

**Locked In: Impact of Social Isolation and Loneliness on Residents in Long-Term Care  
Facilities**

by

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# **Locked In: Impact of Social Isolation and Loneliness on Residents in Long-Term Care Facilities**

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University of Pittsburgh, 2022

The United States (U.S.) population continues to age and will increasingly require admission to long-term care facilities (LTCFs), where they face unique health challenges. One challenge is the threat of social isolation and loneliness, both of which can increase health and well-being when present but also worsen health outcomes when not present. During the COVID-19 pandemic, residents of LTCFs were placed into social isolation unlike what they had previously experienced. This included a ban on visitors, closed dining halls and activities, and rules about staying in one's room.

This thesis explores social isolation of residents through a qualitative research study. Certified Nursing Assistants (n=10) and Personal Care Assistants (n=2), who had the most face-to-face time with residents during lockdown measures, were asked about the difficulty of residents, and the residents' experience with social isolation including changes in mood. Emphasis was placed on the experiences of dementia residents and relationships with family members. Results showed that residents who were deemed 'challenging' or 'average' were more socially isolated, while residents seen as 'easy' were less socially isolated and did not have as much of a decline in health or function. Interactions with family members were complex and included feelings of loneliness due to missing family and confusion regarding their whereabouts. Residents also saw declines related to dementia status, depression, and anxiety.

This research contributes to understanding that social isolation and loneliness are different and how complicated social isolation and loneliness are and their role in adverse health impacts.

It also explores complex resident relationships with family members and how this impacted them after contact was suddenly ended as the result of social distancing measures.

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## **Preface**

I would like to express my sincere gratitude to my thesis committee for their support and guidance throughout this process. I am so appreciative to Dr. Terry, for dedicating so much of her time to helping me through this process. I would also like to sincerely thank Dr. Albert for pushing me to explore my research interests, encouraging me throughout my research, and answering my endless questions. I would also like to acknowledge Dr. Degenholtz for his willingness to be on my thesis committee. Lastly, I would like to thank Xinran Liu for taking an interest in my research and offering her assistance. I am forever grateful to all of you.

## **1.0 Introduction**

The institutionalized aging population faces unique needs related to health and protection. This population ranges in physical and mental ability, with some being completely independent and others having severely limited mental and/or physical capabilities (Abbot and Sapsford, 2019). Because of this, their care has inherent challenges. One of these is social isolation and loneliness. A study (Neves et al., 2019) conducted before the COVID-19 pandemic found that residents in long-term care facilities (LTCFs) are socially isolated at rates of 5%-17%, and lonely at rates between 12%-30%. A literature review measurement (Gardiner et al., 2020) looking at loneliness estimated the rate of severe loneliness among residents to be 35%. It is likely that these rates have gone up with the COVID-19 pandemic, as residents were no longer able to see family members in person or visit with other residents (Abbassi, 2020). It is difficult to find exact numbers for the rates of social isolation during this time period. However, one survey (Altarum, 2020) done by a nonprofit healthcare research organization found that 76% of residents felt lonelier under COVID-19 restrictions.

### **1.1 Public Health Significance**

The population in the United States (U.S.) is increasing in age. In 2050, the number of people over the age of 65 is projected to increase by 84% and represent 22% of the population, with those over 85 tripling from current numbers and accounting for 5% of the U.S. population (Harris-Kojetin et al., 2019). The population in nursing and skilled-nursing facilities is increasing

as well. According to the 2020 census, the population of nursing facilities/skilled-nursing facilities has increased by 8.3% from 2010, or 124,782 individuals (Koerber and Wilson, 2021). According to numbers from 2016 (Harris-Kojetin et al., 2019), 15,600 nursing homes house 1,347,600 residents, and 28,900 assisted living and similar residential care communities have 811,500 residents.

Historically speaking, long-term care has become a part of American society. This is associated with a number of trends such as geographical dispersion and the inability of family members to provide day-to-day care due to increased family geographical separation (Rowles and Teaster, 2016). Another trend is the growth in the number of long-term care in new settings and housing alternatives (Rowles and Teaster, 2016). Types of long-term care include skilled nursing facilities (SNF), personal care homes (PC), and independent living facilities, with residents being most dependent on support services in SNFs and secondly PC units.

As the U.S. population has gotten older, the prevalence of chronic diseases has increased, resulting in the need for long-term care options as family caregiving becomes increasingly stressful and difficult for families (Rowles and Teaster, 2016). With increases in the age of the population and subsequent increase in demand for LTCFs, the unique needs and challenges of residents' health and well-being will need to be addressed and studied in greater detail (Cadieux et al., 2013). This is important to increase quality of care and resident quality of life (Cadieux et al., 2013).

Long-term care shows some noticeable trends. Demographically, according to data from the National Study of Long-Term Care Providers and Services in 2018 (Caffrey et al., 2021), 67% of residents were female, 89% were non-Hispanic white and 55% were aged 85 years and older.

Admission to a long-term care facility often occurs when an individual becomes unable to cope and manage a health condition or disability on their own and needs more supportive services

(Harris-Kojetin et al., 2019). People are often admitted to long-term care because they are diagnosed with chronic conditions and need assistance with activities of daily living (ADLs) or managing their care. The catalyst for admission is often incontinence, increased level of cognitive impairment, or in accordance with the needs of a primary caregiver (Rowles and Teaster, 2016). Some common conditions include high blood pressure, Alzheimer disease and other dementias, depression, and diabetes (Caffrey et al., 2021). About 77% of residential care community residents need assistance with bathing, and 69% of residents need assistance with walking (Caffrey et al., 2021).

## **1.2 Objectives**

Long-term care facilities are present across the country. For this thesis, certified nursing aides (CNAs) and personal care assistants (PCAs) from a LTCF, in Erie, Pennsylvania, were interviewed. The facility has multiple units, including a skilled nursing unit, a personal care unit, and a rehabilitation unit.

This research explores how loneliness and social isolation during the pandemic impacted the overall health and well-being of residents of a long-term care facility. The first objective of this research was to determine if, from the viewpoint of CNAs and PCAs, residents were impacted by the forced social isolation of the pandemic and what this impact looked like. CNAs and PCAs were asked to participate in this study because they spend the greatest number of hours per day with residents, as opposed to other LTCF staff (Abbassi, 2020). The second objective was to ask what, if any, were some similar issues and concerns among residents during this time? Specific attention was given to the presence of family members as contact with them was taken away from

residents for a major part of the pandemic. The hypothesis of this research is that ‘challenging’ residents have become more challenging due to cognitive decline and more physical impairment due to continuous social isolation.

The thesis first presents a background chapter regarding the topics of social isolation and loneliness and includes the context of the COVID-19 pandemic. Also discussed is dementia in LTCFs. The methods for this study are discussed in Chapter three, which included a qualitative design with a semi-structured interview conducted with CNAs and PCAs of an LTCF. In Chapter four, results of the research are reported. Chapter five provides a discussion of the research results with added relevant literature findings. Chapter six then concludes the thesis, explains limitations of the study, and provides ideas for future research.

