longitudinal study in Australia. Using self-report questionnaires, researchers found that over eight years, cognition, and presence of chronic conditions were associated with dementia and loss of IADLs.

Chronic illnesses were also found to impact quality of life and the presence of depression among community dwelling and institutionalized older adults (deGuzman et al., 2015; Lima et al., 2009). Researchers in Brazil used the 36-Item Short Form Survey (SF 36) to assess 958 older adults. Data collected through interviews looked at physical functioning, pain, vitality, health, social functioning, and mental health. Quality of life was found to be impacted by different chronic conditions to differing degrees. Increased comorbidities or a high prevalence of chronic conditions were also correlated to lower quality of life scores (Lima et al., 2009).

While it is apparent that chronic health conditions do impact functional independence, there is evidence that several interventions may have a positive effect on physical functioning. A study in the Philippines (de Guzman et al., 2015) found that 151 nursing home residents were impacted by the length of their disease processes and the number of diagnoses they had. Using the Katz Index of Independence (Katz et al., 1970) the Life Satisfaction Checklist (Fugl-Meyer et al., 1991), a researcher-designed social support scale, and the Geriatric Depression Scale (Sheikh & Desavage, 1986), the study found that health promotion and lifestyle changes starting early in older adults' lives had a positive effect on physical functioning later in life.

In addition to the physical health conditions experienced by older adults, mental health conditions also appear to impact functional independence. Depression was studied in several articles, and an association between depression and functional decline was shown in all. Again, in their longitudinal study, Cho et al. (1998) found that participants with depression experienced declines in IADLs. Similarly, Eramudugolla et al. (2013)

identified associations between depression and both the presence of dementia and loss of IADLs. Researchers in Brazil found mental health to impact older adults' quality of life when administering questionnaires to 958 community-dwelling older adults (Lima et al., 2009). Similarly, the research study in Filipino nursing homes found the occurrence of depression to be linked to chronic conditions and their negative implications on life satisfaction (de Guzman et al., 2015).

Influential Factors for Successful Aging Among Community-Dwellers

The term 'successful aging' has been used to describe the optimization of individuals' function as they age. This term, over time, has come to include both a biomechanical and a social component (Urtamo et al., 2019). Since successful aging spans over a wide array of factors, findings from this literature review are grouped by themes as they relate to daily living. This review found several factors which influence successful aging for older adults living in the community.

Again, mobility has also been found to be an important factor for successful again at home. Plys & Kluge (2016) conducted a study involving 96 independent living residents which investigated their life-space mobility, as well their physical, cognitive, and psychological status. The study found that access to the community was associated with participants' mobility. The authors then highlighted the importance of considering community-swelling older adults and having an enhanced socio-physical environment. Kim et al. (2018) conducted a retrospective analysis of data set involving 88 independent-living older adults in Florida who had sustained falls while residing in independent housing. The researchers identified environmental hazards using the Westmead Home

Safety Assessment (Clemson et al., 1999), as well as interviews, and found that falls that occurred in the bathroom were associated with hospitalization. Bathroom falls were also the most common source of safety threat to participants. The study also found a link between increasing age and number of mobility devices used, which then correlated with number of environmental hazards. When comparing the two buildings studied, researchers noted the building with more environmental hazards had a higher rate of falls than the building with lower environmental hazards.

Physical health is also associated with successful aging. A California-based study (Jeste et al., 2019) investigated senior housing dwellers' sociodemographics, cognitive function, physical health and mental health. The study found a significant correlation between physical health and self-rated physical functioning. Jeste and colleagues also found their participants to have significant associations between physical mobility, cognitive function, satisfaction with life and wisdom. Other studies relating to physical health have focused on pain. For example, Chen et al. (2011) used subsets of data from a large Boston-based study showing the negative impact of chronic pain on older adults' lives. Their research suggests pain poses a risk to older community dwellers' ability to remain independence while living in the community, thereby negatively impacting participants' ability to age in place. The same subsets of data from the MOBILIZE Boston-based study (Chen et al., 2011) also found sleep to impact zest, balance, and ability to remain independent.

This literature review also found that wellness and fostering of positive, self-empowering attitudes also positively impact older adults' successful aging at home. Lee

et al. (2017) conducted a survey where 550 older adults completed their Successful Aging Inventory Scale (Lee et al., 2017). The researchers found they could use this tool to predict successful aging. Participants who demonstrated proactive engagement, access to wellness resources and felt support from their relationships were found to be more likely to experience successful aging (Lee et al., 2017). Similarly, in their qualitative study involving 22 community-dwelling older adults, Rechstadt et al. (2010) found that self-acceptance and feelings of engaging with life/self-growth were related to successful aging. Wisdom was also found to be a major contributor, along with being equipped with effective coping strategies. In another qualitative study (Shipee, 2011), autonomy, feeling supported and having a strong sense of social belonging with opportunities for participation were all found to be important themes among retirement community dwellers.

Living in a community that supports aging in place has also been found to be important for successful aging. Opportunities for participation, transportation and access to community resources are examples of relevant themes for successful aging. Retirement communities that effectively support residents have been found to include these factors (Smith et al., 2014). NORCs have been found to promote aging in place by offering adequate physical and social environments. Through low-cost service provision, NORCs cater to residents' medical and social services (Masotti et al., 2006). The use of programming and placing older adults in decision-making roles have been found to be present in NORC settings and positively impact awareness and ability to age in place (Bedney et al., 2010).

Walker and McNamara (2013) conducted interviews among older community dwellers and retirement facility clients in Australia. Through semi-structured interviews, participants were grouped by stages of relocation depending on how recent their move to the retirement community had been. The study found it relevant among participants having control over the decision to relate and preparing for adjustment. Overall, the main themes found included timing to relocate, being open to a new beginning, continuity and having strategies to manage change.

Lastly, technology has been explored in the literature for association with successful aging. A Dutch study (Haufe et al., 2019) investigated the impact of use of technology among community-dwelling older adults. Through semi-structured interviews, researchers investigated technology use trends in 19 community-dwelling older adults. During phase 1 of the study, researchers looked at participants' interests and needs, as well as interviews with technology experts to determine available technologies. In phase 2, a matchmaking tool was created by an action team comprised of technology experts and researchers, where available technologies were paired with older adults' needs. Creating options where community-dwelling older adults can be matched to technologies available may facilitate aging in place.

Barriers to NORC Residents Accessing Health Professionals

The research question “What are the barriers to accessing healthcare professionals for NORC residents?” was not explicitly answered by the included articles. The articles do, however, provide some insight into the nuances of community dwellers' access to healthcare.

There were only two articles which specifically related to the research question. Vladeck and Segel (2010) explored the risks to healthy aging in NORCs in NYC. The authors found that NORC residents were able to see their doctors frequently and had access to medications. The study, however, did not explore access to other health professions such as OT, physical therapy, or social work. This study also offers a systematic way of measuring progress among NORC residents but acknowledges the difficulties in changing common practice at NORCs, as it involves retraining existing staff, eliciting support from stakeholders and generate action from the community. Another study, Bagchi et al. (2018) found telehealth to have general receptivity among older African American community dwellers. The study specifically looked at low income and chronically ill individuals. Participants reported discomfort with computers and lack of in-person care as some of their reservations. These researchers also found underserved communities being at an increased level of challenge when using telemedicine.

Several articles explored the impact of health and social services accessed by NORC residents. Cohen-Mansfield et al. (2010) carried out a study with 180 NORC residents, where 58 NORC residents received health, social work, activities, and transportation services through a formal program and 52 participated in some activities but did not have membership to the formal program. Researchers found mobility and transportation to be regarded as successful interventions. Therapeutic recreation, alternatively known as recreation therapy, was found to be beneficial. When receiving services, NORC residents rated satisfaction with social life at higher levels.

Similarly, Elbert and Neufeld (2010) highlighted the advantages of living in a NORC, including receiving supportive services and ensuring engagement in activities that foster physical and mental health. This article also placed emphasis on cost-efficiency of NORCs and enabling NORC residents' ability to maximize their health, diversity, and vibrancy.

Kunstler (2002) showcased the benefit of NORC residents receiving therapeutic recreation. Using a formal plan of care to assess and carry out interventions, the author engaged NORC residents in leisure activities and tapped into their interests. During home visits, participants were assessed and treated, and later discharged. The article stated that socialization and intellectual stimulation were residents' most pressing needs, as well as exercise and cognitive rehabilitation. It is interesting that only recreation therapy was the only profession mentioned related to in-house NORC interventions.

Other studies discussed health and social issues experienced by NORC and community dwelling older adults which identified the need for access to a range of health care professionals. DiGennaro Reed et al. (2014) assessed 152 participants including staff, advocates, and family members of individuals with disabilities and found common barriers to independent living. Using mailed surveys, the authors found the main barriers to impact independent living are safety and skill deficits, such as medication management, home maintenance and safety. For older adults, barriers included medical and cognitive themes. This highlights the need for professions such as OT, pharmacy, and social work.

Lyons and Magal (2001) investigated health risks and distress among Black

NORC residents. Participants were assigned to an intervention group, which received support via psychologic and educational treatment or control groups and the duration of the intervention was eight weeks. Using a health behavior questionnaire developed by the researchers, as well as formal wellness scales, the authors assessed physical health, diet, loneliness and other markers of social wellness. Wellness and health behaviors were found to be positively impacted by the intervention. According to the authors, it is possible to assume that improving physical health would have positive effects on older adults' health, which in turn highlights the need for professions such as OT, physical therapy, nutrition and social work.

Lastly, research has also explored the NORC service model and how it can uniquely address older community dwellers' needs. Masotti et al. (2010) focused on any community's ability to become a NORC and how all existing NORCs can move towards the healthy-NORC spectrum, where NORCs can better support older adults in healthy aging. This article also mentions the importance of collaboration between local government, which they refer to as municipal, and local public health agencies.

Conclusion

There are age-related changes that impact older adults' ability to maintain their functional independence as they age. Mobility, chronic health conditions, mental health and depression all seem to affect this population's ability to age in place. Additionally, some factors seem to positively influence older adults' aging process. Mobility, physical health, wellness, self-empowering attitudes, community support and feelings of control over one's life all contribute to successful aging. The use of technology appears to also be

positively associated to successful aging.

Lastly, there are barriers in NORCs that limit residents from accessing healthcare which hinder older adults from accessing tools such as telehealth, lack of in-person care for residents who require assistance, lack of transportation, safety and skill deficits including medication management, home maintenance and safety. There are also difficulties when creating change at NORCs as the changes are multi-leveled and require substantial involvement from a variety of groups and individuals.

Receiving healthcare services while living in a NORC appears to be a nuanced process, with factors ranging from transportation and mobility to safety, and present an opportunity to support older community dwellers' desire to age in place with improved access to healthcare services that will enable their ability to remain in their homes.

CHAPTER THREE – Overview of Current Approaches and Methods

Overview of Current Approaches and Methods

To investigate how approaches to supporting community dwelling older adults, and the development of new OT services, a literature review was conducted to answer these research questions:

1. How have well community-dwelling older adults benefited from OT services?
2. How have older adults benefited from interventions to improve digital literacy?
3. How have new OT roles been established in emerging practice settings?

A search of the literature was conducted using three databases: APA PsycINFO, CINAHL and Social Services Full Text.

Research Question 1

Table 3.1 shows search terms used for the first question, “How have community-dwelling older adults benefited from OT services?”.

Table 3.1

Search terms used for Research Question 1

Community-dwelling (Abstract)	Older adults (Title)	Occupational Therapy (Title)
Communit* OR NORC OR “Naturally Occurring Retiree Community” OR “Naturally Occurring Retiree Communities” OR “Naturally Occurring Retirement Community” OR “Naturally Occurring Retirement Communities” OR “assisted living” OR “supported living” OR “home” OR “independent living” OR “retirement village” OR “retirement community” OR “retirement communities”	“older adult” OR gerontology* OR geriatric* OR elder* OR senior* OR retire*	“occupational therapy” OR “occupational therapist”

The search generated 45 articles, after duplicates were removed, that were relevant to the question. Abstracts and full-text of the retrieved articles were reviewed against the following criteria: 1) studies involving participants aged 65 and older, 2) articles which had a primary focus on the provision of OT services, 3) studies published in English. Study protocols were excluded from this review. Following this, 10 articles were selected for inclusion in this review.

Research Question 2.

Table 3.2 shows search terms for the second research question. “How have older adults benefited from interventions to improve digital literacy?”.

