

NON-FAMILY CAREGIVER PERSPECTIVES ON CURRENT AND FUTURE ALZHEIMER'S CARE FACILITIES IN LONDON, ONTARIO

Natalie M. Cooper

*A thesis submitted to the Faculty of Graduate Studies of The University of
Manitoba in partial fulfillment of the requirements of the degree of*

MASTER OF INTERIOR DESIGN | Department of Interior Design

University of Manitoba

© Natalie M. Cooper, 2014

CONTENTS

Abstract	i
Acknowledgements	iii
Dedication	iv
List of Figures	v

| CHAPTER ONE |

1.1 Study Purpose and Framework.....	1
1.2 Historical Context of Care Facilities for People with AD.....	3
1.3 Advancements in AD Care.....	6
1.4 Interior Design for AD Facilities.....	9
1.5 The Design Process.....	11
1.6 Purpose of Study and Introduction to Research Questions...	12
1.7 Research Questions.....	15
1.8 Significance of the Study.....	16
1.9 Limitations of the Study.....	18
1.10 Definition of Terms	20
1.11 Chapter Overviews.....	23

| CHAPTER TWO |

2.1 Literature Review.....	24
2.2 A History of Alzheimer’s Care Facilities.....	25
2.3 Innovations in Psychological and Social Aspects of Aging and the Built Environment.....	28
2.4 Case Studies and Interior Design.....	43
2.5 Case Studies in the Design Process.....	44
2.6 Case Studies of Alzheimer’s Care Facilities.....	46

2.7 Case Study One: Woodside Place.....	46
2.7.1 Background.....	46
2.7.2 Process of Development.....	46
2.7.3 Program Description.....	47
2.7.4 Physical Environment.....	48
2.8 Case Study Two: The Retreat Alzheimer’s Specialty Care.....	51
2.8.1 Background.....	51
2.8.2 Process of Development.....	52
2.8.3 Program Description.....	52
2.8.4 Physical Environment.....	53
2.9 Case Study Three: Dementia Village, Hogeweyk.....	58
2.9.1 Background.....	58
2.9.2 Process of Development.....	58
2.9.3 Program Description.....	59
2.9.4 Physical Environment.....	60
2.10 Summary of Case Studies.....	64
2.11 The Design Process.....	64
2.12 What is the Design Process?.....	65
2.13 How does the Design Process Provide Value to Interior Design Projects?.....	68
2.14 Design Programming.....	70
2.15 Participatory Programming and User-Centered Design.....	70
2.16 Participatory Design.....	74

| CHAPTER THREE |

3.1 Research – Methodological Framework.....	75
3.2 Qualitative Research.....	75
3.3 Case Study Research.....	77
3.4 Interview Method.....	78
3.5 Interview Questions.....	80
3.6 Participant Selection Criteria.....	84
3.6.1 Research Site 1.....	85
3.6.2 Research Site 2.....	87
3.6.3 Research Site 3.....	89
3.7 Pilot Study.....	90
3.8 Data Collection Procedures.....	91
3.9 Data Analysis.....	93
3.10 Trustworthiness.....	97
3.11 Supporting Documentation Related to the Interview Process.....	101

| CHAPTER FOUR |

4.0 Findings.....	102
4.1 Research Site 1: Highview Residences.....	104
4.2 Site.....	106
4.3 Background.....	107
4.4 Philosophy of Giving Care.....	107
4.5 Involvement in Research.....	108
4.6 Resident Population.....	109
4.7 Building Information – The Built Environment.....	109

4.8 Highview Residences – Non-family Caregiver Perceptions
about Current and Future Alzheimer’s Care

Facilities in London, Ontario.....	110
4.8.1 Demographic Profile.....	111
4.8.2 Physical Environment.....	112
4.8.3 Private Space.....	113
4.8.4 Public Space.....	116
4.8.5 A Closer Look at Public Spaces.....	119
4.8.5.1 Kitchen.....	119
4.8.5.2 Nursing Station.....	120
4.8.5.3 Dining Room.....	120
4.8.5.4 Resident Bathing.....	120
4.8.5.5 Small Rooms (Sun Rooms).....	121
4.8.5.6 Corridors.....	121
4.8.5.7 Staff Washrooms.....	121
4.8.5.8 Meeting Rooms.....	122
4.8.5.9 Laundry.....	122
4.8.5.10 Storage.....	122
4.8.5.11 Garden.....	123
4.8.5.12 Living Room.....	123
4.9 Technology in the Built Environment.....	124
4.10 Future Considerations.....	125
4.11 Summary of Findings at Highview Residences.....	132
4.12 Research Site 2: McCormick Home.....	134
4.13 Site.....	138
4.14 Background.....	139

4.15 Philosophy of Delivering Care.....	140
4.16 Involvement in Research.....	140
4.17 Resident Population.....	141
4.18 Building Information – The Built Environment.....	142
4.19 McCormick Home – Non-family Caregiver Perceptions about Current and Future Alzheimer’s Care Facilities in London, Ontario	143
4.20 Demographic Profile.....	143
4.21 Physical Environment.....	145
4.22 Private Space.....	146
4.23 Public Space.....	148
4.23.1 Nursing Station.....	152
4.23.2 Dining Room.....	153
4.23.3 Living Room / Den.....	153
4.23.4 Small Sensory Room.....	154
4.23.5 Activity Room.....	154
4.23.6 Resident Bathing.....	154
4.23.7 Corridors.....	155
4.23.8 Garden.....	155
4.24 Technology.....	156
4.25 Future Considerations.....	157
4.26 Summary of Findings at McCormick Home, Memory Lane	165
4.27 Research Site 3: The Village of Glendale Crossing.....	167
4.28 Site.....	169
4.29 Background.....	171

4.30 Philosophy of Delivering Care.....	171
4.31 Involvement in Research.....	172
4.32 Resident Population.....	174
4.33 Building Information – The Built Environment.....	175
4.34 The Village of Glendale Crossing – Non-Family Caregiver Perceptions about Current and Future Alzheimer’s Care Facilities in London, Ontario.....	176
4.35 Introduction.....	176
4.36 Demographic Profile.....	176
4.37 Physical Environment.....	178
4.38 Private Space.....	179
4.39 Public Space.....	181
4.39.1 Country Kitchen.....	183
4.39.2 Nursing Station.....	184
4.39.3 Dining Room	184
4.39.4 Living Room / Lounge.....	185
4.39.5 Resident Bathing.....	185
4.39.6 Small Rooms.....	185
4.39.7 Garden.....	186
4.40 Technology.....	186
4.41 Future Considerations.....	187
4.42 Summary of Findings at the Village of Glendale Crossing	193
4.43 Relationship of Research Questions to Findings.....	195
4.43.1 Research Question One.....	196
4.43.2 Research Question Two.....	205

4.43.3 Research Question Three.....211
4.44 Summary of Findings218

| CHAPTER FIVE |

5.1 Summary.....223
5.2 Limitations.....225
5.3 Significance.....227
5.4 Future Research.....229

REFERENCES

Appendix A – Ethics Approval

Appendix B – Research Agreements

Abstract

Non-family caregivers are healthcare professionals who work directly and indirectly with individuals who have Alzheimer’s disease (AD). Their presence in care facilities has evolved over the years as has the type of care they deliver. Today, many non-family caregivers provide a professional family-member approach to interactions and assisting in the wellbeing of residents in AD care facilities. Focusing on non-family caregiver perspectives, the research in this thesis provided an opportunity to explore ways they perform their jobs and interact with residents in the built environment. Non-family caregiver’s knowledge and experience with spatial advantages and disadvantages provides important information that could be used in the design of future AD care facilities. As care facilities have evolved over the last 50 years, the role interior designer’s play has become more significant. Unfortunately, however, there appears to only be a small number of peer reviewed publications about interior design research focusing specifically on design for AD. As well, the literature is limited on the topic of non-family caregivers and how their knowledge and experience may contribute to the design process and impact the outcome of the built environment. In order to respond to these challenges, designers should give consideration to the benefits associated with engaging the input of those who work closely with individuals in AD care environments.

Qualitative research was used to gather data from 15 non-family caregivers through one-on-one interviews. Each interview consisted of a series of questions that addressed participant's demographic profile, the physical environment and future considerations to improve design programming for AD care facilities in London, Ontario. Engaging non-family caregivers in research about current and future AD care facilities opens the door for a dialogue about the review of care strategies and provides real-world data for improvements that could result in models to shape the design of the built environment for AD care facilities.

Findings from the interviews with non-family caregivers in London, Ontario were compared and contrasted with three case studies; the Woodside Place model, The Retreat, and Dementia Village.

Additionally, design process was examined to assess strengths and weaknesses associated with the traditional design process and how it may help or hinder the outcome of the built environment for AD care facilities. The concept of participatory programming revealed evidence supporting the importance of including all stakeholders throughout the phases of the design process. Involving non-family caregivers in participatory programming could have a positive impact on the design of the built environment for future AD care facilities. Moving away from traditional practices of "design for people" and venturing toward a model focused on "design with people" and "design by people" has the potential to reshape the design of the built environment for AD care facilities in the future.

Acknowledgements

I would like to express my sincere gratitude to Dr. Cynthia Karpan, Department of Interior Design, Faculty of Architecture from the University of Manitoba, for the continuous support, resourceful guidance, and constant motivation. You have not only been an outstanding advisor but more importantly a mentor whose keen interest in my research and knowledge encouraged me to look beyond my intentions to seek the best possible outcomes.

To my committee members, Kelley Beaverford, Department of Interior Design, Faculty of Architecture, University of Manitoba, and Dr. Lorna Guse, Faculty of Nursing, University of Manitoba, thank you for your expertise, guidance and insightful feedback.

To my interview participants, your genuine interest and commitment to Alzheimer's care is remarkable. Thank you for sharing your non-family caregiver perspectives on current and future AD care facilities.

Thank you to my three research sites, Highview Residence, McCormick Home, (McCormick Program for Alzheimer's Research and Education), and The Village of Glendale Crossing, (Research Institute for Aging (RIA)). Without your support this project would not have been possible.

A special thank you to Dr. Lena Smith from The Retreat, Stefani Danes from Carnegie Mellon University, School of Architecture.

Finally, to my family and friends, thank you for your patience and support over a long but rewarding four years. Travis, thank you for standing by me and often carrying more than your share of the load, providing a once in a lifetime opportunity to realize my dreams. To Jensen, our wonderful son who entered our lives in the midst of graduate studies, you have filled our lives with indescribable happiness and joy.

Dedicated to my grandmother, Winnifred Margaret Cooper, a creative, free spirited, domestic engineer. An unbelievably thoughtful woman who cherished family above all else.

She passed January 30, 2003, as a result of complications related to Alzheimer's disease.



April 1976

List of Figures

2.7.4.1 Woodside Place, Oakmont, PA (Eastman, 2011).....	49
2.7.4.2 Woodside Place, small living environments (Eastman, 2011)	49
2.8.4.1 Exterior Façade, The Retreat (Retreat, 2009).....	54
2.8.4.2 Outdoor Gardens, The Retreat (Retreat, 2009).....	54
2.8.4.3 Outdoor Green Space, The Retreat (Retreat, 2009).....	55
2.8.4.4 Windows Capture Views, The Retreat (Retreat, 2009).....	55
2.9.4.1 Horizontal Construction, Dementia Village (Hogeweyk, 2013)	61
2.9.4.2 Site Plan, Dementia Village (Hogeweyk, 2013).....	61
2.9.4.3 Architectural Model, Dementia Village (Hogeweyk, 2013).....	62
2.12.1 The Design Process (Author, 2014b).....	66
3.2.1 Framework for Research (Author, 2014e)	77
3.5.1 Research Questions (Author, 2014n).....	80
3.6.1.1 Highview Residences (Residences, 2010a).....	85
3.6.2.1 McCormick Home (Home, 2014a).....	87
3.6.3.1 The Village of Glendale Crossing (Villages, 2012c).....	89
3.9.1 Compiling and Analyzing Research (Author, 2014a).....	94
3.10.1 Triangulation of Data (Author, 2014q)	98
4.2.1 Exterior, Chapin House, Highview Residences (Author, 2013c).	104
4.2.2 Garden, Highview Residences (Author, 2013d).....	104
4.2.3 Sunroom View, Highview Residences (Author, 2013e).....	105
4.2.4 Open Concept, Highview Residences (Architecture, 2014a)....	105
4.2.5 Living Room, Highview Residences (Architecture, 2014a).....	106

4.11.1 Future Considerations, Highview Residences (Author, 2014f).....	129
4.11.2 Participation in the Design Process, Highview Residences (Author, 2014k).....	131
4.12.1 Exterior, McCormick Home (Author, 2014d).....	134
4.12.2 Green Space, McCormick Home (Author, 2014i).....	134
4.12.3 Exterior View, McCormick Home (Author, 2014c).....	135
4.12.4 Common Area, McCormick Home (Architecture, 2014b).....	136
4.12.5 Dining Area, McCormick Home (Architecture, 2014f).....	136
4.12.6 Public Seating Area, McCormick Home (Architecture, 2014h)	137
4.14.1 WCA, McCormick Home (Home, 2014c).....	139
4.25.1 Future of the Built Environment, McCormick Home (Author, 2014g)	161
4.25.2 Participation in the Design Process, McCormick Home (Author, 2014l).....	164
4.27.1 Exterior View, Village of Glendale Crossing (Author, 2013b)....	167
4.27.2 Exterior View 2, Village of Glendale Crossing (Author, 2013a).	167
4.27.3 Common Corridor, Village of Glendale Crossing (Architecture, 2014c).....	168
4.27.4 Open Concept, Village of Glendale Crossing (Architecture, 2014g)	168
4.27.5 Country Kitchen, Village of Glendale Crossing (Architecture, 2014e).....	169
4.31.1 RIA – Research, Training, Practice Model (Villages, 2012a).....	174
4.41.1 Future of the Built Environment, Village of Glendale Crossing (Author, 2014h).....	190

4.41.2 Participation in the Design Process, Village of Glendale Crossing (Author, 2014m).....	192
4.43 Three Research Questions(Author, 2014p).....	195
4.43.3 Model for the Design Process (Author, 2014j).....	217
4.44.1 Summary of Findings (Author, 2014o).....	219

Chapter One

INTRODUCTION

1.1 Study Purpose and Framework

Every day families in Canada are faced with the difficult decision of choosing a care facility for a loved one diagnosed with Alzheimer's disease (AD). With the number of diagnoses of AD rapidly increasing, there is a growing demand for facilities to accommodate the unique needs of individuals with AD. Alzheimer's disease affects more than 450,000 Canadians and it is projected that the number of Canadians diagnosed with AD could more than double by 2031 ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013). Furthermore, Health Canada published a report in 2012 indicating that Alzheimer's disease 'is ranked as the fifth leading cause of death in women over the age of 65, and 8th leading cause of death in men over the age of 65' (Canada, 2012).

In addition to facilities that meet the unique needs of people with AD, there are a multitude of people required to care for these individuals. The range of indirect and direct caregivers extends from administrators to healthcare workers to family members. This particular study focused on non-family caregiver's perceptions about the built environment for people with AD. Non-family caregivers are healthcare professionals who work directly and indirectly with individuals with AD. Their presence in care facilities has evolved over the years as has the type of care they deliver. Today, non-family

caregivers provide support beyond medical care, to include a professional family-member¹ approach to interact and assist in the wellbeing of residents in AD care facilities.

Non-family caregivers for the purposes of this study may include, but are not limited to:

Director of Care, Registered Nurse (RN), Registered Practical Nurse (RPN), Occupational Therapists (OT), Personal Support Worker (PSW), Physiotherapist, Psychologist, Dietitian, Social Worker, Speech-Language Pathologist, Music Therapist, Director of Recreation Therapy or Spiritual Therapist

Focusing on non-family caregiver perspectives, the primary objective of this research was to explore the ways they perform their job and interact with residents in the built environment. As non-family caregivers spend all of their working time in care facilities, caregivers' knowledge and experience with spatial advantages and disadvantages provided an opportunity to gain important information that could be used in the design of future care facilities for AD.

¹ A professional family-member is a term used in this study by some non-family caregivers to describe their approach to care. Their first priority is to act in their professional capacity (i.e. PSW, RPN, etc.), however they treat individuals with AD not as "patients" but as they would a family member or friend.

1.2 Historical Context of Care Facilities for People with Alzheimer's disease

Over the last hundred years, care facilities for people with AD has evolved from institution in state mental hospitals, to almshouses², to privately owned nursing homes and, more recently, care facilities dedicated solely to AD care. The stories associated with the history of care and the types of accommodation available for individuals with AD are both sad and triumphant (Lacey, 1999, p. 101). Sadly early AD care was very slow to evolve and was typically abusive and inhumane. In the first decades of the century, care was considered passive and consisted of the administration of high doses of sedatives, bed rest and an out-of-sight, out-of-mind mentality (Lacey, 1999, p. 105). The public was afraid of state medical institutions and almshouses, commonly referring to them as 'social cemeteries and concentration camps for the aged' (Lacey, 1999, p. 105).

The triumphs, occurring more toward the mid1980's and into the 1990's, stemmed from collaborative efforts of gerontologists and researchers, working together to differentiate between symptoms of

² Historically an almshouse, also referred to as a *bede house*, *maison dieu* or *poor house* was common in the United Kingdom. Almshouses date back to monastic times; they provided a home for the poor that were maintained by private charities (www.almshouses.org). They were intended to provide accommodation for those in need, but were most often run down spaces with unclean living conditions. An almshouse was often times seen as the only option for the 'demented' as a means to remove them from society. A somewhat modernized version of the Almshouse exists in the United Kingdom to this day; its purpose is to create a place that provides respect, dignity and freedom in a safe and secure environment.

normal aging and Alzheimer's based behavior. These efforts resulted in identifying the need for specialized AD care (Lacey, 1999, p. 117). Work of innovators such as M. Powell Lawton in his paper titled *The physical environment of the person with Alzheimer's disease* (2001), identified the need to establish a conceptual structure based on universal human needs as a basis for organizing research methods for designing environments for people with dementia . In his research study Lawton employed 'systematic qualitative observational methods as a mode for generating and organizing user-friendly data' in the search for environmental features to minimize unwanted behaviors and maximize those that are desired (M. P. Lawton, 2001, p. 56). The contributions of Powell Lawton will be discussed in more detail throughout this paper.

As well, with information about AD becoming more accessible to the public, families became better informed and began 'citing specific areas in which nursing homes needed to improve care' (Lacey, 1999, p. 120). Other positive research results included reports in 'Gerontological literature of the implementation and testing of training programs for staff' in conjunction with training models that included understanding the characteristics of AD, and techniques for working with challenging behaviors associated with AD (Lacey, 1999, p. 122). Furthermore, publications on the concept of person-centered care have been produced by the Alzheimer's Society of Canada on a national and local spectrum. The Alzheimer's Society hopes that

through this initiative they will create a body of knowledge that examines the needs of and tools required by individuals with AD as well as their families. Through publications on person-centered the Alzheimer's Society has started addressing 'how to make person-centered care the norm for people with dementia living in long-term care homes in Canada' ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013).

1.3 Advancements in AD Care

In many ways Alzheimer's care, scientific and medical knowledge about the disease and the interior design of spaces to facilitate patient care have evolved over the years. However the transformation toward collaborative efforts have been a slow and often stagnated process. In the last three decades the work of innovators such as Dr. M. Powell Lawton (1923-2001), behavioral psychologist, director emeritus of the Polisher Research Institute of Philadelphia³ and leading figure in aging research pushed the boundaries and provided models for emphasizing the importance of the psychological and social aspects of aging ("Dr M. Powell Lawton, 77; elder statesman of gerontology January 2001 Obituary," 2001). Lawton's multifaceted research has inspired both interior design programming and the delivery of services for individuals with AD in nursing homes and care facilities worldwide. Lawton was a formative figure in the emergence and development of 'philosophical foundations providing direction to goals, theories, methods and research strategies for environment-aging studies'(Weisman & Moore, 2003, p. 23). In his paper titled *The physical environment of the person with Alzheimer's disease* (2001), Lawton

³ The *Polisher Research Institute* of Philadelphia was founded in 1951 by Edward N. Polisher (1902-2004). As chair of the *Polisher Research Institute*, Mr. Polisher raised funding to construct the first nursing home designed specifically for persons with dementia. As well, the *Polisher Research Institute* (PRI) was the first research centre in the United States of America funded by a geriatric facility and became known for its research in psychological, social and medical aspects of aging. The PRI became the first institute in the country to design interior environments specifically for patients with Alzheimer's disease. (www.polisherresearchinstitute.org)

addressed his approach to design for individuals with AD by establishing four classifications of presumed user needs: decreasing disturbing behavior, increasing social behavior, increased activity, increase positive feelings and decrease negative feelings.

Lawton defined disturbing behavior in reference to 'both the person with dementia and the social context of that person' (M. P. Lawton, 2001, p. 56). According to Lawton, this type of behavior is an expression of internal anxiety and agitation in the person with AD and not an expression of 'goal-directed energy' (M. P. Lawton, 2001, p. 57). The result however can be an overflow of disturbance to other individuals in the physical vicinity of the agitated person. It is important for the non-family caregiver to recognize that such behaviors both 'express disturbance and cause disturbance' (M. P. Lawton, 2001, p. 57).

In an effort to increase and encourage social behavior in AD care facilities, Lawton noted that 'design solutions have strived for such goals as choices between private and social contexts, retreat opportunities, and stimulating social features' (M. P. Lawton, 2001, p. 57). It is important to find a balance between over stimulation and social isolation within the built environment. To create positive living environments Lawton suggested the inclusion of 'smaller interpersonal environments such as a cluster of a few chairs or a configuration of a few rooms serving as a "neighborhood"' (M. P. Lawton, 2001, p. 57).

According to Lawton, increased activity for individuals with AD is a salient human need. Activity may include 'opportunities for energy-releasing behaviors, such as places toward which to walk, stimulation for moderate motoric activity, and foci for above-average level of sensory stimulation' (M. P. Lawton, 2001, p. 57). Lawton suggested that non-family caregivers must be trained to foster and support activity at varying levels for individuals with AD. Furthermore, Lawton noted that the built environment should support this even in small ways such as varying physical décor. Examples of such novelties could include 'changed pictures or posters on the walls, occasional new furniture positioning, and particularly the presence of things that can be manipulated' such as folding laundry, repetitive activities and rummaging (M. P. Lawton, 2001, p. 57).

Lastly, Powell Lawton addressed the need to increase positive feelings and decrease negative feelings for individuals with AD. Lawton noted, 'too often, people with dementia are viewed as being without the ability to react emotionally to the aspects of life that typically evoke feelings of pleasure, interest, sadness, anxiety and anger' (M. P. Lawton, 2001, p. 57). By designing care facilities for individuals with AD to reflect a 'home-like environment', Lawton believed that the built environment has the potential to act as 'reminders of one's past life, which are likely to evoke positive feelings' (M. P. Lawton, 2001, p. 57).

1.4 Interior Design for AD Facilities

As nursing homes and care facilities have evolved over the last fifty years, the potential for interior designers to play a significant role seems reasonable. Unfortunately, however, there appears to be only a small number of peer-reviewed publications about interior design research focusing specifically on design for AD. As well, the literature is limited on the topic of non-family caregivers and how their knowledge and expertise can potentially contribute to the design process and therefore impact the outcome of AD environments. In creating spaces for individuals with AD, designers are tasked by the needs of current and future generations, and with 'empathetic, methodical and consistent clinical review, new models of treatment, management and design will be developed and evaluated over time' (Olinger, 2012, p. 5). In order to respond to these challenges, designers will surely benefit from the input of those who work most closely with individuals with AD and in AD environments.

Non-family caregivers play an important role in the daily care and wellbeing of individuals with AD. Not only do they interact and engage these individuals but they spend concentrated periods of time with residents in the built environment. Non-family caregivers are a potentially invaluable resource to interior designers who create care facilities for AD. They have the potential to act as pivotal voices to contribute data throughout the design process for the following reasons:

1. Non-family caregivers perform specific job functions for individuals with AD and are therefore in a position to know and understand the user group.
2. Non-family caregivers spend concentrated periods of time interacting with individuals with AD. They understand and recognize behaviors and responses to various environmental and social stimuli. Their job is to create and provide a safe and compassionate environment which can be achieved by providing designers with critical information about how individuals with AD interact in an environment.
3. While non-family caregivers perform their job functions for individuals with AD, they spend a great deal of time using the various spaces, both private and public within the built environment. Therefore they have an understanding of the built environment and how it impacts or affects giving care for individuals with AD.

First hand experiences of non-family caregivers in the built environment validates that their role is not only in the care of individuals with AD, but in creating an opportunity to potentially enhance and strengthen outcomes of the design process. Through a one-to-one interview with an interior designer or design team, non-family caregivers have the capacity to provide important data about

spatial relationships that could be relevant to the design of future care facilities for AD.

1.5 The Design Process

The design process, which will be discussed in greater length in Chapter Two, is a set of industry recognized stages outlined by the National Council for Interior Design Qualification (NCIDQ) utilized by interior design students, design educators and interior design professionals that guide a project from inception through to completion. Although the number of phases may vary depending on the size of project, the basic process is the same for most design projects.

When a design problem is presented, the preliminary programming phase (also referred to as information gathering portion of the project) occurs when client interviews are conducted (Piotrowski, 2002, p. 451). Potentially, this is the stage non-family caregivers could be consulted. The final stages of a project, sometimes referred to as post completion, or post occupancy evaluation (POE) is another phase where non-family caregivers have the potential to analyze the final design of the built environment and provide suggestions for adjustments and changes prior to occupancy of a space (Pile, 2003, p. 136). Emerging research in a paper by Denny Ho and Yanki Lee (2012) titled, *The Quality of Design Participation: Intersubjectivity in Design Practice*, indicates that it is 'methodologically necessary to practice design participation through

social inclusion' (Ho & Lee, 2012, p. 71). Their statement suggests that individuals such as non-family caregivers should be included throughout the design process. Other articles, such as Park's (2012) publication titled, *Design Process Excludes Users: The Co-Creation Activities Between User and Designer*, and Dell 'Era and Landoni's (2014) paper titled, *Living Lab: A Methodology between User-Centered Design and Participatory Design* strengthen the case to explore alternative methodological approaches to the design process in current and future interior design projects.

1.6 Purpose of Study and Introduction of Research Questions

The purpose of this research was to investigate non-family caregiver perspectives on current and future Alzheimer's care facilities in London, Ontario, Canada. The city of London was chosen for this study for three reasons. The first reason being that London falls within the top twenty of Canada's largest cities with a population of over 350,000 people. The 'age structure of the population has been significantly impacted by the *baby boom* generation' with one in five Londoners falling into the older adult category ("Age Friendly London - Report to the Community," 2010, p. 3). This older adult category refers to individuals 65 years of age and older ("Age Friendly London - Report to the Community," 2010, p. 4). Presumably within this large aging population, there are many individuals with AD. In fact, 2012 statistics from Dr. Michael Borrie, Head of the Department of Geriatric Medicine at *Parkwood Hospital*, London, Ontario indicates that 'there are 9000

diagnosed cases of dementia or AD in London; this figure represents approximately 25% of the total population who actually have AD' (Borrie, 2013).

The second reason for choosing London is the wealth of existing hospitals and progressive healthcare facilities; many of which operate in conjunction with research initiatives such as the Canadian Centre for Activity and Aging (CCAA). Founded by Western University (WU), the CCAA is a leader in research and development for increasing physical ability and healthy aging in older adults. Western University has affiliations with London Health Sciences Centre's Parkwood Hospital through the Schulich School of Medicine and Dentistry. As well, teaching hospitals such as University Hospital which is located on the WU campus foster and support ongoing research in the field of gerontology and cognitive impairment.

The third reason for focusing on London is a document produced by a research team initiated by the City of London referred to as the *Age Friendly City Working Group*, comprised of individuals from within the community⁴ titled *Age Friendly London* (2010). This document consists of results from focus groups with the elderly population (65 years of age and older) that measure where London, Ontario fits on a global scale. Although the findings target the broader subject of aging, caring

⁴ Local organizations such as Dearness Retirement Home, St. Joseph's Health Care, and the Alzheimer's Society of London Middlesex, Alzheimer's Outreach Services, Victorian Order of Nurses and the University of Western Ontario.

for the aging population, including those with AD, was a strong theme addressed in this document.

1.7 Research Questions

To focus the scope of work related to research with non-family caregivers of people with AD, the following research questions were generated:

1. From a non-family caregiver perspective, what changes need to be made, within the next five years, in order to improve the built environment for individuals with AD in London, Ontario?
2. What do non-family caregivers believe are necessary design characteristics of positive living environments for individuals with Alzheimer's disease in London, Ontario?
3. To what degree has the built environment helped or hindered the way that non-family caregivers in London, Ontario perform tasks related to providing care for individuals with AD?