## 2.0 Background

Available literature on the concept of social isolation presents concerns given the many factors of the pandemic. Social isolation can be defined as “an objective and quantifiable reflection of reduced social network size and paucity of social contact” (Steptoe et al., 2013, pg. 5797). Another definition views social isolation as an objective concept showing a lack or absence of relationships or contacts (Fakoya et al., 2021). Social isolation is difficult on the body. Those experiencing social isolation are more at risk for issues such as cardiovascular disease, infectious illness, cognitive deterioration, and a higher risk for mortality (Steptoe et al., 2013). Some scholars (Jeste et al., 2020) have identified social isolation as a modern behavioral epidemic, attributing 162,000 American deaths a year to social isolation.

Loneliness has many definitions. One is “the psychological embodiment of social isolation, reflecting the individual’s experienced dissatisfaction with the frequency and closeness of their social contacts” (Steptoe et al., 2013, pg. 5797). Another way to view loneliness is perceived social isolation (Holt-Lunstad et al., 2015). According to the World Health Organization (WHO) (2021), it is a negative feeling, or ‘social pain’ that comes from a disconnect between the number of social contacts a person has, and the desired number of social contacts a person wants. A closer look at loneliness shows four major elements: self-alienation, interpersonal isolation, distressed reactions, and agony (Bekhet et al., 2008). In the general population, loneliness has been clinically linked to similar health conditions related to social isolation such as cardiovascular disease and mortality (Steptoe et al., 2013). This includes increased cognitive decline and risk of dementia (Cacioppo et al., 2015). The three causal mechanisms for the health effects of both social isolation and loneliness

include absorbing more stress because of a lack of social support, inefficient physiological repair such as lack of quality sleep, and increased behavioral risks such as smoking (WHO, 2021).

While loneliness and social isolation are related concepts, they are not the same. In other words, being socially isolated does not necessarily mean being lonely and being lonely does not mean you are socially isolated (WHO, 2021). Both are part of the larger concept of ‘social health,’ which is a broad term relating to a person’s relationships and how content they are with them (Joyce et al., 2022). The concepts are multidisciplinary, and there is no agreement across disciplines on a definition or how to measure either (Courtin and Knapp, 2017).

It should be noted that some evidence shows that loneliness leads to greater healthcare utilization and costs (Quan et al., 2019). One study (Valtorta et al., 2018) found that those with weaker social relationships had increased rates of readmission to hospitals and that smaller social networks are associated with longer hospital stays.

## **2.1 Social Isolation and Loneliness in Long-Term Care Facilities**

Loneliness and social isolation are particularly important to study in the elderly. The WHO (2021) has stated that not only is social isolation and loneliness among older people widespread, but it can lead to their lives being shortened and affect quality of life. One study (Quan et al., 2019) found that when looking at older adults who lived in the community (not in LTCFs), those who were lonely were two times more likely to die within six years than those who were not lonely. In the elderly and especially those in LTCFs, social isolation and loneliness have higher prevalence and additionally are risk factors for functional decline and poor health outcomes including death (Perissinotto et al., 2012). Individual factors that can increase this risk include chronic illnesses

such as heart disease, as well as certain personality traits such as neuroticism (WHO, 2021). Reasons for an increase in either social isolation or loneliness in old age include decreasing social resources, functional or mobility limitations, changes to a family structure, and death of family members (Courtin and Knapp, 2017).

Often, because of chronic diseases or disabilities that residents in LTCFs experience, research done with these populations focuses on how to improve or maintain quality of life (Klapwijk et al., 2016). Such research has been done on the topics of loneliness and social isolation in LTCFs. Some literature (Bekhet et al., 2008) has suggested that loneliness in the elderly is more related to loss than to isolation, as losses can come quickly and repeatedly in old age, combined with declines in coping mechanisms such as a feeling of belonging and having close friends, or spouses. Another study (Prieto-Flores et al., 2011) found that, while common in nursing homes, loneliness decreases significantly with gathering of family and friends (inside or outside the facility) and also with regular visits from family members.

Many interventions in nursing homes have addressed loneliness with varying degrees of success. A scoping literature review (Gardiner et al., 2016) identified interventions looking to prevent/reduce social isolation and loneliness in older people. Categories for interventions included social facilitation, psychological therapies, health and social care provision, animal-based, befriending and leisure/skill development (Gardiner et al., 2016). Relevant to this research, the literature review (Gardiner et al., 2016) found that group interventions were not necessarily more effective at reducing loneliness than one-to-one or solitary (purchasing a pet, contacting family on Skype) interventions.

A literature review (Courtin and Knapp, 2017) examining interventions regarding the association of social isolation, loneliness, and health did not find many dedicated to these subjects

but was able to evaluate nine studies. Types of interventions included befriending initiatives to assist with social support, such as psychosocial group rehabilitation or a social club for men in a care home (Courtin and Knapp, 2017). The interventions reported an increase in well-being levels and a decline in depression and anxiety levels (Courtin and Knapp, 2017).

Another literature review (Quan et al., 2019) looking specifically at social isolation interventions in LTCFs found that reducing loneliness is possible and most seen in interventions involving laughter therapy, reminiscence therapy, and horticultural therapy. While loneliness in LTCFs is prevalent, this setting may have a few inherent advantages for interventions, which include access to health care professionals in facilities and being able to tailor an intervention to a specific population (Quan et al., 2019).

One intervention study (Tsai et al., 2020) found that a videoconferencing program utilized at least once a week in a six-month period reduced feelings of loneliness in nursing home residents without cognitive impairment but cannot replace in-person visiting and did not lower depressive symptoms. Another intervention (Banks et al., 2008) utilizing technology, in this case robotic dogs as pets, found that animal assisted therapy was associated with significantly less lonely LTCF residents, with no difference in effectiveness for a robotic dog versus a living dog. An intervention (Chiang et al., 2009) involving reminiscence therapy, which can involve sharing and recalling memories and relationships, found it improved the psychological well-being of institutionalized elderly, as it helps to validate a sense of self.

Relevant to these interventions and care of residents is the concept of person-centered care. In approaches with residents, person-centered care can be practiced. This is the idea that a one-size fits all approach is not appropriate; every resident has unique needs to improve their quality of life and health care (Haitsma et al., 2019). Some interventions, such as phone calls or video-

conferencing, may help ease symptoms of loneliness in some while others might require a more holistic intervention. Person-centered care emphasizes giving residents autonomy which has been shown to lead to a better quality of life (Port et al., 2011).

## **2.2 Dementia in Long-Term Care Facilities**

Many residents of LTCFs suffer from some form of dementia or Alzheimer's disease, whether minimal or severe. Rates of dementia, including Alzheimer's disease range from 45% to 75% in nursing home residents (Lebrasseur et al., 2021). According to the Centers for Disease Control and Prevention (CDC) (2019),

Dementia is not a specific disease but is rather a general term for the impaired ability to remember, think, or make decisions that interferes with doing everyday activities. Alzheimer's disease is the most common type of dementia. Though dementia mostly affects older adults, it is not a part of normal aging .