Table 3.2

Search terms used for Research Question 2

Older adults (Title)	Digital literacy (Title)	Intervention (Title)
“older adult” OR 28urround28gy* OR geriatric* OR elder* OR senior* OR retire*	“digital literacy” OR technology OR internet OR “cell phone” OR “mobile phone” OR computer	Intervention OR program* OR training OR education

The search yielded 100 results after duplicates were removed. Next, abstracts and full-text were reviewed against the following criteria: 1) studies involving participants aged 65 and older, 2) studies which had a primary focus on older adult digital literacy, 3) studies published in English. Study protocols were excluded from this review. Due to the rapid advancement of technology in recent years, research conducted prior to 2015 were also excluded. Eight studies were selected for inclusion in this review.

Research Question 3.3

Table 3.3 shows search terms used for the third research question, “How have new OT roles been established in emerging practice settings?”.

Table 3.3

Search terms used for Research Question 3

Occupational Therapy (Abstract)	Emerging Practice (Abstract)	Role	Practice focused, NOT student focused (Abstract)
“occupational therapy” OR “occupational therapist”	“role emerging” or “emerging role” or “emerging practice” OR “emerging setting” OR “emerging field” OR “new role” “new setting” OR “new practice” OR “new field”	Role OR position OR service OR program*	NOT placement OR student OR fieldwork

This search yielded 64 articles after duplicates were removed. Abstracts and full-text were reviewed against the following criteria: 1) studies primarily addressed the establishment of emerging occupational therapy practices 2) studies published in English. Exclusion criteria were: 1) research relating to OT students on fieldwork placements, and 2) study protocols. 12 studies were selected for inclusion in this review.

A synthesis of the literature for each of the three questions is presented below.

Community-dwelling Older Adults and Occupational Therapy

Older adults live in a range of residential and institutional settings. For those who live in institutional settings (e.g., nursing homes, skilled nursing facilities) OT services are often accessible as many settings employ OTPs on-site. The OT interventions used in these settings have been well-researched and well-documented (Dancewicz et al., 2020;

Portillo et al., 2023; Livingstone et al., 2022). For older adults who live in the community, however, access to OT services may be more challenging, and provision of OT services may come from a variety of places. Additionally, OT interventions may be more focused on maximizing independence and participation in the community. This review focused on identifying meaningful OT interventions carried out with community dwelling older adults that positively support their ability to maximize their wellness and independence. Several themes were evident among the relevant articles found.

OT services for older adults often address issues of mobility and balance. For example, Williams et al. (2011) conducted a pilot study where they incorporated videogames in OT sessions to address balance issues with community-dwelling older adults. Using a quasi-experimental design, participants engaged in twelve, 20-minute OT sessions using Nintendo Wii over four weeks. When comparing Berg Balance Scale (Berg et al., 1992) scores before and after the intervention, data showed improved balance post intervention.

While also addressing mobility, some OT interventions specifically focus on preventing falls and home safety. A systematic review (Steuljens et al., 2004) found evidence to support that OT interventions lead to positive outcomes for community dwelling older adults. Specifically, there was strong evidence to support the efficacy of OT recommendations for assistive devices on home safety. Similarly, fall prevention instruction and OT interventions addressing functional independence in BADLs and IADLs were found to be efficacious interventions for older adults. Di Monaco (2008) conducted a quasi-randomized control trial which also found that OT services had a

positive impact on preventing falls. In this study, 95 community dwelling women aged 60+ who had sustained a fall that resulted in hip fracture all received multidisciplinary fall prevention. The intervention group also received one OT home visit following discharge from rehabilitation. Visiting OTPs addressed home safety, environmental hazards, ADL participation and use of DME. Outcome measures included percentage of advice followed by participants and Barthel Index scores. The incidence of falls among the intervention group was significantly lower than the control group that did not receive an OT home visit.

More recently, the Community Aging in Place Advancing Better Living for Elders (CAPABLE) program has been the context for a leading series of studies on home safety. As described by Toto et al. (2021), this program provided home visits to community dwelling older adults from an OTP, a nurse, and a handyman. Following an OT evaluation where home safety and participants' specific needs were assessed, a handyman provided basic home repairs and installed safety devices while a nurse addressed medication management and access to care. The program has been found to be successful at supporting community dwelling older adults and has also identified barriers and adaptations to the original CAPABLE program to maximize its impact.

Other OT interventions with community-dwelling older adults have focused more on maintaining or increasing functional ability, and participation in IADLs. Daws et al. (2020) found that older adults who have been advised to stop driving due to dementia had decreased their social participation one month after stopping to drive. Community activities such as grocery shopping did not seem to decrease, but participants

acknowledged they were now relying on family and friends for transportation. While the study did not describe OT interventions to address these issues, it does highlight that OTPs can play an important role in assisting with older adults' changing needs as they age in the community.

Another study (Evans et al., 2008), investigated older adults who were still in the workforce and how OTPs can support their ongoing participation. The Aging Worker Study conducted a mixed methods study in which 196 OT practitioners were surveyed, and eight aging working in the community were interviewed. The study found that financial stability, satisfaction with their contribution to the field and confidence in their knowledge were the main motivators for older adults to remain in the workforce. The survey showed that OTPs need to find opportunities to support older community dwellers' needs as they age by considering their physical, social, cognitive, and environmental challenges.

In addition to improving physical health, OT may also benefit older adults' emotional and cognitive well-being. A Japanese case study (Imanish & Higaki, 2016) investigated the role of grandparenthood, self-esteem, life satisfaction and wisdom when supported by a narrative-based approach of OT. Their research found home OT to increase quality of life ratings and increased motivation to live. One subject in the study also experienced better acceptance of their own mortality.

Another study, commonly referred to as 'The Well Elderly Study' also found benefit in providing OT services to older adults' wellness at a preventative level (Jackson et al., 1998). Participants in the experimental group received OT services via

programming that focused on developing meaningful occupations to address challenges associated with aging. Other participants received social interventions, such as movie viewing and games. Older adults who received OT services that addressed their own self-identified challenges experienced increased well-being and life satisfaction, mental health, occupational functioning, and physical health.

Lastly, Pereira & Stagnitti (2008) found that OT client centered leisure interventions can facilitate successful aging and healthy living in their qualitative study involving 10 Italian older adults in Australia. The researchers also recommended strategies related to older adults' health promotion should be put into practice with the support of governmental agencies to reach wider communities (Pereira & Stagnitti, 2008).

Based on the available research, OT can support older adults as they age in the community by addressing their physical, emotional, social, and environmental needs. OT interventions focus on a range of areas including mobility, fall prevention, home safety, participation in IADLs, and mental health and wellbeing.

Older Adulthood and Digital Literacy

In this digital age, digital literacy is increasingly important for participation in many aspects of social and community life. Digital literacy is defined by the American Library Association (2023) as “the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills”. This review focused on how older adults have benefited from interventions to increase digital literacy.

Social isolation can be a challenge for many older adults. Consequently, digital literacy interventions have been used to address social isolation. A systematic review (Chen, 2016) found that information communication technology use by older adults was consistently found to affect social support, social connectedness, and social isolation in general positively. It was found to alleviate social isolation through four mechanisms: connecting to the outside world, gaining social support, engaging in activities of interests, and boosting self-confidence. The researchers do, however, caution that more research is needed to evaluate the effectiveness of interventions, and that interventions need to be tailored to the demographic they intend to service.

In their qualitative study, Larsson et al. (2017) found that Social Internet Based Activities (SIBA) are powerful tools to increase social participation among older community dwellers while reducing loneliness. Using carefully crafted interventions for the participants, the researchers found that older adults benefited from content, time, and accounting of foreseeable challenges. Participants displayed more habitual engagement in social activities when interventions were tailored to their specific needs.

In addition to reducing social isolation, digital literacy interventions also seem to decrease caregiver burden among older adults. An internet-based meditation program targeted stress and wellbeing among adult spouses of people with late-life disability (Pandya, 2020). Compared to leisure activities, meditation session participants had lower scores in the Burden Scale for Family Caregivers – Short Form (Graessel et al., 2014) and improved scores in the Perceived Change Index – 13 (Gitlin et al., 2006), as well as the Warwick-Edinburgh Mental Wellbeing Scale (Tennant et al., 2007) and the Mental

Health Inventory – 38 (Veit & Ware, 1983). Many participants showed improved responses to care challenges and overall self-practice along with meditation lessons had the greatest impact on caregivers.

Digital literacy interventions can also benefit older adults' feelings of autonomy and break social stigma against older adulthood. A Portuguese qualitative study looked at older adults who attended an adult day program and university students (Gerardo, 2019). Termed 'SeniorTec', the program looked to confirm older adults' competence when using technology, reduce ageism in young adults and facilitate mentorship from older to younger adults. Data generated from focus groups and in-depth interviews suggested the program promoted higher self-esteem of older adults, promoted positive images of aging, and pushed back on stereotypes about older adulthood. Nutritional and financial management workshops given by seniors generated feelings of respect and admiration from students, while fostering confidence and feelings of usefulness among older adults. This study also highlighted the value of intergenerational programming to improve autonomy, wellbeing, and quality of life among older adults.

Similarly, a Singapore-based group of researchers used a randomized control trial to evaluate the usefulness of neurofeedback cognitive training (Yeo et al., 2018). Compared to the waitlist control group, participants in the experimental group received training related to attention, working memory and delayed recall skills. Results showed males in the experimental group outperformed their counterparts in the control group and both genders regarded the program positively and appeared to demonstrate adherence to program guidelines. This study appears to shed light on gender implications when

developing digital literacy training interventions and the usefulness of developing digital programming to foster cognitive stimulation and training among older adults.

Another study (Lin et al., 2020) investigated the impact of computerized cognitive interventions among the older adults with mild cognitive impairment of a senior living center. Participants who received a combination of Multi-Functional Interactive Computer System (MICS) followed by computerized cognitive training had some improvement in executive functioning and improved attitudes towards the use of technology. The study does emphasize the importance of considering the content of the intervention to ensure positive results.

Research has also shown the relationship between digital literacy among older adults and its impact on health inequality. Kim et al. (2023) aimed to develop and implement health equity programming to foster wellbeing among older community dwellers in South Korea. The team delivered services both via community approaches and a variety of channels that facilitated health literacy, healthy living, and healthy aging. When evaluating the program's impact of self-rated health and quality of life as it relates to health, researchers found the program useful in improving health outcomes and decreased health disparities within older urban community dwellers.

Having strong digital literacy skills has found to be beneficial to older adults. There is evidence to support the claim that digital literacy decreases social isolation, increases social participation, promotes positive attitudes towards aging, decreases caregiver burden and can increase cognitive skills. These benefits may in turn increase IADL participation and facilitate aging in place.

Occupational Therapy Roles in Emerging Practices

OTPs have found new roles and practice settings as the profession has evolved, and as clients' needs have changed. In many circumstances, OTPs have needed to establish new services and positions in new and emerging practice settings. To do so, OTPs have had to navigate various barriers and challenges in order to provide new OT services. This review explored how OTPs have set up new services in emerging practice settings and sought to identify strategies that have supported OTPs to do so.

Primary care has historically has primarily been a medical and nursing practice settings, however it has undergone significant changes in recent years. OT has found value in providing services in primary care and there have been several efforts to establish OT services in that setting (Killian et al., 2015; Rouch et al., 2022; Synovec et al., 2020; Wade et al., 2017). Rouch et al., (2022) conducted semi-structured interviews with seven OTPs who work in primary care in the US. Based on the researchers' deductive thematic analysis, OTPs in primary care believe it is crucial for OTPs to first gain entry to the interprofessional team. OTPs also identified factors that influence how they manage "team-based care" and "patient centered care". The last theme identified participants' views on expanding OTPs role in this setting for more consistent service provision across the US. Even though there is some evidence to support OT in primary care, there are still challenges for widespread implementation. Wade et al. (2017) found some primary care physicians to be open to hiring OTPs to be part of their teams, while others were not receptive to hiring OTPs. Their data found that some providers feel OT is similar to medical students who need supervision which is time-consuming. Ultimately,

participants seemed generally open to OT being part of the primary team and most common concerns included expertise, reimbursement, and cost effectiveness.