1.8 Significance of the Study

There is very little evidence-based research related to the interior design of spaces for individuals with AD. If interior designers are going to incorporate research-based findings into the design of AD environments, then published research needs to become more accessible. Additionally, interior design practice is not a static entity; meaning there is a need for ongoing research and development of theories, case studies and post-occupancy evaluations (POE) to advance design for AD. In architect Monte S. Olinger's (2012) paper titled *Making a Difference: Resident Focused Models for Memory Care Facilities*, he noted:

'caretakers, operators and designers of Alzheimer's facilities must continue to place themselves in the role of participant observers, working through the never-ending cycle... the importance of the collaborative involvement of the medical, adult health care and designers cannot be over stressed'
(Olinger, 2012, p. 6).

Again, a reasonably extensive search revealed what appears to be a lack of academic literature (in medical, psychology, nursing, interior design, and architectural journal publications) addressing non-family caregiver perspectives of current and future Alzheimer's care facilities.

Recognizing the lack of data on AD non-family caregivers, Zimmerman (2005), launched a study that utilized theoretical models of stress to

'recognize sources of stress including personal and work stressors related to the overall function of the workplace and interactions with coworkers and residents' as a means of increasing retention levels and overall job satisfaction of non-family caregivers (Zimmerman, 2005, p. 97). If non-family caregivers had a stronger voice in research-based design literature, it could increase the potential for interior designers and architects to create AD environments that respond to the needs of residents, staff and family members.

Engaging non-family caregivers in research about current and future Alzheimer's care facilities opens the door for dialogue about a 'continuous, holistic review of adult care methodologies to provide a real-world foundation for improvement and excellence in models and programs designed for the aging population' (Olinger, 2012, p. 6).

Current and future Alzheimer's care facilities cannot be modified, re-designed, or designed based on assumptions or ideals. Instead, interior designers need solid evidence and research in order to design spaces that meet the needs of 'all' end users in Alzheimer's care facilities.

1.9 Limitations of the Study

Three research sites in London, Ontario were chosen as locations for the one-to-one qualitative interviews. Each facility specializes in Alzheimer's care and was comprised of a group of participants that represented a cross-section of different types of non-family caregivers. The research sites were enthusiastic and supportive of this research project, providing at least 3 non-family caregivers as participants in the one-to-one interviews.

The first limitation of this study was that the research represents the voices and experiences of a relatively small cohort. While the data collected was valuable and important, the resulting research represents only fifteen participants at three care facilities in London, Ontario. Therefore, the data that was collected and analyzed about current and future Alzheimer's care facilities in London, Ontario, was not representative of "all" non-family caregivers in London, Ontario or "all" of the Alzheimer's care facilities within the city.

Choosing to interview non-family caregivers from London, Ontario and not including other cities in South Western Ontario was intentional and related to feasibility. While expanding the demographic scope to include additional cities such as Kitchener, Cambridge, and Waterloo would have provided a greater cross section of data and experiential contributions, limiting the interviews to non-family caregivers in London was necessary given budget, time and other restrictions.

The second potential limitation of this study centers on the level of participation. Two pilot interviews were conducted with non-family caregivers working in Alzheimer's care facilities, in cities located outside of London, Ontario (see Chapter Three). The demographic location of the pilot candidates was not as important as testing the quality and format of the interview questions in preparation for the final interviews. Participation in this preliminary phase of the research was extremely beneficial in testing the interview questions, but does not contribute to my body of research.

Limitations within this research study are not necessarily negative. Constraints and restrictions can prevent a study from getting too large for its intended scope. To offset some of these limitations for example, the small cohort of participants and the narrow focus of only one geographic region hopefully creates a connection with non-family caregivers through the one-to-one interviews. Through the three research sites, the purpose was to analyze and better appreciate the types of AD care facilities that London has to offer today and in the future.

1.10 Definition of Terms

The following words and phrases, along with their operational definitions are used throughout this document:

Alzheimer's disease (AD) is a progressive, degenerative disorder that takes over the brain's nerve cells (neurons) resulting in loss of memory, thinking, language skills and behavioral changes ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013). The term Alzheimer's disease dates back to the early nineteen hundreds when 'Dr. Alois Alzheimer's, a German physician, presented a case history before a medical meeting of a fifty-one-year old woman who suffered from a rare brain disorder' ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013). Alzheimer's disease is the most common cause of dementia in people sixty five years of age and older.

Dementia is 'a term that describes a group of symptoms such as loss of memory, judgment, language, complex motor skills and other intellectual function-caused by the permanent damage or death of the brain's nerve cells or neurons' ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013). Alzheimer's disease is the most common cause of dementia and represents about 60 percent of all dementias ("Alzheimer's Foundation for Caregiving In Canada: Definition of Terms," 2013). In essence, dementia is an umbrella word that is used to describe a variety of cognitive and other ailments.

For the purpose of this study reference will be made to Alzheimer's disease (AD) rather than dementia.

Non-family caregiver is an individual working in a care facility that has a relationship with a resident outside of the resident's family circle. This includes all members of a care team that provide interaction and support to the individual with Alzheimer's disease.

Care facility refers specifically to an Alzheimer's care facility, referring to a permanent place of residence outside of the familial home that is intended for the practice of medicine and administration of full time prolonged medical and wellness care.

Excess disability refers to 'a patient's functioning which declines more rapidly than is expected' (Fenn, 1993, p. 67). In AD care, it means that the care provided to residents with dementia does not promote their existing abilities but promotes additional (excess) disability.

The design process will be described further in Chapter Two, but essentially, it is a comprehensive process consisting of two main activities: (a) *analysis*, (the identification, dissection and preliminary analysis of an interior design problem) and (b) *synthesis*, (putting all of the parts from phases one together to formulate a solution). These two activities are iterative, and guide the designer from project inception to POE (Kilmer, 1992, p. 155).

The built environment is a term that for the purpose of this paper, is defined as 'buildings and all other things that have been constructed by human beings' ("Built Environment," 2013). The built environment is a material and spatial environment where people work, live or recreate. When considering non-family caregiver perspectives, reference to the built environment will be in direct reference to Alzheimer's care facilities.

Evidence-based design (EBD) is a term used in interior design, architecture and other disciplines to describe design solutions that are rooted in research and likely to achieve a client's goals ("History of Evidence Based Design (EBD)," 2013). EBD is the process of 'basing decisions about the built environment on credible research to achieve the best possible outcomes' ("History of Evidence Based Design (EBD)," 2013).

Evidence-based research (EBR) is the development and analysis of a body of knowledge. It is a method for using the best research available as a guide for trials, further research and decision making. EBR utilizes existing theories and ideas to aid for future research; combining science and experience. The focus is on the quality of research used to evaluate a specific program ("Evidence Based Research," 2012).

1.11 Chapter Overviews

Chapter Two, the literature review, presents findings about the history of Alzheimer's care facilities, significant AD environment case studies and an explanation of the design process and the potential value of including non-family caregivers in the design process.

Chapter Three describes the research methodology and the rationale for it. The chapter also includes details about the pilot study, participant selection criteria and process, interview technique, interview questions and the data collection process.

Chapter Four explains the findings from the interviews with non-family caregivers. Included for each of the three research sites is a description of the site, background, philosophy of care, involvement in research, resident population, building information, and present findings of non-family caregiver perspectives on current and future Alzheimer's care facilities in London, Ontario. The findings also include demographic profiles of the non-family caregiver participants, the physical space, and future considerations for the built environment. A summary at the end of the chapter relates the findings to the research questions, case studies and design process.

Chapter Five highlights key findings, suggestions for future research and recommendations for how to include non-family caregivers in the design process.

Chapter Two

2.1 Literature Review

Chapter One introduced the notion that there is a need for research about non-family caregiver perspectives regarding the design of built environments for people with Alzheimer's disease (AD). In fact, design for health care whether it be palliative care or Alzheimer's facilities are 'rarely discussed in academic literature, yet interior designers and architects are diligent advocates for providing optimal environments and are keenly focused on how settings can afford support and joy' (Tofle, 2009, p. 69). Gaining firsthand accounts of experiences and insight from non-family caregivers is paramount to interior design professionals who can benefit by better understanding the psychological and social aspects associated with giving care to individuals with Alzheimer's disease.

This chapter provides an overview of the evolution and history of Alzheimer's care over the last hundred years. The overview includes an explanation of the important role cases studies have played in interior design projects and relates that premise to the work of Uriel Cohen, noted author of literature on AD environments. Three case studies of care facilities for AD include; (a) Woodside Place, in Pittsburgh, Pennsylvania, (b)The Retreat, in Albuquerque, New Mexico, and (c) Dementia Village, in the Netherlands. Each case study includes information about the background, process of development, program description and built environment.

The last part of this chapter explains the role of interior designers in designing AD environments and the design process. With regard to design process, emerging processes such as user-centered design and participatory design are also explained.

2.2 A History of Alzheimer's Care Facilities

In a paper *The Evolution of Care: A 100-Year History of Institutionalization of People with Alzheimer's Disease*, Debra Lacey (1999) uncovers the history of Alzheimer's care and highlights significant contributions made by non-family caregivers to the evolution of AD care and environments.

Without question, the last one hundred years has marked significant change in not only the growth of the elderly population, but also in options related to the care and the evolution of the built environment for people with Alzheimer's disease. Over the last few decades, institutions providing care for Alzheimer's disease have changed from 'state medical hospitals, county almshouses and a smattering of private boarding homes to highly regulated nursing homes' (Lacey, 1999, p. 102). Additionally, there seems to be evolving cultural perceptions of what it means to be old, paired with more 'active therapeutic endeavors that attempt to maximize humane treatment and the remaining strengths of institutionalized elders dying of Alzheimer's disease' (Lacey, 1999, p. 102).

In the early 1900's elderly individuals with cognitive impairment who lacked family support ended up institutionalized in 'religious private homes, county or local almshouses, hospitals or state mental hospitals' (Lacey, 1999, p. 104). The conditions were often crowded, unsanitary, lacking proper food and nutrition and at times abusive. Shifts in what was considered humane, ethical and appropriate for patients with Alzheimer's disease were slow to evolve due to a lack of research about the disease, poor government support and inconsistent quality assessment standards for provision of care.

During the 1930's and 1940's the instatement of the *Social Security Act*⁵ in the United States had a significant impact on the elderly population. By the 1940's 'a distinct field of gerontology emerged, and the welfare of elders, including the demented and institutionalized, became a key area of research, advocacy and reform' (Lacey, 1999, p. 107). It wasn't until the 1950's that the United States government began to look more closely at public welfare workers and those responsible for the custodial care of elders. The US government created a set of standards and laws allowing for an increase in public funds to pay for nursing home construction, accessibility to care and support for nursing workers.

⁵ United States President Franklin D. Roosevelt signed The Social Security Act August 14, 1935 establishing a permanent national old-age pension system through employer and employee contributions. The system was later extended to include dependents, the disabled and other groups.
<http://www.britannica.com/print/topic/551412>

What was not addressed at that time was the administration of Alzheimer's specific care. By the mid to late 1950's, 'at least 30-40% of elders in nursing homes had some form of dementia' (Lacey, 1999, p. 108). Not only were nursing homes filling up with individuals with AD, but mental hospitals were literally becoming warehouses for the demented. A social worker employed by a mental institution in the 1950's provided the following account of the day-to-day conditions:

'The elderly were on 'the back wards' of the hospital-wards in which there was no hope, and in which the task was defined as the provision of *humane* custodial care, which meant the prevention of bedsores and contractures; the reduction, through the use of an experimental new drug called Thorazine of agitated or aggressive behavior; and the tolerance of bizarre behavior – so long as the behavior posed no threat to the patient or other patients or the staff' (Lacey, 1999, p. 109).

While this inhumane treatment was being carried out however, gerontologists started to challenge beliefs about universal decline in old age, specifically related to Alzheimer's disease. Research was presented at conferences and eventually in the 1960's individuals in governing bodies and the scientific field of gerontological and geriatric interest began to lay the groundwork for significant advancements and changes in the decades to follow.

2.3 Innovations in Psychological and Social Aspects of Aging and the Built Environment

Research produced by innovators like Powell Lawton, a leader in research models emphasizing the importance of the psychological and social aspects of aging, began to bring to the forefront necessary improvements to the built environment in order to help the elderly compensate for their sensory and cognitive losses ("Dr M. Powell Lawton, 77; elder statesman of gerontology January 2001 Obituary," 2001). The first section addresses Lawton's research and theories related to environmental behavior, the built environment and future research needed to advance AD care. The second section will explain findings from an article written by Margaret Calkins (2003) titled, *Powell Lawton's Contributions to Long-Term Care Settings*, which pays homage to Lawton's contributions in advancing AD care principles throughout his career.

Throughout his multi-faceted research career in psychology and gerontology, Powell Lawton established theories that have become foundations for research on social aspects of aging related to AD. Three areas of significance that are explored here include: (a) aspects related to principles and theories of social and environmental consequences for individuals with AD, (b) research and recommendations for interior design interventions in the built environment for AD care facilities, and (c) Lawton's recommendations

for future research and inquiry to improve the future of the built environment for residents in AD care facilities.

Toward the end of his career, Lawton (Pearlin, Harrington, Lawton, Montgomery & Zarit, 2001) collaborated on an article titled, *An overview of the social and behavioral consequences of Alzheimer's disease*, that addressed the urgency of the consequences associated with demographic changes and new knowledge about AD. The findings suggested that as people live longer, they may also live longer "with" AD. It is noted that, 'people are able to survive with AD for longer periods of time and this extended longevity, in turn prolongs the psychological and material tax on individuals and families and on community and societal resources' (Pearlin et al., 2001, p. S3). What was also addressed was the fact that there was little optimism around a cure or preventative measures for AD to arise in the near future. These findings suggest that it would be 'a costly mistake to disregard the consequences of AD in the hope that prevention of its onset and the management of its course are imminent' (Pearlin, 2001, p. S3). The same article also addressed a conceptual framework put forth by the research team (Pearlin et al), and ideas for future research. These ideas are explained later in the section, in conjunction with Lawton's own suggestions for future research.

In order to better understand the diversity of Lawton's contributions, it is helpful to look at his research findings on topics such as ecological theory of adaptation in old age and the social ecology of older people.

One example of Lawton's (Lawton & Nahemow, 1973) psychological research exploring aspects of man-environment relationships is found in his collaborative work with Lucille Nahemow at the Philadelphia Geriatric Centre. This work focused on 'the aspects of human responses that can be viewed in evaluative terms... behavior that can be rated on the continuum of adaptiveness, and inner states that can be rated on the continuum of positive and negative'(Lawton & Nahemow, p. 24). Related to adaptation and behavioral responses, the article notes, 'even in the "best" environments, some individuals will be unable to behave in an adaptive manner' (Lawton & Nahemow, p.25). Adaptation and behavioral responses are concerned with the outcome of person-environment transactions, which are a key consideration in social gerontology, as often 'environmental solutions, as opposed to personality-change solutions, were prescribed for the problems of older people' (Lawton & Nahemow, p. 25).

Giving consideration to person-environment transactions, Lawton and Nahemow also noted that, 'social planners, designers and people in the helping professions were operating on the basis of the "environmental docility hypothesis"' (Lawton & Nahemow, p.25). This hypothesis evaluates competency based on variables such as health, intelligence and cultural background, noting that 'reduction of competence, or deprived status, heightens behavioral dependence on external conditions' (Lawton & Nahemow, p.25). Evaluating competency on the basis of the man-environment relations theory are

important when looking at the knowledge base needed for devising design solutions for the built environment in AD care facilities. For example, in Lawton's (1974) article titled, *Social Ecology and the Health of Older People*, he discussed the importance of understanding various levels of adaptation within the built environment. Lawton suggests that 'when environmental demands are slightly above the individual's accustomed level of responsiveness, his maximum performance may be elicited...when demands are slightly below his adaptation level, he tends to become complacent...raising environmental demands too far beyond adaptation level or too far below both risk maladaptive responses, suggesting that the range of tolerable response is far smaller for the less competent person' (Lawton, p.259). In essence, Lawton's theories suggest that effective environmental intervention is beneficial to the psychological wellbeing of older people in poor mental and physical health. This way of thinking makes a case not only for the relevance of evidence based research in design for AD care facilities, but also for joint collaborations and the inclusion of models such as participatory programming in design projects to produce 'health-engendering environments for older people' (Lawton, p. 259).

Powell Lawton's research has led to successful and meaningful recommendations for interior design interventions in the built environment for individuals with AD in care facilities. His work also addresses the complexities associated with finding research based evidence that identifies what outcomes or needs are to be fulfilled

when designing spaces for individuals with AD. In Lawton's (1977) paper titled *Methodologies for evaluation in environments and aging*, he discussed his research methodology for man-environment relations. Lawton acknowledges that this research method is not entirely satisfactory in general terms, however he points out the increased difficulty in properly assessing man-environment relations in the elderly, especially elderly with diminished cognitive abilities. Lawton notes that 'we cannot import wholesale research methods that have proved useful with school-aged or younger-adult populations' (Lawton, p. 211). Immeasurable factors may influence the outcomes when assessing man-environment relations with the elderly population.

What is also worth consideration is that Lawton expressed that 'designers and social scientists frequently operate at quite different levels of concern – the old peaches-and-pears dilemma' (Lawton, p.211). This refers to the fact that Lawton believes interior designers think primarily about the built environmental and spatial relationships, where social scientists focus on psychological changes such as diminished social networks, or the importance of familiar surroundings. According to Lawton, 'the gap between this response and what the designer requires to make an architectural plan or a list of specifications is obvious...the behavioral scientists deal with generalized concepts and less with the nuts and bolts of everyday life' (Lawton, p. 211). Where the designer may be looking for data that will

provide concrete answers applicable to design solutions, the social scientist looks more at many levels of abstraction. These differences can create tension in arriving at a clear assessment of needs for individuals and for the built environment. The major issue, according to Lawton, is 'how to approach such questions of direct design relevance through the methods of social science... as in all research, the real problem is the criterion: How to know what is "better" and for whom' (Lawton, p. 211). Additionally, Lawton notes that 'many design issues involve the functional adequacy of space, structure or object' (Lawton, p. 215). Measures to evaluate whether or not a design works is difficult to trace, especially pertaining to whether or not design, or to what degree design contributes to increased quality of life.

Considering the methodology for example of naturalistic observation, 'directly observing older people interacting with the environment' leaves room for error (Lawton, p. 215). Although there may be much to be learned from such a process, there are factors contributing to the interactions that are difficult to measure. Results may represent a range of possibilities, but not concrete findings. The researcher may be left with more questions than answers. For example a question such as, "what do the findings really tell you?" might leave the researcher questioning the hypothesis and research outcomes altogether.

Lawton concludes that 'one cannot help but feel that a great many design decisions will always have to be made in the lack of precise evidence that quality of life depends on the right decision or even that strong experimentally – determined functional differences exist

between two alternative designs' (Lawton, p. 216). Needs and preferences of an individual with AD can be extremely difficult to measure, however useful answers may exist elsewhere. The purpose of this thesis is to find alternate ways of obtaining data that may improve the built environment for individuals with AD. Engaging non-family caregiver perspectives, focusing on spatial experiences of this group of end users provides an opportunity to gather first-hand accounts of spatial and design related experiences in existing AD care facilities.

The last and perhaps most open-ended recommendation by Pearlin et al. (2001) is related to how far research related to AD and AD care facilities has come, yet how much more research is needed to advance care. In their collaborative paper Pearlin et al. noted, 'despite the fact that social and behavioral research into the consequences of AD has been underway for over two decades, in some respects the work is still in its early stages' (Pearlin et al. p. S6). What is required to move research for AD forward is 'stimulated thinking about the directions for future explorations; it is not to be thought of as a template that constrains innovation' (Pearlin et al. p. S6). Supporting the fundamental principles associated with participatory programming, it is noted that, 'regardless of the substance and directions of future work, the diversity among people with AD and those who care for them need to be taken into account' (Pearlin et al. p. S6). Looking to past and current research about AD and the built environment, the future of research will depend on alliances (among various fields of

researchers, interior designers, non-family caregivers', et al.) dedicated to the advancement of knowledge, as contributions to improve the future of AD environments. An example of current research that supports the findings and methodologies of Powell Lawton is found in work by Dr. Margaret P. Calkins.

Dr. Margaret P. Calkins is an internationally recognized leader in the field of environments for the elderly, especially those with AD and other dementias (I.D.E.A.S., 2014). Findings from Calkins paper titled, *Powell Lawton's Contributions to Long-Term Care Settings* (2003), outlines key principles related to Lawton's work toward advancing AD research throughout his career. These principles are significant examples of evidence-based design models. Early in his career, Lawton put forth key principles for people with dementia including 'orientation, negotiability, personalization, social interaction and safety'(Calkins, 2003, p. 67).

For Lawton, orientation was important because people with dementia have a more difficult time relying on memory to orient themselves in a space and find desired locations (Calkins, 2003, p. 73). The most common approaches to orientation according to Lawton, are open plan, 'where bedrooms open directly onto the main shared social spaces' and cluster plans, 'where bedrooms are arrayed along short corridors that lead to the shared social spaces' (Calkins, 2003, p. 73).

Beyond the design of the built environment, Lawton cites that orientation can be further supported through color-coded spaces, and

personalized cues, including photographs and memory enhancing displays (Calkins, 2003, p. 73).

Negotiability is 'related to the ability to continue to engage in and successfully complete basic activities of daily living and maintain functional independence' (Calkins, 2003, p. 73). Lawton notes that there has been inconsistency in design solutions that address negotiability, specifically related to resident bathing and independent dressing (Calkins, 2003, p. 76).

Personalization is a way for residents to create a more home-like setting in AD care facilities. Lawton suggests that by incorporating personal items residents can 'have a safe and supportive setting in which to live...allowing residents to bring in clothes and a few knick-knacks to "personalize" their rooms' (Calkins, 2003, p. 76). According to Lawton, personalization extends beyond the inclusion of familiar items in resident bedrooms to give consideration to replicating daily routines and activities residents engaged in when they lived in the community (Calkins, 2003, p. 76). Additionally, designing the built environment should reflect a home-like setting in public spaces in areas such as living rooms and dens. In fact, according to Lawton, non-institutionalized environments characterized as 'having homelike or enhanced ambiance are associated with a number of positive outcomes, including: improved intellectual and emotional well-being, enhanced social interaction, reduced agitation, reduced trespassing and exit-seeking' (Calkins, 2003, p. 76).

Social interaction and integration is a key principle to consider for individuals with AD. Often times the impaired cognitive functioning of people with AD causes a decreased ability to initiate activities, resulting in less frequent social interactions. Lawton suggests that 'a full activity schedule is considered one of the critical hallmarks of a good dementia program...how the activities program is accommodated environmentally, however, is quite varied' (Calkins, 2003, p. 78).

Lastly, Calkins noted that according to Lawton, 'cognitive impairments associated with dementia, as well as more general age-related physical defects, can threaten the safety and security of people with AD and those who care for them' (Calkins, 2003, p. 81). Safety in AD care facilities can be a complex issue, extending beyond considerations such as managing egress, giving consideration to the fact that residents may not be 'able to understand the potential hazards in any given situation, and thus need to be closely monitored by staff, ideally in an unobtrusive manner' (Calkins, 2003, p. 81). Creating a built environment with an open floor plan, paired with uninterrupted visual accessibility can increase the safety and security of residents with AD.

In his early research dating back to the late 1940's, Lawton's work was considered radical, especially when it was first utilized in the Weiss Institute Pavilion at the Philadelphia Geriatric Centre in 1978. Here Lawton's ideas pushed the boundaries of traditional architectural interventions for AD environments. The institute itself was designed

for 40 residents, hallways were eliminated, open central spaces were favored, and orientation was made easier through the use of color coded spaces that acted as way-finding tools (Calkins, 2003, p. 70). Another significant contribution to evidence-based design (EBD) at the Weiss Pavilion was the 'post-occupancy evaluation that was conducted in the year after it opened, which added insight and depth to the hypotheses that the building represented' (Calkins, 2003, p. 70).

In the 1960's and 1970's scientific researchers began to provide innovative rehabilitative techniques in an 'attempt to improve or restore functional status to the demented through therapies such as behavioral, milieu, reality orientation and re-motivation' (Lacey, 1999, p. 112). It was at this time too that Powell Lawton formulated what he referred to as "environmental-behavior studies" that were just one of his many conceptual frameworks that are still in practice today (Calkins, 2003, p. 68). These studies, still in use today by other researchers focused on 'his explorations of "the good life" or his stimulation and retreat theories...they can be applied to the environment at a macro, policy-level scale as well as at the level of the micro environment' (Calkins, 2003, p. 69). The solution proposed by Lawton was two-fold: 'create multi-level care campuses where people can reside in an environment that meets their competency levels, and create a level of care that is more supportive than that found in independent living situations' (Calkins, 2003). His theories and ways of

thinking have shaped scholars today and will continue to do so for future generations.

As Lawton developed his environmental behavior studies surrounding quality of life, it was always elemental to him through his prolific writing and speaking to reach the whole audience, an audience that included 'designers and providers as well as researchers concerned with long-term care' (Calkins, 2003, p. 69). This approach to research and dissemination of research was both prolific and largely unheard of at this time. For the most part research existed in silos and environmental behavior studies were few and far between.

Other notable pioneers in the evolution of Alzheimer's care include the work of researcher and social worker Elaine Brody of the Philadelphia Geriatric Centre, who used 'empirical research designs to develop a systems approach to individualized care of elders with *excess disabilities*' (Lacey, 1999, p. 113) (see definition p.20). Brody worked closely with non-family caregivers in nursing homes to document social histories and develop individualized care plans for residents. Brody's approach to providing care laid the groundwork for what would later become standards for nursing home care throughout North America. Similarly, nursing home social worker Naomi Feil designed an approach that 'incorporated elements of Erik Erikson's stage theory of development with humanistic and client-centered therapeutic techniques,' which was based on a type of care that relied on consideration of the resident's reality. Feil's theoretical assumptions

were to validate residents feelings and acknowledge their earlier life experiences to improve care for demented elders (Lacey, 1999, p. 113).

The research by Brody and Feil demonstrate the importance of including non-family caregiver perspectives in the overall approach to caregiving for people with AD. It is unfortunate that in Lacey's work there were no papers that provided accounts of Canadian non-family caregiver perspectives on the evolution of elder care, Alzheimer's care and the development of care facilities.

Although it seemed that research and government policy were moving in a positive direction, a 1975 United States Senate Subcommittee on long term care published a report titled, *What Can Be Done in Nursing Homes?* Although it highlighted some positive directions, the committee called long term care 'the most troubled and troublesome component of our entire health care system...' (Lacey, 1999, p. 115). The report congratulated non-family caregivers for their assistance in developing new methods of care for the elderly, but pointed out that non-family caregivers are seen as 'underpaid but compassionate aides who provide a touch of humanity and tender care' (Lacey, 1999, p. 115). Unfortunately it was well into the late 1980's and 1990's before any wide spread improvement in care facilities was evidenced.

Despite the groundbreaking work and positive results attained by Powell Lawton, the early 1980's showed little evidence of his

innovations in the design of long term care facilities. Nursing homes continued to 'be built with long corridors, no orientation cues and limited attention to social spaces' (Calkins, 2003, p. 71). Fortunately, toward the end of the 1980's designers and architects finally began to draw on Lawton's work, specifically the Weiss Pavilion to advance the interior built environment of long term care facilities.

As families became better educated about AD, studies in the late 1980's and early 90's began to focus on family observations and complaints citing the 'use of untrained staff, inappropriate use of physical restraints and medication, inappropriate physical environments and lack of dementia-specific programming' (Lacey, 1999, p. 120). Lacey noted, however, that over time the state of Alzheimer's care did improve and there were reports of 'the implementation and testing of training programs for staff, especially nursing assistants who provide 80 percent or more of direct care to residents' (Lacey, 1999, p. 122).

Although the shift was extremely slow, Lacey noted that research indicated a definite transition toward empathetic and individualized interventions based on 'the elder's subjective experience, and eclecticism in approaches. This signifies not only a change in care methods, but a reflection of the larger cultural paradigm shift toward phenomenology in the post-modern world in which the essence of post-modernism is its focus on process, relations, plurality and meaning-making'(Lacey, 1999, p. 123).

Toward the end of her paper, Lacey (1999) compiled a list titled, *Specific Recommendations for the Future*. The list included items such as:

Continuous improvement of care facilities through education and training for staff; putting more onus on educators and the quality of education provided to social workers to ensure they have proper training and competency when working with Alzheimer's patients and family members; the need to continually revisit what defines 'adequate' staffing, with an effort to provide consistent staffing models; work toward Gerontological driven ethical guidelines for AD and end of life care as well as guidelines for consequences of assisted suicide and managed care and finally making sure women who historically have had lower income levels and lessened accessibility to high quality care have the same privileges when it comes to health care and health related services as privileged groups in America (Lacey, 1999, p. 126).