Dementia may present as problems with memory, attention, communication, or reasoning (CDC, 2019). The impairment of cognitive function can look different depending on progression of the disease and range from mild to severe (Kane et al., 2017). Those with dementia have needs that may differ from other residents in LTCFs. These needs often go unmet and can heavily influence behaviors, with up to 90% of disruptive behaviors of residents with dementia resulting from unmet needs and quality of care (Cadieux et al., 2013). Disruptive behaviors can include mood changes such as aggression or anxiety and can happen due to pain or lack of social stimulation (Cadieux et al., 2013).

Care for dementia residents should involve social engagement, social support, and activities (Tilly and Reed, 2008). Types of activities can vary and include structured meetings (such as from the activities department) or everyday interactions, which are important for a sense of community (Tilly and Reed, 2008). A study (Joyce et al., 2022) examining social health and dementia found an association between low social support among women and lower cognitive function but no association with social health and dementia or cognitive decline.

### **2.3 COVID-19 Pandemic and Long-Term Care Facilities**

In early 2020, the COVID-19 virus emerged on the world stage and changed many aspects of life for many people. COVID-19 was declared a pandemic by the WHO on March 11, 2020, and was declared a U.S. nationwide emergency by President Donald Trump on March 13, 2020 (CDC, 2022). By April 13, 2020, most U.S. states saw outbreaks of COVID-19 (CDC, 2022).

COVID-19 was new and dangerous for a couple of reasons. The virus is very contagious; it is spread from person to person via droplets in the air when an infected person breathes, coughs, or sneezes (Maragakis, 2022). Indirect transmission can also occur when a person comes into contact with surfaces that have infectious droplets (Nanda et al., 2020). Asymptomatic individuals can pass on the virus for up to two days before their symptoms appear (two to 14 days after exposure), and symptoms may never appear in some individuals (Maragakis, 2022). There are many symptoms for COVID-19 that vary from person to person, with some of the most common being cough, fever, or shortness of breath (Maragakis, 2022). Notably, symptoms in older adults can also include delirium or hypoxia (Nanda et al., 2020).

A few strategies in the beginning of the pandemic were meant to mitigate the spread of the virus. On April 3, 2020, the CDC recommended that everyone wear a mask when outside of their home (CDC, 2022). Health care workers were given personal protective equipment (PPE) used to protect against infection, particularly focusing on covering a worker's mouth and nose (surgical and N95 masks) as well as eyes (face shields and goggles) (Nanda et al., 2020). Other important PPE included isolation gowns and gloves (Nanda et al., 2020). Screening of staff was also implemented, and those with possible COVID-19 symptoms, such as having a temperature or loss of taste or smell, were not allowed in the building (Nanda et al., 2020). Other prevention methods included staying at least six feet away from others, or social distancing.

Testing has been used throughout the pandemic to confirm cases of COVID-19. Towards the beginning of the pandemic in LTCFs, residents were tested for COVID-19 based on the presence of symptoms, as encouraged by the CDC (Bigelow et al., 2020). As a result of the presence of asymptomatic COVID-19 cases and other factors, symptom-based testing alone was found to be insufficient for controlling the spread of the virus in LTCFs (Bigelow et al., 2020). On April 27, 2020, the CDC identified groups that had the highest priority for COVID-19 testing, which included residents and staff of skilled nursing facilities (American Health Care Association, 2022). In June of 2020, the Pennsylvania (PA) Department of Health mandated that universal testing be conducted in skilled nursing facilities (PA Department of Health, 2020). On September 2, 2020, the Centers for Medicaid and Medicare Services (CMS) began requiring regular testing of both residents and staff in LTCFs (CDC, 2022).

Serious disease and death from COVID-19 were more of a worry for certain groups with specific risk factors. One of these groups was older adults, specifically those residing in LTCFs (Chidambaram, 2022). Older adults above the age of 80 had a case fatality rate of 14.8%, according

to data prior to widespread use of COVID-19 vaccines (Nanda et al., 2020). An estimated 187,000 deaths among long-term care residents and staff from March 2020 to June 2021 (Chidambaram, 2022). Numbers from January 2022 show COVID-19 deaths in LTCFs accounted for 23% of deaths in the U.S., but in the beginning months of the pandemic, accounted for about half of deaths in the U.S. (Chidambaram, 2022). Pre-existing conditions and comorbidities such as diabetes mellitus or hypertension and novel virus' impact of the lower respiratory tract have contributed to COVID-19 becoming a greater concern for older adults (Nanda et al., 2020).

Vaccination clinics began on December 21, 2020 (CDC, 2022). Residents and staff of LTCFs were among those eligible to receive a vaccine (Chidambaram and Musumeci, 2022). As of January 30, 2022, 85% of staff in Pennsylvania LTCFs were vaccinated against COVID-19 (Chidambaram and Musumeci, 2022). As of mid-March 2022, 87.5% of residents were vaccinated (CMS, 2022).

Throughout the pandemic and continuing into 2022, data gaps exist about COVID-19 case numbers in LTCFs in the United States. For instance, demographic data about mortality in LTCFs, which includes race/ethnicity, age, and vaccination status, are not available, (Chidambaram, 2022). Another example is from one study (Shen et al., 2021) that found that a significant number (14%) of COVID-19 deaths from LTCFs were not reported prior to May 24, 2020.

## **2.4 Social Isolation and the COVID-19 Pandemic**

Since the beginning of the pandemic, people have been encouraged to stay at least six feet away from each other and cease meeting and activities unless necessary as a means of mitigating the spread of COVID-19. This has exacerbated feelings of loneliness among the general population

and particularly older adults. One study (Kovacs et al., 2021) utilizing social network data collected in June 2019 and June 2020 found a significant increase in loneliness during this time, due to lower levels of close ties in one's network. Social network analysis quantifies relationships between people, represents them in a graph and shows interaction patterns of relations between people (Kothari et al., 2013). Older adults in particular are more vulnerable to social isolation and the loneliness that follows due to their dependence on family members or community services (Tzung-Jeng et al., 2020).

Arguably, nowhere has social isolation been more enforced than in LTCFs. On March 13, 2020, CMS released guidance for infection control specifically related to COVID-19 in nursing homes. Nationwide, nursing homes issued a ban on visitors with the exception of compassionate care (end-of-life situation) (CMS, 2020). Additional guidance included discontinuing communal dining and all group activities and ensuring social distancing of residents. Measures put into place to stop the spread of COVID-19 in LTCFs were necessary to mitigate the spread of the virus. As of the end of 2021, 23% of all deaths in the United States from COVID-19 were in LTCFs (Kaiser Family Foundation, 2022). CMS changed guidance on September 17, 2020, to allow visitation (CMS, 2020).

Residents in LTCFs have certain rights under federal and state law that include spending time with visitors and participating in activities (CMS, n.d.). Visitors are allowed anytime, but only if the provision of care of other residents is not interfered with (CMS, n.d.). With COVID-19, visitors were no longer allowed because of the very high risk to other residents, because of the potential to bring in and spread COVID-19 in the building. Activities typically done with groups of residents on a daily basis were halted to include only individual or sometimes hallway activities. Visitors were, however, allowed to come to the window to see loved ones, and many activity

departments set up videoconferencing capabilities for families to speak with and see residents virtually.