Working with people experiencing homelessness is another area where OT has recently established a more concrete role. A retrospective study of individuals experiencing homelessness (Synovec et al., 2020) identified clients who received ongoing intervention, established demographic trends in referrals, determined considerations for goal design and compared pre and post intervention Canadian Occupational Performance Measure (COPM) (Law et al., 2014) scores. Clients who received OT services appeared to have improved functional outcomes when services were provided based on actual need, consistently and when based on performance on goals, rather than when linked strictly to reimbursement. When OT was part of the interdisciplinary team, outcomes also seem to have improved. Additionally, in their qualitative study with OTPs working in this area, Grandisson et al. (2009) discussed the emerging role of OTPs as case managers, outreach workers and client advocates. The researchers highlight the similarities between the OT profession and the role they played in this setting. Participants believed OT students should learn about OT and homelessness, since the skillset required to adequately service this population is nuanced.

Organizational workplace mental health is another emerging practice area for OTPs. Thompson et al. (2021) conducted a qualitative study of Canadian OTPs working in this area. The participant OTPs described a key difference in this practice area, compared to traditional settings, is that the organization was the client, not individual workers. The authors found three themes in their data relating to practice in this setting.

First, OTPs need to use a business mentality when practicing. Second, OTPs must approach their intervention as organization-centered and not client-centered. Last, this role required thinking with a “health promotion approach.”

Other articles in this review discussed skills and strategies which are essential for establishing new OT services more broadly. Letts (2011) proposed three guiding questions to ensure “optimal positioning of occupational therapy services. First, how proximal is occupational therapy to the role. Second, how strong is the evidence to support occupational therapy in the role? Third, is the timing right for change?” (p. 209). These three guiding questions can be used to inform the need and feasibility of an emerging role, such as providing OT services at a NORC to facilitate aging in place.

In addition to identifying a possible new setting for OT, there also needs to be emphasis on advocacy to create change. To this effect, a published article discussing OT’s role in knowledge translation states “enacting our role as change agents will require acting as our own advocates, lobbying for an environment that supports and encourages collaboration and provides a platform for merging clinical questions with the expertise needed to answer them” (Cramm et al., 2013, p.6).

When determining the required expertise to properly fulfill an emerging role, occupational therapists will need to streamline processes to ensure competence. Holmes et al. (2019) explored the experiences of 23 OTPs working in emerging fields. Using questionnaires, the authors sought to understand the relationship between entrepreneurship and leadership when taking on an emergent OT role. Since these roles require advanced and specialized skills, practitioners need to be prepared to collaborate

with other team members, educate themselves, acquire relevant experience and be willing to develop the programs they will work with. Since skills in these roles are specialized, additional training should be required to ensure competence.

Policy changes can also allow for the creating of emerging fields and new practice opportunities for occupational therapists. Israeli researchers (Weissbren-Padan et al., 2006) discussed the relationship between current OT practice in Israel, AOTA's Practice Framework (AOTA, 2020) and a policy act that went into effect in 2000, the People with Psychiatric Disabilities Act. Once the new legislation included OT in the health services offered to individuals living with psychiatric illness, OTPs in both institutions and community-based roles saw changes in their practice settings. The overlap between the act's intended outcomes, such as vocational rehab, socialization and leisure, and education, with OT facilitated OTPs expertise to seem fitting for clients receiving OT services. Data gathered from Israeli OTPs working in psychiatric services suggests OTPs can now begin assessing a patient while hospitalized and developing a personal rehabilitation program which is then followed by the client, their family, and all other key players at all stages of their service receiving with the support of legislation, OTPs have seen their roles expanded and their practices have been better able to support service recipients.

Emerging practices in OT have been shown to require specialized skillsets, willing collaboration from the settings where they are being developed and strong advocacy skills. Changes in practice settings may occur after policy changes or with the addition of OT roles in established medical or community setting.

Conclusion

OT services provided to community dwelling-older adults has been found to positively impact mobility, fall prevention, mental health, and quality of life among older adults. Community-dwelling older adults have benefited from digital literacy training by increasing their social participation and feelings of empowerment towards aging, decreasing social isolation and caregiver burden and promote skills that facilitate aging in place, which result in increased quality of life and functional independence.

OTPs have established practices in new setting with and without policy changes and require specific skillsets related to their settings, which may include training, support from their care teams and ability to advocate for the profession to create change.

CHAPTER FOUR – Description of the Proposed Program

Project Overview

The author's proposed project, *Aging Well: Preventive occupational therapy services in Naturally Occurring Retirement Communities (Aging Well)*, aims to establish and pilot a new OT role in a NYC NORC. The new role is designed to facilitate aging in place for NORC residents, combining preventative OT interventions with group programming. Through receiving OT services, NORC residents will be better equipped to safely live in their community as they encounter age-related changes and challenges that limit their ability to remain independent in their daily lives. OT services will begin with in-home evaluations focused on home safety, safe use of DME and need for restorative rehabilitation services referrals. Group interventions will take place in the NORC communal spaces and will include digital literacy training to increase IADL participation, engagement in physical exercise-related activities and participant-led social activities that facilitate peer interactions and promote well-being. This chapter presents a thorough description of how the new OT role will be established in a NORC, and the interventions that will be part of the OT scope of practice. A detailed draft job description for the new OTP position is presented in *Appendix A*.

Basis of the Proposed Program

Considering the growing number of older adults in the US, there is a strong need to create opportunities for older adults to choose where they want to age. Although formal institutions (e.g., nursing homes, skilled nursing facilities) exist for those who need them or choose to reside in, most older adults report they prefer to stay in their own

homes. Existing government programming, along with private options aim to facilitate aging in place for community-dwelling older adults. OTPs can play an important role with supporting older adults to maintain or increase their functional independence, however, to-date, there is no known evidence in the literature of OTPs working in NORCs to provide preventative health services and increase residents' ability to age in place. With this in mind, the author plans to pilot a new OT role in a metropolitan NORC, with the goal of establishing the role on-going, and across multiple NORCs.

Program Framework

The development of this new OT role was informed by two theoretical frameworks, described below:

Social Ecological Model

The Social Ecological Model (Bronfenbrenner, 1974) was developed by Urie Bronfenbrenner and refined over decades to explain human development. Using concentric circles, the model describes an individual, at the center of the circles, made up of attitudes, beliefs and skills, surrounded by layers that influence the individual at the center in a bi-directional fashion. Surrounding the *Individual* are layers of *Relationship*, comprised of caregivers and family, *Community*, including neighborhoods and local resources, and *Society* which is understood as the culture where the individual lives, policies in place and laws. This model is fitting for the *Aging Well* project as it highlights the importance of each NORC residents' unique set of skills, homes, social support, local neighborhoods and wider cultural attitudes and policies that all affect their pursuit of aging in place. Individuals need to be engaged, home environments need to be optimized,

NORC leadership needs to be on board, and policy makers as well as grant funders, also need to be engaged.

Self-Determination Theory

Self-Determination Theory (SDT) will be an important aspect of the group programming – especially regarding digital literacy interventions, as it includes concepts such as growth, behavior change and community support which are all relevant to *Aging Well*. According to SDT (Ryan & Deci, 2000), learners with high self-determination reach high achievement levels because they experience high motivation. Learning is therefore directly impacted by motivation (Lopez-Garrido, 2021). NORC residents who are motivated to increase their IADL participation and quality of life will benefit from the program to gain skills that will improve their ability to age in place. SDT purports that learning is transferred to new situations when individuals gather information about a skill or subject they seek to master and start to feel competent. The more a person learns and becomes competent in something, the more they will believe in themselves and the more self-determination they will have. People with high self-determination will in turn perform well (Lopez-Garrido, 2021). Preventive OT service provision at NORCs will offer residents opportunities to feel comfortable using their phones and the handout will provide them with continued chances to practice and eventually feel like they have mastered their ability to use their phones. Additionally, SDT believes feelings of *autonomy, competence, and relatedness* are what drive a person to achieve self-determination (Lopez-Garrido, 2021). *Autonomy* is the feeling of being in control of one's own behavior with direct action leading to change. *Competence* is understood as

having mastery of a given task. *Relatedness* occurs when there is a sense of belonging to a community of peers who are also seeking self-determination. These three components will all be fostered by the group-quality of the skill-based sessions, where participants will master wellness habits and use of technology.

Program Participants

The new OT role will provide services to older adults who reside at the participating NORC. To do so, the OTP will also be working together with NORC leadership, existing NORC staff, as well as residents' caregivers and family members. Vignettes of NORC residents who may benefit from preventive OT services are presented below.

Figure 4.1

Fred

Fred is an 83-year-old who has been living at the NORC for more than ten years. In the last three years, Fred has fallen four times and has been hospitalized twice. His primary care physician has recommended that he exercise and consider using an adaptive device for walking. Fred was independent with all ADLs, however, since the beginning of the COVID-19 pandemic, he has stopped going to his local grocery store and relies on home deliveries. He speaks to his children who live out-of-state, however, he expresses feelings of hopelessness and loneliness. Fred meets the NORC's new OTP at the lobby and schedules himself for an in-home evaluation out of curiosity. He is thinking about joining the OT group on Tuesday that will teach him how to use his phone to browse the Internet. After the evaluation, the OT recommended that Fred's living area be fitted with sensor-based hallway lights and one bathroom grab bar. Fred and his children were all happy to go ahead with the recommendations to help reduce Fred's risk of falling again. Fred also participated in the group programming, and within two months, he learned how to use his phone to see pictures of his grandchildren on Facebook and has reconnected with long lost friends. Through the OT group, Fred met other NORC residents who share similar interests, and they now visit each other regularly. Fred's children are pleased to learn Fred is signed up for the upcoming OT walking group which is starting in two weeks at the park across the street from Fred's building to help maintain his mobility and reduce his risk of falls.

Figure 4.2*Phyllis*

Phyllis is a 78-year-old who has been living at the NORC since 2016. Prior to the COVID-19 pandemic, Phyllis regularly attended social programming at the local senior center and received regular visits from her children and grandchildren. Phyllis's daughter, a social worker, has expressed concern to the NORC director about Phyllis's apprehension to return to the senior center due to fear of large crowds and illness. As a result of her prolonged isolation at home, Phyllis has now lost touch with many of her peers and has begun wondering if she should live in a nursing home to have "more company". The NORC director refers Phyllis to OT and sets up a meeting with Phyllis's daughter and Phyllis at her home. As Spring approaches, some OT programming will take place outdoors, which Phyllis finds encouraging and reassuring. Phyllis also learns that OT group programming caps at 10 participants, which will in turn prevent her from being in crowded rooms. In addition to the group programming, the OT discussed working with Phyllis individually on strategies to manage her fear of crowds and support her doing things which are important to her like shopping. Phyllis eagerly agrees to register for her OT evaluation and begin her receiving OT services at the NORC.

Resident Recruitment

To recruit residents to the program the author will host information sessions in the lobby of the NORC building, distribute flyers door-to-door inviting residents to information sessions at the NORC communal rooms and send electronic flyers via the NORC's list serv to residents and caregivers. The author will also work with NORC leadership, and other on-site professionals, to explain the scope of the new OT role, how OT can be of benefit to residents, and when to refer to OT. NORC leadership, who are familiar with residents' needs, will then be able to refer residents who could benefit from the program. Residents will be informed of the aims and methodologies used in OT visits and other programming, and consent will be obtained. Additionally, new residents will have the opportunity to be evaluated by the NORC OTP when arriving at the NORC and

yearly functional and safety screenings will be offered to residents thereafter.

The OTP will work residents' homes and in NORC communal spaces. OT services will be provided in-person and will consist of individual visits or group sessions. This author (an OTP) will run the program and may be supported by OT students completing fieldwork requirements at the NORC. Flyers, promotional and educational material will be needed to distribute to participants describing OT's role in aging in place, safe engagement in meaningful occupations and contact information for OT at the NORC. For the digital literacy group, participants will need a smartphone with Internet access. For the walking group, participants will need appropriate footwear.

Intervention and Activities

Individual OT services will assess residents' living environment, recommend adaptations/modifications and provide equipment and training that supports safe participation in daily home tasks. Group programming will take place in NORC communal rooms and at local parks that are walking distance from the NORC. Group sessions will run with up to ten participants and last for an hour weekly over the course of six weeks per topic. There will be different groups which each have a unique focus, but will all each aim to increase IADL independence, as well as other skill and quality of life building activities that are identified as relevant by the participants. Two example groups are the digital literacy group and the community mobility group. While traditional OT services typically adopt a rehabilitative approach to service provision, this new OT role in the NORC will instead adopt a preventative approach, and focus on maintaining residents' wellness and increasing quality of life. Using the key components of Self-

Determination Theory (Ryan & Deci, 2000), the program will address the value of connecting with others that share similar goals and developing feelings of competence and autonomy when engaging in meaningful tasks.