The recommendations put forth by Lacey (1999) highlight key areas that require consideration for continued improvement. What was not addressed in her recommendations for the future was the need to include aspects about the relationship between caregiver and resident ever-changing needs and the built environment. This is where the environment-behavior studies by Powell Lawton are significant. Decades after his preliminary research, Lawton's environment-behavior research related to design implications and principles have

been empirically validated and have become part of standard practice in long term care design (Calkins, 2003, p. 67). By conducting EBR and including the voices of non-family caregivers in the design process there is a greater likelihood for advancements to be made in the design of the built environment for 'all' end users of AD facilities.

2.4 Case Studies and Interior Design

Case studies in interior design provide researchers, interior designers and end users with detailed information related to a specific project. Such studies can range from informal to formal, and can act as a reference to the process, reinforce research methodologies, and demonstrate project outcomes that may act as benchmarks for future interior design projects. Uriel Cohen and Kristen Day (1993) describe an informal case study as an "activity that takes place in almost every design project. Both client and designer visit and evaluate comparable places and programs, searching for insight, inspiration and the latest information about ideas that work and those that have failed" (Cohen, 1993, p. vii). The same authors describe a formal case study method as one that is a 'more systematic process, documented and accompanied by a review of published case studies'(Cohen, 1993, p. 21).

Cohen and Day state that both informal and formal case studies provide designers with information about 'the knowledge of applicable design principles and concepts; the range of environments currently available for this user group; innovations and emerging

trends in the is domain; and the latest information about what 'works' and 'doesn't work' and for whom' (Cohen, 1993, p. 21)

2.5 Case Studies in the Design Process

Uriel Cohen and Kristen Day reinforce the role of case studies in the design process, specifically in reference to design for AD. Cohen notes, 'informed programming and design are critical prerequisites for successful resolution of all key goals and issues' (Cohen, 1993, p. 20). Facility planners need to understand the environmental needs of both end user groups; caregivers and individuals with AD. In the design process, such needs are typically determined in the programming phase.

According to Cohen and Day, informed programming has four phases:

1. Defining Goals
2. Identifying Problems
3. Developing Design Guidance
4. Generating Solutions

Although case studies can contribute important information to the entire programming phase, they are particularly instrumental in the 'design guidance' phase (Cohen, 1993, p. 21). Cohen and Day's organizational format for case studies includes (a) background, (b) process of development, (c) program description, (d) physical

environment. This format is used to describe the case studies that follow.

2.6 Case Studies of Alzheimer's Care Facilities

2.7 Case Study One: Woodside Place

2.7.1 Background

In Stefani Dane's (2012) article titled *Design for Dementia Care: A Retrospective Look at the Woodside Place Model*, she reviews the evolution of the Woodside Place Model, an Alzheimer's care facility designed by Perkins Eastman Architects in 1991 in Oakmont, Pennsylvania. Woodside Place is an example of an innovative design prototype in the form of a community for individuals with Alzheimer's disease. This architectural endeavor has many design elements that have been incorporated into new facilities such as Copper Ridge, the Gardens at William Hill Manor and New Bridge on the Charles, all projects by Perkins Eastman (Danes, 2012, p. 221).

2.7.2 Process of Development

The design directive stemmed from the disgraceful conditions found in many 1980's Alzheimer's care facilities. In an effort to generate guidelines for better care options, Charles Pruitt, president of Pittsburgh's Presbyterian Association on Aging, assembled a 'multidisciplinary team, including specialists in dementia, geriatrics and architecture from West Penn Hospital, Perkins Eastman Architects, the University of Pittsburgh, and Carnegie Mellon University' (Danes, 2012, p. 222). The team was tasked with developing a better

therapeutic environment and shift away from the traditional nursing home model of care (Danes, 2012, p. 222). The quest to find alternatives led to the creation of Woodside Place (Danes, 2012, p. 222). Design and planning lessons were learned from visiting other 'state-of-the-art facilities at the time, including Corrine Dolan in Ohio, Gardiner House in Maine, Lefroy Hospital in Australia and Woodside in Birmingham, England' (Danes, 2012, p. 222). After visiting and analyzing the case study sites, the team conceived a non-institutional, resident focused model known as Woodside Place (see Figure 2.7.4.1 and 2.7.4.2).

2.7.3 Program Description

Woodside Place was created as a response to Pruitt's collaborative team research efforts and philosophical guidelines for care, planning, programming and staffing. The team developed an articulation of values that have since been adopted in design projects for Alzheimer's care facilities all over the world. The resulting project was in many ways a direct descendant of the work of Powell Lawton. For example, Woodside place incorporated the philosophy that smaller scale was important (Calkins, 2003, p. 72). Another striking similarity was the detailed post-occupancy evaluation (POE) that took place in many of Lawton's projects and in the Woodside Place project. (Calkins, 2003, p. 72).

2.7.4 Physical Environment

When designing Woodside Place, a list of criteria was developed as a movement toward change. The list includes:

- Enable residents to maintain their independence for as long as possible without jeopardizing their safety
- Respect and dignity for every person
- Acknowledge everyone's needs for both privacy and community
- Provide individualized care, permitting flexible daily rhythms and patterns
- Offer focused and appropriate stimulation and avoid both sterile monotony and excessive distraction
- Instead of trying to discourage wandering, find opportunities to engage residents along their path
- Create small-group environments that support building relationships
- Introduce alternative way-finding systems into the environment
- Design a residential (non-institutional) environment in layout, scale and architectural language
- Encourage family and caregiver participation

(Danes, 2012, p. 223)

Evidence of some of these criteria can be seen in Figure 2.7.4.1 which shows well-defined walkways, the close proximity of buildings and smaller scale living environments. Figure 2.7.4.2 shows integration of a non-institutional, resident focused model.

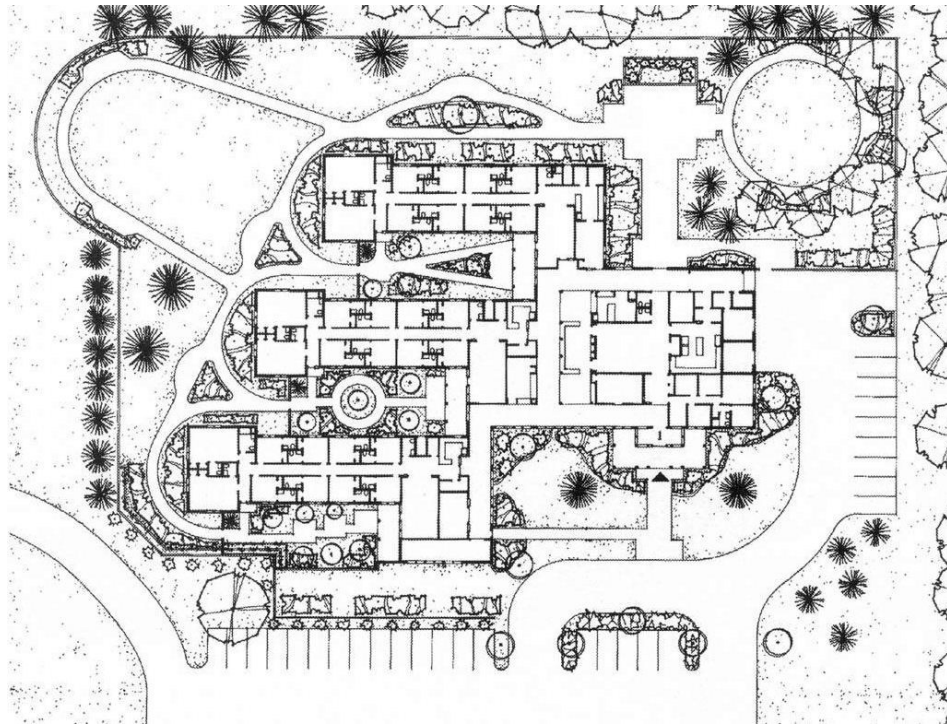


Figure 2.7.4.1 Site Plan - Woodside Place, Oakmont, Pennsylvania



Figure 2.7.4.2 Woodside Place, small living environments with outdoor wandering paths

The success of Woodside Place stems from the strength and completeness of the design process from start to finish. Notably, this project has become a model and case study for other projects not solely because of the design itself, but because the information uncovered from investigative studies through a 'series of post-occupancy evaluations (POE) by the Research Collaborative at Perkins Eastman' (Danes, 2012, p. 221). The Research Collaborative conducted interviews with both non-family caregivers and family members through a series of follow up questionnaires. What was discovered was that Woodside Place 'had been successfully adapted to a variety of contexts, populations, and programs' (Danes, 2012, p. 221). Danes explained that 'at Perkins Eastman the Research Collaborative is a cross discipline between practice areas. Individuals follow up with the POE and work with clients and organizations who are looking for a better understanding of their clientele – to educate 'in house' about facilities as well as how well the building is fulfilling the mission of the organization and to educate the architectural and design community' (Danes, 2013). What is most impressive is that improvements and adaptations continue to be made to Woodside Place in order to respond to the residents and care givers evolving needs.

2.8 Case Study Two: The Retreat – Alzheimer’s Specialty Care

2.8.1 Background

The Retreat Alzheimer’s Specialty Care is located in Albuquerque, New Mexico. It is a facility designed specifically for varying degrees of Alzheimer’s disease. Founded by Dr. Lena Smith and Robert Metz, the Retreat opened in the fall of 2010.

Dr. Smith has over 25 years of experience in the field of aging and has worked with seniors as a licensed social worker, nursing home administrator and owner of Alzheimer’s care facilities. Smith is an adjunct professor for Webster University’s graduate program in Gerontology and presents papers and talks regularly to community groups and national audiences including the National Alzheimer Association, The American Society on Aging and Environments for Aging (EFA) ("The Retreat," 2009).

Co-founder Robert Metz, CFO of The Retreat, has over twenty years’ experience in developing and operating companies in public and private sectors throughout the United States ("The Retreat," 2009). Metz is driven to provide a new standard of compassionate care to seniors and improve and enhance lives of the elderly living with the effects of Alzheimer’s disease.

2.8.2 Process of Development

The goal in designing this facility was to fulfill the need for Alzheimer's care that 'meets the emotional and quality of life needs of people living with Alzheimer's and related dementias' ("The Retreat," 2009).

The facility recognizes a link between environment, care and behaviors associated with dementia. They followed evidence-based research as part of their model of design and care, and partnered with universities and the community in initiatives that promote quality AD care.

2.8.3 Program Description

The Retreat was designed to meet unique needs of dementia. Faith House and Hope House accommodate 28 residents each and were created as independent homes where individuals with AD could live a quality lifestyle. The facility is considered to be a specialty care center because of the following unique features:

1. Non-institutional Presentation – attributes of a traditional home
2. Sensory Stimulation – stress-free stimulation is strategically placed throughout the unit
3. Opportunities for Meaningful Wandering – access to indoor and outdoor walking paths
4. Opportunities for Social Interaction – facility programming that engages active and passive social interaction

5. Activity Alcoves – small spaces to engage residents in activities
6. Dignified Bathing and Toileting – attention to large scale facilities that accommodate residents, caregivers, wheelchairs and lifts
7. Specialized Care Programs – care programs that follow evidence-based information
8. Integrative Approaches to Living – mind, body-spirit connection
9. Staff Pattern – staffing patterns that reflect resident needs

("The Retreat," 2009)

2.8.4 Physical Environment

Part of what makes the approach to The Retreat unique is that it treats early, mid and late stages of AD separately. Design elements incorporated into The Retreat include access to natural light, visibility to the outdoors, safe outdoor spaces for wandering, outdoor gardens, dining areas that are the center of life and activity, dining options – both indoors and outdoors as well as therapeutic interventions found in nature such as sounds, smells, and temperature variances. Dr. Smith's research has concluded that access to different environments can change behavior in individuals with AD without the use of medication (L. Smith, 2012).



Figure 2.8.4.1 Exterior Façade, The Retreat

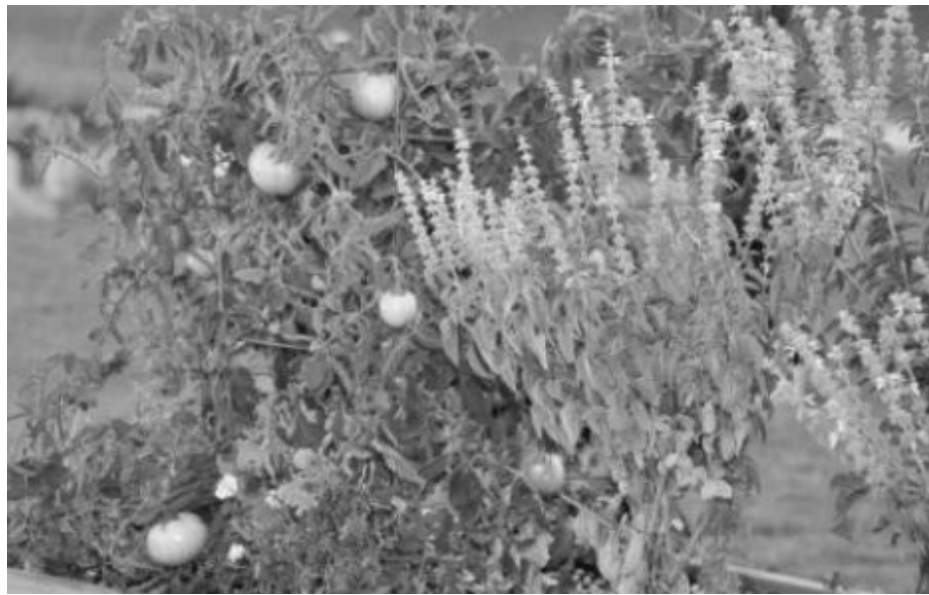


Figure 2.8.4.2 Outdoor Gardens, The Retreat



Figure 2.8.4.3 Outdoor Green Space, The Retreat



Figure 2.8.4.4 Windows Capture Views, The Retreat

In a conversation with Dr. Smith (2013), we discussed important elements that were incorporated into the built environment at The Retreat. She stated that 'the biggest change in our facilities are the outdoor spaces, they are substantially larger, include covered porches, large park areas, visual relief, space to manage behavior, outdoor spaces to improve the interior living spaces and every living area has visual access to the outdoors and nature' (D. L. Smith, 2013).

Additionally, consideration was given to 'room sizes, staff need to be able to work and maneuver safely. In moderate to late stage dementia larger rooms are required, small spaces do not work well' (D. L. Smith, 2013).

In common areas Smith explained 'it is important to have as much kitchen space as possible, access to food and food delivery, however in late stage dementia, accessibility to appliances is dangerous. Residents with AD feel a sense of importance when they are given access to food preparation in the kitchen' (D. L. Smith, 2013). Living room settings 'need to be connected to each other but feel differentiated, either by half walls or arches, the flow of a room must be clear' (D. L. Smith, 2013). In a discussion about technology for both non-family caregivers and residents Smith added, 'in early AD computers and technology are great tools. In late stage this is vastly different. Technology would be inappropriate. We do not engage in old style charting, there is instant access for all information related to resident care and the building is 'pre wired' to anticipate technological changes in the future' (D. L.

Smith, 2013). In separating early, mid and late stages of AD both the built environment and method of care relate directly to the needs of residents creating a human-centered approach to design.

2.9 Case Study Three: Dementia Village, Hogeweyk

2.9.1 Background

Dementia Village, a project by Molenaar&Bol&VanDillen architects in Weesp, the Netherlands, was completed in 2009. Despite interest from across the world about this innovative approach to AD care and living, there is not a lot of published work discussing the concept, philosophy, design process or POE.

Dementia Village is a gated village in the Netherlands 'inhabited entirely by people with dementia' and is a design concept that offers a new approach to how society can create a positive and dignified living environment for individuals living with AD (Hans, 2012).

2.9.2 Process of Development

Dementia Village began as a result of experiments that took place more than 20 years ago. Often criticized, the experiments allowed individuals with AD to live in a built environment with 'no locks, minimal medication, in their own homes, doing the same things they loved before illness took hold'(Hans, 2012). Dementia Village claims that 'the future of care lies in making dementia sufferers part of the wider community' (Hans, 2012). Since Dementia Village opened, developers from Switzerland, Germany and Japan have toured the village to learn how they might incorporate similar ideas in new facilities in their respective countries.

2.9.3 Program Description

A primary objective when creating Dementia Village was to allow individuals to be surrounded by people with similar cultural and spiritual interests; people that may form friendships among one another. Non-family caregivers dress in plain clothes rather than uniforms, and do not use name tags. 'The Hogeweyk (weyk or wijk being a group of houses, similar to a village) is a specially designed village with 23 houses for 152 dementia-suffering seniors'(Village, 2013). Residents live in dwellings differentiated by lifestyle. For example, Dementia Village offers '7 different lifestyle living options including Goois (upper class), homey, Christian, artisan, Indonesian and cultural' (Village, 2013). Residents live together in their designated households with a team of non-family caregivers. Activities such as washing and cooking are done in the houses, while groceries are picked up daily at the Hogeweyk supermarket(Village, 2013). The village has streets, squares, gardens and a park where residents can roam safely. As well, the village offers 'a selection of facilities such as restaurant, bar and a theatre. The facilities are used by both Dementia Village residents and residents of the surrounding neighborhoods' (Village, 2013).

Dementia Village's view on care is founded in day-to-day life in society (Village, 2013). The fact that a 'resident cannot function normally in certain areas, being handicapped by dementia, does not mean that

they no longer have a valid opinion on their day to day life surroundings' (Village, 2013).

2.9.4 Physical Environment

Public spaces and areas surrounding the houses are an important part of the Dementia Village design. The spaces were designed to have qualities found in historical villages and cities (Village, 2013). The architectural style of the houses 'corresponds with the interior spaces as well as with the public spaces thereby causing the architecture to serve as an intermediary between the different scales' (Village, 2013). Dementia Village was designed to provide public spaces that envelope a complete experience. Residents can spend time outdoors while remaining in a safe and protected environment. The site plan is diverse with many different outdoor spaces, each with a different purpose. For example, there is a 'theatre square that is suitable for street theatre, along the boulevard stores can be found as well as an outdoor patient facility and center for physical therapy' (Village, 2013).

Concept - uitgesmeerde bebouwing

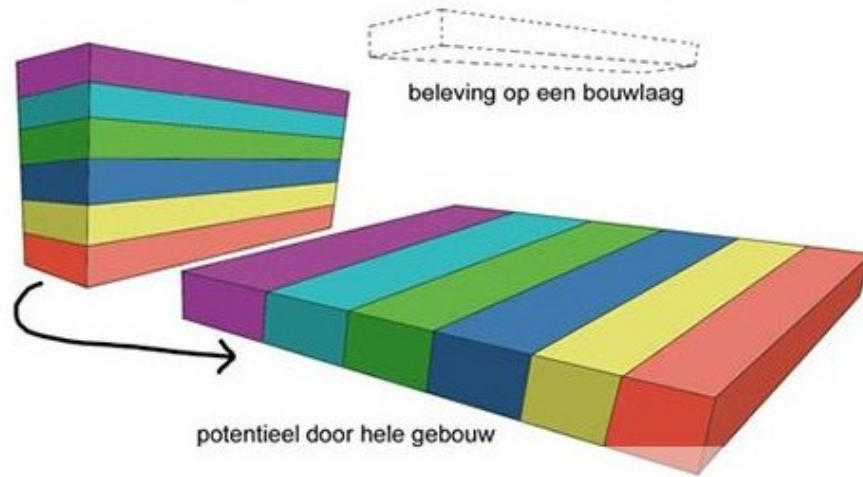


Figure 2.9.4.1 Horizontal Construction, Dementia Village

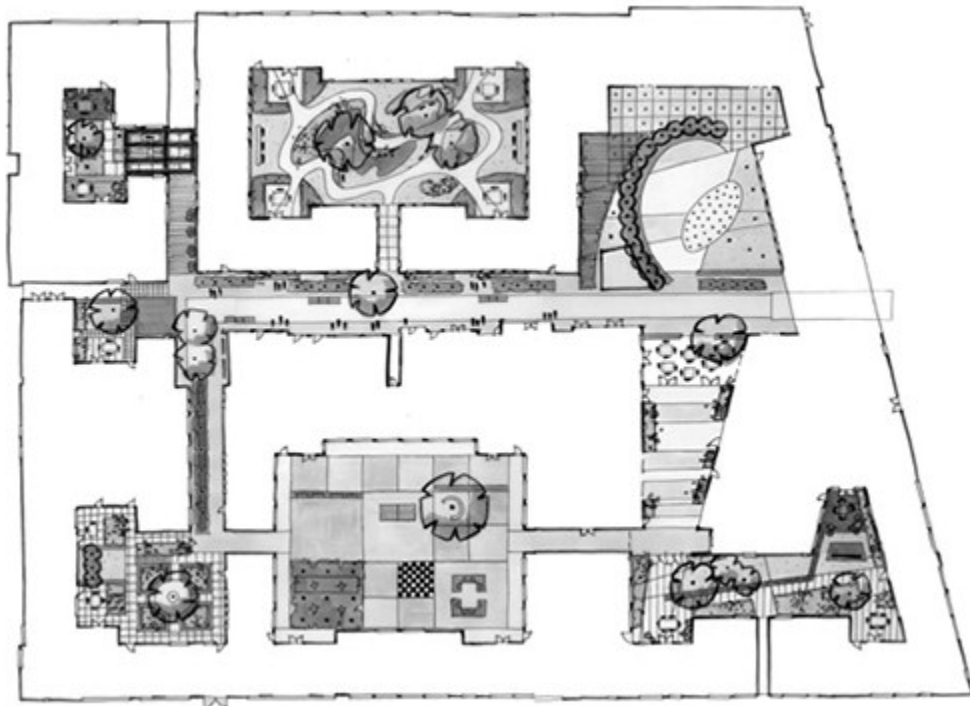


Figure 2.9.4.2 Site Plan, Dementia Village

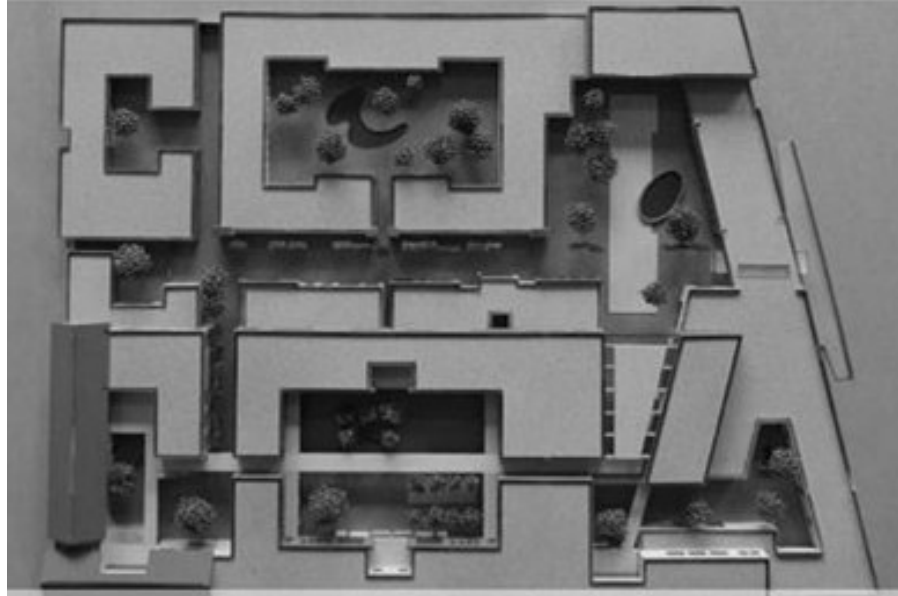


Figure 2.9.4.3 Architectural Model, Dementia Village

The interior spaces are made up of 7 lifestyle themes:

1. **The Artisan Lifestyle** – ‘residents in this lifestyle are proud of their trade. They are plumbers, carpenters, etc. The atmosphere is homey and cozy with a solid and traditional layout. An old-fashioned apple pie is baked every week’ (Village, 2013).
2. **The Christian Lifestyle** – ‘Religion is central to this lifestyle, prayer, saying grace and listening to religious music form a central part of this home environment’(Village, 2013).
3. **The Cultural Lifestyle** - ‘Art, culture and literature are important in this lifestyle. Residents read books, newspapers, go to the theatre, movies, museums and concerts’(Village, 2013).

4. **The Gooise Lifestyle** – ‘The Gooi area of the Netherlands is associated with an upper class connotation. Residents in this lifestyle appreciate etiquette, classical concerts, communal brunch and high tea’ (Village, 2013).
5. **The Homey Lifestyle** – ‘Caring for family and day to day housekeeping has always been important to these residents. If they feel like it they can join in on folding laundry or peeling potatoes. The homey and warm atmosphere creates a cozy feel’ (Village, 2013).
6. **The Indonesian Lifestyle** – ‘Key words for this lifestyle are: tradition, nostalgia, and respect for yourself and others. Memories of Indonesia are shared between residents with the aid of videos, photographs, music and incense’ (Village, 2013).
7. **The Urban Lifestyle** – ‘Characteristics of this lifestyle are social, extraverted and involved. Social interaction is open and direct and the atmosphere is vibrant, trips to the zoo, amusement parks, theatre, swimming pool are organized regularly’ (Village, 2013).

Dementia Village presents a simple, human-centered approach that stands to act as a working model and case study for AD care in the future.

2.10 Summary of Case Studies

Progress in AD care facilities can be seen through the work of innovators such as Powell Lawton, with his environmental-behavior studies and design development of the built environment. This is also seen in the work of Elaine Brody and Naomi Feil with their development of humanistic and client-centered approaches to AD care. Woodside Place was created through the use of case studies to shape the design program. POE was also a big part of design analysis for Woodside Place. The Retreat presents a forward thinking approach to AD care, with small resident groups, separating early, mid and late stages of AD. Dementia Village is an example of a European AD care facility built as a result of many years of research. The village approach creates a safe home with emphasis placed on a built environment that responds to cultural and religious preferences of residents in a human-centered model. The next section discusses the design process and participatory programming and how they may impact the design outcomes for the future of AD facilities.

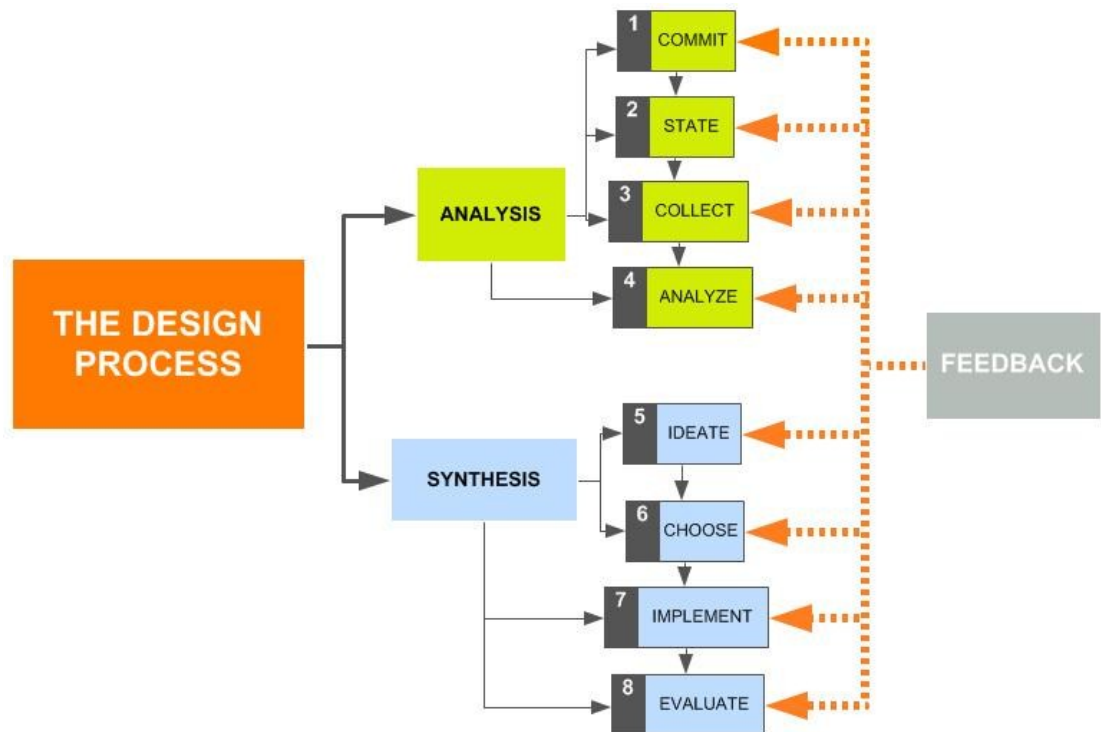
2.11 The Design Process

The next section of this chapter addresses the traditional design process as well as two other processes that challenge the traditional approach to design. Participatory programming and user-centered design are two such processes.

The National Council for Interior Design Qualification (NCIDQ), defines interior design as a 'multi-faceted profession in which creative and technical solutions are applied within a structure to achieve a built interior environment' ("Definition of Interior Design," 2012). Interior design blends creativity with technical solutions into a systematic series of phases known as the design process. The design process provides a strategic approach to problem solving design problems in both education and professional practice.