### **3.0 Methods**

This thesis is based on a qualitative study examining the experiences of CNAs and PCAs providing care to their residents during the COVID-19 pandemic. It explores the various ways that lockdown measures impacted their residents, including their health, functional ability, and mood.

#### **3.1 Materials and Design**

The study used a qualitative, exploratory questionnaire. Semi-structured interviews were conducted after approval was obtained from the Human Research Protection Office at the University of Pittsburgh under expedited review. Approval was also obtained from the nursing home administrator (NHA) before the study began. The NHA was made aware of the methods and purposes of the study and provided phone numbers for possible participants. The Principal Investigator (PI), Rachel Hull, was an employee of the facility. The NHA did not influence the study or its findings in any way.

##### **3.1.1 Participants and Recruitment**

Convenience sampling was used at a nonprofit LTCF in Erie, Pennsylvania. The building includes both a skilled nursing facility and personal care facility. The licensed skilled nursing facility section of the building has 78 beds approved to participate in Medicare/Medicaid (CMS,

2022). A separate area section of the facility is licensed by the Pennsylvania Department of Human Services (2022) as a personal care home with 80 beds.

An initial email was sent out by the NHA to possible participants about a week before calling began. Potential participants included any CNAs or PCAs who worked at the facility in either the skilled nursing unit or the personal care unit. However, if a CNA/PCA worked solely on the rehabilitation unit, they were not eligible to participate as they were likely to have only short-term residents. Participants worked across the facility in both skilled nursing and personal care. They could report on a resident in any of the units across the facility.

Recruitment was done by phone calling potential participants and explaining the purpose of the study. If participants were interested in the study, a consent document was read. Participants were asked to voluntarily participate in the study. There were no direct benefits to participants. The PI of this study attempted to contact 42 of 66 possible participants and completed 12 interviews, for a response rate of 28.6%.

### **3.1.2 Data Collection Instrument**

At the beginning of the interview, participants were asked demographic questions including age, gender, how long they had worked as a CNA/PCA, what unit they worked on, and how many residents they were typically responsible for. The interview questions were structured to provide data about a ‘challenging’ resident, an ‘easy’ resident, and a resident who fell somewhere in the middle, as identified by the participant. Participants were asked about the overall change in health of these residents, if family visited them before the pandemic, and if these residents were socially isolated and/or lonely. At the end of the interview, participants were asked

broad questions about what they saw as changes in many of their residents due to the pandemic. Questions asked in each interview can be found in Appendix 1.

### **3.1.3 Data Analysis**

Interviews were not audio recorded; however, the PI took notes during each phone interview. Interview notes were read and a code book was developed based on emerging themes. Interviews were then coded based on these themes. Quality of codes was checked through intercoder reliability. This was done to ensure that coding was consistent and transparent when being applied to the data (O'Connor and Joffe, 2020). Double coding was done for one transcript selected at random to compare results. To compare results, the statistical test, Cohen's kappa, was used to determine if there was agreement between the two independent coders (O'Connor and Joffe, 2020). The kappa value was found to be 0.68, suggesting substantial agreement between the coders (O'Connor and Joffe, 2020).

## **4.0 Results**

Twelve CNAs and PCAs were interviewed. Phone interviews typically lasted between 20 and 30 minutes and were conducted by the PI. CNAs (n=10) and PCAs (n=2) were interviewed about social isolation and overall health and wellness, and how these changed for their residents during the pandemic. Participants ranged in age from 19 to 47, with an average age of 33. All participants identified as female. The shortest length of time working for the LTCF at the time of interview was eight months, while the longest length of time was ten years. The average time spent working at the facility was four years. Eight respondents worked primarily on a skilled unit while four respondents were on personal care (PC) units. Seven participants were full-time employees, two were part-time employees, and three were casual employees.

### **4.1 Resident Description**

Most of the residents mentioned by staff had some form of dementia, with symptoms ranging from mild to severe. Eleven of the most challenging residents had dementia, as did five of the easiest residents and eight of the average residents. Presenting symptoms included confusion, combativeness and aggression, forgetfulness, sundowning, and wandering. Seven of the most challenging residents were described by staff as being combative and resistant to care. Residents came from all units and therefore had varying levels of needed assistance. This ranged from partial assist with just bathing, to total assistance with all care needs. Similarly, resident function status varied greatly. This seemed to be the main factor for why a resident was considered challenging,

easy, or average to a staff member. Residents who were ‘the easiest’ and were on a PC unit were mostly independent.

## **4.2 Changes in Residents**

### **4.2.1 Non-COVID-19 Related Change**

According to those interviewed, many residents had a change in health. Changes in health were not verified by examining health records. Changes could be because of a non-COVID-19 illness as in the case of Aide 1’s challenging resident who contracted pneumonia. Aide 3’s challenging resident declined because of not being able to exercise. Other health declines were simply the result of progression of diseases (Aide 7 and 9).

Changes did not necessarily get better after restrictions on visitors were lifted. Aide 6’s most difficult resident declined further.

### **4.2.2 COVID-19 Decline**

Changes in health were seen very clearly by staff when a resident contracted COVID-19. Two residents were described as becoming *a lot worse* (Aide 3) and *much worse* (Aide 6). Changes were largely permanent for residents. For example, one aide mentioned: “*Got COVID-19, she originally just had onset of dementia, but the COVID-19 made it a lot worse*” (Aide 3). Another permanent change was incontinence that started with COVID-19. When describing many residents catching COVID-19 at the same time, one aide stated, “*When an outbreak occurred it was*

*devastating. Some residents took a huge decline when they got COVID-19. Definitely takes a toll, and you can see it” (Aide 9).*

#### **4.2.3 Residential Functional Decline**

A few aides specifically explained the loss of independence among their residents. This included losing the ability or reducing the ability to walk: *“Beginning of the pandemic she could walk for herself,”* (Aide 1) and *“[The resident] used to walk around with a walker, and is not in a wheelchair”* (Aide 4). Another resident started to have problems with her leg because of not walking as often as before the pandemic (Aide 10), and another gained weight as a result of halting pre-pandemic walking programs (Aide 3). Other functional declines included the inability to complete tasks such as getting dressed, the inability to communicate, and other related problems.

Staff also described residents as needing more assistance from aides during the pandemic. This was simply described as residents being *“needier”* by one aide, while another stated:

*Yes, because when they are depressed you stop doing stuff for yourself and decline. For example, one resident wants attention all the time because she has no one to talk to. So she pretends she is unable to do certain tasks and asks the staff to do them. Eventually though, she loses the ability to actually do those tasks, and therefore declines (Aide #).*

### 4.3 Social Interaction

All those interviewed described the social interaction habits of residents. Social interaction was anything from phone calls to speaking with other residents. Twenty residents were considered by participants to be socially isolated. This included seven challenging residents, four easy residents, and nine average residents. Reasons for being socially isolated varied and included not getting along with other residents and not wanting to come out of their room. For instance, two residents tended to come out of their rooms only to go outside, so they stayed in for the colder months. Another resident just *“does not like to engage, and not come out of her room, even when she can”* (Aide 5).