Group Programming

Session 1 will include introduction of group participants and *Aging Well*, description of the module's purpose and establishment of group rules to ensure participant safety. This session will also provide space for participants to share why this module's topic is relevant to them. A detailed example of Session 1 is presented in Appendix B.

Session 2 will aim to introduce participants to the skill addressed in the module, gauge current participant level of mastery and divide participants into small groups based on expertise level. The end of the session will consist of basic component description discussions in small groups.

Sessions 3–9 will focus on mastering the skill/activity and addressing participants' challenges that impede their independent performance on the assigned task.

Session 10 will include a debrief of what the session meant to each participant, offer space for participants to show their new skill level and collect individual survey data to measure intended program outcomes. Participants will also have the opportunity to offer their feedback about the program and share ideas for future modules.

Group members will receive a handout in the early sessions to explore skill benefits and a step-by-step guide with current sequence for successful task completion, tailored to participants' mastery level and interest. Throughout the sessions, participants

will grow in their competence, increase their autonomy when engaging in the assigned task and develop bonds with peers that share common interests that are also in the group. The middle and end sessions will focus on maximizing mastery, carry-over of learned skill, establishment of habitual engagement in new task and addressing barriers that limit participation. As participants' expertise grows, they will have opportunities to reflect on benefits of their new skills in their lives. Every session will end with assigned work to be done in the days between sessions, which if feasible will include pairing up with other peers to practice new skill together. Continued practice will maximize generalization, deepen social connections, and cement the new habits.

Individual Programming

Home evaluations will be conducted individually and will follow the OT process, including evaluation, intervention, and outcomes (AOTA, 2020).

Evidence Informing Program Development

Based on research findings in *Chapter 3*, balance, mobility, needing assistance to perform daily tasks, falls and age-related changes are all factors that influence older adults' ability to age in place. Since many of these challenges relate to physical skills, as well as home safety and engagement in ADLs, OT is well-position to address this topic. Self-Determination Theory (Ryan & Deci, 2000) and the Social Ecological Model (Bronfenbrenner, 1974; Cole & Gauvain, 2005) have been found to be beneficial when engaging well older-adults residing in the community. Ensuring safe home environments and optimal interactions with their outer layers of life, such as their neighbors and neighborhood, as well as generating feelings of autonomy, competence, and positive peer

interactions, have all been found to be beneficial to the intended population and will better their well-being, foster stronger skills when facing challenges to aging in place and deepen participants' connection to the NORC.

Program Output and Outcomes

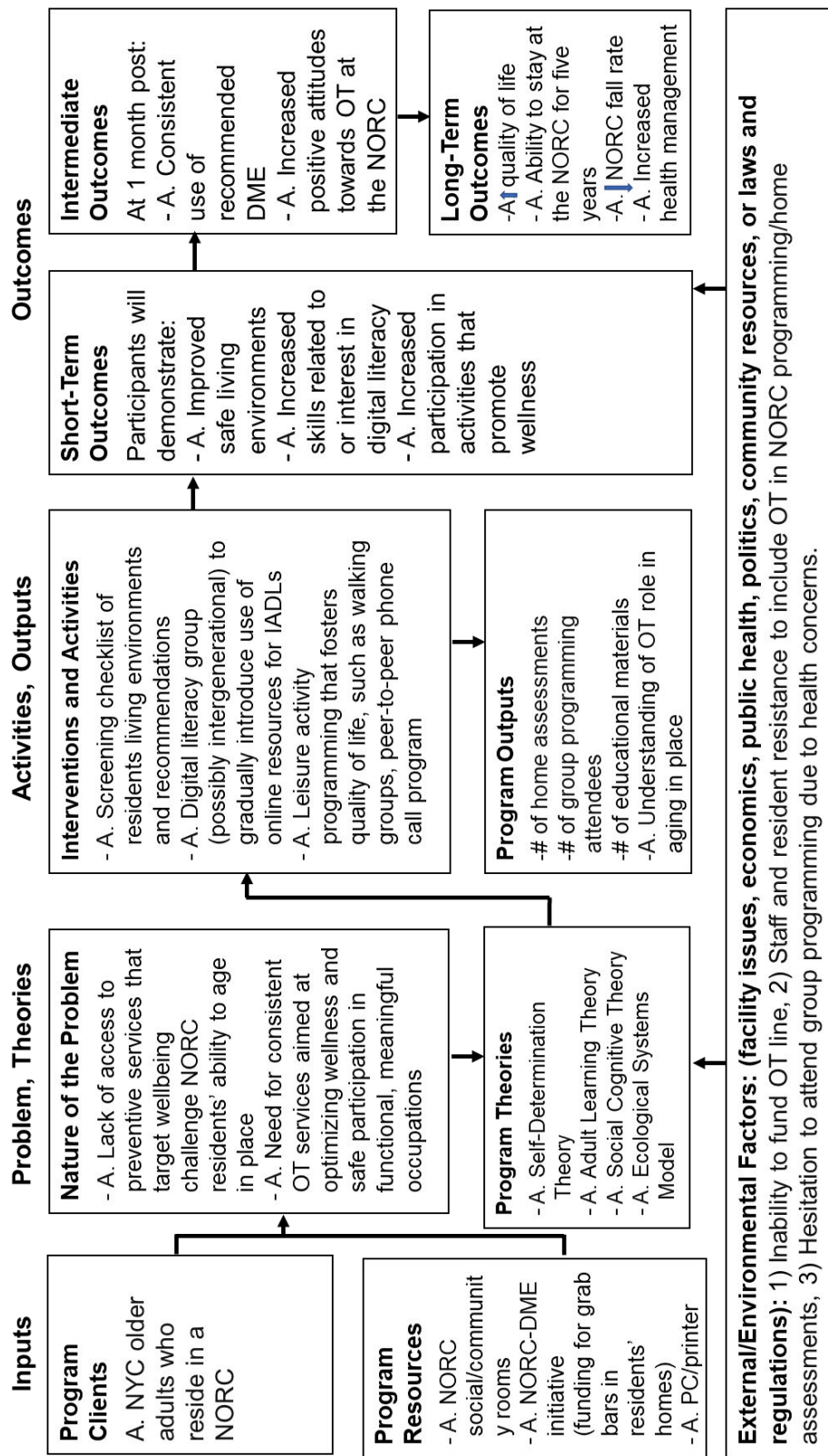
The program described in this paper is an initiative that addresses the needs at a NORC; therefore, program evaluation in this preliminary launch phase will be pilot research with a small number of residents, likely fewer than ten. They will be recruited with assistance from NORC staff who know the residents and can use their established rapport with them to ensure buy-in. Ideal program participants are those who are seeking to age in place at the NORC, are fairly independent in BADLs and IADLs, and own a smartphone. Since OT services at the NORC will be in its pilot launch phase, evaluation will be conducted using a one-group pre- and post-measurement nonexperimental design to determine whether participation in the program resulted in positive changes in dependent variables in the study. The independent variable is preventive OT service provision, and the dependent variables are safety, digital literacy and engagement in leisure activities, which are all factors anticipated to improve residents' ability to age in place.

Ultimately, the goal is for *Aging Well* to support NORC residents to age in place by providing them with needed skills, resources, and social support. The program outcomes and outputs are described in the logic model presented below.

Figure 4.3

Logic Model

Program title: A. Aging Well: A preventive occupational therapy service in NORCs



Launching the Program

Since preventive OT services at a NORC is a pilot program designed with NYC NORCs in mind, the author will need to contact the director of a local NORC and inquire about feasibility of the program in their setting. The author has met with one NORC director multiple times and she has continually expressed interest in incorporating preventive OT services at her NORC. Using the established rapport with NORC leadership, the author will communicate with the director and review the goal and methodology of the program, along with addressing potential barriers that could arise among participants and providers. During a mutually-agreed-upon meeting, the author will walk NORC leadership through the reasoning behind the program, the functional and financial benefits to preventive OT services among well older adults and the commonalities between NORCs and OT. Using shared terminology and visually appealing aids, the author will showcase handouts and guides to be shared during group programming, home evaluations and balance training.

Stakeholders

Key stakeholders include NORC leadership, including NORC director who is a social worker and has been involved with the NORC for many years and NORC staff which includes visiting nurses. Additional stakeholders will be NORC residents, particularly those who are looking to age in place, and residents' family members or caregivers.

Anticipated Barriers and Challenges

One of the main barriers to implementing this new OT role in a NORC setting is the current lack of funding for OT services. Since this program would act as an initiative, there is no existing budget for an OT line. NORC leadership would have to assume the cost or rely on grant proposals which will be difficult to accomplish without data at that particular location. A possible solution could be to use data detailing yearly fall rates and resident relocation to higher-level care facilities to show they need for OT.

There are some other potential challenges which could impact on the implementation of this new role. Firstly, residents may be hesitant to participate in group programming due to health concerns after the pandemic. To address this issue, the author will work with small groups to avoid crowding, provide masks as needed and offer outdoor program when feasible. Recruiting participants may also present as a challenge. Recruitment will need to be a coordinated effort between OT and existing NORC staff with long relationships with residents. OT may have to rely on door-to-door introductions, individual home health and wellness screenings or central-location intercept interviews in building lobbies.

Another possible challenge is that other NORC staff may not refer to OT, may not understand OT, or may feel that OT is taking over their role. It will be important to establish good rapport with existing NORC staff and foster a collaborative environment where the addition of OT services to the NORC benefits residents and staff alike.

Intergenerational Programming

Intergenerational programming might be an effective way of increasing socialization for older NORC residents while making use of the unique mix of populations found at the NORC. Computer literacy groups/teams led by younger NORC residents may allow older adults to increase their ability to interact with others, especially during the COVID 19 pandemic.

Summary

Aging in place is preferable to most older adults and requires support from caregivers, service providers and the environment. As NORC residents face challenges to their ability to age in place, including age related changes, chronic illnesses and difficulty navigating their environments safely, their ability to remain independent may decrease and they be at higher risk of adverse events. Providing preventive OT services that equip NORC residents with relevant skills for their IADL engagement, optimize their living spaces and strengthens their community support, will in turn expand their occupational performance in daily functional tasks and increase their ability to age in place.

CHAPTER FIVE – Program Evaluation Research Plan

Program Scenario and Identified Stakeholders

Aging Well is an intervention project that will be launched at a NORC in NYC.

The project would seek to facilitate NORC residents' ability to age in place by adding OT services to the NORC's existing staff and programming. Adding OT services to the NORC using a wellness and prevention framework will enable residents to be better equipped to safely engage in their functional, meaningful occupations. The program will provide residents with in-home evaluations and recommendations, resources, skills, and tools to better interact with their environments, both at home and with their communities. Another program component will aim to maximize IADL independence through groups programming which focus on various aspects of health and social participation (e.g., digital literacy). Initially, the program will be carried out by the author (an OTP), and in the future, any OTP that is hired by the NORC. Once the program has been formally established and shown to be successful, OT fieldwork students could be added for seasonal programming based on previous program findings and resident interest. This model can also be replicated at other NORCs in the future.

To establish the OT service, key stakeholders will include NORC leadership, including NORC directors and NORC staff, including visiting nurses. Additional stakeholders will be NORC residents, particularly those who are looking to age in place, and residents' family members or caregivers.

Vision for the Program Evaluation Research

Aging Well will first demonstrate the value of improving safety in older adults' homes who are seeking to age in place. Next, the program will show the value in increasing IADL exploration and independence through the Internet, as well as exposure to leisure tasks that promote wellness. Overall, *Aging Well* home evaluations, programming and ongoing rapport with residents will improve residents' ability to age in place safely and maximize their functional abilities. Even though community-dwelling older adults prefer to remain in their homes as they age, they may encounter sub-optimal opportunities to age in place. This might be due to preventable adverse events or increased need for assistance and support to perform desired tasks, including self-care, health management, home management and community engagement (The AP-NORC Center for Public Affairs Research, 2021).

Safe participation in meaningful tasks may be limited by older adults' physical abilities, environment, and resources, causing them to need to leave their homes and seek institutions to care for them as they age. Older NORC residents whose desire is to remain in their homes are at risk due to the increasing difficulty in performing health-related occupations as they age. Gaps in health-related and wellness opportunities may lead to preventable adverse events, such as falls, worsening chronic illness and unsafe living conditions, that limit NORC residents' safe engagement in aging in place. Safe participation in daily occupations is important to ensure older adults can age in place. People move into nursing homes most commonly to receive assistance in ADLs (Health in Aging, 2020).