2.12 What is the Design Process?

The text *Designing Interiors*, by Rosemary and W. Otie Kilmer, (1992), often utilized in interior design education, provides a written and diagrammatic explanation of the design process. Kilmer and Kilmer devoted an entire chapter of their book titled *Design as a Process* to identifying the steps and phases required to 'define problems, generate and evaluate alternatives and implement solutions...design can be viewed as a strategy of problem solving in which creative ability utilizes art and science to generate solutions (Kilmer, 1992, p. 154). Kilmer and Kilmer explain that the design process can be identified by two simple phases: analysis and synthesis (Kilmer, 1992, p. 155). However each of these phases is then further dissected into a much more involved formula for problem solving (see Figure 2.12.1).



Adapted from Kilmer, R., Kilmer, O. (1992).
 Designing Interiors (pp.621). United States of America: Thomson Learning Inc.

Figure 2.12.1 the Design Process

In most interior design projects the client, or group of end users are involved in the preliminary “information gathering” phases of the design process. Although there is no prescriptive formula for “when” or “where” to involve input from the client, Kilmer and Kilmer reference end user participation when referring to the interview or survey phase which takes place in the analysis phase at the beginning of the design process. During the synthesis phase, end users may participate and provide input in mock-up’s and final presentations. Additionally, end users often participate in POE to evaluate, grade,

critique and cite changes for future application (Kilmer, 1992, p. 159). POE often goes hand in hand with what Kilmer and Kilmer describe as 'critical review', which is an opportunity for the interior designer to reflect on the completed project and look at what was learned and what was gained from the experience (Kilmer, 1992, p. 175). POE provides an opportunity to reflect on areas of self-improvement for the interior designer as well as ways to change or improve implementation of the design process. According to Kilmer and Kilmer, post occupancy evaluation is 'a formal process to determine whether the designer did indeed solve the client's problem' (Kilmer, 1992, p. 176). This process is based on factors including the interior environment, performance as well as ability to meet the behavioral and psychological needs of end users.

Christine M. Piotrowski (2002), John F. Pile (2003), and Karl Aspelund (2006) provide similar descriptions of the interior design process in their publications. According to John F. Pile, the first time the client or end users participate in the design process is typically during the interviews and data collection phase. Pile notes, 'unfortunately, actual users are often not consulted in developing this information' (Pile, 2003, p. 189). This tends to occur in projects when managers and supervisors provide information based on inferences and not actual data provided by user groups. This can lead to a design solution that proves to be unsatisfactory (Pile, 2003, p. 139). To avoid this, Pile suggests that 'every effort should be made to interview some typical

users of the projected design and to evaluate their stated needs carefully' (Pile, 2003, p. 139). For example, if managers are being interviewed, the data collected from them should be cross-checked by conducting individual interviews with user groups about the space and furniture, activities, processes as well as general and specific needs (Pile, 2003, p. 165).

NCIDQ defines design as a process that follows a 'systematic and coordinated methodology, including research, analysis and integration of knowledge into the creative process, whereby the needs and resources of the client are satisfied to produce an interior space that fulfills the project goals' ("Definition of Interior Design," 2012).

Programming and research have not always been associated with the profession of interior design. Lack of public awareness paired with the fact that interior design is a relatively young profession; there is a need to demystify misconceptions about the profession and the roles and responsibilities of interior designers.

2.13 How does the Design Process Provide Value to Interior Design Projects?

In *Making a Difference: Resident-focused Models for Memory Care Facilities*, Monte Olinger (2012), writes about the desired approach in designing for AD. He identifies the multitude of challenges faced by the design team, primarily, where to start? Olinger states that utilizing evidence-based results is 'helpful to approaching the programming

phase from a macro to micro perspective, from the desired community experience to the specific needs of the residents and the caretakers' (Olinger, 2012, p. 8). His research found that by using the design process and addressing the micro and macro needs of end users, a successful Alzheimer's facility should provide a nurturing place. A place that will 'ideally provide for the individual residents' need, facility's cultural structure, and be supported by the physical expression of the new environment' (Olinger, 2012, p. 8). Furthermore Olinger suggests that organizing a design program for Alzheimer's facilities into categories such as individual aspects, cultural aspects and environmental aspects provides a framework for identifying and addressing needs through interviews of family and non-family caregivers, as well as evidence-based design and theory (Olinger, 2012, p. 8).

Research dating back to the early work of Powell Lawton supports the value of including end users in the preliminary information gathering phases (analysis) of the design process. Although there is no mandate that requires this to occur in interior design projects, research supports the idea that successful, user appropriate outcomes stem from inclusive process oriented design solutions.

2.14 Design Programming

Programming occurs in the first phase of the design process. It is a process that involves information-gathering, which can take place in the form of research, client meetings, surveys, interviews or any combination of these methods. During the programming phase the designer seeks 'as much information as possible on things such as client expectations, functional needs, aesthetics and factors concerning the interior space itself' (Piotrowski, 2002, p. 451). In *Interior Design*, John H. Pile breaks the programming phase into a series of tasks which include:

- Research (background)
- Obtain or prepare surveys
- Conduct interviews, collect data
- Develop preliminary program
- Review and revise program
- Prepare final program
- Obtain client approval
- Develop space allocation
- Prepare adjacency studies
- Obtain client approval

(Pile, 2003, p. 136)

The programming phase is typically where the greatest amount of client and employee involvement takes place.

2.15 Participatory Programming and User-Centered Design

There is a growing body of research on the topic of participatory programming that shows evidence of the importance of inclusion of all stakeholders throughout the phases of the design process. A Hong

Kong based research study titled by Ho and Lee (2012), examines 'how user involvement actually works and what elements of the design process bring forth positive and negative impacts on design practice and user engagement' (Ho & Lee, 2012, p. 71). The study included a team of a design researcher and a sociologist in what Ho and Lee called the Design. Lives. Lab. Findings suggested that 'design participation is not a political stance but a methodological necessity...users views and knowledge should play a critical role in the design process'(Ho & Lee, 2012, p. 71). The primary focus was to look at integrating users into the whole design process; Ho and Lee also argue that 'designing with people should be the necessary platform of design participation projects'(Ho & Lee, 2012, p. 72). This theory pushes the traditional framework of inclusion in the preliminary design stages to a much more hands on arrangement establishing a potentially more succinct relationship between designer and user. Ho and Lee feel that 'users, or people, as we prefer to call them, should participate from the very beginning to the end stage of the design process' (Ho & Lee, 2012, p. 72). The approach to inclusive practice tested by Ho and Lee allows people (clients) to engage in problem-identification, decision-making and solution-formulation alongside the design team. As part of the research process, Ho and Lee categorized design practice into a threefold typology of 'design participation:

1. **Design for People:** Designers control the whole process while people are treated as passive subjects.
2. **Design with People:** Designers share the process with people who act as active design participants.
3. **Design by People:** Designers enable people to control the process, and people eventually become collaborators and creative designers.'

(Ho & Lee, 2012, p. 72)

The research by Ho and Lee presents a concept that could potentially re-shape designs for the built environment through design participation and a new approach to social inclusion throughout the design process. Although this thesis examines the design process in general, an exploration of case studies using specific design projects measuring the strengths and weaknesses of participatory programming would be worth evaluating. Specifically it would be beneficial to examine health care projects and design for AD incorporating non-family caregivers in participatory and inclusive roles as part of the design team from start to finish.

Additionally, in an article titled, *Living Lab: A Methodology Between User-Centered Design and Participatory Design* (2014), Dell' Era and Landoni look at advantages of user-centered and participatory design citing scholarly studies such as Chayutshakij & Poggenphol, 2002; Vredenburg, Isensee & Righi, 2002; Vergzer & Borja de Mozota, 2005,

noting 'users can be considered sources of innovation...design research is evolving from a user-centered approach (with user as subject) to a participatory one (user as partner)' (Dell'Era, 2014, p. 137). According to Sanders & Stappers (2008), a 'co-creation at the early front end of the design development process can create positive, long-term consequences' (Dell'Era, 2014, p. 137). Dell' Era and Landoni also mention that organizations and enterprises are 'looking for new methodologies to involve users in their innovation process' (Dell'Era, 2014, p. 137). The concept of Living Labs share two primary elements, 'a real-life test and experimentation environment, and users who are aware that they are co-involved in the innovation process' (Dell'Era, 2014, p. 139). Through the analysis of a number of case studies that adopted a user-centered design approach has 'enhanced or enabled the development of new interpretations of design as an organizational process' (Dell'Era, 2014, p. 141). This approach is a departure from classic interpretations of 'design as a style and uses a deeper and more valuable interpretation of design as an organizational process' (Dell'Era, 2014, p. 141).

2.16 Participatory Design

Participatory design approaches design in a way that 'attempts to actively involve all stakeholders in the design process to help ensure the product designed meets their needs and is usable' (Dell'Era, 2014, p. 143). This process invites participants to 'co-operate with designers, researchers and developers during an innovation process' (Dell'Era, 2014, p. 143). Participatory design creates the potential for participants to be involved throughout several stages of this process, 'they participate during the initial exploration and problem definition, both help define the problem and focus on ideas for the solution' (Dell'Era, 2014, p. 143). A process of this nature creates interconnections between users as a 'paradigm shift from 'design for users' to 'design with users'' (Dell'Era, 2014, p. 143).

The concept of participatory design will be further examined at the end of Chapter Four. This will be described in the summary of findings and triangulation of research data with the case studies, examining the idea of changing perceptions toward the design process. These findings will also address how participatory design may be a more plausible approach when designing facilities for AD care in the future.

Chapter Three

Introduction

3.1 Research – Methodological Framework

This chapter addresses the research design, my rationale for selecting qualitative research, the selection and recruitment of interview candidates and the process and methods for collection and analysis of data.

3.2 Qualitative Research

Quantitative research and qualitative research are umbrella terms under which there are many different research designs. Generally, quantitative research methods are useful when empirical data is sought from large numbers of respondents, and when the goal is to generalize findings to a larger population. Quantitative research is useful for testing or verifying theories and is considered to be a positivist epistemology. In contrast, qualitative research is useful when “rich, thick” data is sought from a small number of participants, and when the goal is to obtain deep insight into a specific phenomenon. Qualitative research is useful for developing theories that, later on, can be tested using quantitative research methods. The epistemological foundation for qualitative research is constructivism. As Denzin (2002) wrote, ‘qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret phenomena in terms of the meanings people bring to them’(Denzin, 2000, p. 3).

Given the nature of the research questions described in Chapter One, and the lack of research on the topic of non-family caregiver's perspectives on Alzheimer's care facilities, qualitative research seemed like a logical methodological framework for this study. With the lack of research on the topic, it would have been difficult to test a theory using quantitative research methods since no theory about non-family caregiver perspectives on current and future AD care facilities seems to exist.

Figure 3.2.1 provides an overview of the methodological framework. The figure shows three boxes which provide a macro to micro review of the methodological framework used in this thesis. The over-arching framework was that of qualitative research, and more specifically, a post-positivist, constructivist approach. The research design consisted of 15 semi-structured interviews. The data collection and analysis consisted of providing the interview participant with questions in advance to prepare for the interview. Each interview was audio recorded to allow for accuracy of conversations through data transcription. Data analysis involved finding themes within the research findings and coding data. The rationale for selecting the framework, research design and data collection and analysis techniques are explained in the remainder of the chapter.

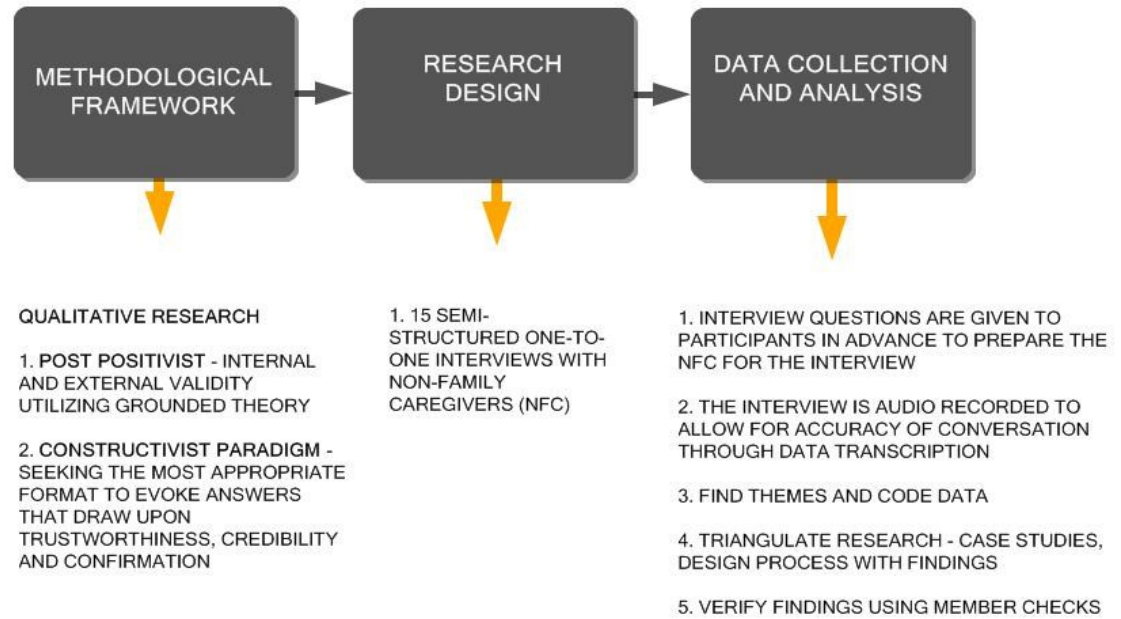


Figure 3.2.1 Framework for Research

3.3 Case Study Research

Under the qualitative research umbrella, there are numerous research designs from which researchers can choose. For instance, case study, ethnographic, historic, grounded theory, narrative, and phenomenological research designs. For this study, the case study method seemed to be the most appropriate because its main purpose is to look at a cross section of AD care facilities as a representation of existing project sites. Case studies provide not only an opportunity to consider the approach, design philosophy and outcomes but they function as a set of examples to compare and contrast the findings from my one-to-one interviews with non-family caregivers.

Case studies can be conducted in a variety of ways including 'observation and participant observation, interviews and questionnaires, documents and texts and the researcher's impressions and reactions or any combination of these' (Creswell, 2007, p. 15). In this study, interviews were the primary data source.

3.4 Interview Method

There are different types of interviews including structured, semi-structured, and unstructured used for collecting and analyzing empirical data (Denzin, 2000, p. 633). To acquire information and data on a topic or subject matter, interviews are used extensively. In qualitative research, 'researchers are realizing that interviews are not neutral tools of data gathering but active interactions between two or more people leading to negotiated, contextually based results' (Denzin, 2000, p. 646). According to Gubrium and Holstein (1998), interviews have become a means of contemporary storytelling, constructing knowledge around questions and responses (Denzin, 2000, p. 647).

Structured interviews follow a prescriptive format where the interviewer asks participants the same series of questions with a limited framework for responses. According to Denzin, 'this kind of interview often elicits rational responses, but it overlooks or inadequately assesses the emotional dimension' (Denzin, 2000, p. 651). Unstructured interviews by contrast, have the potential to provide a

greater 'breadth of data than other types of interviews, given its qualitative nature', through open ended and ethnographic (in-depth) interviews (Denzin, 2000, p. 652). In fact, many interviews include a combination of these two methods and result in part observation and part interviewing, shifting away from closed-ended questions and a formal interview approach. The format for semi-structured interviews draws upon elements from structured and unstructured interviews. This approach allows interviews to follow a set list of questions, with the opportunity for the interviewer and interviewee to acknowledge emotional dimensions, and occasionally deviate from the script in a flexible, slightly more casual yet structured format. The semi-structured interview format was selected for this research through one-on-one interviews.

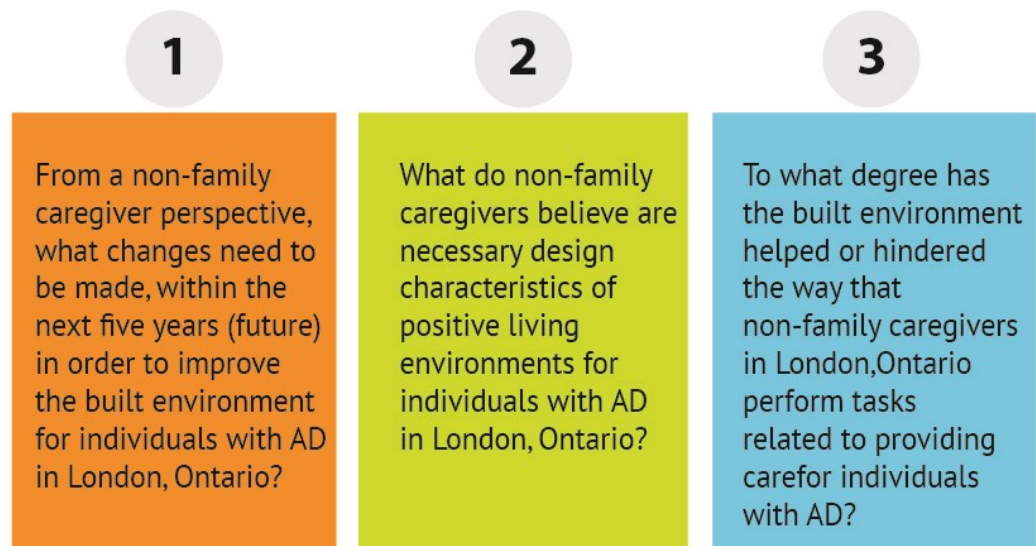
One-on-one interviews were chosen for this study because it allowed each interview to be individualized, as in "be about the participant", while following a list of questions that were identical in each interview. Through one-on-one interviews it allowed the interviewer to meet with non-family caregivers to elicit accounts and experiences related to their specific job roles and interactions in the built environment without the influence of others.

The interview format for the final interviews followed a semi-structured format, beginning with the prescribed questions while allowing for additional comments, probing and questions or discussions during or at the end of the interview. This process

provided an opportunity to uncover rich stories and accounts of non-family caregiver perspectives as they shared their professional stories and experiences working in Alzheimer’s care facilities in London, Ontario.

3.5 Interview Questions

The research and interview questions were structured to test the reality of accounts and experiences from my human interview participants against evidence-based design and theory. The interview questions considered the important roles and responsibilities of non-family caregivers in Alzheimer’s care facilities in a way that would make participants feel their input was valued and respected.



RESEARCH QUESTIONS

Figure 3.5.1 Research Questions

Using the three research questions identified in purpose of study and introduction of research questions in Chapter One, a series of interview questions were formulated that inquired about the demographic profile, physical environment and future considerations for Alzheimer's care facilities in London, Ontario.

The interview questions for this research study were as follows:

Demographic Profile

1. Describe your job and the types of responsibilities in your current position.
2. What led you to choose a profession working with individuals who have Alzheimer's disease (AD)?
3. How many years have you been working in this role?
 - a. How many years have you worked at this facility?
 - b. In the time you have worked here, has your role with individuals who have AD changed in any way?

Physical Environment

4. How would you describe your typical interactions with individuals with AD at this facility?
5. Do you perform the same activities every day?
6. How long do you interact with individuals on a typical visit?
 - a. Describe how you interact with individuals with AD.
7. Do you perform your work in the same location every day?
 - a. If not, explain why.
8. Describe physical aspects of the built environment where you perform your tasks (i.e. presence of windows, types of lighting, soft or hard surfaces, clinical or home-like environment, large space, small room, loud or quiet, etc.)
9. Does the built environment you work in affect or impact the way in which you do your job? (in positive or negative ways)
 - a. Provide some examples.
10. Does the built environment you work in affect or impact individuals with AD behaviors? (in positive or negative ways)
 - a. Provide some examples
11. In your opinion, what changes could be made to the built environment to improve the way you do your job?
 - a. Provide some examples

12. What changes could be made to the built environment to benefit individuals with AD?
 - a. Provide some examples

Future Considerations

13. What are some of the changes you have seen in the built environment throughout the duration of your career?
 - a. Have they helped to create a better environment for individuals with AD?
14. How could changes be made to interior spaces in Alzheimer's care facilities to improve the way you do your job?
 - a. Would these changes also translate into improved health and wellbeing of individuals with AD?
15. Do you think it would be beneficial to include professionals such as yourself in focus groups in the preliminary phases of design for new Alzheimer's care facilities?
 - a. Would an opportunity like this positively impact or change the shape of the built environment?
 - b. Do you think it would create an environment better suited to the needs of individuals with AD and staff?
16. With respect to the interior built environment, what do you think Alzheimer's care facilities will look like five years from now?
 - a. What might be the biggest changes, and how are they supportive of a positive patient atmosphere?

3.6 Participant Selection Criteria

In choosing the locations for qualitative interviews, facilities were selected that presented differences in their physical and environmental make up, however they all specialize in care for Alzheimer's disease. See section 3.8, Data Collection Procedures for more information related to the research sites and interview participants.

3.6.1 Research Site 1



Figure 3.6.1.1 Highview Residences

Highview Residences – Alzheimer’s, Elder and Respite Care

Franklin House 35 Capulet Walk, London, Ontario

Chapin House 41 Capulet Walk, London, Ontario

Interview participants ranged from Director of Care, RPN, RN and PSW.

At Highview Residences a Director of Care is responsible for overseeing the day to day operations, hiring, staffing, scheduling, interacting with family members, providing tours and fostering community relationships. RPN and RN’s review resident reports, liaise with doctors and pharmacists, collaborate with team members, perform assessments and manage behaviors. Additionally, they are responsible for administration of medication and act as an advocate for residents. The role of a PSW involves resident care, including bathing, dressing, and personal care as well as feeding. A PSW may act as a mentor or friend to residents, tending to their emotional needs

and overall happiness. At Highview, a PSW is also involved in laundry duties, serving meals, doing dishes and housekeeping.

3.6.2 Research Site 2



Figure 3.6.2.1 McCormick Home

McCormick Home – Long term care, Memory Lane (dedicated dementia care wing)

2020 Kains Road, London, Ontario

Interview participants ranged from Assistant Director of Care, RPN, PSW, Life Enrichment Program Coordinator and Housekeeping. At McCormick Home the Assistant Director of Care is responsible for the nursing department and residents. Additionally they read resident reports, provide triage and problem solve to find solutions that support resident wellbeing. An RPN is responsible for resident care, documentation and is a liaison with doctors and families. A PSW has one-on-one contact with residents to support verbal, physical, mental and emotional needs. Their responsibilities include daily bathing, personal hygiene, clothing and feeding residents. A Life Enrichment Program Coordinator provides stimulating activities for the residents. Activities may include large group, small group or individual tasks to keep residents engaged and calm. An individual responsible for overseeing Housekeeping at McCormick Home works to ensure the

residence is a tidy and safe environment. Tasks range from washing floors to locking chemicals and often involves casual interaction with residents.

3.6.3 Research Site 3



Figure 3.6.3.1 Village of Glendale Crossing

The Village of Glendale Crossing – Long term care, specialized care suites including an Active Dementia Home Area

3030 Singleton Avenue, London, Ontario

Interview participants ranged from RPN, Dietary Aide, and Director of Environmental Services. At the Village of Glendale Crossing an RPN is responsible for 32 residents, administering medication, providing treatments and day to day care as well as assisting with meals. A Dietary Aide serves meals, prepares tea and drinks, snacks and oversees special dietary needs such as textures, thickened fluids and food allergies. The Director of Environmental Services (DES) is responsible for housekeeping, maintenance and laundry. They also coordinate with infection control, and ensure the residence meets the standards of 'hospital clean' as opposed to 'home clean'. The DES acts as a liaison with public health officials regarding risks and outbreaks.

Within each of the three sites, participants were selected internally by my contact after speaking with them and expressing my rationale and desire for diversity in participant cross section. Creswell (2007) lists a typology of sampling strategies in qualitative inquiry. Types of sampling include: maximum variation, homogeneous, critical case, theory based, confirming and disconfirming cases, snowball or chain, extreme or deviant case, typical case, intensity, politically important, random purposeful, stratified purposeful, criterion, opportunistic, combination or mixed and convenience (Creswell, 2007, p. 127). The criteria for selecting participants constituted a form of “maximum variation”, as this type of sampling serves a purpose to ‘document diverse variations and identifies important common patterns’ (Creswell, 2007, p. 127).

3.7 Pilot Study

Prior to collecting data, a pilot study was conducted in order to ensure that the questions, and sequence of questions was appropriate. Pilot studies by definition are ‘condensed case studies performed before implementing a large scale investigation’ (Botti-Salitsky, 2009, p. 42). Pilot studies also helped establish trustworthiness. This process allows the researcher to test and fine tune the scope of their research and interview questions. Upon approval from the Research Ethics Board (REB) at the University of Manitoba, two pilot interviews with non-family caregivers who work with individuals who have AD were conducted in advance of the final interviews. The pilot interviews

provided an opportunity to test and assess the structure and relevance of the proposed interview questions. It was beneficial to test the wording of questions, observe how questions were answered and establish an awareness of the flow and approximate duration of an interview. Revisions and alterations were made as required after the pilot interviews.

3.8 Data Collection Procedures

After looking into AD care facilities in London, Ontario, five sites were selected as prospective locations to conduct the research. Initial contact was made with each site by phone and information about the proposed research was discussed and additional documentation was sent via email to the facility director for review and further discussion. Three of the five sites agreed to participate in the research study. There was no existing relationship with the research sites or the employees. Participants were selected by the site directors in all three cases. It was requested that a cross section of non-family caregivers be chosen to provide accounts that would potentially capture a range of perspectives about working in an AD care facility. Although internal selection of interview participants may have potential ethical implications such as bias or preference of candidates this was found to be an effective process for acquiring participants for the research. For example, one research site offered to place a poster in the employee lunch room informing non-family caregivers about the opportunity to participate in a research study. Through this method non-family

caregivers could opt to participate on a voluntary basis. However, site directors indicated that past experience using this method was found to be unproductive in soliciting responses from potential participants.

The interview candidates represented a small group of non-family caregivers from each location, and the results were not reflective of the opinions and experiences of 'all' non-family caregivers at the given facility. Participation in the research study was voluntary, and a time and location was arranged at the site for the interviews to take place. Participants were contacted via email and each participant received a copy of the questions in advance of the meeting. The interviews were completed between May and July, 2013. The interviews were approximately one hour in length, were recorded, and conducted during normal business hours.

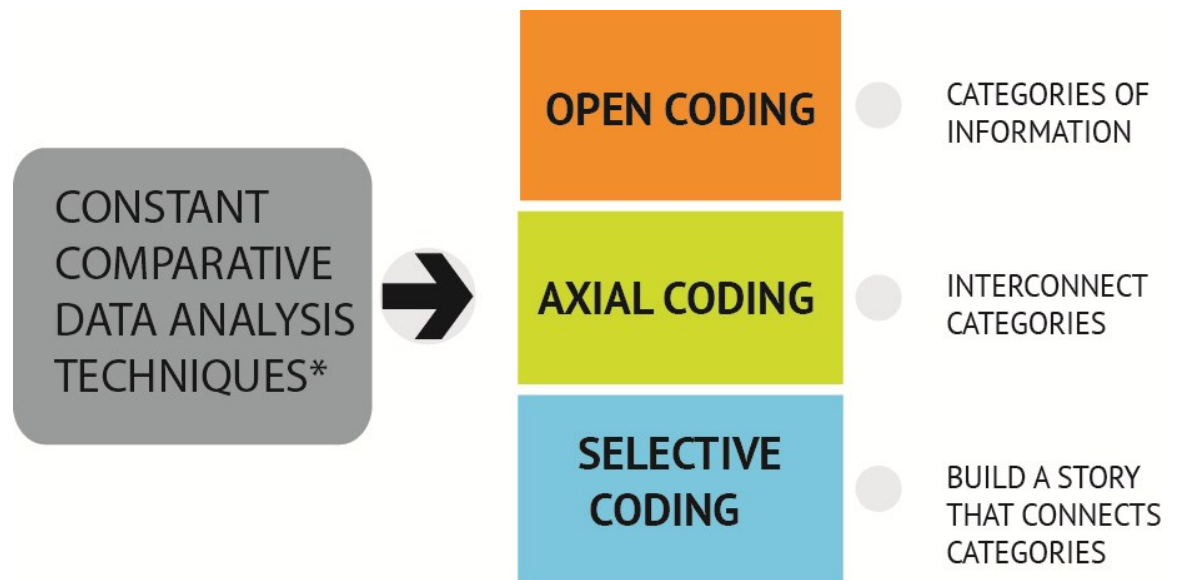
Each interview consisted of the exact same series of questions as a means of continuity in collecting data to study the correlation (or lack thereof) between the existing interior built environment and the job functions non-family caregivers perform daily with individuals with AD.