Social interaction was also mentioned as the reason for change in some residents' health both physically and mentally. When asked to give an example of how social isolation impacted a resident's ADLs, one participant mentioned, *“It impacted more his mind than his health. A lot of people mentally declined. No stimulation of daily conversations”* (Aide 1). Another simply stated that *“more damage occurred”* (Aide 3).

Eight residents seen as the ‘easiest’ were not socially isolated according to staff. One participant mentioned that social isolation impacted the resident's health in a positive way (Aide 4). Another resident, when stuck in her room, was described this way: *“She kept herself busy, such as messing with her plants* (Aide 3).

Participants viewed social contact as promoting health, and without it comes the possibility for decline. One participant described this as *“When they don't have social interaction, they are lonely. Their days go by so slow, and you can actually watch people decline physically and emotionally”* (Aide 11).

#### 4.3.1 Interaction with Family

Staff described resident interactions with family as complex and varied. Before the pandemic and after restrictions were lifted, some saw their family members once a week, while others almost never had visitors. Some received daily phone calls. Family visits and calls served many functions for residents. For instance, one challenging resident was less aggressive and confused when he saw his family (Aide 1). Another resident ate only for family members (Aide 12). One aide, when speaking broadly about the pandemic, expressed that *“They need that interaction, because it is important to them. When loved ones show up they may not know who they are but something in the person might jog their memory”* (Aide 7).

Others had negative reactions to seeing family, mostly due to forgetfulness. For one average resident, seeing family confused him because he had completely forgotten who they were (Aide 1). Another average resident’s family made her more on edge. When the family visited, the resident asked for medication to calm her down (Aide 5). When seeing a family member through the window, sometimes residents did not understand why they were not inside. They became panicked (Aide 11). Some residents became upset when their family members did not come in, including *“adding to emotional issues”* (Aide 9), and becoming tearful when family was not present (Aide 10)

Many aides expressed the sentiment that aides and nurses could not be adequate substitutes for loved ones and families. One said, *“People need their families. CNAs are not who they know personally. Taking families away from nursing home residents is horrible”* (Aide 3). Another expressed, *“If you stay alone all the time, there is no one to confide in. You want to see the people that you love, not just aides”* (Aide 6). Another stated *“With families not coming in there is a lot*

*of loneliness, residents all took a decline because alone, and aides were the only ones that they have” (Aide 9).*

Some residents took advantage of non-traditional ways to see their family during the lockdown. For one challenging resident, family members came to the window every day (Aide 6). This resident still had a difficult time and saw a change in health, as she was accustomed to seeing more family and other residents (Aide 6). Another resident could not have family at the window because she could not move her head to that position (Aide 10).

Other residents were confused about the lack of family being present. For instance, one resident constantly asked where her daughter was, and she did not sleep because she was waiting for her daughter (Aide 10).

#### **4.3.2 Interaction with Other Residents**

Some residents were socially isolated because of other residents, even after restrictions were lifted. This included residents being scared of another resident (Aide 1), isolating themselves due to not enjoying other residents’ company (Aide 1), and not being able to communicate with other residents (Aide 6). An aide from the lockdown, personal care dementia unit stated she could not imagine what it was like for the residents who could not see other residents (Aide 9). One mostly independent resident was not socially isolated because she would ‘sneak across the hall to her resident friend’ (Aide 3).

### **4.3.3 Interaction in Other Social Activities**

Three aides mentioned that it was difficult for residents when activities were stopped. This included getting their hair done (Aide 1), throwing a balloon and singing (Aide 8), and socializing activities (Aide 8). This was summed up by Aide 10:

*The more you interact and take the time to do things like resident hair or nails, the better they are. When you do the things, their families used to do, or just sit and talk to them, and spend extra time with them, their mood really lightens and moves better throughout the day. When you take the extra time to do activities such as coloring it helps. They get sick of TV. They want to be out of their rooms as much as everyone else. Students coming to do their nails brought a huge personality shift in many residents.*

## **4.4 Residents' Mood**

### **4.4.1 Changes in Mood**

Changes in residents' mood or emotional status were common and frequently described by staff, including reasons behind these changes. Participants described some resident changes were more drastic than others. One resident “*kinda switched completely. She now has bad, full-blown dementia. She would get very angry and try to leave, to the point she had to switch units*” (Aide 3). A similar sentiment was reflected by Aide 10: “*Dramatically declined. Used to be smiley and giggly but now she is always upset.*” Others did not have much of a change but just seemed to be upset or moodier more often. Aides showed that residents with dementia tended to become

confused or act out in anger. A resident who was typically anxious became more anxious with the changes brought by the pandemic (Aide 11).

Opening the doors again also brought changes in mood, both positive and negative. A resident who was able to see people back in the building was described as “*bubbly and happy*” (Aide 1). Aide 10 mentioned that while the resident’s mood was not too impacted, she has become less tearful.

Dementia residents in particular feed off of the moods of others, whether that of staff or other residents. Aide 5 stated:

*They are surprisingly sensitive to mood to others around, they are catching on that the pandemic is stressing out and tiring to staff. There are longer waits for whatever residents need. Staff cannot be 100% like they used to (burnout and short staffing). Those with more dementia especially can pick up when staff are frustrated, and they become even more uncooperative.*

#### **4.4.2 Depression**

Many residents were described as depressed by staff. When asked about the pandemic broadly, staff stated that residents were thought to just give up or have a failure to thrive (Aide 1). Three aides mentioned that residents went into depression during the pandemic. Individually, residents showed this in differing ways. For instance, they might become very tearful when family did not come in (Aide 10), have moments when they were depressed (Aide 7) and exhibit more sadness (Aide 9).

#### **4.4.3 Anxiety**

Aides also explained that some residents showed signs of anxiety. For some, this was always present and exhibited on a regular basis. For example, they might be self-conscious and therefore not come out of their room (Aide 5), or be afraid of being forgotten (Aide 10). For others, it was due to the pandemic. Aide 6 stated that *“Residents have been afraid of getting COVID because they are older and they are watching other residents die around them.”* Others felt confined to their room, and this made them anxious. Aide 2 mentions,

*When some got COVID-19 and had to be isolated, they were okay, but some of the residents who are usually more social were very agitated and angry by the situation of not being allowed out of their rooms.*

### **4.5 Summary of Results**

All participants provided information on one ‘challenging’, ‘average’, and ‘easy’ resident for a total of 36 staff observations. Of the twelve difficult residents, staff reported that there were eleven with dementia and seven with an increase in loneliness. For average residents, staff reported that eight residents had dementia and nine had an increase in loneliness. Of the twelve easy residents, staff reported that there were five with dementia and four with an increase in loneliness.

## **5.0 Discussion**

Social isolation and loneliness are critical issues. As apparent in the literature, LTCFs house many individuals who are lonely, and the COVID-19 pandemic only worsened these conditions. Adequate research has not been conducted on these topics as they relate to the aging experience, even though it was widely a concern when lockdowns began, both in and outside of LTCFs. The impacts of social isolation and loneliness were seen in this study as they relate to COVID-19, chronic conditions, and decreases in functional ability (independence).