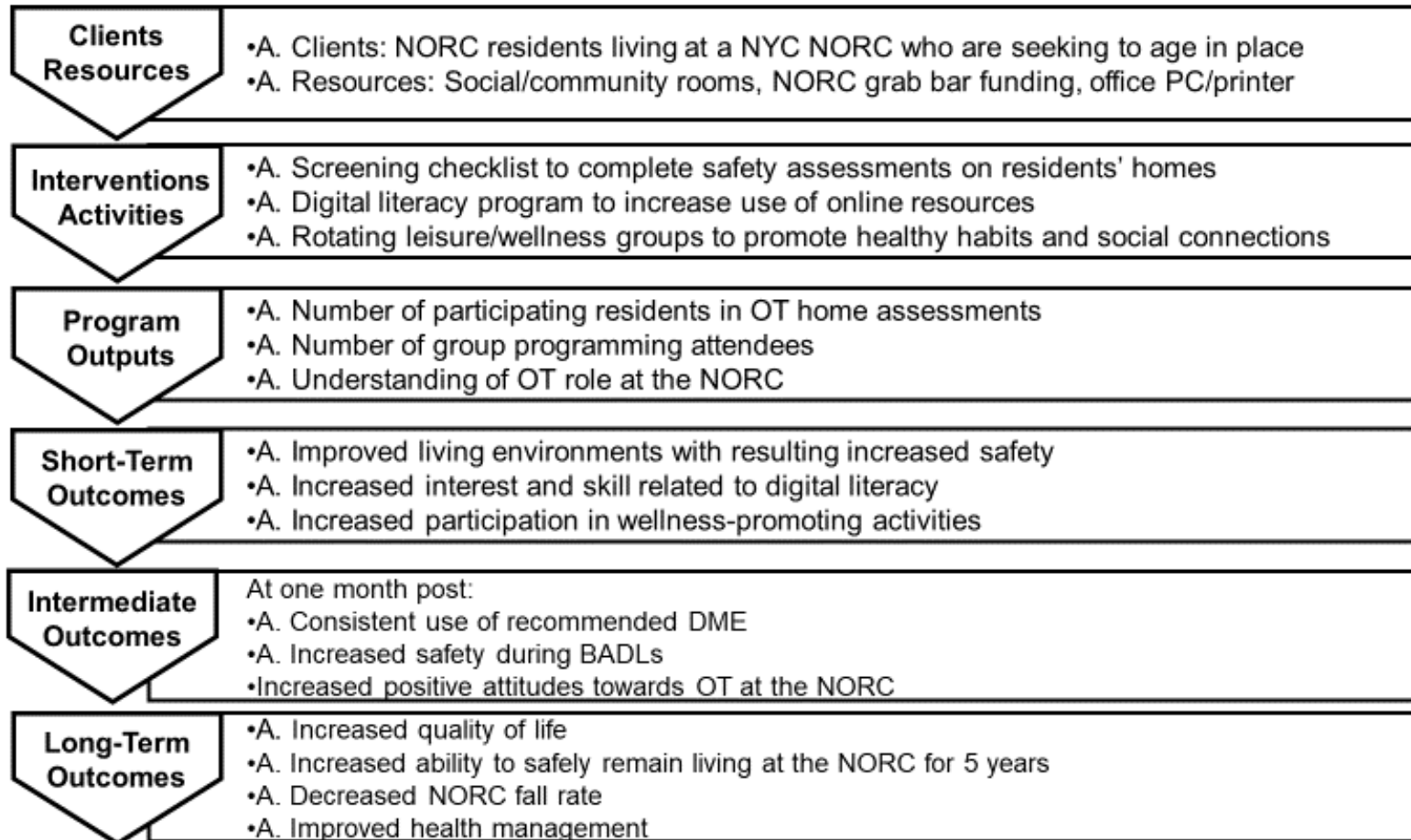
OT is an ideal healthcare professional to support older adults' ability to age in place by targeting their safe participation in BADLs in their own homes, maximizing residents' functional independence and increasing their quality of life through wellness interventions. Showcasing the importance and benefit of providing OT services at a community-based level with a wellness approach will be innovative to the OT profession, as most OTP positions today provide services to older adults through a rehabilitative approach under the medical model. *Aging Well* will offer a substantial, detailed, meaningful use of our profession to facilitate aging in place, which is relevant today given the rising number of older adults in the US population. Once the program is piloted at a local NORC, the NORC can use gathered data to seek funding for continued services through grants or through the Department for the Aging, which is a major funding source for NORCs. Data will also be beneficial for other NORCs to replicate the project and employ OTPs.

Simplified Logic Model for Use with Stakeholders

Stakeholder involvement will be crucial to the existence and feasibility of the program. In order to gain buy-in, stakeholders will need to understand the program and its intended outcomes. This model will seek to describe *Aging Well's* inputs, outputs and outcomes. A simplified logic model for an OTP position at a NORC is presented in Figure 5.1.

Figure 5.1

Simplified Logic Model for OTP position at NORC



Engagement of Stakeholders in the Program and Evaluation Research

Stakeholder engagement started last summer when the author completed a course practicum at the NORC. During the practicum, NORC residents received informal home assessments and shared what aging in place means to them. This service was only offered to residents during the author's practicum. It is not routine service. Also, during the practicum, the NORC director shared her interest in seeing OT's contribution at the NORC and expressed hope in retaining formal funding to support an OTP position.

Since the program will benefit NORC residents, residents' support will be needed prior to setting up interventions and carrying out research. It will also be important to obtain their feedback as they experience OT services and programming, as this will be what will generate evaluative data that will gain positive attention. Residents' family members, particularly those who fulfill direct or indirect caregiving roles, will also provide valuable information about the program's ability to effect change among residents. *Aging Well* will gather information through formal evaluation and through interactions with residents, staff and families during group programming and home visits.

Initially, Aging Well will only exist at the one NORC, therefore stakeholders at this stage will be limited to residents, caregivers and NORC staff. Collecting data will require NORC leadership support, as well as active involvement by reviewing formative and summative evaluation reports. Their input and buy-in will be necessary to make *Aging Well* a viable and sustainable program. An overview of the stakeholders, their involvement, roles, and interests is presented in Table 5.1.

Table 5.1*Basic Matrix for Organizing Stakeholder Information*

Stakeholder or Stakeholder Group	Type of Involvement	Possible Role(s)	Specific Interests
Occupational therapist and researcher	Planning, implementing, reflecting.	Overseeing and coordinating logistics.	Successful implementation, usable data, generate answers to research questions.
NORC residents	Reflecting, feedback.	Participating in program activities and data collection.	Successful implementation, satisfaction.
NORC staff, leadership	Implementing, reflecting.	Consultation on logistics, increasing program buy-in via networking with residents.	Design rigor, successful implementation, and robust outcomes.
Residents' families and caregiver	Reflecting, Feedback.	Participate in program activities, intergenerational programming.	Satisfaction, experience of success.

Eliciting Stakeholder Involvement and Ensuring that Evaluation Research Will be Used

In order to maximize buy-in from residents, the OTP will offer to meet individually, in their homes, or in groups at the NORC community rooms. If residents are agreeable to group meetings, the OTP will include NORC staff to ensure interventions address both residents' and staff's interests. NORC staff will also have an opportunity to meet, in-person or virtually as requested by attendees, where information about the intention and design of the program will be shared. Based on interest and buy-in from NORC leadership, additional meetings can be held with funding sources, such as the

Department for the Aging.

Information to be shared at the meetings will begin with a short presentation summarizing the goal and methodology of the program with emphasis on aging in place with the NORC's support. All terminology will be defined, and the presentation will be made relevant to all stakeholders. These might include residents, health care professionals, and public health professionals. For health care professionals, the theoretical basis for the program including Self-Determination Theory (Ryan & Deci, 2000), Adult Learning Theory (Knowles, 1968) and Ecological Systems Theory (Cole & Guavain, 2005) will be discussed. Self-Determination Theory will address the value of connecting with others that share similar goals or interests and developing feelings of competence and autonomy when participating in meaningful tasks addressed by OT. Adult Learning Theory will guide the program's educational component where skills and techniques will allow their safety participation in BADLs and increase their independence in IADLs. Ecological Systems Theory will inform the reasoning behind the program's emphasis on optimizing resident's interaction with their surrounding environments and communities.

The presentation will especially cover OT's unique ability to provide preventive care services with evidence-based approaches, such as the Well-Elderly Study (Jackson et al., 1998), showcasing how successful OT can be with "healthy" older adults by addressing residents' physical environments and abilities, social supports, and cognitive skills. Research showing positive outcomes following fall prevention programming in older community dwellers will also be shared. Residents and staff will have the option of

having the presentation in a printed version. There will be time allotted after the presentation for questions and comments. Attendees will be given an opportunity to comment on the program's design and data collection. Participants will be thanked for their time and contributions. Consensus will be encouraged by being mindful to incorporate attendees' suggestions if they don't compromise the integrity of the program.

Use of the evaluation results will be explained with reference to the program's design and evaluation research. OT will offer in-home assessments followed by written recommendations including follow-ups, home care or outpatient rehab referrals, low-cost home modifications, and DME training. Additionally, there will be weekly 1-hour group sessions to explore and engage in leisure activities that promote wellness and social participation (e.g., digital literacy to increase use of online resources). Stakeholders will participate in drafting the evaluation questions that will be used to gather summative and formative data.

The research plan will be explained to stakeholders and their input will be invited. Stakeholders will be offered literature reviews conducted by the OTP to show research-based approach to the program's interventions.

Program Evaluation Research Questions by Stakeholder Group

An overview of research questions by stakeholder group is presented in Table 5.2

Table 5.2*Research Questions by Stakeholder Group*

Stakeholder or Stakeholder Group	Types of Program Evaluation Research Questions
The researcher	<p>Summative</p> <ul style="list-style-type: none"> ● Will the findings show increased digital literacy leading to increased IADL independence? ● Will the findings show an increase in perceived home safety during BADL performance after the program? ● Will the findings show an increase in their participation in leisure activities? <p>Formative</p> <ul style="list-style-type: none"> ● Were the contents of the program enough for the residents to implement the digital literacy skills presented in the program? ● Was the program structure and delivery sufficient for the residents to develop their own leisure activities that they can incorporate into their lives?
Primary intended users: NORC residents and caregivers	<p>Summative</p> <ul style="list-style-type: none"> ● Will findings demonstrate that residents have learned to successfully use their smartphones to use the Internet for IADLs? ● Will participants of the program report an increase in their sense of safety at home? ● Will participants gain skills needed to engage in meaningful leisure activities? <p>Formative</p> <ul style="list-style-type: none"> ● Were leisure activities explored relevant? ● Was the pace of teaching phone use adequate? ● Is there anything that should be changed to improve the program?
NORC staff	<p>Summative</p> <ul style="list-style-type: none"> ● Do the outcomes of the program relate to the NORC's mission to support aging in place? ● Is the content of the program relevant to the goals? ● Can the data collected be used for future grant-funding proposals and expansion of NORC programming? <p>Formative</p> <ul style="list-style-type: none"> ● What are challenges related to home safety that were not addressed by the program?

Research Design

Formative Design

Aging Well program evaluation will include semi-structured interviews of participating residents after the program has concluded, where residents will have an opportunity to reflect on their experiences with OT programming at the NORC. After completion of either at-home intervention or groups, they will also fill out a survey with open-ended questions. Collected responses will be used to understand NORC residents' beliefs, takeaways, and perceptions of OT at the NORC and recommendations with regard to the program.

Summative Design

Since the *Aging Well* intervention will be in its pilot launch phase, evaluation will be conducted using a one-group, pre- and post-measurement nonexperimental design to determine whether participation in the program resulted in positive changes in dependent variables in the study. The independent variable is the *Aging Well* program and the dependent variables are safety, digital literacy, and engagement in leisure activities, which are all factors anticipated to improve residents' ability to age in place.

Methods

The program described in this paper is an initiative that addresses the needs at the NORC; therefore, program evaluation in this preliminary launch phase will be pilot research with a small number of residents, likely fewer than ten. They will be recruited with assistance from NORC staff who know the residents and can use their established rapport with them to ensure buy-in. Ideal program participants are those who are seeking

to age in place at the NORC, are fairly independent in BADLs and IADLs, and own a smartphone. Exclusion criteria will be need for 24-hour care, severe cognitive impairment, and/or diagnosed language disorders that will impede interaction with program materials, residents who relocate during the data collection period.