Once the research summaries were complete for each site, member checks were created and sent to each participant. Participants received an email that included an excerpt of their interview documented in the findings that contained either direct quotations or paraphrasing retrieved from the one-on-one interview. Participant contributions were highlighted within the document and they had five working days

to review and approve or request revisions and omissions from the document. Once all responses were collected, adaptations and revisions were made as required.

3.9 Data Analysis

Once all of the data was collected from the interviews with non-family caregivers they were transcribed into written documents using Microsoft Word. The constant comparison method of data analysis was used (see figure 3.9.1). During the first phase of data analysis, open coding was used to create categories of information. Data was coded by grouping information using color to differentiate categories. The highlighting tool in Microsoft Word to identify phrases and sentences, which were the units of analysis. Visual maps were created using Inspiration 9.2 IE software to sort and categorize data. Once open coding was complete, further data analysis took place using constant comparison data analysis techniques often associated with grounded theory (see Figure 3.9.1).



* The techniques are generally associated with grounded theory

Figure 3.9.1 Compiling and Analyzing Research

In the process of analysis (Figure 3.9.1) the first phase of analysis was open coding, which was used to formulate categories of information extracted from each interview. Individual interviews were examined closely to identify key elements, create themes and document data through written and visual mapping. Axial coding began after each interview was analyzed and was compared and contrasted by research site (i.e. comparison of data from Highview Residences, McCormick Home and The Village of Glendale Crossing). Once findings were coded for each research site, themes were edited and revisited throughout the process as necessary to establish rich data. The process of selective coding began when data was mapped for each site. CCM was then used to look at the results from all three sites together, establishing more detailed categories or themes identifying

interconnections or discrepancies found within the themes. The process of selective coding and CCM was necessary in order to establish strong similarities and differences in data to connect specific categories and information to compare and contrast the results as a whole. The resulting data was then used for triangulation (see Figure 3.10.1 Triangulation of Data) to further validate the research findings.

In an article titled *A Purposeful Approach to the Constant Comparative Method in the Analysis of Qualitative Interviews* (2002), Hennie Boeije describes the use of the Constant Comparative Method (CCM), as a way to 'systematize the analysis process and to increase the traceability and verification of the analyses' (Boeije, 2002, p. 391). CCM is the main principle of analysis typically used in qualitative research. During data analysis CCM is particularly useful as it includes various aids, 'such as memo writing, close reading and rereading, coding, displays, data matrices and diagrams to support the principle of comparison.' (Boeije, 2002, p. 391). In the work of Glaser and Strauss, 'constant comparison is important in developing a theory that is grounded in data' (Boeije, 2002, p. 392).

Throughout the process of data analysis, there were many aids of CCM incorporated to dissect, record and categorize the findings. While analyzing the transcribed interviews theoretical memos were used to make notes and itemize findings in the data. During analysis of the findings, visual maps and diagrams were constructed to categorize findings as part of coding and identification of themes or gaps in the

data collected. According to Tesch (1990), comparison is the 'main intellectual activity that underlies all analysis in grounded theory:

The main intellectual tool is comparison. The method of comparing and contrasting is used for practically all intellectual tasks during data analysis: forming categories, establishing the boundaries of the categories, assigning the segments to categories, summarizing the content of each category, negative evidence, etc. The goal is to discern conceptual similarities, to refine the discriminative power of categories and to discover patterns' (Boeije, 2002, p. 393).

Employing methods associated with CCM provided a step by step and multi-faceted approach, throughout the process of data analysis. By using a variety of different methods to fully dissect and extract data it was possible to formulate a basis for the findings from the one-to-one interviews with participants from the three research sites.

3.10 Trustworthiness

Trustworthiness is a critical component of all qualitative research.

Some researchers consider trustworthiness to be the equivalent of validity which is a key concept in quantitative research.

Trustworthiness and validity help establish “believability” of the study results. In qualitative research, trustworthiness can be established in four ways: (a) credibility, (b) transferability, (c) dependability, and (d) confirmability.

Credibility is established by creating ‘truth value by taking into account the natural complexities inherent in the situation or circumstances being studied’ (Groat, 2002, p. 38). Credibility involves a holistic approach to the research problem thorough demonstrating truth value through triangulation and member checks (Groat, 2002, p. 38). In this study, credibility was established using triangulated data (see Figure 3.10.1) that consisted of the interviews and the literature review, and other literature not included in the formal literature review. Triangulation ‘reflects an attempt to secure an in-depth understanding of the phenomenon in question’ (Denzin, 2000, p. 5). Triangulation can be addressed in numerous ways including triangulation of data and researchers. In the instance of this research, the concept of data triangulation was employed to add strength to the findings. It provided a third mode of improving probability that findings and interpretations were found to be credible. Triangulation of data is ‘crucially important in naturalistic studies...as pieces of

information come to light, steps should be taken to validate against at least one source (i.e. second interview, second method), no single item of information should ever be given serious consideration unless it can be triangulated' (Lincoln, 1985, p. 283).

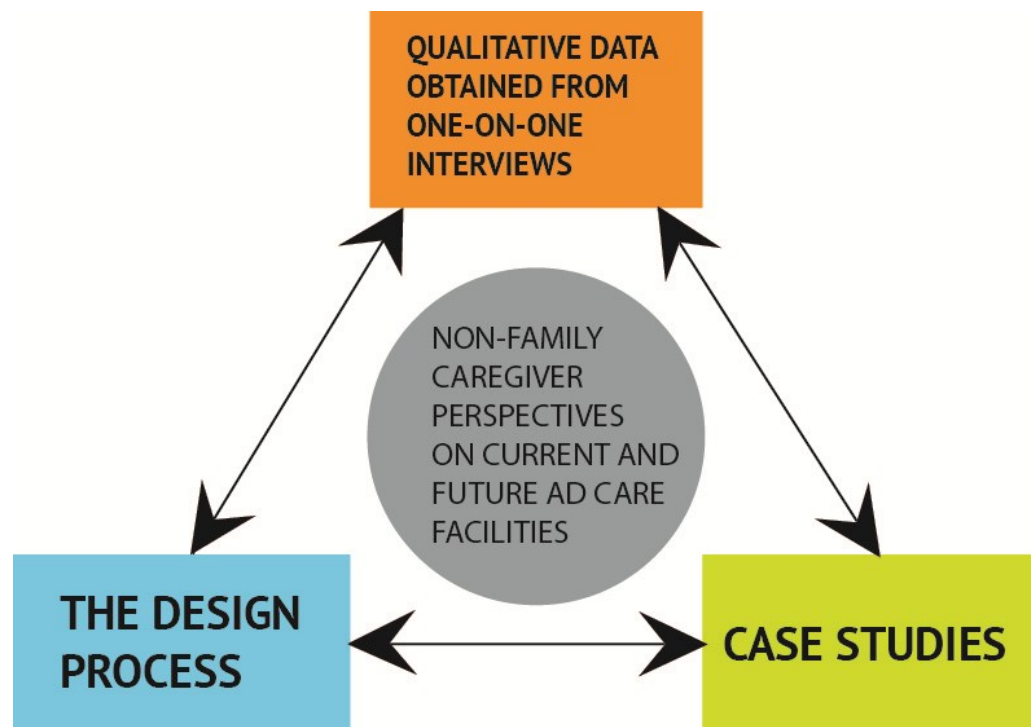


Figure 3.10.1 Triangulation of Data

Although some may question the use of the literature review as a source of data, Creswell (1998) describes qualitative data sources as 'observation and participant observation, interviews and questionnaires, documents and texts and the researchers impressions and reactions' (Creswell, 2007, p. 15). The process for triangulating data of non-family caregiver perspectives is found above, (see

Figure 3.10.1), where the data from one-to-one interviews is compared and contrasted with the findings of case studies and exploration of theoretical frameworks of the design process.

Transferability is 'the extent to which the conclusions of one study can be applied to another setting or circumstance' (Groat, 2002, p. 38). This is achieved through provision of "thick" description. What is necessary with transferability is 'to know something with high internal validity about Sample A, and to know that A is representative of the population to which the generalization is to apply' (Lincoln, 1985, p. 297). Transferability was established by taking the findings from case studies in the literature review and relating them to the findings from the one-to-one interviews with non-family caregivers. This will be further examined in Chapter Four.

Dependability is the suggestion that 'there is a fundamental consistency within the data, but it also takes into account "apparent instabilities arising either because different realities are being tapped or because of instrumental shifts stemming from developing insights on the part of the investigator-as instrument' (Groat, 2002, p. 39).

Dependability can be established by creating an "audit trail", which consists of documents related to the process, analysis and interpretation of data. The auditor looks at the dependability of the inquiry and examines 'the product - the data, findings, interpretations and recommendations - and attests that it is supported by data and is internally coherent so that the "bottom line" may be

accepted'(Lincoln, 1985, p. 318). In this research, documents that became part of the "audit trail" included interview and observation notes, theoretical memos, drawings and maps documenting activity patterns.

Confirmability, is established through forms of triangulation as well as reflexivity by the researcher (Groat, 2002, p. 39). To achieve confirmability, reflexivity requires 'the investigator to reveal his or her epistemological assumptions, their influence on framing of the research question and any changes in perspective that might emerge during the course of study' (Groat, 2002, p. 39). In the analysis of data in Chapter Four, the precedent of the case study findings was engaged with evidence-based research related to the design process in conjunction with the qualitative interview data to draw connections and provide comparisons within the research about non-family caregiver perspectives on current and future Alzheimer care facilities. Additionally, findings from the research was related to the one-to-one interviews and then to the research questions in order to articulate the system of inquiry within which the basis for this research was situated.

3.11 Supporting Documentation Related to the Interview

Process

Additional information about research ethics, protocol for contacting potential candidates, telephone interviews, data collection, confidentiality, etc. can be found in Appendix A – Ethics Approval and Appendix B – Research Agreements located at the end of this document.

Chapter Four

4.0 Findings

Introduction

This chapter provides information about each of the three research sites selected for the study; Highview Residences, McCormick Home, and the Village of Glendale Crossing. For each site, the explanations include details about location, age of building, architect or interior design firm (if available), background and history, philosophies of care, involvement in research and number of residents. Also included are in-depth descriptions of the findings related to each interview question described in Chapter Three.

Following the descriptions of each case study is a discussion of findings where linkages are made between the findings, the literature and the theoretical memos generated during data analysis. At the conclusion of this section, a summary highlights the main design ideas suggested by non-family caregivers. The final portion of the chapter discusses the design process, participatory design and future projections for the design process for AD facilities. Here the discussion centers on the importance of including non-family caregivers in not just the early phases of design, but in mid-and-post design phases as well.

Interviews that took place at the research sites revealed a lot of useful information, however some of the information provided are accounts of circumstances or situations that impact non-family caregivers but are beyond the interior designer's control.

Another discovery that was made after selecting the research sites is that although each of the sites are distinctly different related to operations, care and the built environment, they are all relatively new spaces and all of them were designed by the same architect, Richard Hammond of Cornerstone Architecture in London, Ontario.

4.1 Research Site 1: Highview Residences



Figure 4.2.1 Exterior, Chapin House, Highview Residences



Figure 4.2.2 Garden, Highview Residences



Figure 4.2.3 Sunroom View, Highview Residences



Figure 4.2.4 Open Concept, Highview Residences



Figure 4.2.5 Living Room, Highview Residences

4.2 Site

Highview Residences includes two buildings, Franklin House and Chapin House and is located at 35 and 41 Capulet Walk in London, Ontario. Within each building there are two 'cottages', each cottage serves twelve residents. There is a large fenced garden area situated between the two buildings (Figure 4.2.2) that features gardens, a figure eight walking path, seating areas and bird feeders. The property is located in close proximity to a car dealership and backs on to a residential neighborhood development (Figure 4.2.3).

4.3 Background

The concept for Highview Residences was realized by Ruth and Jack Constable and Camille Taylor in 1996. With a background as a RN and twenty eight years' experience in retirement and long term living, Ruth Constable understood that 'people with Alzheimer's disease did not need to be in an institutional care setting, they needed to be in a home-like setting' (Residences, 2010b). The original Highview was a small facility that provided care for eight residents, most often Highview would become their permanent home, a place to 'live for as long as possible, or Highview would be a respite home, a place away for residents to live for a shorter while'(Residences, 2010b).

In 2002 Highview could no longer continue in its current location, a new development was constructed that would continue to honor and embrace traditions and services embedded in the original Highview. Franklin House and Chapin House are resident homes with a total of 48 individuals. The primary objective of providing care 'for people with Alzheimer's disease and related dementia; to be their home'(Residences, 2010b).

4.4 Philosophy of Delivering Care

Highview is a privately operated care facility specializing in providing permanent and respite care to individuals with Alzheimer's disease and related dementia and to the frail elderly(Residences, 2010b). The concept and philosophy at Highview is that built environment and

delivery of care must reflect a 'home-like setting'. The 'home-like setting creates an atmosphere that is inviting and comfortable' (Residences, 2010b) which strengthens feelings of belonging and security while minimizing loneliness and confusion. This philosophy of care strives 'to create a specialized environment that will support and guide each individual while also respecting and affirming their interests and abilities' (Residences, 2010b). The concept of 'home-like setting' was a critical piece in the design and planning of this facility and will be discussed further in this chapter.

4.5 Involvement in Research

Although Highview Residences is not directly affiliated with ongoing research practices, the philosophy for the design and planning was a direct collaboration with Uriel Cohen, professor of architecture and director of the Institute on Aging and Environment at the University of Wisconsin-Milwaukee. Cohen is 'a leader in the field of dementia design, the model of care is based on normalizing the environment, to not only look like an ordinary home but also to function like one' (Architecture, 2014d). The concept and design at Highview closely follow principles outlined in Cohen's (1993) book *Contemporary Environments for People with Dementia*, using his research and case studies as a benchmark for creating a successful home-like setting for Alzheimer's care.

4.6 Resident Population

As outlined above, Highview Residences was designed to have 12 residents in each cottage, with a total population of 48 individuals who call Highview home. The residents are both male and female and range in age from approximately 70 to 90 years of age, however age or gender is not a factor for eligibility to reside at Highview Residences.

4.7 Building Information – the Built Environment

Highview Residences was completed in 2002 as a collaboration between Cornerstone Architecture in London, Ontario and Uriel Cohen, professor of architecture and director of the Institute on Aging and Environment at the University of Wisconsin-Milwaukee.

Each cottage consists of a combination of private and common spaces. Residents have a private bedroom that includes an ensuite with a barrier free shower, sink and toilet.

Common spaces are made up of areas one would find in a traditional home, furnished to look and feel comfortable (Residences, 2010b). For example, 'meals are prepared in the kitchen of each cottage; with resident participation encouraged to the degree of their ability' (Architecture, 2014d). See Figure 4.2.4 dining room and open concept kitchen. Common spaces are centrally located, including kitchen, dining room and family room with screened in sunrooms situated in

close proximity to resident rooms and provide a small informal space for quiet time or family visits.

The design of Highview is situated within a single floor building primarily dedicated to the resident cottage with office space for management, and a staff room. There is a small meeting area located on the second level that is used by staff and occasionally for family meetings.

4.8 Highview Residences - Non-family Caregiver Perceptions about Current and Future Alzheimer's Care Facilities in London, Ontario

Six one-on-one interviews were conducted at Highview Residences with non-family caregivers. When speaking about the built environment in the interviews, this could include elements such as physical space, access to natural lighting, visual cues, accessibility, resident rooms, outdoor gardens, common areas or public spaces, safe rooms or flexible space. Other environmental considerations such as resident activities, and residents with pets are definitely environmental factors to be considered but are beyond the control of the interior designer.

Interview participants from Highview Residences included individuals with training as RPN, RN, PSW, and Director of Care. For anonymity, information provided by interview participants are identified by HV1, HV2, HV3, etc.

4.8.1 Demographic Profile

Establishing questions related to demographic profile were useful at the beginning of the one-to-one interviews to establish non-family caregiver positions, job responsibilities and investigation into what led them to working in a profession working with individuals with Alzheimer's disease. At Highview, non-family caregivers provide resident care first and foremost, but also engage in laundry, cooking, serving meals and cleaning.

When the participants were asked what led them to this field and specifically working with individuals with AD, the responses were similar, indicating 'I wanted a career in a helping field, this population has so many stories to tell and gives lots of advice' (HV1). One participant said, 'this is a dynamic position because you don't know what the day is going to bring... I want to treat the whole individual, in a hospital it's just medication and dressing, there is not enough hands on care' (HV3). Others found themselves gravitating to their current profession as a result of personal experience noting, 'my mother in law lived with me when she had AD and could no longer live on her own, it's a 24-7 relentless job, one person can't do it, at Highview it's about quality of life in the moment' (HV4).

One interviewee had only been at Highview for three months at the time our meeting, in our discussion about how roles change it was indicated that 'my role has definitely changed, in the beginning it was

focusing on the resident, a large part is to gain trust, allow them to remember your face, mannerisms, sense of humor, allow them to trust you' (HV6). Once a level of trust and familiarity is established the role evolves into 'that of a professional family member, you know who they are, history, how that affects the circumstances of how you can meet their needs, problems and issues' (HV6). Furthermore, this participant added, 'the fact that they have AD causes a lot of confusion and definitely a lot of anxiety, typical interactions with residents can be simple things to relieve anxiety or confusion, reorientation depending on the person, sometimes to make them laugh and just be friendly to them' (HV6).

The three questions related to demographic profile provided an opportunity to understand and summarize the non-family caregiver roles, personalities and hands on care administered at Highview Residences. The responses reinforced the need for non-family caregivers to exercise patience, compassion, know their residents to be able to tend to their specific needs as well as the flexibility to adapt to changing moods and a variety of behaviors.

4.8.2 Physical Environment

The second phase of the one-to-one interview focused on aspects of the physical or 'built' environment, examining interaction with residents, job tasks as well as features or constraints that exist within

the interior that complement or restrict non-family caregiver's ability to provide care.

Throughout the interviews non-family caregivers discussed both public and private spaces, related to caregivers, residents and day to day activities. The philosophy at Highview Residences is to create a 'home-like' environment, throughout the interviews participants explained the benefits and constraints associated with how 'home-like' an AD care facility can be while respecting resident needs and ensuring safety and quality of life.

4.8.3 Private Space

Dialogue about private spaces at Highview Residences stemmed from interview questions related to interactions with residents within the built environment. Resident bedrooms are private and include simple necessities including a bed, closet space and a washroom with toilet, sink and accessible shower.

As an increasing percentage of the population at Highview are not ambulatory, participants discussed elements of the washrooms that provide limitations. One participant indicated that 'resident washrooms need to be larger, when residents need a lift or have a shower chair to be bathed in the shower is too small' (HV1). While another respondent noted spatial challenges indicating that 'the washrooms are fine for individuals who are independent and mobile and can walk on their own but for anyone that requires more space it

is challenging' (HV1). A further observation related to accessibility noted 'in resident washrooms, the sinks are difficult to access if you are in a wheelchair, you can't get close enough' (HV3). During morning care both non-family caregivers and residents are in the washroom at the same time. The inclusion of wall mounted storage in the washroom is problematic as 'cabinets above toilets in resident washrooms are dangerous, staff and residents hit their heads' (HV5).

As far as space planning and design of resident rooms there were features identified such as 'I like the way the angle of the bathrooms are created so you can see it from bed' (HV5) which demonstrated evidence of visual cuing and clear sight lines to make accessibility easier for residents. When we discussed materials and finishes, flooring was a concern raised by non-family caregivers citing, 'rugs and carpeting is not good in resident bedrooms, this population tends to urinate on the floor, which is bad for smell and bacteria' (HV5).

However there were conflicting views when we discussed carpet as it was installed in keeping with the Highview philosophy of home-like setting. One suggestion offered as a compromise was 'maybe bedrooms would be better with more hard surfaces and just carpet under the bed' (HV3). Another non-family caregiver was in agreement and offered a similar solution noting, 'I would like to see wood floors in resident rooms, people here are used to wood floors, with a nice carpet or rug on the floor that is attached or recessed so it isn't a

tripping hazard. It's difficult to find a flooring type that suits a home environment' (HV6).

When asked about closets in resident rooms one participant offered, 'I would like to see locking wardrobes in bedrooms, this population likes to layer clothes and can get aggressive. To prevent this we have racks of clothing in the laundry room to prohibit layering' (HV5). Both non-family caregivers and residents currently have access to closets and the suggestions was made that 'when you open the closet or wardrobe door it would be helpful if a light came on, it's dark and hard to see inside' (HV5). This is a feature that would potentially benefit non-family caregivers and residents alike.

As far as identification of private bedrooms within the cottages, one participant shared, 'there are not a lot of markers or means of identification to keep with the 'home-like' feel, when asked if residents remember where their rooms are the answer is no... however if you put something on the door to identify the room this may not necessarily help, and you don't put your name on your door at home. It's hard to know what's right and what's wrong' (HV2). This raises a valid point, addressing the boundaries related to how closely should an environment for AD adhere to being a home-like setting. In embracing the philosophy of home-like setting there are natural tensions between safety, resident needs and creating a place that feels like home.

4.8.4 Public Space

Public or common areas at Highview Residences are centrally located within each cottage. Throughout the interview process we discussed common space in general and then looked more closely at specific areas that make up the common areas. Discussing non-family caregiver perspectives on the built environment provided feedback such as, 'I love the overall design and layout, the colors are nice, bright and calm' (HV1). One participant said, 'the colors are subdued or calming, each hallway is a different color to guide residents, for example, you are going down the mauve hall, it is a conversation or talking point to guide residents and help them identify space by color' (HV2). Another participant added, 'I like that Highview is one level, the layout is good, you have choice, you can go in your own room or come out to the common areas and have socialization, it is easy to find things and no matter where you go you it's never a long journey to find something' (HV5). Another response referencing design indicated that, "the overall design is good, it's an 'H' and separates into two smaller resident spaces which helps with being able to focus on smaller groups of people, the design is very well thought out' (HV6). In one interview where discussion focused on the contrast between the physical geography and overall feeling within the built environment, the participant responded that 'the location of Highview is surprising, it's a strange place to build this home, next to a car dealership, people get confused and think the cars belong to them... we have a train that

goes by, it's good therapy, we count the cars, talk about places they have been' (HV5) indicating that although the location is surprising to some, elements of the external environment become a part of the daily life of residents at Highview.

Benefits associated with the open concept design and centralized common areas generated responses such as 'Highview feels and smells like home, everything is open and accessible, there is access to the outdoors, big windows, a figure eight walking path, no locked units' (HV1). One participant said, 'we have many large windows, they are low and we get a lot of direct and indirect light' (HV3). 'The windows are excellent, you can see outside, talk about the weather, the seasons, it's nice to orient residents' (HV5). Another participant responded, 'open concept is great, it stimulates senses, cueing, you can hear the kitchen happening, you can smell food, a lot of what you try to do with AD care is cue them' (HV4). One participant said, 'because this is their home there's enough common spaces that they can go somewhere and be in a quiet space that's not their room' (HV3). One participant commented that 'there is a lot of common space which may be atypical for a home-like setting but you need to have that space, the room sizes are kept relatively compact on purpose to encourage socialization' (HV4).

Open concept design also provides an opportunity for 'another form of cueing through visual targets, you can see the dining table, sitting room, porch door, it gives you an idea of where you might be and

where you might want to go' (HV4). This participant went on to say, 'it is always interesting to see the dynamics of how space gets used, even with different residents, when someone dies or goes to long term care, someone else comes in and the dynamic of the group changes and the use of space changes' (HV4).

Interview questions relating to the built environment and things that affect or impact resident behavior recommendations were made about changes to the lighting in common areas. One participant said, 'there are a lot of light switches, it would be nice to have different ways to control light levels' (HV2). Another participant noted, 'we have lighting issues related to color rendition, a warmer lamp type would be good because it makes a big impact on residents because they do have many visual problems' (HV3).

When looking at the built environment discussions took place about changes that have been made to increase resident safety in the built environment such as, 'we changed sliding closet doors to hinged doors, residents would play with the sliding doors and ultimately get their fingers pinched, it was a good change because the doors were unsafe' (HV2).

Other aspects of the built environment that affected the way non-family care givers do their jobs addressed areas related to accessibility and cleanliness. One participant said, 'some doors are wheelchair accessible with an automatic door opener but some are not which

makes moving residents in wheelchairs or walkers difficult' (HV2). Another participant noted, 'carpet is great except that people with dementia have different sorts of accidents, spills, there is a lot of care to be taken with carpets' (HV3). On a similar note, one participant said, 'carpet flooring makes pushing the Hoyer lift difficult' (HV5). Another participant said, 'I wish they hadn't used carpet, it creates shocks when you rub your feet on the floor, when you touch a surface or resident you shock them and it agitates them' (HV6).

4.8.5 A Closer Look at Public Spaces

The next section will summarize findings related to opinions and observations about specific public spaces in the built environment at Highview Residences.

4.8.5.1 Kitchen

The kitchen at Highview Residences is centrally located. One participant noted, 'the kitchen is very small, there is a need for more space for the cooks' (HV1). However, the kitchen provides an opportunity for residents to participate in meaningful tasks if they choose, non-family caregivers can conduct activities while keeping an eye on other areas of the built environment. One participant said, 'in the spirit of 'home-like' setting, residents can come into the kitchen, help cook, read recipes' (HV2). Another participant added, 'the kitchen is great, we can bake cookies with residents and see what's going on in the living room, talk about the weather outside' (HV5).

4.8.5.2 Nursing Station

There was not a lot of dialogue generated about the nursing station at Highview Residences. It is a small, non-descript area connected to the kitchen. It does not function like a traditional nursing station in that non-family caregivers do not congregate or station themselves in this area for long periods of time. One participant observed that 'an alcove in the nursing station would be good, something that could be tucked in a bit further and made larger with some private space to talk on the phone and do charting' (HV3).

4.8.5.3 Dining Room

With the resident population in each cottage limited to 12 people, the dining room, also centrally located, has a small and intimate feel. A consideration in planning was related to how to seat residents to create comfort and minimize behaviors, one participant shared, 'sometimes you have to make adaptations here to make it feel like home, at home people eat at a dining table, however one big dining table for twelve people would not have worked, completely impractical, instead we have a table for four, four times' (HV4).

4.8.5.4 Resident Bathing

Private resident rooms have accessible showers, however many residents in this population prefer bathing over showers. A comfortable environment for bathing routines minimizes agitation

and resident behavior. Currently there is a room with a tub for bathing but it is not accessible. A response about bathing options indicated 'we would benefit from a built in whirlpool or tub for bathing' (HV5).

4.8.5.5 Small Rooms (Sun Rooms)

There was one response related to the built environment and sun rooms at Highview Residences. One participant said, 'the location of the sun rooms can be unsafe, residents have gotten out by removing window screens, they are located at the parking lot and sidewalk instead of at the garden so if they escape it's a dangerous situation... it's good in a way because you can see people and staff coming and going, but if they were located facing the garden it would be more secure' (HV2).

4.8.5.6 Corridors

Positive aspects related to the built environment and corridors indicated that 'lighting in the hallways is excellent, the baseboards are painted darker for depth perception' (HV3).

4.8.5.7 Staff Washrooms

The design of Highview Residences is, for the most part, a single story building. When discussing the built environment and cleanliness one participant said, 'staff washrooms are located close to where food preparation and consumption take place, when the washroom door is open you can see the toilet from the kitchen' (HV2).

4.8.5.8 Meeting Rooms

Meeting rooms at Highview were added post occupancy. A participant stated, 'we have limited staff meeting space and family meeting space, it makes it difficult for family meetings. A space was added upstairs, but the drawback is that it's upstairs and limits accessibility' (HV4).

4.8.5.9 Laundry

Laundry facilities are located in close proximity to the common areas. Non-family caregivers are responsible for doing laundry during their shift. One participant said, 'we have inadequate laundry facilities, there is a need for at least one more washing machine and dryer, the laundry load is unpredictable' (HV2).

4.8.5.10 Storage

Post occupancy it became evident that there was need for more storage. One participant said, it's always difficult to know how much storage you will need until you are in the space... there is no basement, a basement would have been good for storage, mechanical, electrical instead of taking up ground floor space' (HV4).

4.8.5.11 Garden

The outdoor space is centrally located between Chapin House and Franklin House. One participant noted, 'the gardens are much appreciated and well utilized, especially by residents who can walk, the walking paths are designed in a figure eight pattern and always brings them back to the door' (HV2). Another participant commented about the garden mentioning that 'in the garden there are changes in the fence heights, some residents study the inconsistencies and have found the lowest point and climbed up on a walker and jumped the fence' (HV2). Similarly, another non-family caregiver noted, 'the garden space needs a different fence, it's essential to safety' (HV6).

4.8.5.12 Living Room

Interestingly, the living room at Highview Residences did not generate a lot of discussion in my interviews. Participant responses indicated that 'agitation arises from loud TV or music if residents aren't interested in what is going on' (HV3). One participant said, 'fish tanks in the living room are good, people enjoy them and find it peaceful, we have had issues with over feeding' (HV5).