This research showed the difference between social isolation and loneliness. While almost all residents (except for one lockdown dementia unit where residents were not confined to rooms) were by definition socially isolated, not all of them were lonely. This is consistent with the literature (Newall and Menec, 2017) on the relationship between social isolation and loneliness.

### **5.1 Social Isolation, Loneliness, and Dementia**

The distinction between challenging, easy, and average residents was also seen. It should be noted that there is a possible confounding of resident difficulty level on outcomes of social interaction. Participants were asked about a challenging, easy, and average resident, however there was no definition given to any of these terms. For example, a resident could have been considered challenging due to physical burden for an aide, or the fact that they typically took more time for care for an aide

Residents who were described as the ‘easiest’ by staff were also the least likely to be described as socially isolated. ‘Average’ residents were also the most likely to be seen as socially isolated by staff perception, with most challenging residents also being isolated. A couple of explanations can clarify this. First, 11 of the 12 challenging residents had some form of dementia. Social interaction is highly important for care and quality of life for those with dementia (Reed and Tilly, 2008). Quality of life for residents of LTCFs is often their personal perception and can be influenced by their histories and daily lived experience in the facility (Degenholtz et al., 2014). A person’s quality of life can be impacted by their level of independence (Bozkurt and Yilmaz, 2016). Other studies (Barile et al., 2012, Chan et al., 2015) have shown that lower rates of ADL dependence such as toileting and dressing, as well as functional abilities such as walking, are associated with higher rates of health quality of life. Also, quality of life and quality of care have been shown to be strongly associated (Räikkönen, 2007).

A link to disruptive behaviors has been shown in at least one study with up to 90% of a resident’s dementia symptoms caused by the quality of care they receive (Cadieux et al., 2013). This is not to say that aides are providing insufficient care, but rather quality of care may have been hindered by social distancing measures imposed for infection control purposes. CNAs/PCAs may have taken on new roles during the pandemic and have more restrictions on their time, and therefore are unable to provide more care that some residents may need. Secondly, many LTCF residents have chronic illnesses that are risks for social isolation and could make them more challenging for aides.

Resistance to care behaviors can include defensive behaviors such as pushing, or emotional behaviors such as crying or shouting (Rey et al., 2019). They are often related to the environment that a resident with dementia may find themselves in (Scales et al., 2018). A literature review

(Konno et al., 2014) looking at interventions aimed at reducing resistance-to-care behaviors found that methods are available to assist with these challenges such as music interventions or providing educational programs for caregivers. The review (Konno et al., 2014) also noted that these interventions were deemed important because resistance-to-care has been documented as a reason for nursing home staff burnout. While burnout was not mentioned by aides in interviews, a couple did express their stress and the ability of residents to pick up on this. Other studies have examined interventions including aromatherapy, reminiscence therapy, and meaningful activities (Scales et al., 2018). These interventions specifically target both behavioral and psychological symptoms of dementia that include resistance to care behaviors, anxiety, and depression (Scales et al., 2018). These types of interventions are important to examine because they are relatively simple to implement, even in the context of social isolation. A specific example shows reminiscence therapy, or focusing on happy or positive memories, that can help to increase well-being (Scales et al., 2018). Other examples show ‘multisensory stimulation,’ or using multiple calming techniques through light, sounds, and smells, that are effective with participants but may still be reliant on social contact (Scales et al., 2018).

Exploring this point further from the perspective of the study, one aid connected the stress and overworked nature of their work and changes in the aide’s mood, to a change in mood for dementia residents. Resident characteristics can be impacted by the stress of aides, while aides state that stress is more from the amount of work required rather than characteristics of residents (Morgan et al., 2002). In other words, the increasing stress of aides may cause more emotional stress on residents, especially those with dementia.

Another possibility looks again at those who are socially isolated but not lonely. One study (Newall and Menec, 2017) suggests that there are four types of groups: those who are socially

isolated and lonely, those who are socially isolated and not lonely, those who are lonely but not socially isolated, and those who are neither socially isolated nor lonely. It is possible that easier residents are part of the second or fourth group, that while their social interactions may be low in number, they are content with their situation, and it does not impact their emotions or health. There is a potential to learn lessons from these types of residents, to see what works for them to not be lonely and determine if actions can be taken to assist other residents. For example, one ‘easy’ resident who was not socially isolated was able to keep busy and do indoor gardening. Horticulture therapy (or indoor gardening programs) in particular have been found in some studies to improve rates of loneliness (Bethell et al., 2021).

Why social isolation does not always lead to loneliness may be explained by positive solitude, or the concept that being alone can be an enjoyable and meaningful experience (Ost Mor et al., 2021). A study (Ost Mor et al., 2021) found that being alone is not always a negative experience; however, the study was not done in the context of COVID-19 and prolonged lockdown measures. The difference between solitude and being lonely are in how they are perceived, or if the experience is welcomed (Rokach and Chan, 2021). There are very few studies about positive solitude as a concept, especially in the setting of LTCFs and older adults. One example of this are skill development classes (these can be conducted virtually or in the hallway) to teach residents a new skill to help pass time in a rich, worthwhile way such as gardening (Mo and Shi, 2020).

Research regarding social isolation and loneliness as they relate to dementia, which was present in most of the residents mentioned, is minimal. To date, studies have focused on loneliness as a risk factor for dementia, with mixed results (Victor et al., 2020). One study (Victor et al., 2020) reported that for those with a dementia diagnosis, increased depressive symptoms and social isolation were associated with loneliness. This study (Victor et al., 2020) did not look at those in

LTCFs but found living alone to be associated with loneliness, dementia, and depression. While living in a LTCF is not the same as living alone, lockdown measures presented an environment that was much different than before the pandemic. On the topic of the intersection between social isolation, loneliness, and dementia, it has also been suggested that “loneliness might compromise neural systems underlying cognition and memory, which in turn might make lonely individuals more vulnerable to deleterious effects of age-related neuropathology by decreasing neural reserve” (Moyle et al., 2020, pg. 1446). This could indicate that loneliness does make dementia symptoms worse, but more research is needed. Increases in social isolation and loneliness could have a possible impact on dementia residents as there is a change in routine, and more feelings of anxiety or depression. This research found the relationship between dementia and loneliness to be complex. In a couple of cases, it was the reason for self-isolation, or residents were still socially isolated even after restrictions were lifted due to self-conscious behavior or not getting along with other residents according to the interviewed staff. In another case, dementia symptoms began before the pandemic and then accelerated, presumably due to social isolation. This resident eventually had to change units because of their decline. More research is certainly needed on how social isolation impacts or worsens dementia symptoms.