Informed consent will be obtained from residents who have been deemed by the NORC to have capacity and from family members or caregivers that are known to NORC staff and provide significant support to residents in their daily lives. Residents and family members will also sign the right to leave the program at any time. Confidentiality will be ensured by replacing participants' names with code names and storing the spreadsheet that connects each person to their codes in a password-protected document in a device that is not at the NORC.

Formative Data Collection

Formative data will be collected from residents in different locations. Some data will be collected in residents' homes for those who participate in home assessments. Semi-structured interviews will guide this data collection after residents have received and implemented the OTPs recommendations. If need be, follow-up questions will be asked after the interviews based on residents' responses. Data will also be collected through verbal open-ended surveys provided to residents after they have completed leisure and digital literacy groups. Information gathered will address residents' experiences during OT programming. The author will record and transcribe survey responses through otter.ai.

Methods for Formative Data Management and Analysis

For semi-structured interviews and open-ended surveys, information will be recorded and transcribed. Otter.ai will be used to assist with organizing the recording transcripts. This is an application that turns voice conversations into smart notes that can be searched and shared; it can provide a basis for identifying themes. To supplement Otter.ai analysis, the researcher will also listen to the recordings and use manual qualitative analysis to code participants' responses and find patterns of meanings. If Otter.ai is not entirely accurate or helpful in organizing recording transcripts, the researcher will also use NVivo to assist with coding transcripts and identifying themes. In order to ensure that enough time is spent with participants when formative data is collected, the NORC director will read the coded responses and themes as a form of peer checking; this will enhance the rigor of the analysis.

Summative Data Collection

Independent Variable

Aging Well is the intervention being studied. The program will be comprised of in-home OT assessments/interventions and weekly 1-hour group sessions where residents will address digital literacy and leisure activity exploration to promote wellness and increase quality of life. Settings will be residents' homes and NORC community rooms. An OTP will carry out the program. Residents will receive written material about topics covered, including home safety guidelines, instructions for internet browsing on smartphones and informational materials covering leisure activities.

Dependent Variables

1. Home safety, operationalized as safe participation in BADLs and IADLs, adequate use of DME, home modifications that support safe engagement in daily occupations. Home safety will be measured using survey questions answered by a trained observer, who is the OT researcher, as part of the pre- and post-intervention in residents' homes.
2. Digital literacy, operationalized as sufficient knowledge to use a smartphone to increase participation and independence in IADLs. Digital literacy will be measured via a scorable knowledge survey, with a series of Likert-style multiple choice questions, where higher scores will indicate higher digital literacy intervention.
3. Leisure activities, operationalized as reported participation in selected leisure activities and self-perceptions of competence for engaging in leisure tasks independently. Leisure activities will be measured via a scorable survey, with a series of Likert-style multiple choice questions, where higher scores will indicate greater participation and perceived competence.

Methods for Summative Data Management and Analysis

Quantitative data obtained from the summative portion of the evaluation will be collected using Qualtrics. This software will then allow for the collected data to be analyzed with SPSS. If need be, guidance will be sought from a research professional. Home safety data will be analyzed separately. Since this pilot study is nonexperimental, descriptive statistics will be used to summarize participant demographics and estimate degree of changed from prior to the intervention to following completion.

Disseminating the Findings of Program Evaluation Research

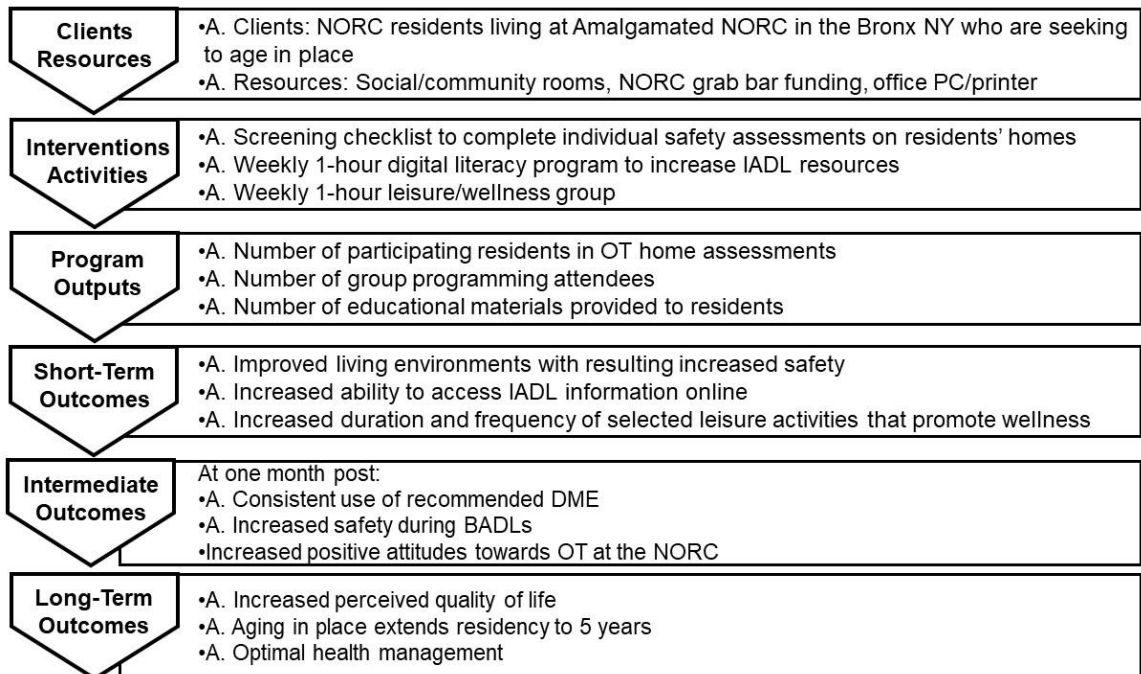
Since the program will have different audiences, including NORC staff and potential funding sources, multiple methods of report findings will be used. NORC staff who is familiar with *Aging Well* will receive infographics with specific findings from programming evaluation. Funding sources who are not familiar with the program may benefit from a formal report including background information, program theory and logic model to provide a well-rounded description of the program and its findings.

Communicating results with NORC staff who also support aging in place at the NORC will be crucial to the program's success. These results will include program findings and also recommendations to effectively continue to improve residents' safe ability to remain in their homes. Hard copies of the formal reports and the infographics will be available to distribute at in-person meetings, but digital versions of all prepared materials will be distributed to all audiences via email.

As the program gathers compelling data regarding OT's ability to support aging in place, infographics describing *Aging Well's* success will be made available to residents in NORC building lobbies, community rooms and in the NORC's newsletter.

Figure 5.2

Simplified Logic Model



CHAPTER SIX – Dissemination Plan

Program Overview

This project, *Aging Well*, aims to facilitate aging in place by providing preventive OT services to residents via individual and group interventions. Adding OT to existing NORC staff will enhance the NORC's current efforts and tools to promote successful aging among older adults. The OT at the NORC will evaluate residents in their homes, assess their safety, need for DME and possible balance and mobility deficits that may place them at risk for adverse events. The OT will then train the residents in safe use of DME, improve balance and mobility, refer to rehabilitative services when warranted and maximize home safety. During group sessions, the OT will address digital literacy by optimizing the use of smartphones when engaging in IADLs. Group sessions will also focus on mobility and resident-led topics related to aging in place. Receiving preventive OT services at an individual and a community level will allow residents to tap into resources in their homes, as well as their neighborhoods and online that will facilitate aging in place. Similarly, developing feelings of competence and mastering skills related to technology will allow for more autonomous behavior that will positively impact quality of life and residents' ability to face age-related changes as they grow older in their homes.

Goals

The overarching goal of dissemination of this project is to generate awareness among in NYC NORCs about OT's instrumental role in aging in place via the addition of an OTP position to existing NORC staff. Since the general goal involves a variety of

stakeholders, and the project itself includes different facets, the dissemination goals include three short term goals and two long term goals.

Short Term Goals (12–24 months)

- NORC funders, leadership and staff will increase awareness of this project's role in aging in place.
- NORC funders, leadership and staff will increase their awareness of the critical need for adequate aging in place for NYC community-dwelling older adults.
- NORC funders, leadership and staff will increase their awareness of OT's role in facilitating aging in place for aging community dwellers at NYC's NORCs.

Long-Term Goals (2–5 years)

- There will be an increase in OTPs providing preventive services at NORCs.
- There will be an increase in OT services at NORCs facilitating aging in place.

Target Audiences

The primary target audience for the OTP position at the NYC NORC dissemination plan consists of NORC funders (city and state) and NORC leadership (NORC director and nursing director) within the USA. Since this group includes the main decision makers for staffing, budget allocation and programming available at NORCs, they are the most important audience to be reached. The secondary audience for dissemination of the proposed program consists of OTPs with interest in older adults and mental health.

Key Messages for Target Audience

Table 6.1 includes the key message for each audience, primary and secondary, detailing the meaning of the project's results.

Table 6.1

Key Audience Messages

Primary Audience
<ol style="list-style-type: none"> 1. Preventive OT services can improve NORC residents' quality of life while aging in place 2. Preventive OT services can improve NORC residents' home safety and extend their residency in the community 3. Staffing NORCS with occupational therapists can improve residents' IADL independence and optimize their health management (e.g., digital literacy skills and community integration)
Secondary Audience
<ol style="list-style-type: none"> 1. Preventive OT services at an NYC NORC can promote safe, independent living among older adults 2. This project utilizes an intervention and educational approach to provide NORC residents with skills and resources that will enhance their ability to reside in the community 3. In-home OT visits, as well as communal programming, allow for thorough, effective interventions that will impact occupational performance

Sources/Messengers

Primary Audience

The dissemination of this project can be maximized by the author, as well as NORC staff, residents and caregivers at the NORC where the project is piloted.

Experiencing the project first-hand will allow for detailed and impactful accounting of the project's reach and impact in NORC residents' lives. These first-hand accounts,

whether oral, virtual or written, may be appreciated by interested NORCs who wish to replicate the project.

NYC NORCs' main funder, the Department for the Aging (DFTA), offers online training to NORCs including informational sessions detailing services NORCs are eligible for. Disseminating this project through DFTA may also generate interest among NYC NORC leaders.

Secondary Audience

Similar to primary audiences, first-hand accounts, in various forms, may generate interest among OTPs working with older adults and are interested in mental health.

Dissemination Activities, Tools and Techniques

Written Information

Brochure

Using Microsoft Publisher, the author will develop an informational brochure. The brochure will describe aging in place and the project's details supporting aging in place through occupational therapy services. Key project components, such as individual in-home OT evaluations and DME training, will be included. The inclusion of key details that stress the novelty and usefulness of preventive OT services in NORCs will facilitate buy-in from communities of interest.

Article

Authoring an article in a publication targeting older adults and practitioners may also gather interest. Adding logistical information including the project's activities and overall low-cost of programming, as well as listing available funding for NORC residents

(e.g. New York State grab bar funding) will generate interest in the project and target both audiences.

Electronic Media

Podcast

To generate interest and support from OTPs, publicizing this project to practitioners who regularly listen to emerging field podcasts and the use of OT in community-based settings will help disseminate the project and generate interest in creating a permanent OT presence at NORCs.

Emails to NYC NORCs

To ensure the project is known to NORCs that could in turn implement the project, an email will be sent out to as many NYC NORCs as possible, highlighting the project's features, attaching the brochure that includes a concise project description and the author's contact information for further discussion. The author will also send out follow-up emails and eventually include pilot program data outcomes to further emphasize the project's benefits.

Person to Person Contact

Conferences

Presenting at the New York State OT conference, such as through a poster presentation, can be impactful in making the project known to OTPs, who are the project's secondary audience, and will eventually be the ones to carry out the project at other locations. Presenting at the AOTA conference may also be of relevance, as practitioners may be interested in adapting the project to their own states or cities. Seeing

outcome data and specific project details will facilitate the dissemination of key messages that will increase interest in this project. The poster will also include contact information for follow up with the author for communities of interest.

Meeting with NYC NORC Leadership

The author has already made contact with one NYC NORC and received positive feedback about this project. Continuing to network with NORC leadership, who is included in the primary audience, will open up opportunities to continue to advertise the project and increase its likeliness of being implemented and start to produce data.