4.9 Technology in the Built Environment

Information obtained in the interviews about technology and the built environment was separated into its own sub-category. The use of technology and technological devices in many ways is still in it's infancy in some care facilities for AD. Findings will be discussed and revisited in the next section titled Future Considerations.

We discussed the use of telephones and resident accessibility, one participant said 'resident rooms are wired with a phone jack, we have cordless phones they can use if they want to call out, of 24 residents maybe 5 or 6 have phones in their rooms...the ability to use the phone diminishes with AD, we also have people who might be using a phone who shouldn't' (HV4).

Based on the current population at Highview Residences participants had varying responses to technology in the built environment, one participant said 'I think we are going to see technology play a role in the future, however when you think about the generation that is in our care now, they aren't very technologically savvy' (HV4). Another participant noted that 'some residents would like computers, they are upset they don't have one, we have one resident who wants one to do his finances, he was an accountant so that is what he wants to do' (HV5). It was also noted that, 'we have one woman who has progressed to an iPad, even just the sensory aspect brought some life to her, it was fun to see her playing a song by touching the screen,

seeing the colors, she responded to the noises' (HV5). Another participant indicated that 'residents need things they can physically interact with, perhaps this is where technology comes into play, whether it's music or things they can touch and play with' (HV6).

All of the participants agreed that residents love and respond to music. A recommendation was made by one participant that, 'it would be nice to have music throughout the common areas that is gentle, especially in the dining area...we have a situation where people fight over the tape deck and what they want to play, turning the volume up and down, it causes anxiety' (HV5).

4.10 Future Considerations

The final portion of the one-to-one interviews included four questions related to changes non-family caregivers would like to see (or forecast we will see) in the next five years to the built environment. The questions focused on potential opportunities to create better environments, and address the topic of user-centered design and participatory design in the construction of future environments for AD care.

One aspect of the built environment that was addressed during the interviews was the need for a safe room. One participant said 'the concept of a 'safe room' or safe environment is needed when residents need to be calmed in common areas around everyone it becomes disruptive' (HV2). Another participant contributed to this idea stating

that 'there are a lot of behaviors with AD, we don't have a safe room, we need a place to remove a resident for the safety of themselves and other residents, we need a space where we can physically remove them and stop them from behaving, calm them down, talk to them and find out why they are acting that way...safety is becoming a safety issues, it has progressed, it may taper off again when the baby boomers get older' (HV6).

Another suggestion for future environments for AD facilities was the concept of including smaller gathering spaces. One participant said there is a need for 'small rooms that encourage freedom to play, i.e. folding laundry, repetitive behavior in a contained environment' (HV2).

As well, a participant suggested there is 'the need for flexible space, a room where there could be towels, i.e. fold towels or 'pack', a common behavior with AD' (HV6). Additionally 'small rooms with quiet surroundings, where residents can go and chill out, just look at things, touch things, work on things' (HV6) might contribute to reduced stress from over stimulation that sometimes occurs in larger common areas. Also, the inclusion of a 'music therapy, a room where they can sing, play music' (HV6). One participant suggested that 'a gym would be nice, with a treadmill, space for physiotherapy, occupational therapy we need these types of caregivers for this declining population' (HV5).

A factor to consider in designing future environments for AD might be that 'residents are becoming more obese and you need more spacious

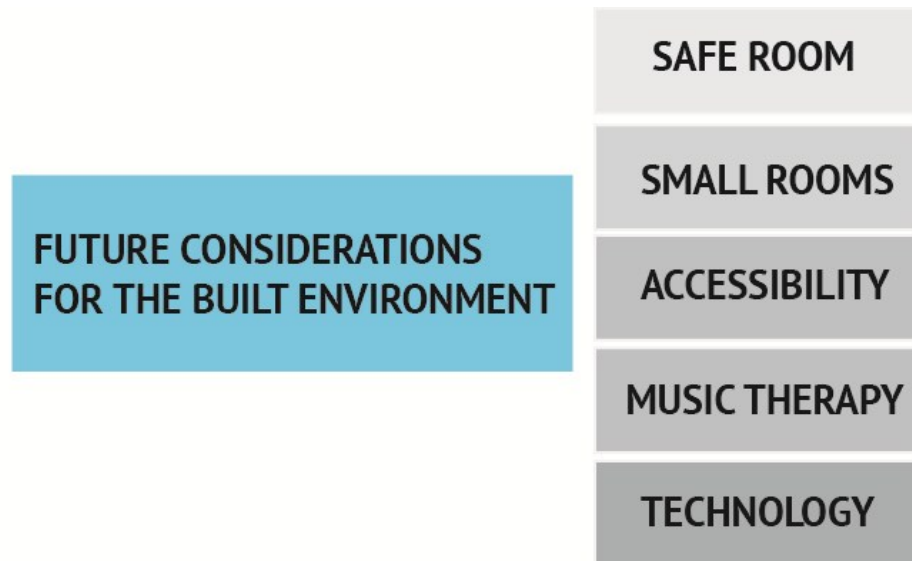
environments' (HV6). In keeping with the philosophy of providing a home-like setting one participant said 'we need to look at bedrooms, incorporate wallpaper, pictures, it needs to feel more like home and not a hotel' (HV6).

Three participants expressed the need for 'a spa room with a working tub' (HV4, HV5, HV6). In discussions about lighting and including motion sensors to eliminate the need for light switches, one participant said 'with motion sensors for lighting, if I had some form of dementia and I didn't know how that light came on it might spook me, however if it had been in an environment where I was used to that kind of motion sensor happening I would be okay' (HV4).

With respect to the future and technology in the built environment one participant said 'we will see technology play a role in the future, we are going to get more baby boomers coming into care, that will change technology, it will change what's on the menu, it will change computer literacy and use' (HV4). Another participant suggested incorporating 'photo frames that run loops of pictures to keep residents updated and orientated in the world as much as possible about family and what's going on' (HV5). On an even more visionary thread, one participant said 'if you could use technology to change the way somebody's room looked, create a 3D view of their room and have a surface on the wall where something personal is broadcast on to it, projected somehow to make it look exactly like a room in their

home, it's a very futuristic idea but it's something I could see happening' (HV6).

In the second last question, participants were asked about including non-family caregivers in focus groups in preliminary phases of the design process. If so, they were asked to think about whether or not this would positively impact or change the shape of the built environment. One participant stated, 'I would like to be included in planning for changes or a new facility, if you are going to be the person working in the space, to give input into the kind of plans and kind of care you want to deliver, it seems logical' (HV4). Another response indicated that 'I think Highview is a pretty good example of what AD care should be, AD is soaring, more people with the disease and need for more facilities like this, I would like to be part of the voice when planning or developing new facilities' (HV1). Additionally a participant noted that 'I collaborate with my team about care, we know how things work and how much space you need, if we had input it would help in design for the future, it is important to gather perspectives about needs to do jobs and do them safely' (HV6).



HIGHVIEW RESIDENCES - RESEARCH SITE 1

Figure 4.10.1 Future Considerations, Highview Residences

Figure 4.10.1 is a diagram that summarizes the most important areas for future consideration given to the built environment. Non-family caregivers believe that a safe room needs to be included in the built environment to allow a resident to be removed from a situation to a safe environment where necessary monitoring and care can be administered. Additionally if a resident can be moved to a safe room, surrounding residents are less likely to become agitated.

Non-family caregivers see the value in having small rooms for resident activities. Individuals with AD can become agitated by noise and activity in large spaces. Many of the interview participants indicated that small rooms would provide activity areas for individuals or small groups in a calm and contained setting.

Non-family caregivers at Highview Residences stressed the importance of considering accessibility in the built environment. The design of AD care facilities need to plan beyond the guidelines established by local building codes and look at the activities and needs of the end user and non-family caregiver. For example, non-family caregivers described the changing physical and spatial needs of individuals with AD, as there are now more non-ambulatory residents living in AD care facilities. This may include residents who use walkers, wheelchairs, or require the use of a lift which has the potential to restrict or impact mobility for residents and non-family caregivers. Accessibility and spatial relationships in the built environment are a safety concern addressed by non-family caregivers in both private and common spaces.

Non-family caregivers expressed the need for dedicated space for music therapy. During the interviews at Highview Residences, non-family caregivers talked about how much residents love music, and the positive outcomes of including music in day to day activities for individuals with AD. Currently, music activities take place in common areas which can present challenges as residents have different music preferences. For example, disagreements over what music is played on the CD player.

When non-family caregivers discussed technology and the future of the built environment, it was expressed that technology could potentially be present in many locations throughout the residence.

Anticipating future adaptations and uses of technology is a consideration when planning the built environment for things like a sound system or wireless internet connection. Non-family caregivers see technology being used more in the next five years for activities such as computer use, online video conversations with family or friends, tablet games for sensory stimulation, online music libraries and gaming systems.

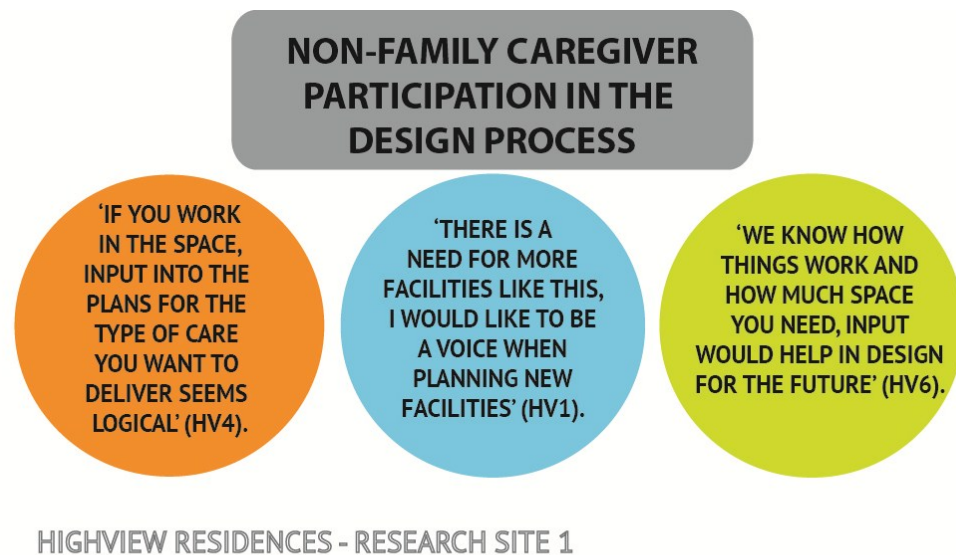


Figure 4.10.2 Participation in the Design Process, Highview Residences

During the one-to-one interviews at Highview Residences, non-family caregivers were asked if they should be included in the design process.

Figure 4.10.2 illustrates feedback from three participants, expressing interest in involvement as an opportunity to share existing spatial

knowledge acquired through daily experiences in the built environment.

4.11 Summary of Findings at Highview Residences

At Highview Residences, non-family caregivers bring a wealth of expertise and compassion to their day to day interactions with residents. Delivering hands on care while focusing on making residents feel at home and safe is important to the participants.

Through social interaction, non-family caregivers act as professional family members to tend to resident's specific needs.

The built environment provides many amenities including private space with individual bedrooms for each resident, as well as public or common areas that are similar to a home-like setting. The open concept design allows for visual accessibility for residents and non-family caregivers paired with opportunities for meaningful participation such as baking in the kitchen or helping to fold laundry in the living room. With a changing demographic, more residents require the assistance of walkers, wheelchairs or lifts, non-family caregivers identified areas in the private and public space where accessibility have become a concern.

Participants speculated about what aspects of the built environment might change over the next five years. Some participants indicated that the resident population will dictate not only spatial requirements but also technological amenities like computers, iPads for sensory

stimulation and possibly motion sensor lights to create brighter, safer spaces in future designs. There was interest expressed by non-family caregivers to play a role in the planning and design of Alzheimer's care facilities in the future as their day to day activities allow them to have very intimate knowledge of the built environment.

Highview Residences provides a unique living environment centered on small groups (12) of residents in a cottage setting. The bedrooms allow residents to have privacy, with the opportunity to engage and socialize in common spaces throughout the day. The open concept design and easy accessibility to the built environment through visual cueing creates a home-like setting that encourages resident interaction. In many ways these design features reflect the principles of Uriel Cohen and Powell Lawton. Although there are many successes associated with the built environment at Highview Residences, the facility could benefit from regular POE to assess the changing needs of residents. For example, the increasing number of non-ambulatory residents seems to impact how space is utilized. Collecting data from POE on a yearly or bi-yearly basis could help assess the requirements and spatial adaptations needed at Highview Residences and also provide beneficial information for future projects.

4.12 Research Site 2: McCormick Home



Figure 4.12.1 Exterior, McCormick Home



Figure 4.12.2 Green Space, McCormick Home



Figure 4.12.3 Exterior View, McCormick Home



Figure 4.12.4 Common Area, McCormick Home



Figure 4.12.5 Dining Area, McCormick Home



Figure 4.12.6 Public Seating Area, McCormick Home

4.13 Site

McCormick Home is a modern three-story building that accommodates 160 long term care residents as well as provides space for 60 participants in an Alzheimer's day program known as Alzheimer's Outreach Centre, (AOC) (Architecture, 2014d). The building embodies a contemporary architectural aesthetic with 'dramatic brick forms accented by natural wood at entrance canopies and large expanses of glazing' (Architecture, 2014d) (Figure 4.13.1).

McCormick Home is located on Kains Road in London, Ontario, 'built on an eight-acre rise of land overlooking protected forests' and is in close proximity to residential neighborhoods (Home, 2014b) (Figure 4.13.2). Within the population of 160 long term care residents 'there are five resident home areas: Memory Lane (dedicated dementia care wing), Maple Grove, Oak Avenue, Willow Ridge and Evergreen Walk'(Home, 2014b).

The area of focus for this research site is Memory Lane, the dedicated dementia care wing which houses 32 residents in a combination of private and semi-private bedrooms with common space for activities, dining and recreational gatherings as well as accessible outdoor spaces and gardens.

4.14 Background

McCormick Home has a rich history with roots stemming back to the 1800's. Since then there have been many transformations and partnerships, such as the Women's Christian Association (WCA), Wellspring London and Region, Parkwood Hospital, and AOC.



Figure 4.14.1 WCA, McCormick Home

The WCA is a 'non-denominational charitable organization of female leaders based in London, Ontario, founded in 1874'(Association, 2014). The WCA has a long history of providing compassionate care to the community.

'We have no way of knowing exactly when in 1874, in whose home, as a result of how many gatherings the Women's Christian Association was born. We do know the Founders went from one home to another on board sidewalks, across dusty roadways in their long trailing skirts... but meet they did and the type of organization they envisioned was born'(Association, 2014)

Today, 'the WCA continues to oversee the operations of McCormick Home and AOS'(Association, 2014).

4.15 Philosophy of Delivering Care

McCormick Home is a publicly funded care facility and receives financial support from organizations such as the South West Local Health Integration Network and the McCormick Home Foundation. The philosophy of delivering care at McCormick Home and specifically in Memory Lane, is a commitment to providing an environment that follows a code of ethics consistent with the mission, vision and values of WCA (Home, 2014b). There are elements of the built environment that reflect a 'home-like setting' however the design is more institutional due to the size of the resident population.

4.16 Involvement in Research

It is the goal of the WCA to be a 'leader in dementia care by 2022'(Association, 2014). Exploring new ways to provide care and support to individuals with AD and related dementias. This exploration involved 'collaborating in research activity and working with community partners to discover how we can enhance lives'(Association, 2014).

The research for this thesis is included in the collective of current research projects supported by WCA and McCormick Home (See Appendix B).

The goal to be a leader in innovative dementia care involves specific areas of focus, including:

'1. Discover our future opportunities in dementia care.

Investigate, discuss and explore alternatives on the WCA's role and investments in dementia care.

2. Commit to excellence in care. Enhance current service through the innovative use of evaluation, best practices, partnerships and other initiatives. Develop facility and technology renewal plans that sustain the capacity and leadership roles of the organization.

3. Build our capacities. Continue to develop the human resources, capacities, programs and practices to meet the evolving needs of the people served, staff, volunteers and the organization' (Association, 2014).

4.17 Resident Population

As discussed in section 4.14, Memory Lane, located at McCormick home has 32 residents in its dementia care wing. Memory Lane was designed and built with the intention of being an ambulatory unit. Residents who become immobile are typically relocated within the long term care units at McCormick Home. Similar to Highview Residences, the individuals who live on Memory Lane are both male

and female, they range in age. Age and gender are not factors for eligibility to live on Memory Lane.

4.18 Building Information – The Built Environment

The design of McCormick Home was a collaboration between Cornerstone Architecture in London, Ontario and Toronto based architecture firm Montgomery Sisam, completed in 2006. Memory Lane was designed for 32 residents within the building envelope of McCormick Home, which offers private and semi-private bedroom accommodations and washrooms shared by two residents. Residents spend the majority of their day in common spaces that include a dining room, casual living room, and a small sensory room. There is also a nurse's station and medication room located centrally within the common area (Figure 4.12.4).

Memory Lane is a secure environment, residents can leave if they have the supervision of a care giver, volunteer or family member to utilize various spaces within McCormick Home including a common seating area, small corner store, chapel and computer room (Figure 4.12.6).

There is a strong emphasis on recreation therapy on Memory Lane and common spaces are designed to be flexible as they are utilized for various large and small group activities throughout the day (Figure 4.12.4).

4.19 McCormick Home – Non-family Caregiver Perceptions about Current and Future Alzheimer’s Care Facilities in London, Ontario

Six one-to-one interviews were conducted at McCormick Home with non-family caregivers. Participants included individuals working in roles such as Housekeeping, RPN, PSW, Life Enrichment Program Coordinator, and Assistant Director of Care. For confidentiality, information provided by the interview participants will be identified by M1, M2, M3, etc.

4.20 Demographic Profile

On Memory Lane at McCormick Home, non-family caregivers provide resident care tending to their medical needs, provide many recreational activities as well as social interaction daily in a large scale, home-like setting that is home to 32 residents.

When participants were asked what led them to this field and specifically working with individuals with AD one participant said ‘I came from long term care, dementia care has become more prevalent, it’s been a learning process because they require a different type of nursing care’ (M4). Another participant noted, ‘I enjoy working with behaviors, it’s definitely my niche, I’m skilled at it, it is definitely where I should be’ (M3).

We talked about job roles and daily activities, one participant said 'I care for residents, perform documentation, work with doctors and families' (M1). Outside the realm of medical attention a participant noted, 'it is our job to keep everyone engaged, calm, a lot of interventions, we are very flexible' (M3). Non-family caregivers on Memory Lane approach their job tasks in a less formal, less clinical manner as one participant indicated, 'interaction with residents is social, I have become more hands on, while I am doing social interaction there is assessment going on' (M4). There is a great deal of care and compassion involved in non-family caregiver roles, one participant said 'I get satisfaction from my love of elderly people and how they respond to me, I read people well and I'm a good communicator' (M1).

When participants were asked if while working on Memory Lane their role with AD residents has changed one participant said 'in my time working here the type of care and how we give care has changed, everything is becoming more therapeutic, more recognized, more standardized, a lot more monitoring and documentation, we are part of care plans and function as an interdisciplinary team' (M3). One participant added 'patience is a must, we have 32 residents that are all different, over time my role has changed, we hand out food now, serve drinks, paint finger nails, take residents to the garden' (M2). Another participant spoke about advancements in AD care in general stating 'in the past people with dementia were swept under the rug, now they

are treated respectfully, it's hard for outsiders because physically these people don't look sick' (M1).

In the interviews, questions related to demographic profile generated information about non-family caregiver roles, personalities and approach to care on Memory Lane. Similar to Highview Residences, the responses reinforced the need for non-family caregivers to exercise patience, compassion and be able to relate to their residents to tend to their needs and adapt to moods and behaviors.

4.21 Physical Environment

The second phase of the one-to-one interview focused on aspects of the built environment, discussing interaction with residents, job related tasks and features or constraints that exist within the interior space that complement or restrict non-family caregiver's ability to provide care.

Throughout the interviews, participants were asked questions about public and private spaces related to caregivers, residents and day to day activities. The philosophy at McCormick Home, and specifically on Memory Lane is to provide care and support individuals with AD and related dementias. Throughout the interviews we discuss the benefits and constraints associated with daily activities for 32 residents in the built environment while ensuring resident safety and quality of life.

4.22 Private Space

There is a combination of private and shared bedrooms on Memory Lane. In most cases washroom facilities are shared by two residents. When participants were asked if the combination of individual and shared bedrooms had an impact on residents one participant said 'every person should have their own room, it is important with dementia, really important. They have paranoid tendencies, their room is their safe haven. Being around 32 people for most of the day they need their own time. A private time to regroup, if you don't regroup, it affects sleep at night' (M4). When one participant was asked about resident washrooms they explained 'there are shared washrooms between resident suites, for many people here they are cognitively impaired and they don't know they are sharing a bathroom with someone' (M1). Positive aspects of the built environment related to washrooms included responses such as 'resident bathrooms and bedrooms are well lit' (M2). One participant said 'in the washrooms the toilet seats are black so residents know where they are' (M5). This participant also noted 'locking storage in the washroom is good' (M5). Addressing issues of accessibility, one participant said 'it would be nice if the washrooms were larger due to wheelchairs, our unit isn't supposed to have wheelchairs or Brodas, we are a mobile unit and we have a hard time fitting a wheelchair or moving a lift with the resident in it when we are in the washroom' (M2). An additional comment revealed that 'in the washrooms the toilet paper, paper towel and

garbage cans are an issue, residents take things from other people's rooms, we need secure dispensers' (M5).

Discussions stemming from interview questions revealed findings about aspects of the bedrooms. One participant said 'night tables are a problem in resident rooms, they take the drawers out, and they get broken' (M5). As well, this participant noted 'there should be nothing above beds, pictures with glass are dangerous, and no plants, they try to eat the plants' (M5). Additionally, this participant noted, 'mirrors in resident rooms should be shatterproof or removed also curtains in resident rooms are snapped in place, residents pull them down, rods break, they soil the curtains, maybe no curtains at all' (M5).

Questions about the built environment and its impact on resident behaviors generated discussion about windows. One participant said 'resident rooms have big windows which is good, I would not have the windows able to open, if the building is climate controlled there is no need to open windows, it is a safety issue. As well, residents pull screens out, maybe the next generation won't notice it as much but we have a lot of people who have been in the war and concentration camps, for them the screens are a way out... I've seen them dig at the screen with a spoon thinking they are digging their way out. The window needs to look like a window, not a means of escape' (M4). Another participant had a similar comment noting 'windows are good for visual access to the outdoors, screens frustrate residents, especially

the men. They like to take the screens out, throw things out the windows, windows have been broken' (M5).

Residents are permitted to bring personal belongings into their bedrooms. When asked about how this impacts the built environment one participant stated 'most of the time we ask family members to take furniture home, it gets in the way and becomes a safety hazard' (M2). As well, this participant noted 'residents can have a TV in their room, they lose remotes, or we have people who take them out of rooms, it doesn't really work well' (M2).

There was discussion with participants about way finding and how residents find their bedrooms. One participant said 'as far as visual cues and way finding we don't really have many, residents find their rooms based on repetition, sometimes we put names on the door, but it's mostly repetition and routine' (M3).

4.23 Public Space

Throughout the interviews non-family caregivers discussed aspects of the built environment related to public space. The findings will cover general observations about the affect or impact spaces have on how non-family caregivers do their job and also how this impacts residents. Additionally, findings will focus on specific areas that make up public spaces in the built environment on Memory Lane.

During the interviews, non-family caregivers discussed positive aspects that impact residents in the built environment. Music is a big part of life in public spaces on Memory Lane, one participant said 'we have music provided through a sound system that one of the residents donated' (M1). Comments made by many participants referenced lighting, one participant said 'it's bright enough, I am often turning down the lights, they are not on dimmers, and they should be on dimmers' (M1). Another participant added, 'overall the lighting is good, the artificial lighting is institutionalized, it would be nice if there were dimmers, light truly affects behaviors' (M4). In a similar comment, one participant noted, 'the overall lighting is good, I would like to have lighting on dimmers, when a full moon hits they are scaled real high' (M2).

In response to the overall look and feel of the built environment in public spaces one participant said 'this feels like a home-like environment, residents call it home, physically the furniture is appealing and it's a comfortable environment' (M3). While another participant indicated 'I would like to see the interior environment less institutional' (M1).

Questions led participants to discussions about resident behaviors that occur in the built environment. Some residents are exit seeking, one participant said 'in the late afternoon residents feel they need to get out and doors become an issue in common areas. We have discussed disguising the door with a painted mural, wall covering or make it look

more like a grandfather clock.' (M4). Another participant commented about the space and number of residents on Memory Lane stating 'putting 32 people with dementia in an area like this is only asking for problems, it's similar to daycare, sometimes we expect more from them than they are able to give us' (M4).

We also talked about the built environment and accessibility. One participant said 'currently there are too many residents on this floor in wheelchairs, it becomes dangerous, and especially for residents who are ambulatory and have visual difficulties' (M1). Another participant added to this stating 'we have residents wandering, some in Broda chairs, and at times up to 15 in wheelchairs, it affects programming' (M3).

Non-family caregivers were asked about visual accessibility in common areas of the built environment. One participant said 'we have visual barriers, if residents are outside you can't see them, the hallways are an issue because you can't see both hallways from the nursing station' (M4). Another participant added 'we need shorter hallways, the halls are too long for this population and staff waste a lot of time walking around looking for things, we need to consider pod type of nursing where the nursing is in the middle with shorter halls for residents' (M2). Lastly, one participant said 'safety is huge with this population, we have a small door that goes from the small lounge into the garden. The large lounge is all windows, it would be better if there was a door that could open from the large lounge, there could be a double door,

allow residents more accessibility to outdoor space and better visual control' (M3).

There was a lot of feedback generated about one visual barrier in particular, a wall with a fireplace located in a central common area. One participant said 'the wall where the fireplace is can be problematic, they should have made the den and activity area one large room with windows all the way across, I can't see what's going on from the nurses station' (M1). Another participant had similar thoughts stating 'I would take out the wall that has the fireplace on it, we don't need it, and also residents don't know it's hot, we always have to watch them. The majority of the time we don't even turn it on, it's more of a hazard' (M2). Additional contributions from one participant noted, 'the wall between the large and small lounge, we just need one large area because there is so much wandering in this unit and it is difficult to separate residents. Because we have two lounges, unfortunately folks who aren't mobile go into the secondary lounge space for safety, if the wall wasn't there they would all be included' (M3).

When asked about changes to the built environment to improve the way non-family caregivers do their job that also impacts resident life we had many discussions about flooring. One participant said 'when we first moved in the floors were carpeted but it was too much maintenance so they removed the carpet, it makes the space noisier' (M1). Another participant discussed the visual and safety implications

associated with carpet flooring stating that the 'carpet had to be removed, the change in color, residents thought it was a hole, even with the texture difference they could detect it and thought it was a hole or something unsafe. With the progression of dementia, residents get a shuffled gate and their feet were sticking to the carpet. Also, infection control due to incontinence' (M4). With respect to creating a clean and safe environment one participant said 'now that the carpet is gone we have one flooring surface everywhere, it can be cleaned, resists odors, but the carpet was nice for staff and softer to walk on' (M2). Another response indicated 'now that the carpet is gone we have slip resistant flooring which is good' (M5).

4.23.1 Nursing Station

Participants expressed thoughts about physical appearance and functioning of the nursing station. One participant said 'we need to give consideration to computer documenting and charting, for example move it to a common area, avoid employee congregation in enclosed rooms' (M1). Similarly, another participant said 'we need to look at different space for documentation, something right in the middle of everything, caregivers should be encouraged to work while being visible to residents, and we need to be close for safety' (M3).

4.23.2 Dining Room

Findings from discussion about the built environment and the dining room examined safety aspects and how this room also functions as flexible space on Memory Lane. One participant said 'the dining room is appropriate for meals, however the unit was designed for ambulatory residents' (M1). When talking about distractions in the dining room one participant said 'we removed table cloths from the dining room, they were dangerous and not functional. We only use them on BBQ night. Placemats are distracting, also no salt and pepper on the table, they go missing' (M6).

One participant talked about the dining room being multi-purpose, stating 'the dining room functions as flexible space, we utilize the dining room for exercises and the fitness program, that's our dance floor' (M3).

4.23.3 Living Room / Den

When asked about the living room, participants shared observations related to activities, furniture and finishes in this highly populated area. One participant said '90% of residents spend the day in the lounge area' (M3). Another noted 'watching TV is very popular, not as a babysitter but certain programming can slow them down, be nostalgic, i.e. watching Cary Grant' (M4).

In conversation about furniture and finishes in the living room area, one participant said 'I would like to see more recliner living room chairs, couches don't work at all, it isn't a good setting, residents are either lying on them or you have two or three people trying to sit on them and then we have a bit of a problem ...more individual seating, should be high back chairs, current chairs are not good for depth perception, material should be leather or vinyl because they are incontinent' (M4).