## **5.2 Impact of Family Members on Residents**

Participant views on the impact of family and friends not visiting residents was explained to be different for each individual resident. Literature (Puurveen et al., 2018) finds that familial roles and relationships with residents are complex. Relationships are complex because residents have different needs and desires for relationships with family (Roberts and Bowers, 2013). The

impact of family member involvement is not well understood, especially as it relates to health outcomes and quality of life indicators for residents (Verbeek et al., 2020). A few residents described in the study exhibited signs of depression, anxiety, and loneliness as a result of not seeing loved ones. One study (Moyle et al., 2020) that interviewed people with dementia found that relationships and people who are familiar are important for providing comfort. This was expressed by participants of this study, who conveyed that staff are not a substitute for residents' families. Another study (Verbeek et al., 2020) found that quality of life (perceived) for residents was significantly related to family involvement in three contexts: visiting, providing personal care, and communicating with staff.

This study supported this view, showing the importance of visiting and providing personal care for residents. However, communicating with staff was not mentioned in the interviews. This could be because this study focused on CNAs and PCAs, who while they have the most contact with residents, may not have as much contact with family members when they were not present in the facility. Professionals in a nursing home, particularly nurses, may find it challenging to speak with families who may not agree with lockdown and social distancing procedures, which can place even greater stress on nurses (Mo and Shi, 2020).

Because this study looked at the viewpoint of aides, the concerns of aides were front and center. A picture of a double-edged sword was presented, where residents lose independence because they are not motivated or cannot keep up with their own care (such as not being able to walk outside of their room), and family members are not present to assist with care. Both of these findings are consistent with literature. In regards to family involvement, one literature review (Gaugler and Mitchell, 2022) examining family dynamics with residents and staff of LTCFs found that family involvement and visitation can make a LTCF feel more like a home for a resident and

provide care that is otherwise not being met. Particularly, “Residents perceive family involvement as a ‘blessing’ and indicate a sense of competence and achievement when maintaining family relationships” (Gaugler and Mitchell, 2022, pg. 236).

Quality of care can also be enhanced with the inclusion of family involvement, such as with the assistance with meals (Gaugler and Mitchell, 2022). This was the case for at least one resident, who would eat for family members but not staff. A conclusion cannot be explicitly drawn about residents becoming combative (or expressing more disruptive behaviors) because of family members being less present when care was conducted, but it is feasible. Family members should also continue to be kept informed and involved in a resident’s care when it comes to their family members. In one study (Abbott, 2017) contact with family or friends was the preference of 90% of residents.

Care that is usually performed by family members, such as assistance with meals, would most likely need to be performed by staff with a visitor restriction in place. This was all taken away suddenly and immediately with social distancing/lockdown measures, placing more responsibilities on staff, including CNAs/PCAs, nurses, and even activities staff. This is a problem for not only quality of care, but if any interventions are going to be conducted to help alleviate the impact of loneliness, staff will be needed. Unfortunately, there is a chronic understaffing problem within many LTCFs (Bethell et al., 2021). Staffing levels of nursing aides has been found to have the impact of increasing quality of care in LTCFS (Boscart et al., 2018). Structural issues of staffing that encompass LTCFs have been present long before the COVID-19 pandemic that could have added to the challenges faced by aides. For instance, a study conducted in 2002 (Morgan et al., 2002) found that staff (nursing aides, nurses, and activity staff) were distressed and pressured because they were not able to provide adequate care due to time constraints. One study (Cheloni

and Tinker, 2019) looking at those that work with people with dementia found that staff was motivated by things such as previous personal experiences but tended to become unmotivated by things such as inadequate staffing levels. According to one literature review (Castle, 2008) the impact of staffing levels in LTCFs has been studied quite often, but studies often have methodological or data concerns, but nonetheless document that staffing levels can impact quality of care.

### **5.3 Depression and Anxiety**

Many of the participants mentioned both anxiety and depression of residents. Anxiety in older adults is a concern that might have been amplified from fear of contracting the COVID-19 virus, with possible immediate and long-term effects (Lebrasseur et al., 2021). At the beginning of the pandemic, there was commentary (Jackson et al., 2020) surrounding what might be the impact of social isolation on residents and where sources of anxiety might come from. This study found reasons for increasing anxiety to be being confined to rooms, fear of being forgotten, or fear of contracting COVID-19. There were also feelings of depression due to for some residents during the pandemic. Concurrent loneliness and depression are consistent with the literature. One study (Cacioppo and Cacioppo, 2014) examining social relationships and health found that loneliness and depressive symptoms, as well as functional limitations, were affected by each other over time. This makes it difficult to determine what is the actual cause of the functional decline seen in residents, as it could be due to depression, loneliness, or both.

Furthermore, changes to routines may have caused anxiety symptoms for some residents (Mo and Shi, 2020). Also, as one aide mentioned, residents who do not have severe cognitive

impairment understand the dangers of the virus and the impact this could have on them personally as they watch other residents become sick with COVID-19 and others not recover. A resident may know the risk of being older with perhaps comorbidities and the extra risk if or when COVID-19 is contracted (Mo and Shi, 2020). This may be combined with not having an outlet to discuss their fears with social distancing measures. Furthermore, anxiety and depression are already a risk for people with Alzheimer's Disease, with 50% experiencing depression at some point and between 25%-71% experiencing anxiety (El Haj, 2020).

#### **5.4 Loss of Independence and Functional Decline**

Loss of independence was mentioned multiple times in interviews. Some residents lost the ability to walk, while others were simply 'needier' from the perspective of aides. Independence is related to a resident's functional ability, or the amount of assistance they need to complete ADLs on any given day (Lehto et al., 2017). Functional ability is related to both increased quality of care and decreased social interactions (Kahanpää et al., 2015).

ADLs typically refer to activities that are related to physical capabilities and not cognitive function (Minac and Feng, 2016). However, one study (Lehto et al., 2017) examining the concept of functional ability found that caregivers and residents viewed the concept differently. For caregivers, functional ability referenced mostly ADLs such as eating and moving, while residents added other activities to this definition such as being able to write or watch television without assistance (Lehto et al., 2017). Another study found similar results showing residents viewing quality of care based on functional ability differently than family members of LTC staff (Kahanpää et al., 2015).

This is a relevant topic because the level of independence and functional ability a resident has determines what type of unit a resident is placed on and their level of care (Kahanpää et al., 2015). This was seen in at least one resident in the interviews who changed from a PC unit to a skilled nursing unit during the pandemic. It is also important because levels of independence can impact a resident's overall sense of dignity and engagement in activities (den Ouden et al., 2017).

One pre-pandemic study (Levy et al., 2016) found that losses in functional status, such as requiring more help with toileting or bathing, followed a somewhat predictable sequence and timetable. The study (Levy et al., 2016) did not include any causal relationships with functional decline, so more research is needed to determine if social isolation and loneliness can impact this. One study (den Ouden et al., 2017.) found this topic to be so vital that a nursing staff intervention and subsequent evaluation were done to encourage residents to maintain functional ability.