Budget

There is very little anticipated expense for the dissemination tasks listed above. There will be a cost to the conferences where the author will present the project, and likely a small travel expense to meet in person with NORC leadership as it will require the author to drive from Bergen County, NJ to various boroughs in NYC, which includes tolls and parking expenses. Printing the brochures will also carry a small cost. Since the next AOTA conference will take place in Orlando, there will be airfare and travel expenses incurred, as well.

Evaluation

In order to determine the effectiveness of the dissemination of this project, the author will evaluate all aspects of dissemination and determine how impactful they have been. This will also aid in refining dissemination efforts over time. The author will use the number of follow up inquiries across all dissemination efforts as a measurement of effectiveness and impact. Additionally, publication in peer-reviewed journals, podcasts

and requests for further presentations across all platforms (i.e., virtual, written or in person) will also be used as measurement. Lastly, the number of NORCs wishing to implement the project will also be tallied and used as measurement.

Conclusion

Dissemination of this project, *Aging Well*, providing preventive OT services at a NYC NORC, will be multi-layered and target two types of audiences. The first type, or primary audience, will be NORC funders, leaders, staff, and residents, as well as residents' caregivers. The secondary audience, OTPs who may carry out the project in other NORCs, will also be targeted to generate interest and buy-in. The goal of disseminating the project will be to increase awareness of the proposed project and advertise OT's role in community settings for the aging population. Utilizing a variety of tools and methods, the author will aim to reach members of both audience groups and generate maximal interest in the project. The costs associated with the dissemination plan have been added to the project's budget and measurement of dissemination effort has also been developed. Ultimately, the goal of disseminating this project is to create awareness of OT's important role in NORCs, create opportunities for OTPs to work in an emerging field using preventive services aiding in aging in place and contribute to older adults' wish to age in place safely.

CHAPTER SEVEN – Funding Plan

Project Description

The proposed project, *Aging Well*, provides preventive OT service provision to NORC residents to facilitate aging in place. Utilizing both in-home individual evaluations and training, as well as group programming with skill-building modules, the OTP will ensure home safety, health promotion and digital literacy are optimized as NORC residents age in their homes. Group programming will include utilizing smartphones to increase IADL independence and developing healthy habits, such as regular exercise via a walking group to increase well-being. It will also provide a safe space for participants to identify future module topics related to their own meaningful daily activities and skills needed to age in place. Forming connections with other NORC residents, developing mastery in the skills addressed and fostering feelings of autonomy will positively impact NORC residents' ability to age in place. In order to develop and carry out this project at a NYC NORC, costs associated with its design and implementation, as well as potential funding sources, are outlined and explained in this chapter.

Expenses

Since there is no evidence of OTPs staffed at NORCs in NYC, the first expense to be considered will be the creation of a fully funded OT position at the NORC. This author will create the project and leave her current job to develop and implement the OT project. As a full-time employee working in a mental-health type OT position in NYC, salary expectation will be approximately \$100,000 per year (ZipRecruiter, 2023). Benefits, including healthcare coverage, will depend on the NORC's existing practices

for employees. If the NORC is unable to offer health insurance and the OT will need to insure herself, salary expectations would increase to offset the cost of health insurance. The OTP's years of expertise will also affect compensation, as a more experienced OTP will expect a higher rate, as compared to a newer graduate. Since these amounts may vary, the overall cost of this project will be presented as a range.

Supplies and materials will also be required in order to run the program. Since the OTP position would be added to the NORC's existing staff, it is reasonable to assume that access to a computer, likely with Microsoft Office, will be possible at the NORC's offices. Internet access will also be guaranteed, as a large portion of NYC, especially areas near parks and squares, currently have free wi-fi.

To advertise OT services at the NORC and target communities of interest, brochures will be created and distributed in NORC lobbies and electronically through the NORC's list serv. The cost of 250 double sided brochure paper on Amazon is \$32. If printers are not available at the NORC office, Vistaprint.com offers 250 basic brochures at 56 cents each, totaling \$140. The OTP will distribute the brochures to existing NORC staff who in turn will be requested to assist in disseminating the brochures? Among NORC residents and caregivers. The author will also distribute flyers at NORC events and during rush hour in NORC lobbies.

There will be additional costs associated with the implementation phase of the project. Group programming will take place in the NORC's communal spaces, both indoors and outdoors, therefore there will be no additional cost to running groups at the NORC. The same applies to costs mentioned in the creation phase, such as computer

access to make module learning materials and internet access. With biannual modules such as the digital literacy group, binders will be distributed to participants and handouts will be given weekly to support in-person learning. Since the groups will cap at ten participants, 20 binders with approximately 15 pages each will be needed for distribution during the project's first year. The cost of a 1-inch binder on Amazon is \$55, therefore the project would require \$1,100 yearly for the binders used in the digital literacy group. Sheet protectors to ensure written materials are preserved cost \$26 for 500 sheets on Amazon. The total cost of the binders and sheet protectors is \$1,126.

For the in-home evaluation, the author will develop a facility-based evaluation to assess home safety and current level of functioning, as well as areas of increased risk to adverse events. The in-home evaluation will also include need for referral services; therefore, no additional costs will be incurred for assessments. Basic home repairs and DME purchases will vary by NORC residents and will potentially be funded via the US Department for Housing and Urban Development (HUD) grant designed for OTPs assisting older adults to age in place. Grab rails are provided to residents by the NORC. Therefore, there would be no additional costs associated with OT services prescribing grab rails. It is anticipated that NORC residents will require approximately \$1000 of DME in each year. This equipment includes shower chairs (\$60 each), lights and tub transfer benches. This grant will be reviewed in detail further into this chapter.

A summary of all expenses is presented in Table 7.1.

Table 7.1

Expenses

Item	Year 1	Year 2	Justification
OTP salary	Creation and Implementation \$100,000 – \$140,000	Implementation \$100,000 – \$140,000	Market price for a mental-health OT position in NY (ZipRecruiter, 2023) Depending on experience and potential inclusion of benefits.
Supplies	Computer with Internet and Microsoft Office access \$1000 (available)		Computer with Microsoft Office and printer available at NORC office. No additional expenses to be incurred
Materials	Brochures \$140 to outsource Learning Materials for Group Programming \$1,126	Brochures \$140 to outsource Learning Materials for Group Programming \$1,126	VistaPrint estimate for basic brochure
Other	Home Evaluations (Developed by OT, no additional cost) Home Repairs and DME 16” grab bar \$14 Shower chair \$40 Tub transfer bench \$60 dollars Motion-censored lights \$18 Handyman hourly rate for basic repairs \$30	Home Evaluations (Developed by OT, no additional cost) Home Repairs and DME 16” grab bar \$14 Shower chair \$40 Tub transfer bench \$60 dollars Motion-censored lights \$18 Handyman hourly rate for basic repairs \$30	Amazon ZipRecruiter
Total	\$100,000 – \$150,000	\$100,000 – \$150,000	

Available Local Resources

As a NORC employee, the OTP will have access to office space including a computer and space at the NORC to prepare learning and training materials, print documents for distribution at the group meetings, as well as a safe place to store materials for future use. Since the program will take place in NYC, there will likely also be free access to wi-fi.

Potential Funding Sources

Currently in NYC, NORCs are funded through the City's Department for the Aging (DFTA) and New York State's Office for the Aging (NYSOFA) Grant-in-Aid (GIA) Program (NYSOFA, 2023) Following the Program's guidelines, the project will target health promotion and aging in place, making OT eligible for GIA funding and DFTA funding.

Additionally, the HUD recognized OT as a key player in making home modifications to facilitate safety among low-income seniors. The Older Adult Home Modification Program (OAHMP) allots approximately \$30 million to grantees per year, with some organizations receiving almost \$4 million in grants. Since the NORC, with the inclusion of the OT project, meets the requirements for the grant, the HUD grant could potentially cover all repairs and DME needed for the project's implementation. New York Foundation for Eldercare would also be a potential funding source. This Foundation's focus includes community education and direct service programs, therefore the NORC's OT services would meet eligibility criteria. The New York Community Trust is another potential funding source. Since the OT line would qualify as a pilot

program that aims to promote aging in place and provide increased access to digital and community resources, the project's aims are closely aligned with the Trust's mission and would make the NORC eligible for funding.

United Jewish Appeal (UJA) Federation could also be a funding to the NORC. UJA provides grant funding yearly for New York not for profit organizations, including organizations that provide health and human services (UJA, 2023). The UJA is also funding programs that aim to increase digital literacy among older adults, which aligns with the digital literacy module offered in this project.

The New York Digital Inclusion Fund (New York Digital Inclusion Fund, n.d.) is also a potential funding source. This Fund supports not for profits organizations' efforts to provide digital inclusion services, therefore the OT digital literacy group with its aim of increasing IADL independence among community-dwelling older adults may receive their funding.

A summary of potential grant funding and criteria are presented in Table 7.2.

Table 7.2*Grants*

Grant Title	Criteria for Grant
Department for the Aging (DFTA) in NYC and Office for the Aging in NYS (NYSOFA): Grant in Aid Program	<ul style="list-style-type: none"> • Currently funds NORCs in NYC • Supports aging in place, including efforts to ensure health promotion and safety
US Department of Housing and Urban Development (HUD): Older Adult Home Modification Program	<ul style="list-style-type: none"> • Requires an OT to direct home modifications and basic repairs to ensure low income older-adult safety and independence while aging in place
New York Foundation for Eldercare	<ul style="list-style-type: none"> • Funds community education initiatives • Focuses on organizations that provide direct service
The New York Community Trust	<ul style="list-style-type: none"> • Funds pilot programs that aging in place • Seeks to provide increased access to digital and community resources
UJA Federation	<ul style="list-style-type: none"> • Funds initiatives related to Health and Human Services • Currently funding programs that aim to increase digital literacy among older adults
The New York Digital Inclusion Fund	<ul style="list-style-type: none"> • Funds organizations' efforts to provide digital inclusion services+

Conclusion

This chapter reviews the funding plan for the proposed program, which focuses on providing preventive OT services to facilitate aging in place at a NORC. The project was developed to include both individual home evaluations and group programming. Target outcomes include promoting healthy habits that improve wellbeing and building skills, such as digital literacy, that increase IADL participation. The program also offers preventative services that aim to address potential areas of risk that may lead to adverse

events that pose a threat to residents' ability to age in place. OT services will be free to NORC residents and the OT line, which is the primary expense incurred in this program, will be part of the NORC's staff. The total cost of funding for the project, including the OTP's salary will range between \$100,000 and \$150,000, with the variability in the cost attributed to salary requirements from the prospective OTP and varying benefits offerings. The primary sources of potential funding include grants as well as government funding designed for NORCs.

CHAPTER EIGHT – Conclusion

Aging in place at a NORC is a complex process that requires careful consideration of multiple factors and can be supported by preventive occupational therapy. NORCs are established spaces geared to support aging in place, but they do not usually employ OTPs. This project delineates OT's role at a NORC. Through the combination of in-home visits with a focus on safety and balance, as well as group modules to address digital literacy, wellness and increased IADL participation, occupational therapy will add skills and resources to NORC residents that will increase their likelihood of aging in place.

Lack of functional independence, declining physical health, decreased mobility, home safety, as well as difficulty accessing the community and healthcare can have suboptimal effects to older adults' ability to age in place. These factors will all be addressed by the provision of OT services at the NORC. As mentioned in *Chapter 2*, there is evidence to suggest that preventive services and wellness approaches are beneficial to older adults, including OT services. Given the lack of research regarding OT's presence at NORCs and the increasing number of retirees in the US, this project will be valuable to OT's body of research and the healthcare field as a whole.

Even though research about OT in NORCs appears to be sparse, there is evidence suggesting the main reason older adults move into nursing homes is increased assistance needed to perform ADLs. There is also evidence indicating there are factors related to successful aging, such as having community support, optimized mobility and adequate home safety that impact aging in place. OT, including group programming to acquire

skills that will maximize functional independence and promote wellness, will empower residents, and increase their ability to remain in their homes as they age.

Once data is generated, the project can be disseminated among NYC NORC leadership and government funders, as well as among OTPs interested in mental health OT, community-based OT and older adulthood. With more visibility, the project will be able to generate interest and opportunities to be replicated in other NORCs and showcase an emerging area of practice for the profession.