4.23.4 Small Sensory Room

There is a sensory room accessible to residents on Memory Lane, one participant said 'the sensory room is excellent if someone is agitated, they go in there and it can be very successful' (M3).

4.23.5 Activity Room

One participant commented on the activity room stating 'I would like to see a larger activity room with better visual control' (M1).

4.23.6 Resident Bathing

When asked about the physical space and options for resident bathing, one participant shared, 'the tub and shower room is a huge room and residents are cold. They become very scared, showers tend to be not as well liked as a bath, and the bath relaxes them.' (M1).

4.23.7 Corridors

Feedback about the hallways on Memory Lane generated responses related to safety and dead end corridors. One participant discussed resident traffic in hallways and said 'we have people who walk, people in wheelchairs, people in Brodas, it's a safety issue' (M2). In response to corridors and spatial adaptations, one participant said 'we have dead end corridors, the intent was to put a rummaging area at the end of the hall but it was an infection nightmare, we turned it into a seating area' (M4).

4.23.8 Garden

Non-family caregivers on Memory Lane see the value of gardens and outdoor spaces for residents. One participant said 'the garden could be bigger, residents love looking at the plants, growing vegetables, using the wandering paths' (M1). Another response indicated that 'the garden is great for purposeful activity, residents grow lavender and make lavender pouches that we use for palliative care' (M4). As well, the same participant stated 'the garden is excellent for sensory activities, they can grow tomatoes, pick them, share and eat them, you forget how important those things are. Simple exercises like shucking corn in the garden, something familiar, we don't have to tell them how to do it, and they tap into old habits. It makes them feel dignified' (M4).

4.24 Technology

Non-family caregiver responded to the subject of technology in two ways. One, they considered how technology and resident monitoring might function and second, resident accessibility to technology for interaction and sensory activities. One participant said 'in theory cameras would be great, but who's watching them? That type of monitoring would only be effective if someone was watching them 24 hours a day. I don't think cameras are the answer, it gives people a false sense of security' (M4). This participant went on to explain that, 'we use our call bell system if we are having a bad night, we can turn it on and hear in the rooms, but unless you are sitting there it only works while you are there' (M4).

Related to residents utilizing technology, one participant stated 'technology is interesting, it sometimes plays a role in the beginning, and it depends on the stage and whether they cared about it before. Sometimes when families come in the first thing they do is hook up the TV, but it becomes unimportant to them, they might not ever use it' (M2). Another response indicated that 'currently we have a computer nook upstairs on the second floor, so we usually have volunteers take residents up to Skype. It's unbelievable, although the residents may be confused they recognize faces, I think eventually we will have iPads' (M3).

4.25 Future Considerations

The last phase of my one-to-one interviews included four questions related to changes non-family caregivers at McCormick Home would like to see to the built environment in the next five years. Questions focused on potential opportunities to create better environments and addressed the subject of user-centered design and participatory design in the construction of future environments for AD care.

In our discussions participants generated a list of considerations for the future of the built environment were related to exploring design to accommodate smaller numbers of residents. One participant said 'in the future we would have to tear the building down and start over, not that there is anything wrong with what we have, but after working in it, I mean we came blindly into this, we knew we wanted something different and we knew it had to be secure, we (caregivers) didn't have a lot of guidelines to go by. It's a great start but it needs a lot of changes, we are always going to be looking at something else' (M3). Another participant stated 'in the future we need to work with smaller groups, 32 in this area is too many. When you get over ten you have problems, a 1:5 ratio would be ideal. Residents would get more attention, programming, care, and caregiver's wouldn't be as rushed. It would minimize overstimulation which happens with groups. Agitation is contagious' (M3). On a similar thread, one participant said 'in the future, consideration to smaller more compact dementia areas, i.e. have five units that were small' (M3). Lastly, one participant

suggested 'it might be good to separate the different stages because you have different behaviors' (M2).

Specific changes for future built environments were related to spaces, interactions and behaviors. One participant said 'because we have such an array of dementia and different levels of it, it would be good to have smaller rooms to accommodate the different levels and stages' (M2). Another participant noted the need for 'smaller, multi-sensory rooms that have a glass wall, residents could be in a safe, quiet place and we could observe' (M3). Additionally, one participant recommended 'a soundproof room would be nice to have, if somebody is verbal the more cognitive residents get upset, we have to separate them' (M2). Looking at the concept of inclusive activities, one participant said 'the inclusion of families, include them in a designated family space at mealtimes, currently there is no room for them. Something like a small restaurant' (M3).

Changes to the built environment in the outdoor spaces offered suggestions such as 'the garden isn't utilized in the winter, it would be nice if there was a bigger covered area that we could use in the winter, even if we had bird feeders that residents could go out and fill up, we need to think about ways we could make the most of outdoor space in all seasons' (M3). One participant also added 'I would like to see larger outdoor spaces, maybe bird feeders, more walking areas and maybe a clothes line' (M5).

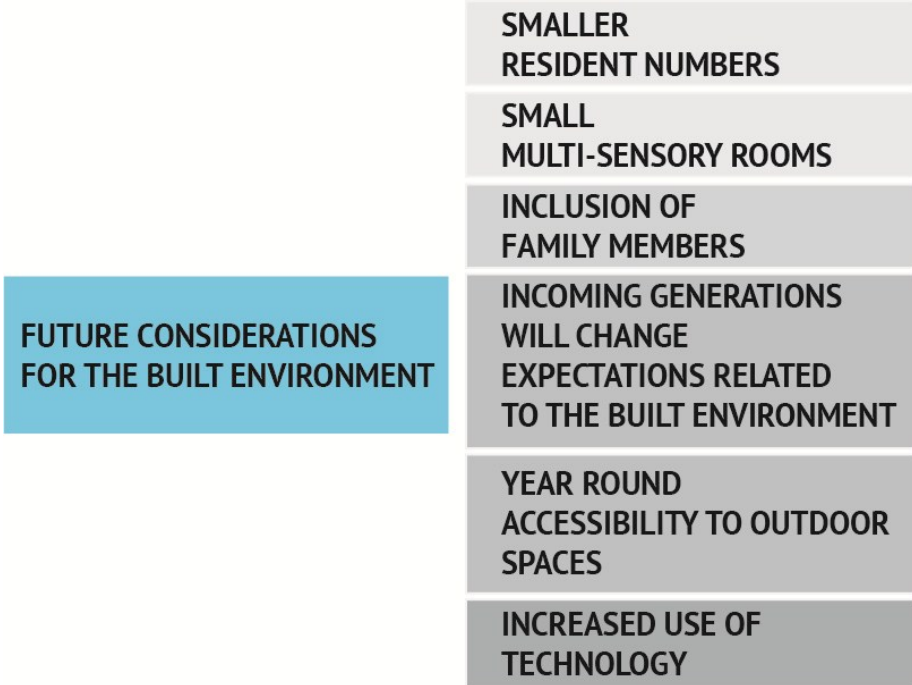
In relation to technology and the future of the built environment, non-family caregivers think there will be changes to how buildings are built and how residents utilize technology on a daily basis. One participant said 'buildings and building technologies will change with time, it will be interesting to see what facilities offer' (M2). Relating to use of technology in memory care, one participant stated 'in the future families are going to have higher expectations around technology, programs' (M3). This participant also noted 'we will see more use of iPad, games, gaming for cognitive activities, a new face to person centered care' (M3).

Non-family caregivers at McCormick Home see value in considering the changing generations when prospecting changes and expectations related to the built environment in the next five years. One participant said 'the boomer generation is really space conscious, in the past you bought a home it was small, you raised several children there, you had one washroom, now everything is more spacious' (M2). This same participant also indicated that 'the boomer generation is materialistic, they want music, golf, swimming, tennis, more sports activities, they didn't sit down and sew dresses or do needle point' (M2). Another participant noted 'care facilities in the future will be more stylish, less institutionalized, think about my generation coming in, the baby boomers, they are going to be totally different again, even if I have dementia I'm probably going to want a computer. Even if I don't use it I am going to want it because it's familiar' (M3).

Additionally, one participant said 'future environments for AD might include a pool, tennis courts, dainty dishes, and restaurant quality meals, something that mimics a more upper class life. The colors will be different, pictures will be different, room sizes too, and the residents will want pot lights' (M2). One participant commented on the interior environment stating that 'in the future I would like to see more color, residents need interaction, they are easily bored and become unhappy, maybe stimulating wall murals, access to a soothing voice that mimics sounds or a call from home' (M5). Another participant considered cost implications associated with changing expectations stating 'overall expectations will be different, but depending on the stage of AD and the price, what the children want to see, eventually the appearance of the space doesn't matter whether you were a doctor or architect. Future desires in the built environment will come at a cost, I'm not sure how people will afford possibly six or seven thousand dollars a month' (M2). Lastly, one participant said 'I think we are starting to see a glimpse of the future already, i.e. Highview, places geared specifically for people with dementia' (M3).

The last question was related to future considerations asking non-family caregivers to consider if there would be benefits associated with including non-family caregivers in focus groups and preliminary phases of the design process for new AD care facilities. Although this question did not generate an overwhelming response, indirectly comments and feedback collected throughout the interviews

indicated that inclusion would be beneficial. One participant said 'I think participatory design is a critical piece of the puzzle, caregivers know a space inside and out' (M1).



MCCORMICK HOME- RESEARCH SITE 2

Figure 4.25.1 Future of the Built Environment, McCormick Home

Figure 4.25.1 is a diagram that summarizes the most important areas for future consideration related to the built environment. Non-family caregivers shared their desire to see a built environment that is designed to accommodate smaller resident numbers. Reducing the number of residents in a neighborhood or community would create positive outcomes including reduced agitation and increased ability of non-family caregivers to provide individualized care.

Adding small multi-sensory rooms to future environments for individuals with AD was also important to non-family caregivers at McCormick Home. Small rooms would accommodate 1-3 individuals in a safe environment that provided activities to engage sensory stimulation or create a calm environment to minimize agitation and behaviors.

Non-family caregivers expressed interest in designing the future built environment to accommodate family members. Currently areas such as the dining room is only large enough for the resident population. Either increasing the size, or creating small family dining rooms would provide an opportunity to encourage family involvement in day to day activities.

Non-family caregivers place value in giving consideration to the changing needs and expectations of future generations. While specific needs might be difficult to speculate, the future of the built environment may consider changes such as those related to dining and food. Future generations may have different expectations around food choices, food service and dining experiences. Additionally, there may be less interest in participating in meal preparation (i.e. peeling potatoes).

In most of the interviews, non-family caregivers expressed a need to design the built environment in a way to have access to outdoor spaces all year. Currently, resident access to the outdoors is a seasonal

activity and non-family caregivers commented on the positive benefits associated with regular access to outdoor spaces.

Lastly, non-family caregivers expressed the need to plan for increased technology in the future of the built environment. Similar to findings from interview participants at Highview Residences, non-family caregivers at McCormick home expressed that design needs to anticipate the use of technology on various levels. Incorporating this into the initial design concept would avoid adaptations and installations post occupancy.

NON-FAMILY CAREGIVER PARTICIPATION IN THE DESIGN PROCESS

**'I THINK
PARTICIPATORY
DESIGN IS A
CRITICAL PIECE OF
THE PUZZLE.
CAREGIVERS KNOW
A SPACE
INSIDE AND OUT' (M1).**

MCCORMICK HOME - RESEARCH SITE 2

Figure 4.25.2 Participation in the Design Process, McCormick Home

Toward the end of the one-to-one interviews at McCormick home, non-family caregivers were asked if they should be included in the design process. Figure 4.25.2 is a diagram that illustrates the value expressed by one non-family caregiver of participatory design for future AD care facilities.

4.26 Summary of Findings at McCormick Home, Memory

Lane

At McCormick Home, non-family caregivers who work on Memory Lane provide dedicated care with compassion and genuine interest in the safety and wellbeing of their residents. They deliver resident focused care while making everyone feel safe and secure. Through daily social interaction, caregivers provide a multitude of recreational activities that engage and stimulate residents that make them feel important and dignified.

The built environment provides several amenities including private space that is made up of a combination of private and semi-private bedrooms with shared washroom facilities. Common areas assimilate a home-like setting but on a much larger scale. The design allows residents to spend the majority of their day together with the opportunity to engage in a variety of small and large group oriented activities. The common areas present some limitations related to visual accessibility associated with the design of the physical space. As well, with the increasing number of non-ambulatory residents, non-family caregivers expressed concern related to accessibility in both private and public spaces within the built environment.

In one-to-one interviews, non-family caregivers speculated about what changes need to occur to improve the built environment over the next five years. Some participants indicated that design should respond to

the need for smaller groups of residents, increased accessibility to small multi-sensory rooms, and opportunities to include family members in meals and activities. Non-family caregivers also indicated that incoming generations and their spatial expectations will dictate changes to the design of the built environment. Participants expressed desire to create an opportunity to utilize outdoor spaces year round and feel that technology will continue to impact resident activities and the way non-family caregivers document their work. Furthermore, there was enthusiasm toward the inclusion of non-family caregivers in the design process, providing front line workers an opportunity to share hands on experiences within the built environment as a pivotal contribution of requirements for future AD facilities.

Memory Lane at McCormick Home provides a home-like living atmosphere for 32 residents in a large, open concept environment. Although there are shortcomings related to private versus semi-private bedrooms, residents spend the majority of their day engaging in social activities in common areas. The built environment needs to facilitate a large number of residents which presents many great social opportunities, but faces design and accessibility issues as well. The findings shared by non-family caregivers outline some thoughtful considerations for adaptation and change to the built environment to improve job performance and AD behavior for design projects in the future.

4.27 Research Site 3: The Village of Glendale Crossing



Figure 4.27.1 Exterior View, Village of Glendale Crossing



Figure 4.27.2 Exterior View 2, Village of Glendale Crossing



Figure 4.27.3 Common Corridor, Village of Glendale Crossing



Figure 4.27.4 Open Concept, Village of Glendale Crossing



Figure 4.27.5 Country Kitchen, Village of Glendale Crossing

4.28 Site

The Village of Glendale Crossing is a multi-dimensional 192 bed long term care home located at 3030 Singleton Avenue in London, Ontario. This long term care home is licensed by the Ministry of Health and Long Term Care, funded through the Local Health Integration Network (LHIN) (Villages, 2012b). Within the Village of Glendale Crossing there are six specialized care suites called home areas, they include:

- **Active Dementia Home Area** for persons with Alzheimer's and related dementia who are wandering or physically active
- **Advanced Dementia Home Areas (2)** for persons with Alzheimer's and related dementia who are no longer

wandering or physically active whose care needs are primarily of a physical nature

- **The Advanced Physical Care Home Areas** (2) for persons who are cognitively alert and whose care needs are physical in nature
- **The Special Needs Home Area** for persons whose care needs are behavioral in nature, including younger adults (Villages, 2012b)

For the purpose of this research, the Active Dementia Home Area and non-family caregivers who give care in this unit will be explored.

The Village of Glendale Crossing is a community designed as a village. The interior spaces of the built environment have common areas that are situated along the 'main street' in the 'village square' (Villages, 2012b). With the village being situated indoors, it remains comfortable year round regardless of the weather (Figure 4.27.3). There are outdoor spaces that residents utilize when it is seasonally appropriate.

4.29 Background

Schlegel Villages are Canadian owned and operated, they are a family run company with over 40 years of experience owning, managing and operating long term care and retirement communities in Ontario (Villages, 2012b).

At the time of construction, the Village at Glendale Crossing was built with plans for future expansion. In the coming years retirement suites and independent living apartments are planned (Villages, 2012b). The concept is to offer a variety of living options within a community with activities, lifestyle choices and various levels of assistance in one location.

4.30 Philosophy of Delivering Care

At the Village of Glendale Crossing, the focus is delivery of holistic healthcare in a 'home environment located within an internal neighborhood design that promotes a caring community with emphasis on optimal health and life purpose for each resident' (Villages, 2012b).

There are four cornerstones that define Schlegel Villages:

- 1. Physical Design**
- 2. Investment in People**
- 3. Integration with the Larger Community**
- 4. Innovative Programs**

(Villages, 2012b)

'Senior care in our Schlegel family is a way of life, backed by three generations of experience and expertise. The Schlegel's embrace a social model of living rather than an institutional model of care...we provide excellent care, but we emphasize living first. Each resident and staff member is part of the Village family' – Ron Schlegel (Villages, 2012b).

4.31 Involvement in Research

Schlegel Villages are closely partnered in research and innovation with the intent of continuously advancing the quality of care and quality of life for residents. The Schlegel-UW Research Institute for Aging (RIA), is a research collaborative with Schlegel, University of Waterloo and Conestoga College. The Schlegel-UW RIA's mandate is to 'enhance senior care through research and training' (Villages, 2012b). This happens in a number of different ways through linkages and partnerships developing new knowledge about care as well as training

and education opportunities for Village team members (Villages, 2012b).

As part of the research process, both residents and team members 'participate in research projects, building a culture of innovation and continuous quality improvement in each of the Villages' (Villages, 2012b). The RIA works with researchers to develop relevant research programs and provide them with access to research and development sites via Schlegel Villages. Some benefits include the ability to 'facilitate immediate translation of research into practice and provide current and future team members with research-informed professional development programs and curriculum development for students interested in careers in senior's care' (Villages, 2012b). The goal of the RIA is to facilitate research that has a direct application to quality of life or quality of care for older adults as well as system-level issues relating to long term care and retirement living environments.



Figure 4.31.1 RIA – Research, Training, Practice Model

The research for my thesis conducted at the Village of Glendale Crossing was approved and documented by the Village of Glendale Crossing and the RIA, Schlegel Centre for Learning, Research and Innovation in Long Term Care as an approved research project (see Appendix B).

4.32 Resident Population

The Active Dementia Home Care unit consists of 32 residents in a neighborhood. The residents are both male and female and range in age. Eligibility to reside at the Village of Glendale Crossing is based on needs, not age or gender.

4.33 Building Information – the Built Environment

The Village of Glendale Crossing was completed in 2010 as a collaboration between Schlegel Villages and Cornerstone Architecture in London, Ontario.

Schlegel Villages have developed a unique brand of long term care facilities that are 'planned as part of a large continuum of senior's care communities; connected by a 'main street' to the other facilities on the site' (Architecture, 2014d). All Schlegel Villages feature the 'hallmark Schlegel Village design, including a Town Square and Main Street to promote social interaction and quality of life and draw members of the Village for events and activities'(Villages, 2012b). Design features along the 'main street' create the feel of village living through awnings, store fronts, street signs, extensive windows and skylights to bring natural light onto the street. The design enables residents and their families to interact with those living in other phases at The Village of Glendale Crossing and with members of the surrounding neighborhoods.

Common amenities along 'main street' include parlors with fireplaces, a library, indoor café, general store, rehabilitation clinic, a chapel, community center and greenhouse, beauty salon and barber shop, resident kitchens and Laundromat, hobby and craft rooms, family lounges and family dining (Villages, 2012b). The 'residential flavor extends to the exterior as well, with patio areas, sloping rooflines and beautiful landscaping' (Villages, 2012b).

The Active Dementia Home Care unit is comprised of private and public spaces. Private resident rooms, such as the Memory Care Studio were designed to include a bed, small seating area, closet and washroom. There are no tubs or showers in resident rooms. Other options for resident accommodations include shared rooms (2 people).

Public spaces are open and spacious, (Figure 4.28.4) and include amenities such as a dining room, a country kitchen (Figure 4.28.5) small rooms, and a bathing and shower room.

4.34 The Village of Glendale Crossing – Non-Family Caregiver Perceptions about Current and Future Alzheimer’s Care Facilities in London, Ontario

4.35 Introduction

Three one-to-one interviews were conducted at the Village of Glendale Crossing with non-family caregivers who work as a Dietary Aide, Environmental Services Facilitator and RPN. For confidentiality, information provided by interview participants will be identified by G1, G2, and G3.

4.36 Demographic Profile

Questions related to demographic profile in the one-to-one interviews established non-family caregiver positions, job responsibilities and investigation into what led them to working in a profession with

individuals with AD. At the Village of Glendale Crossing non-family caregivers focus on optimizing life purpose when administering daily care.

When participants were asked what led them to this field, working with individuals with AD the responses varied. For the most part finding themselves in a career dedicated to AD and dementia care was not an intentional decision. One participant said 'this is a second career for me, my experience working as a teacher with children with learning disabilities was very helpful in my current career working with dementia, you have to be a good detective, keen observation skills, do a lot of watching, noticing, decoding and have incredible patience' (G2).

Non-family caregivers discussed job roles and daily activities, one participant said 'we interact with residents on a daily basis, some residents are very independent, you don't always build a relationship with them, others you get to know very well. We talk to them all day, they come to the nursing station and sit and read, you get to know them and you can anticipate what they are going to need' (G1).

Another participant stated 'beyond my job responsibilities, it's about the value of simple interactions, creating connections. Everybody can't be doing their own thing, it's critical, the word we use here is you 'look for those opportunities', opportunities for interactions' (G3). One participant noted 'typical interactions depend on the day, depend on

how residents are feeling, personal interactions are very important, you help anywhere you can' (G2).

In the interviews, non-family caregivers were asked if their role had changed in the time they had worked at the Village at Glendale Crossing. One participant shared 'my role at Glendale has changed over the last 3.5 years, now I am doing facilitating, educating, teaching staff, family and residents' (G2). When asked about change, another participant said 'my role has changed in 2.5 years, every day I find out more about what I don't know, and it's constantly evolving. We are task and goal oriented, we look at the bigger picture and try to figure out how to become part of the answer rather than just look for a result' (G3).

During the interview process, questions related to demographic profile generated responses about non-family caregiver roles, personalities and their approach to care at the Village at Glendale Crossing. Drawing similarities to Highview Residences and McCormick Home, the responses generated from the interviews reinforced the need for non-family caregivers to lead with patience, compassion and to be able to relate to resident needs and behaviors.

4.37 Physical Environment

The second phase of the one-to-one interview focused on aspects of the built environment, examining daily interactions with residents, job

tasks and features or constraints that exist within the interior space that complement or limit non-family caregiver's ability to provide care.

Throughout the interviews non-family caregivers discussed both public and private space related to caregivers, residents and daily activities. The philosophy at the Village of Glendale Crossing is to focus on optimizing life purpose. During the interviews non-family caregivers discussed the benefits and constraints associated with the built environment and the resident population of 32 individuals in AD care while respecting needs, ensuring safety and quality of life.

4.38 Private Space

Similar to the design at McCormick Home, the Village at Glendale Crossing has a combination of private and shared bedrooms. When asked about the built environment related to private space, one participant said 'some rooms are shared and some are individual, the facility includes individuals at various stages of advancement. The idea when we opened was that the first floor was for early onset and the second floor was for more behavioral residents and the third floor was more end or late stages. With the admission process and how Community Care Access Centre (CCAC) works, when beds are available they don't go through the list and place residents based on stage or criteria, that's a struggle. We have residents who don't necessarily need to be in a secured unit, but if a bed is available you take it and hope for an internal transfer' (G1). One participant stated 'sharing

rooms is very difficult, it's the worst thing for a lot of them, it causes anxiety and residents ask 'who are these people?' We have one lady who doesn't want to go into her room at all, she practically lives in the parlor because her roommate is hostile. Roommates are separated by a hospital curtain, it isn't a barrier, especially if you have residents that are screaming, or you have a resident that is passing and you can't go into the room because family is there. The biggest thing is privacy, you need to have your own little space, giving up privacy is difficult' (G2).

In the interview sessions non-family caregivers talked about finishes in resident rooms. One participant said 'some rooms are decorated 'for' the family, the resident is not getting anything out of it, especially when they are at a late stage of dementia. You can tell that the room is decorated because the family needs that, it's almost like a therapeutic mechanism' (G1). Another participant made reference to flooring indicating that 'resident bedrooms have a slip-resistant tile, something similar in the bathrooms would be good because falls happen due to incontinence around the toilet, the same with our shower room' (G1).

Private spaces can be a safe haven for some residents at the Village at Glendale Crossing. One participant noted, 'when residents become agitated sometimes we take them into their room and put music on if they have a radio' (G1).

Non-family caregivers discussed way finding for residents, one participant shared, 'as far as visual cues, we have name plates on

resident rooms, but we need something where they can make it their own, something that is visually familiar. When you share a room with someone there are two names on the door, how do I know which bed is mine' (G1)?

4.39 Public Space

During the course of the interview we discussed aspects of the built environment related to public space. A similar format to the other two research sites will be followed to examine general observations as well as specific observations that impact how non-family caregivers do their job and how these factors impact resident behavior.

Participants shared accounts of positive aspects that impact residents related to the built environment. One participant said 'the built environment is a lot more like home than older facilities' (G1). While another participant added, 'I like that the common areas are in the middle, parlor, hobby room , large dining room, country kitchen, private room, etc.' (G2). Describing the floor plan design, one participant shared 'the horseshoe design in neighborhoods gives residents somewhere safe to travel in a secure neighborhood' (G3).

When questioned about flooring in the built environment, one participant stated 'the wood-type flooring looks nice and is easy to keep clean, but most residents grew up with carpet. Where the wood transitions to carpet there is a lip and it's hard to get wheelchairs over, or they trip, some residents try to step over it because they think it's a

step' (G1). Another participant pointed out the benefits and limitations of flooring options noting 'we have linoleum floor that looks like wood, it is easy to maintain. In our resident room halls we have carpet, it looks nice and adds to a home-like feel, dampens sound and is very difficult to maintain' (G3).

Non-family caregivers discussed characteristics of the built environment related to accessibility and exit seeking behavior in residents. One participant said 'we have a fair number of residents in wheelchairs, a lot more than we used to, it could be that residents are living longer, but with dementia it's hard to maintain ambulation. If someone has a few falls they decline and end up in wheelchairs, because of this we wish public and private spaces were bigger it can be difficult' (G1). In reference to exit seeking, one participant noted 'residents want to be able to go through doors, they want out, they see other people leaving the neighborhood. Residents who are exit seeking have a one track mind, we have some who lick their fingers and try to undo the screws, bang on the doors, and it escalates behaviors' (G1). Additional feedback from one participant expressed that 'exits need to be less obvious, when we first moved in we found that it was disturbing for residents to stand and look out the glass panes on the locked door, they could look out and see other people on main street, eventually it was covered with a transparency to look like stained glass. It is still very clearly a door, residents constantly push on the door or wait by the door. Maybe the door could be painted to look

like a mural' (G2). In addition, it was noted that 'we have keypads on the doors that are set to the current year and star, if you are cognitively well enough to understand and know where you are you can join programs on main street, if you are not able, staff will help' (G3).

Non-family caregivers provided information about furniture and finishes in the built environment related to how they affect or impact their job and resident wellbeing. One participant said 'the furniture is leather which is good for cleaning, sometimes it feels like plastic, we do have a lot of fabric chairs and they require a lot of cleaning' (G1). In a similar comment, one participant added, 'we have some furniture that is fabric which is very nice and less institutional as say vinyl, but it is difficult to maintain and keep clean, even when you clean the surface what is beneath isn't necessarily clean' (G3).

When asked about lighting in the built environment one participant said 'dimmers on lighting would be good, it would be nice to control the light levels' (G2). Another participant added 'I'm not a fan of the fluorescent lights, it makes the space seem clinical' (G2).

4.39.1 Country Kitchen

There are some unique features found in common areas of the built environment at the Village at Glendale Crossing. One of which is the Country Kitchen. One participant explained 'we have a country kitchen where you can bring your family in, fix food and have dinner, it's a nice place to spend family time' (G2). Another participant added 'we have a

supper club, if residents are able they go to the grocery store and purchase what they are having for meals, if they are not able the leadership or staff will get what the residents want for dinner. They cook in the Country Kitchen and it's their own special thing, an opportunity to get involved and do things' (G3).

4.39.2 Nursing Station

There is a visible nursing station as part of the built environment at the Village at Glendale Crossing. One participant said 'it would be helpful if the nursing station was less obvious, right now it has a high counter, office behind a glass door, little swinging door to go through. For now we call it different names so there is no medical insinuation, small changes like this could translate into improved happiness' (G2).

4.39.3 Dining Room

When questioned about the built environment in the dining room participants talked about the physical space as well as how the space is utilized. One participant said 'windows in the dining room enables residents to not feel like they are trapped, however some residents in evenings see their shadows in the windows and that can trigger behaviors' (G1). Another participant commented that 'the setup of the dining room is efficient, it is a dining room for a lot of people and has to be able to accommodate lots of wheelchairs. It may seem clinical to some people but it is about as home-like an atmosphere you can get' (G2). Relating to opportunities for improvement and change in the

built environment one participant said 'we have had conversations about removing doors to make the dining room feel more open, right now it is very busy, congested, loud, anything we can potentially do to help reduce that would be great, it also would help residents get in and out' (G3).

4.39.4 Living Room / Lounge

Participants indicated that the living room area can be a place that negatively affects resident behaviors. One participant said 'common spaces are large, we can only put our residents in wheelchairs so many places, they end up lined up in the lounge, however if one person is agitated it's a trigger for others' (G1).