## **5.5 Social Activities**

It should also be mentioned that there was a change in routine involving activities for residents. Three different aides (Aide 1, Aide 8, Aide 10) noted that it was difficult for residents when activities were stopped. Activities for residents are often associated with positive health outcomes, including those with dementia, particularly if the activity is meaningful (Mansbach et al., 2015). Activities in LTCFs are not always meaningful (Mansbach et al., 2015), but when they are they can elevate general health, well-being, and mood (Mansbach et al., 2015). While activities are needed and their value is well-documented, there can be an inadequate number offered to dementia residents even before the pandemic occurred (Lazar et al., 2016). One literature review (Bethell et al., 2021) regarding social connection interventions in LTCF settings and the mental

health impacts found that while there were strategies to help broadly mitigate social isolation, much of the research was limited to those without cognitive impairment. Activity departments and their effectiveness is not well documented. In a previously mentioned literature review (Castle, 2008) looking at staffing levels did not find any studies that explicitly mention activity departments, but rather mainly focus on nursing and nursing aide levels. Activities are essential for the well-being of residents, and the changes during the pandemic should be documented to determine if they were able to help ease the impacts of social isolation and loneliness

## **6.0 Conclusion**

When asked the question, “Broadly speaking, how has the pandemic impacted residents?” one participant responded with “[It] impacted them a lot more so than we think it did.” Residents of this LTCFs were locked in rooms and unable to see family members due to the infection control measure of social distancing, effecting residents in a variety of ways. This measure put them more at risk for social isolation and loneliness. To understand potential impacts, this study asked CNAs and PCAs to share their insights into how residents were influenced by lockdown measures. This was done by looking at three types of residents, those that are challenging, average, and easy.

This research found that social isolation and loneliness are two distinct concepts; one is not needed to have the other. Many challenging residents became more challenging due to possible factors such as dementia, other aspects of the pandemic such as stressed-out staff, and being unable to see family members. There were also complex relationships to family members for residents, with many residents showing symptoms of anxiety and depression.

### **6.1 Limitation and Barriers**

As with all research, this study has several limitations. The number of interviews collected was small and from a convenience sample of one LTCF, so it is unable to represent other LTCFs. Due to time constraints and a single investigator, response rate and number of interviews for this study was low. This study was also not generalizable because it only focused on one facility and a small number of people were interviewed.

A few perspectives are missing from this study. An ideal study of this topic would include perspectives from residents, family members, and nurses. Family member views on how their loved ones were impacted during the lockdown and their views of their role and possible stress due to not seeing their family members are not included in this study. Another qualitative study (Mitchell et al., 2021) on this topic has found that family members were anxious about residents amid fears that they could pass away without family present, their inability to keep residents socially engaged, and being unable to advocate for their family members. More research is needed to determine family member perspectives and the impact this may have had.

The perspective of residents themselves was also not included in this study. While research with residents of LTCFs can be done, it is challenging and needs to be carefully thought out because of the vulnerability of the population. They require extra protections, especially those with dementia that may not be able to consent to a study (Lam et al., 2018). Further providing complications, dementia residents are not always able to give their own perception of their health and well-being (Klapwik et al., 2016). Studies in nursing homes can also end up being costly, up to three times that of the price of those done in the community (Lam et al., 2018).

## **6.2 Future Research**

Research should continue the topics presented in this study. The aging population, especially those who are cognitively impaired and living in LTCFs, is vulnerable and deserves the best possible quality of life. This is especially true when faced with the challenges of the pandemic, including social isolation and loneliness. While infection control measures were and continue to

be necessary to avoid spreading COVID-19, the consequences of social distancing, including prohibiting family members from entering LTCFs, should not be overlooked.

The resident's perspective is a key component of this research and should be considered thoroughly in the development of interventions. While aides, family members, and nurses represent a good proxy for those in LTCF settings and/or with cognitive impairment, they are not able to convey the possible nuisances and wishes of residents of LTCFs.

Other future studies should look at evaluating current and future interventions aimed at decreasing loneliness from the lens of different types of residents. This could include those with both high and low levels of independence and those with and without dementia. Other research would look at the direct impacts of social isolation and loneliness on those who already have dementia. Specifically, does loneliness worsen dementia symptoms and/or decrease quality of life for those with dementia? Similarly, how do dementia residents respond to other's stress and agitation?

Person-centered care should be examined to limit the impacts of social isolation and the potential feelings of loneliness it is associated with. Creative interventions and protective measures should be implemented wherever possible for residents who are socially isolated. While social distancing and social isolation may be needed to protect against this current pandemic or future ones, the impacts of loneliness cannot be overlooked in this vulnerable population. Targeted ways of combatting this challenge should be studied whenever possible.

## Appendix A List of Interview Questions

How old are you?  
What is your gender?  
What is your race?  
How long have you been a CNA or PCA?  
How long have you worked at Manchester Commons?  
Are you casual, part-time, or full-time?  
Do you currently work at any other facilities?  
Did you work at any other facilities previously?  
For how long?  
What unit or units do you work on?  
How many residents are you responsible for?  
Who is your most challenging resident (first name only)?  
Approximately how old is this resident?  
Why is [Most Challenging Resident] the most challenging for you?  
Does this resident have dementia?  
    To what degree?  
What level of assistance do they currently need with their ADLs?  
    How has this changed throughout the pandemic?  
Before the pandemic, did this resident have family that came in?  
    About how often did family members come in?  
Would you consider this resident 'socially isolated'?  
    Why or why not?  
If so, can you give me an example of how social isolation impacted this resident's ADLs?  
Was there a change in this resident's overall mood?  
How has the health of this resident changed during the pandemic?  
If there has been a change in health, what would you attribute the change to?  
Has the health status of this resident changed since COVID-19 restrictions have been lifted?  
Who is your most 'easiest' resident to care for (first name only)?  
Approximately how old is this resident?  
Why is [easiest resident] the least difficult for you?  
Does this resident have dementia?  
    To what degree?  
What level of assistance do they currently need with their ADLs?  
    How has this changed throughout the pandemic?  
Before the pandemic, did this resident have family that came in?  
    About how often did family members come in?  
Would you consider this resident 'socially isolated'?  
    Why or why not?  
If so, can you give me an example of how social isolation impacted this resident's ADLs?  
Was there a change in this resident's overall mood?  
How has the health of this resident changed during the pandemic?

If there has been a change in health, what would you attribute the change to?  
Has the health status of this resident changed since COVID-19 restrictions have been lifted?

We've talked about your most challenging resident and your least challenging resident. Now try to think of one in the middle, or an average resident. What is the first name of this resident?

Approximately how old is this resident?

Why do you consider this resident average?

Does this resident have dementia?

To what degree?

What level of assistance do they currently need with their ADLs?

How has this changed throughout the pandemic?

Before the pandemic, did this resident have family that came in?

About how often did family members come in?

Would you consider this resident 'socially isolated'?

Why or why not?

If so, can you give me an example of how social isolation impacted this resident's ADLs?

Was there a change in this resident's overall mood?

How has the health of this resident changed during the pandemic?

If there has been a change in health, what would you attribute the change to?

Has the health status of this resident changed since COVID-19 restrictions have been lifted?

Do you think that social contact promotes health? Why or why not?

Do you think that withdrawal of social contact hurts overall health? Why or why not?

Broadly speaking, how has the pandemic impacted residents?

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