APPENDIX A – Job Description

Job Description	Provides occupational therapy services to NORC residents to improve their ability to age in place
Key Responsibilities	<ul style="list-style-type: none"> • Evaluates residents, including home safety assessments • Develops personalized plans of care for residents based on evaluation findings • Carries out training to residents and caregivers • Oversees equipment installation • Recruits for and leads group sessions with emphasis on skill-building wellness habits and digital literacy • Collaborates with NORC staff
Experience	Experience in home based-services preferred, but not required New graduates will be considered
Educational Requirements	Bachelor's Degree in Occupational Therapy from ACOTE recognized institution NYS OT license

APPENDIX B – Sample Session 1

<i>Aging Well</i> Digital Literacy # 1	Date:
Digital Literacy Session Focus	Establishing a safe space for learning and build peer relationships
Pre-Work 15 minutes	Sign-up, set up smartphones
Program Introduction 15 minutes	<ol style="list-style-type: none"> 1. Background about <i>Aging Well</i> and group program purpose 2. Group rules establishment (Privacy, compassion, respect)
Participant Introduction 15 minutes	<p>Participants to share:</p> <ol style="list-style-type: none"> 1. Name and years living at NORC 2. Main reason to join group
Large Group 15 minutes	<ol style="list-style-type: none"> 1. Read handout with description of possible smartphone uses 2. Share new insights from group members' comments and handout 3. Guided Google search 4. Experience Debrief

APPENDIX C – Executive Summary

Introduction

There is a growing need for support to older adults as Baby Boomers age. Since 2011, those born between 1946 and 1964 started turning 65. Each day until 2029, 10,000 older adults will turn 65. There is, and will continue to be for a long time, growing demand for appropriate care for older adults (Pennsylvania Health Care Association, 2022). Aging in place refers to people's ability to remain in their homes as they age and is cost-effective compared to institutions designed to house older adults (Department of Housing and Human Development, 2013). Unlike transitioning to a long-term care facility or a formal residential housing facility, such as assisted living or independent living facilities, aging in place happens in older adults' homes. Eighty eight percent of Americans would prefer to age in place, but 69% of older Americans admit they have not done any preparation to support this. Even though older adults prefer to remain in their homes as they age, they may encounter sub-optimal opportunity to age in place. This might be due to preventable adverse events or increased need for assistance and support to perform desired tasks including self-care, health management, home management and community engagement (The AP-NORC Center for Public Affairs Research, 2021).

Occupational therapy (OT) is an ideal healthcare profession to support older adults' ability to age in place by targeting their safe participation in Basic Activities of Daily Living (BADLs) in their own homes, maximizing residents' functional independence and increasing their quality of life through improved self-management and preventing adverse events. Since 1974 when Ann Mosey introduced the Biopsychosocial

Model, occupational therapy practitioners (OTPs) have been incorporating a multi-front treatment approach, where factors related to physical health functioning, cognition and a person's social interactions together play a significant role in how they live within their environments (Mosey, 1980). Under the biopsychosocial model, OTPs are well suited to promote aging in place.

The Problem

OTPs work with community-dwelling older adults in various settings, mostly through restorative services after an adverse event, such as acute care, rehabilitative services in the home, rehab facilities or outpatient clinics. Older community-dwelling residents who seeking to remain in their homes are at risk due to the increasing difficulty in performing health-related occupations as they age. Gaps in health-related and wellness opportunities may lead to preventable adverse events (such as falls, worsening chronic illness and unsafe living conditions) that limit community dwelling older adults' safe engagement in aging in place. Since OT services are mostly rehabilitative rather than preventative, there is a gap in service to address community dwelling older adults' skills, attitudes and environments prior to an adverse event leading to loss of function or a challenge to their ability to age in place.

An Ideal setting for providing preventative services to older adults are Naturally Occurring Retirement Communities (NORCs), which form when a large group of older adults accidentally live in close proximity geographically, such as in a building or a given radius in a neighborhood (Hunt & Gunter-Hunt, 1985). They are provided with government funding to support residents' ability to stay in their homes as they age (NYS

Office for the Aging, 2021). NORCs are generally staffed by social workers and nurses, therefore this project aims to add OT services to NORC staff and thereby provide OT outside the rehabilitative realm with a specific focus on optimizing functional independence and providing tools to succeed in aging in place at the NORC.

Conceptual Framework

The Social Ecological Model (Cole & Guavain, 2005) offers a well-studied framework for community dwellers. This model views a person as a collection of layers that surround the individual and influence how they live and behave. With the individual at the center, the model explains the closer layers have a higher impact, starting with relationship, then community and finally society (Gauvain & Cole, 2005). Viewing each NORC resident as an individual surrounded by layers that impact their functioning laid the foundation for this project.

Project Overview

Aging in place is an important process for older adults and requires careful consideration of the person, their environments and nuanced factors that may challenge an individual's choice to stay in their homes as they age. NORCs house older adults and receive funding to facilitate aging in place, utilizing health promotion practices, support for increased care needs and allocation of resources found in the community to residents in their homes, but they do not currently include OTPs in their staff.

This pilot project, *Aging Well: Preventive occupational therapy service at Naturally Occurring Retirement Communities*, will add a new OT role that will facilitate NORC residents aging in place. There will be two main aspects to service provision:

individual sessions and group sessions. During individual sessions, the OTP will evaluate NORC residents in their homes, determine their current functional status, recommend low-cost/low-tech durable medical equipment (DME) and environmental changes to optimize home safety, address balance and motor concerns that may lead to falls and provide referrals to rehabilitative services when needed. In group sessions, the OTP will run six weekly meetings with 10 residents wherein residents will gain skills that positively impact their ability to remain independent, and in their homes, as they age. Group modules will include a walking group, the use of a smartphone to increase digital literacy and promote IADL engagement and other resident-led topics that relate to safe, independent healthy living.

In the group portion of the project, Session 1 will include introduction of group participants and the project, description of the module's purpose and establishment of group rules to ensure participant safety. This session will also provide space for participants to share why this module's topic is relevant to them.

Session 2 will aim to introduce participants to the skill addressed in the module, gauge current participant level of mastery and divide participants into small groups based on expertise level.

Sessions 3–9 will focus on mastering the skill/activity and addressing participants' challenges that impede their independent performance on the assigned task.

Session 10, which will be the final module session, will include a debrief of what the session meant to each participant, offer space for participants to show their new skill level, collect individual survey data and offer their feedback.

To determine the efficacy of the project and ensure the programming and home sessions are meeting the outcomes they were expected to, a thorough evaluation plan has been developed. This plan includes qualitative and quantitative measures in hopes of contributing to the literature about OTPs and NORCs, which is limited. Using measurement data, the project will be modified as needed, while also allowing for replication.

The costs associated with implementing the project are relatively low. Communal spaces are available at NORCs, where group programming is able to take place, and the project will run group programming outdoors when feasible. The largest cost is the OTP's salary. Other costs include handout and printed materials and DME. The project's cost is fairly consistent year-to-year, with a total cost of \$100,000 – \$150,000 per year depending on the OTPs experience, and the need to include benefits in the salary.

Key Findings

A review of the literature demonstrates that aging in place at a NORC is an established option for older adults who are seeking to stay in their homes (FindLaw, 2021). With an increased number of retirees in recent and coming years, there is a strong need to support this population in successful and healthy aging (Pennsylvania Health Care Association, 2022). NORC's existing staff, such as social workers and nurses, offer some support, but this project delineates occupational therapy's role at a NORC. The addition of preventive OT services to the NORC's existing network of support is an innovative concept that will positively impact NORC older adults. Through the combination of in-home visits with a focus on safety and balance, as well as group

modules to address digital literacy, wellness and increased Instrumental Activities of Daily Living (IADL) participation, occupational therapy will add skills and resources to NORC residents that will increase their likelihood of aging in place.

Based on existing published data, there are factors that influence successful aging including optimized mobility and physical health (Jeste et al., 2019; Ozturk et al., 2010; Plys & Kluge, 2016), wellness and self-empowering attitudes (Lee et al., 2017; Reichstadt et al., 2010), the use of technology and having community support (Shipee, 2011; Smith et al., 2014) and feelings of control (Walker and McNamara, 2013). These factors will all be addressed by the provision of OT services at the NORC. Researchers have also found there are barriers to receiving healthcare at and creating change in NORCs (Vladeck & Segel, 2010), including low literacy levels (Bagchi et al., 2018), lack of in-person care, transportation constraints and skill deficits related to safety (DiGennaro Reed et al., 2014). OTPs are able to address each of these barriers by increasing home safety via adaptations and remediations, as well as improving mobility and digital literacy during group programming. Given the lack of research regarding OT's presence at NORCs and the increasing number of retirees in the US, this project will be valuable to OT's body of research and the healthcare field as a whole.

Recommendations

Even though research about OT in NORCs appears to be sparse, there is evidence suggesting the main reason older adults move into nursing homes is increased assistance needed to perform ADLs (Health and Aging, 2020). There is also evidence indicating there are factors related to successful aging, such as having community support,

optimized mobility, and adequate home safety, which will be addressed by this project. Since the project is educational and led by an OTP, NORC residents will increase their skillsets and be better prepared to face challenges related to aging and aging in place.

Group programming will allow for increased social interactions among residents, foster feelings of autonomy and mastery and promote collaborative attitudes in the NORC. This programming will also allow for participant-led topic selection, empowering residents and fostering feelings of control, which in turn has been found to be related to successful aging.

General Conclusions

This project has potential to increase older NORC community dwellers' ability to age in place. Once data is generated, the project can be disseminated among NYC NORC leadership and government funders, as well as among OTPs interested in mental health OT, community-based OT and older adulthood. To disseminate the project, the author will present at state conferences, write an article for a well-known OT publication, network with blogs and online content creators and develop a social media presence. These efforts will maximize awareness of OT's role in NORCs and how valuable they can be to the process of aging in place. With more visibility, the project will be able to generate interest and opportunities to be replicated in other NORCs and showcase an emerging area of practice for the profession.

APPENDIX D – Fact Sheet



Aging Well: A preventive occupational therapy service at Naturally Occurring Retirement Communities

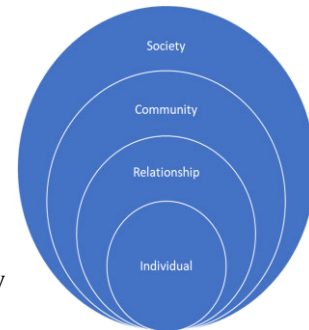
Sophie Buchbinder, MS, OTR/L
OTD candidate

Aging in Place

- Refers to people's ability to remain in their homes as they grow older.
- Gaining relevance due to increasing number of older adults in the US.
- Requires support from caregivers and providers.
- Challenged by age-related changes and adverse events.

Conceptual Framework: Social Ecological Model

- Understands a person as a collection of layers that surround, and influence, the Individual at the center, including Relationships, Community and Society (Gauvain & Cole, 2005).
- Creates thorough understanding of factors that influence a person's life, starting from the Individual's skillset, beliefs and home environments, to policy and norms within Society that affect the Individual.



The Problem

- Where to live: Even though most older adults prefer to live at home (The AP-NORC Center for Public Affairs Research, 2021), and the cost of aging at home is lower than in an institution (US HUD, 2013), older adults may not have enough support to successfully age in place.
- NORCs provide some support to community dwelling older adults, but do not currently employ occupational therapy practitioners (OTPs) in their staff.
- NORC residents may receive occupational therapy (OT) services under a short-term rehabilitative model after adverse events or functional declines which limits their ability to successfully age in place.
- Employing OTPs in NORCs may be challenging due to funding constraints, lack of knowledge about OT's role with well older adults and shifting the restorative approach in place for a preventive, wellness-focused role.

Successful Aging

- Studies have identified mobility (Ozturk et al., 2010; Plys & Kluge, 2016) and balance as important components of older adults' ability to age in place.
- The use of technology, digital literacy, has also been found to be valuable to older adults. (Haufe et al., 2019)
- Communal support is a strong factor in older adults' ability to remain in their homes as they age.

- Fall prevention and home safety have been found to be beneficial interventions to older community dwellers (Di Monaco, 2008; Steuljens et al, 2004)
- Improving self-awareness, empowerment leads to increased quality of life

Aging Well: Preventive OT services at NORCs

- Pilot program, led by an OTP, offering individual and group programming to NORC residents to increase home safety, promote independence in Instrumental activities of daily living through increased digital literacy and foster wellness habits to support aging in place.
- In-home evaluations followed by referral services, durable medical equipment recommendations and training and balance training.
- Group programming via 1-hour weekly meetings for 6 weeks per module where participants learn a skill related to wellness and independence
- Skill-acquisition component of groups will be informed by Self-Determination Theory (Lopez-Garrido, 2021).
- Outcome measurement used to generate data, determine program success and allow for generalizability,



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