4.39.5 Resident Bathing

Resident bathing takes place in a room dedicated to personal grooming. One participant shared 'there are no showers or tubs in resident rooms, there is a bath tub and shower room, it is very 'facility-like', it's just a big room, they get cold, it feels like a hospital setting' (G1). Another participant indicated 'residents here are not as ambulatory as other neighborhoods, the physical space in the bathing area is good but there is no natural light' (G3).

4.39.6 Small Rooms

Small rooms can have a positive effect on residents within the built environment. One participant said 'small rooms are good in public

areas, for example the small parlor, it has a fireplace and sofas. When a resident is agitated we bring them in there, it's a quiet room' (G1).

4.39.7 Garden

Non-family caregivers agreed that outdoor garden spaces have a positive impact on resident behavior and wellbeing. One participant said 'in the summer months it is great to go outside for walks, put music on outside' (G1). At the Village of Glendale Crossing memory care residents are not necessarily located on the main floor. One participant noted that 'residents on the main floor have the advantage of direct access to outdoor space, however the residents upstairs utilize it too and they have balconies. The main floor outdoor is nicer for sure' (G3).

4.40 Technology

Access to technology is shaping not only the way non-family caregiver do their jobs, it also is available to residents in a number of different ways. One participant said 'we are embracing technology, in time the nursing station will be less stationary, we are trying a program where the PSW's will chart on a tablet, some facilities have tablets or computer technology on the wall in a hall' (G1). For residents, one participant explained 'we have an iPod system and an iPad system in place, we are active members of the Music and Memories program. We have music very accessible, there are CD players on every neighborhood, radios, and television channels with radio stations. I

know it's pretty old school but we have a CD library in the community center and we have an MP3 library as well, we constantly buy iTunes cards and download different music, those songs are on our cloud' (G3).

4.41 Future Considerations

The last phase of the one-to-one interviews included four questions related to changes non-family caregivers at the Village at Glendale Crossing would like to see to the built environment in the next five years. Questions focused on potential opportunities to create better environments and addressed the subject of user-centered design and participatory design in the construction of future environments for AD care.

In our discussions participants provided information related to considerations for the future of the built environment reflecting on current and future practices. One participant said 'I know we are already going in the right direction, compared to other spaces this does have elements of a home-like environment, we keep looking at culture change and ways to make it home' (G1). When one participant was asked about what changes could be made to the built environment, the response suggested that 'in the future there isn't going to be a singular answer to what to do, you don't know when you wake up what segment of your life you will be living in' (G3). One participant noted 'in the future we need to embrace anything

innovative that will improve quality of life, the statistics of how many people are going to be here, they say dementia is the defining disease of the baby boomers. Recently I was taking a resident back to her room, she took my arm and started to dance 'let's be show girls' she said, so went down the hall kicking our feet and acting fancy, all of a sudden she stopped and turned to me and said 'I never thought this would happen to me'. Nobody thinks it is going to happen to them, but you can't stop it and can't reverse it' (G2). An additional factor that may impact the future of the built environment expressed by a participant indicated 'in the coming generations there will be lifestyle expectations that will be different' (G1).

Looking more closely at changes to improve the built environment, one participant said 'it would be nice transitionally if we had a set up where someone who moves into the village, but if they still have their spouse, their spouse could stay for a night or two to transition. It would provide sensitivity to relationships and past surroundings, it would be a positive thing that would be good for the neighborhood' (G2). Additionally, 'it would be great in the future if people in early stages of AD could have grandchildren or family members spend the night and have a sleep over, having an area where you could have somebody come. We don't have anywhere for family to sleep. It would be nice to have a place to offer to family to spend the night' (G2).

In discussions about changes in physical appearance in the future one participant said 'I would like to see murals, more pictures on the walls.

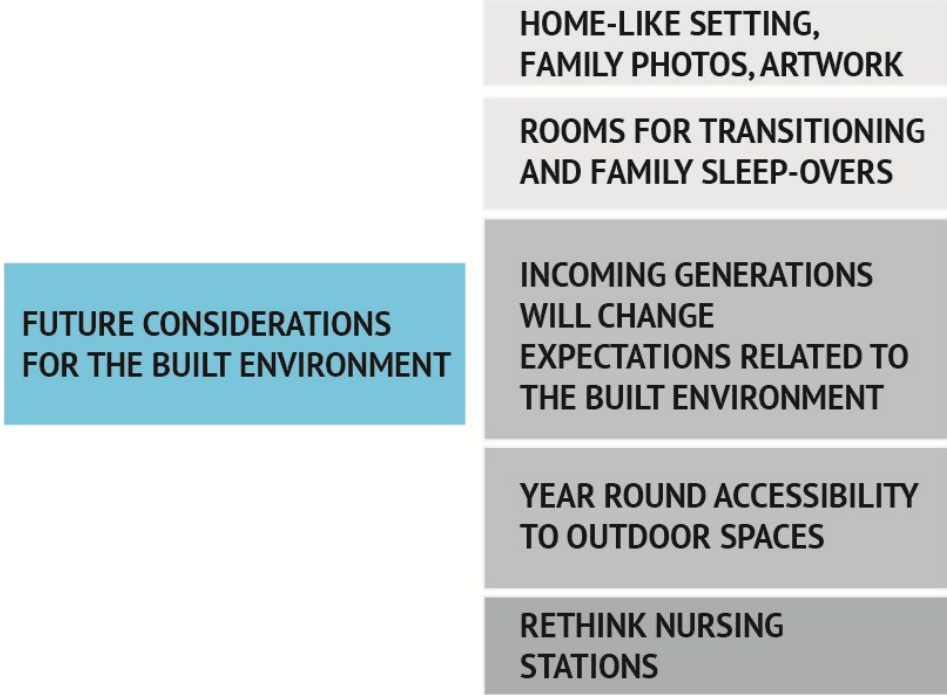
My home is full of pictures on the wall of my life, my family, the space needs more color, everything looks the same' (G1). A similar response came from a participant who noted 'Our team brainstormed about the idea of incorporating areas where we have family photos, pictures of grandchildren, grandchildren's artwork, it would make the space look more like home and less of a hotel lobby' (G2).

One-to-one interviews generated responses related to the future of the traditional nursing station. One participant shared 'it would be nice to see a change in the setup of the nurses stations, having it swap places with the parlor so you have better site lines to the elevator, stairwell, dining room, so as the evolution of our homes that Schlegel designs move on they can consider this input and make it work. Five years from now, or sooner it won't be called a nurses station, 'front porch' is a terminology we have started using, so we need to make it look more like a front porch' (G3).

In response to changes to the built environment and outdoor spaces, one participant said 'residents are stuck inside in the winter, having a porch or enclosed porch with sunlight and a glass roof so they feel like they were outside would be nice' (G1).

In the second last question participants were asked about including non-family caregivers in focus groups in the preliminary phases of the design process. If so, they were asked to consider whether or not this would positively impact the outcome of the built environment. One

participant said 'we (caregivers) have wonderful ideas and hope to be part of putting them in place' (G1).



THE VILLAGE OF GLENDALE CROSSING - RESEARCH SITE 3

Figure 4.41.1 Future of the Built Environment, Village of Glendale Crossing

Figure 4.41.1 is a diagram summarizing the most important areas for future considerations related to the built environment for AD care facilities. At the Village of Glendale Crossing, non-family caregivers expressed that the built environment needs to reflect a home-like setting by incorporating areas for displaying family photos and artwork. Familiar images have the potential to create conversation

with residents while providing a sense of something you would expect to see displayed in a family home.

Non-family caregivers expressed the need for transitioning rooms, spaces where family members could spend the night to provide support and comfort to incoming residents. These rooms could also be used for family sleep-overs which would increase the opportunity for family interaction, support and involvement which would potentially benefit family members and residents alike.

Similar to findings from non-family caregivers at McCormick Home, there was importance placed on consideration to needs and expectations of future generations. While some expectations might be costly and difficult to accommodate, exploration into ways to adapt the built environment to service changing dining and food preferences might be worth exploring.

Non-family caregivers at the Village of Glendale Crossing indicated the need for the built environment to include accessibility to outdoor spaces that could be used throughout the year. Creative design interventions are needed to find ways to provide safe and inclusive access to the outdoors.

Findings from the one-to-one interviews at the Village of Glendale Crossing indicated that the physical presence and terminology associated with a 'nursing station' cause anxiety and paranoia in residences. The design of the built environment needs to provide the

physical and spatial requirements associated with a nursing station while employing sensitivity to the physical appearance.

NON-FAMILY CAREGIVER PARTICIPATION IN THE DESIGN PROCESS

**'WE (CAREGIVERS)
HAVE WONDERFUL
IDEAS AND HOPE TO BE
PART OF PUTTING THEM
IN PLACE' (G1).**

THE VILLAGE OF GLENDALE CROSSING - RESEARCH SITE 3

Figure 4.41.2 Participation in the Design Process, Village of Glendale Crossing

Non-family caregivers interviewed at the Village of Glendale Crossing indicated that there are opportunities to express and share ideas for future improvements. When asked about participation in the design process, non-family caregivers expressed interest in being included to strengthen the outcomes of the built environment.

4.42 Summary of Findings at the Village at Glendale

Crossing

At the Village at Glendale Crossing non-family caregivers who work in the Active Dementia Care unit provide individualized care with genuine interest in creating an optimal quality of life experience for residents. They deliver resident focused care and prioritize safety and security in private and public spaces. Through daily social interaction, non-family caregivers provide residents an opportunity to engage in sensory stimulation and partake in the many music oriented activities available at the village. The Village at Glendale Crossing offers residents accessibility to technology including an iPod and iPad programs, as well as an MP3 collection of music stored in a centralized data base.

The built environment provides amenities both private and public within the Active Dementia Care unit as well as common rooms and gathering spaces throughout the village's main street area. Private spaces are made up of private and semi-private bedrooms with shared washroom facilities. Public or common areas assimilate a home-like setting but on a larger scale to accommodate the 32 residents in the unit. The design allows residents to spend the majority of their day in common areas with the opportunity to participate in small and large group activities. Similar to Highview Residences and Memory Lane at McCormick Home, there are an increasing number of non-ambulatory

residents in the Active Dementia Care unit, and non-family caregivers shared concerns related to accessibility limitations in both public and private spaces within the built environment.

In one-to-one interviews non-family caregivers talked about the future of the built environment for AD facilities in the next five years. The findings recounted hopes for interventions that improve quality of life, consideration to incoming generations and what that might bring, the inclusion of family through common spaces for sleep overs, and changes to make the nursing station less visible to residents. Non-family caregivers shared that there are many ways staff are involved in training, learning and initiatives for continuous improvement at the Village at Glendale Crossing. Of the participants interviewed all expressed interest in having a voice in the future of the built environment. The Village at Glendale Crossing has strong ties to research through the RIA. It would be beneficial to see emphasis placed on future research projects about the built environment of Schlegel AD care facilities from non-family caregiver perspectives. Benefits of a project of this nature would include continued team building and an opportunity to collect data from their own staff (non-family caregivers). Data of this nature could potentially contribute to a body of research about current and future AD care facilities unique to the Schlegel brand.

4.43 Relationship of Research Questions to Findings

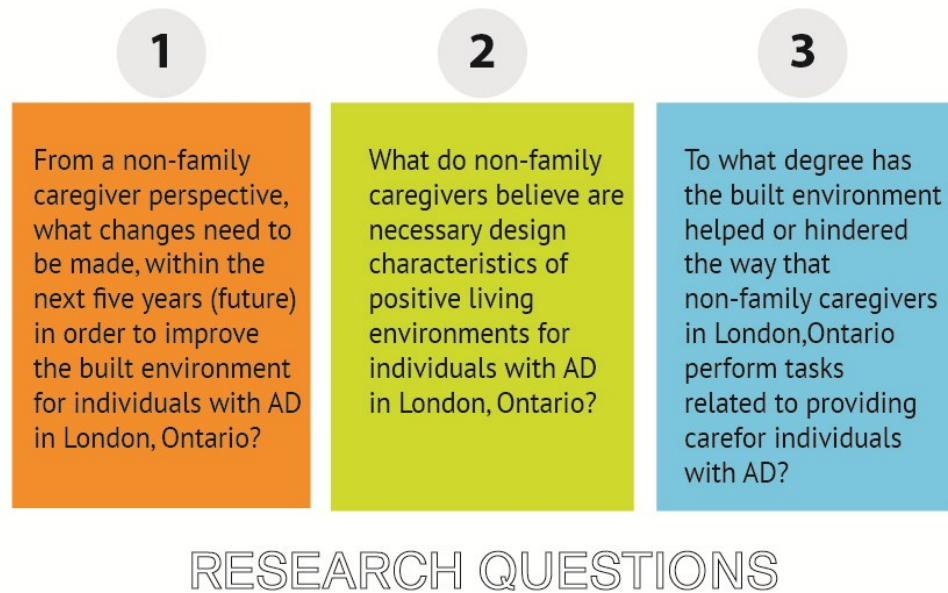


Figure 4.43 Three Research Questions

While the thick, rich descriptions of the findings presented so far are helpful for understanding the full context of each site, the next section explains, more directly, how the findings link to the research questions from Chapter One, to the case study and design process literature, and to the theoretical memos generated during data analysis.

4.43.1 Research Question One

From a non-family caregiver perspective, what changes need to be made, within the next five years (future) in order to improve the built environment for individuals with Alzheimer's disease in London, Ontario?

Findings from the three research sites, Highview Residences (HV), McCormick Home (M) and the Village at Glendale Crossing (G) produced the following data in response to this question. The responses are organized to include macro ideas first, and micro ideas second:

1. Create a built environment that is flexible enough so it can adapt to incoming generations related to spatial requirements and technology (HV).
2. The built environment needs to be accessible for everyone. Interior design needs to meet or exceed the requirements of residents and non-family caregivers. Consideration must be given to the increasing population of non-ambulatory residents, residents in walkers, and Broda chairs living together in one space. Attention to accessibility is needed in both private and public spaces. Although the built environment is designed using accessibility standards set by the Ontario Building Code, and the Ministry of Health and Long –Term Care Design Manual, closer investigation is needed into space

planning dimensions that address the specific needs of this population (HV,M,G).

3. The built environment needs to be able to adapt and change to technological advancements for non-family caregivers in the form of charting, and perhaps down the road security. Residents in early stages of AD will start to utilize more technology such iPads and computers to engage in multi-sensory activities (HV).
4. The built environment needs to be designed to accommodate smaller groups of residents. Rethink the design of neighborhoods and create clusters of smaller resident populations, i.e. 10-12 residents per unit (M, G).
5. The built environment needs to include a safe room. A place for residents to be removed from a situation to protect the safety of the resident and individuals around them. Have a safe and quiet place for non-family caregivers to perform an assessment, calm them, monitor and administer care if necessary (HV).
6. The built environment needs to include more small rooms. Smaller spaces for residents to spend time and engage in activities, smaller spaces reduce agitation. Residents with AD tend to become easily overwhelmed in large groups (HV, M, G).

7. The built environment needs to include a room for music therapy. A small space where residents can be engaged in music. Music is extremely important to the AD population. It provides a meaningful participatory activity that brings happiness and sense of belonging (HV).
8. The built environment needs to include spaces for family members for activities such as dining or small group activities. Having space like a small diner or family restaurant provides a space for family interaction (M).
9. The built environment needs to provide ways for residents to access outdoor spaces year round. One suggestion was to create glazed sunrooms (heated) with visual accessibility to sky as well as immediate horizon (HV, M, G).
10. The built environment needs to look and feel like a 'home-like' setting. Whether through nostalgic items, colors, textures, items of visual interest such as more family photo arrangements and display of grandchildren's artwork in public spaces or ways to personalize resident rooms to feel less hotel-like and clinical. Finishes need to have a 'home-like' feel while being safe, easy to clean and maintain yet not exhibit an overly institutional appearance (G).
11. The built environment needs transitioning rooms. Spaces for family to come and stay overnight when transitioning a loved

one into care. This space could also be used for sleep overs so residents could have the opportunity to spend time with family for longer periods of time (G).

12. The built environment needs to find ways to eliminate nursing stations from care facilities for AD. The physical structure does not act as a productive working environment, can minimize non-family caregiver's ability to be hands on. The institutional appearance is often agitating to residents.

The first research question asked non-family caregivers what changes need to be made within the next five years in order to improve the built environment for individuals with AD in London, Ontario. This portion of the chapter will identify similarities and differences of the findings from non-family caregivers in relation to the literature review (including case studies and the design process).

In relating the literature review to the findings from non-family caregivers, macro ideas (presented above, 1,2,3,4) will be explored followed by a general synopsis of the micro ideas (5-12) as they relate to the three case studies and the design process. The bigger picture responses (macro) from non-family caregivers about changes to the built environment focused on adaptability, accessibility, technological advancements and design for smaller resident numbers within the built environment. Lawton addressed examples of change in his reference to pilot studies conducted at the Philadelphia Geriatric

Centre. The study involved 'the redesign of two large rooms for mentally impaired aged into a suite consisting of six small private rooms opening onto a small social space' (P. Lawton, 1974, p. 259). Creating smaller spaces that maintained good visual accessibility enhanced social interaction and produced favorable behavioral responses to the built environment.

This is further validated in Calkins (2003) paper about Powell Lawton's contributions to long term care settings, it was discussed that Lawton proposed a platform for the design of care facilities for AD to include 'short corridors, visual cues, attention to social spaces' (Calkins, 2003, p. 67). Although much of Lawton's work dates back to the 1940's and 1950's, his work has been empirically validated as part of standard practice and is still being cited in research papers today. Additionally, Lawton's work was considered radical, especially when it was implemented in the Weiss Institute Pavilion in 1978. He pushed boundaries of traditional architectural interventions, creating a design for smaller (40) resident numbers, eliminating hallways, including open central spaces with color coding for way-finding (Calkins, 2003, p. 70). Robert Katzman interviewed Powell Lawton for a chapter in his book titled, *Alzheimer's disease, The Changing View*, (2000). During the interview Lawton discussed radical design interventions that included color coding door jambs of resident bedrooms, carrying the color into the room to encourage visual cueing (Katzman, 2000, p. 119). Additionally Lawton noted, 'an orientation feature was added to the

large central area design too. ..if a person could see the significant areas (nurses station, the dining area, the place where people come in and out, the place where activities are held) that might also provide an increment of orientation' (Katzman, 2000, p. 119).

In Lawton's environmental-behavior studies, his objective was to reach a broader audience. Lawton believed that 'there is good reason to encourage the joint participation of social planners, health professionals, behavior scientists and designers in the task of producing health-engendering environments'(P. Lawton, 1974, p. 259).

To hear the perspectives of what non-family caregivers are saying in present day is in many ways similar to the work of Powell Lawton, dating back to the 1970's. It is unclear if design programming has been slow to translate into AD care facilities in London, Ontario, or if limitations found in the built environment stem from funding and differences associated with public and private care. Each of the three research sites are representative of relatively new spaces, however the built environments identify a need for continued attention to design criteria for residents and non-family caregivers in the future.

The importance of case studies as part of the research process for new design is reinforced by Uriel Cohen and Kristen Day (1993) citing that 'both informal and formal case studies provide designers with information about the knowledge of applicable design principles and concepts... innovations and emerging trends in this domain; and the latest information about what "works" and "doesn't work", and for

whom' (Cohen, 1993, p. 21). To improve the future of the built environment, including non-family caregivers in local site tours and access to documented literature about case studies has the potential to provide a basis for informing and confirming spatial requirements. Looking at the case study of the Woodside Place model, it was noted that in many ways the project was a direct descendant of the work of Powell Lawton. The design philosophy for Woodside Place was that small scale environments were important. Participants from McCormick Home and The Village of Glendale Crossing expressed the importance of creating clusters of small resident populations. Their current spaces were designed to accommodate over 30 residents in one living environment, which is most likely a result of guidelines from the Ministry of Health and Long-Term Care. However, future consideration could be given to the value and benefits of smaller resident populations for residents and non-family caregivers. To support the concept of smaller living environments, in the second case study, The Retreat provides a built environment to accommodate smaller resident populations in an effort to provide a quality lifestyle in a home-like setting. The Retreat separates early, mid and late AD to provide individualized care with emphasis placed on the value of outdoor spaces, visual access to the outdoors, and accessible room sizes to benefit residents and non-family caregivers. The characteristics of the built environment at The Retreat respond to a human-centered approach to design. Micro ideas found in the data from non-family caregivers for future designs include items such as a safe room, small

activity rooms, spaces that allow for family involvement, the importance of access to outdoor spaces, a home-like setting and elimination of the nursing station. The findings suggest that what is desired by non-family caregivers in London, Ontario for the future is already happening elsewhere in North America. Case studies such as Woodside Place, The Retreat and Dementia Village provide valuable evidence of how this can be achieved in the built environment.

It is important to look at the design process and how it relates to responses from non-family caregivers about changes to improve the built environment. The concept of participatory programming by Ho and Lee (2012), shows evidence of the importance of including all stakeholders throughout the phases of the design process. Involving non-family caregiver perspectives and participation could potentially have a positive impact on the design of the built environment for the future of AD care facilities. Ho and Lee cite that 'design participation is not a political stance, but a methodological necessity' (Ho & Lee, 2012, p. 71). The concept of participatory design establishes the potential for a much more hands on and succinct relationship between designer and end user. By moving away from traditional practices of "design for people" and moving toward a mentality of "design with people" and "design by people", Ho and Lee believe this concept has the potential to reshape design for the built environment. An approach that is founded on social inclusion throughout the design process. Dell'Era and Landoni (2014), further support participatory design stating that

this methodology provides an opportunity for a 'real life test and experimentation environment with users who are aware that they are co-involved in the innovation process' (Dell'Era, 2014, p. 139).

Departing from traditional design process practice has the potential to use deeper and more valuable interpretations of design as an organizational process (Dell'Era, 2014, p. 141).

4.43.2 Research Question Two

What do non-family caregivers believe are necessary design characters of positive living environments for individuals with AD in London, Ontario?

1. Design that addresses visual accessibility. This is particularly important in the design of public spaces for non-family caregiver have visual access to residents at all times. Visible accessibility is also important for way finding and visual cueing in the built environment. Optimizing views of the outdoors (visual accessibility) is also very important (M,G).
2. Resident groups need to be smaller, i.e. 10-12 in a neighborhood (M,G).
3. Separating early, mid and late stages of AD to provide care that addresses the needs of a specific group of residents (HV,M,G).
4. Eliminate shared bedrooms, provide residents with their own rooms as a calming place to re-group and feel dignified (M,G).
5. The inclusion of more small rooms and small gathering spaces in common areas (HV,M,G).
6. Consideration to the design of resident bathing rooms. Bathing rooms must include accessible showers and tubs to accommodate preference. The rooms need to be warm,

include natural light (visual access to outdoor spaces) and have an overall less clinical feel to reduce anxiety, fear and agitation (HV,M,G).

7. Designing the built environment to incorporate cultural and familiar preferences through furnishings, and finishes (HV,G).

The second research question asked what non-family caregivers believe are necessary design characteristics for positive living environments for individuals with AD. This section will explore similarities and differences in findings from non-family caregivers related to the literature review, which includes the three case studies and the design process.

When comparing and contrasting the literature review to my findings, the macro ideas (1-3) will be explored first and then look more generally the micro ideas (4-7) in relation to the case studies and the design process. Responses from non-family caregivers about design characteristics of positive living environments for individuals with AD included visual accessibility, clear way-finding, smaller resident groups and separating early, mid and late AD to provide care environments that address specific resident needs. In Chapter Two, innovations in psychological and social aspects of aging and the built environment, Lawton's four key principles for individuals with AD are discussed. The principles refer to, orientation, negotiability, personalization, social interaction and safety. The principles associated with orientation,

negotiability, social interaction and safety reflect non-family caregiver's desire for visual accessibility, way-finding and visual cues. Each of the four principles support characteristics required for positive living environments. According to Lawton, it is necessary to make 'improvements to the built environment in order to help the elderly compensate for their sensory and cognitive loss' ("Dr M. Powell Lawton, 77; elder statesman of gerontology January 2001 Obituary," 2001). When considering characteristics of the built environment, it is also important to consider Lawton's environmental-behavior studies, put in place in 'an attempt to improve or restore functional status to the demented through therapies such as behavioral, milieu, reality orientation and re-motivation' (Lacey, 1999, p. 112). Also worth noting is the work of Elaine Brody and her empirical research design to develop a model of care for AD that was individualized (Lacey, 1999, p. 113). Brody worked closely with non-family caregivers to document social histories and develop individualized care plans for residents. This approach to care was not only reflective of characteristics for positive living, but laid the groundwork for standards for nursing home care throughout North America. Once care plans are in place, the design of the built environment can follow based on resident needs. Additionally, Brody's work supports the importance of including non-family caregiver perspectives in the overall approach to caregiving for individuals with AD.

In the case study for Woodside Place, Stefani Danes (2012), indicated that the project stemmed from the need to 'develop better therapeutic environments, shifting away from a traditional nursing home model of care'(Danes, 2012, p. 222). The effort toward developing better environments was an attempt to find alternatives to positive living environments, which ultimately led to the creation of Woodside Place (Danes, 2012, p. 222). Part of the preliminary design process involved visiting case study sites in the US, Australia and England, to gather information necessary to design a non-institutional resident focused model (Danes, 2012, p. 222). The design acknowledged residents 'need for both privacy and community with individualized care, permitting flexible daily rhythms and patterns' (Danes, 2012, p. 223). The Woodside Place model was designed around small group environments that 'support building resident relationships through way-finding and a residential environment in layout, scale and architectural language' (Danes, 2012, p. 223). The design program for Woodside Place reflects desires expressed by non-family caregivers for positive living environments, for visual accessibility, way-finding, smaller resident groups and spaces that are designed to meet the needs of specific groups of residents.

Characteristics of positive living environments are also found in the case study for The Retreat. The goal in designing this facility was to 'meet the emotional and quality of life needs of individuals living with AD and related dementias' ("The Retreat," 2009). A positive living

environment was achieved by recognizing the link between the built environment, care and behaviors associated with AD. Features that foster positive living environments at The Retreat include sensory stimulation, opportunities for meaningful wandering, social interaction, small activity alcoves, dignified bathing and toileting and specialized care programs that follow evidence-based information ("The Retreat," 2009). Areas identified by non-family caregivers as significant to creating positive living environments included eliminating shared bedrooms, including more small activity areas, consideration to the design of bathing rooms and a design that incorporates cultural and familial preferences through furniture interior finishes. Looking to case studies such as Woodside Place and The Retreat provide examples of how these features can be included in the built environment and demonstrate how and why they work. Additionally, the third case study, Dementia Village follows a design program that mimics a village setting that not only includes small resident groups, and also connects residents to cultural and familial preferences through ' dwellings differentiated by lifestyle' (Village, 2013). Residents live together in their designated households with a team of non-family caregivers. They live together with individuals who share similar ideals and values in life. Dementia Village presents a simple, human-centered approach that represents a working model of AD care dedicated to positive living environments.

In Chapter Two, how the design process provides value to interior design projects was investigated. Olinger (2012), found that by using the design process and addressing the macro and micro needs of end users, a successful AD facility should provide a nurturing place to live (Olinger, 2012, p. 8). As a result of the design process, the built environment will 'ideally provide for the individual resident's needs, facility's cultural structure and be supported by the physical expression of the new environment' (Olinger, 2012, p. 8). Olinger also suggests that organizing a design program for AD facilitates into categories such as 'individual aspects, cultural aspects and environmental aspects provides a framework for identifying and addressing needs through interviews of non-family caregivers, evidence-based design and theory' (Olinger, 2012, p. 8). Incorporating Olinger's research on the design process with case studies such as Woodside Place, The Retreat and Dementia Village could assist designers and non-family caregivers in achieving positive living environments for future designs for AD care facilities.

4.43.3 Research Question Three

To what degree has the built environment helped or hindered the way that non-family caregivers in London, Ontario perform tasks related to providing care for individuals with AD?

Ways that the built environment has **helped** the way non-family caregivers perform tasks:

1. Newer AD care facilities have more windows, non-family caregivers agreed that more visual access to outdoor spaces was positive for residents and non-family caregivers alike (M).
2. Non-family caregivers agreed that common spaces designed to accommodate an 'open concept' are important for visual accessibility and visual cueing (HV, M,G).
3. Having one type of flooring that is slip resistant and easy to clean assists with resident mobility and makes it easier to assist residents in wheelchairs, there are fewer falls (or accidents related to shuffled gate which are more likely with carpeted areas) (HV,M,G).
4. The early stages of having access to technology for charting and resident care allows non-family caregivers to be close by at all times and not physically removed from resident areas throughout the day (HV, M,G).

Ways that the built environment has **hindered** the way non-family caregivers perform tasks:

1. Visual barriers, especially in common areas impact visual accessibility and also affect way finding and visual cueing for residents (HV, M,G).
2. Lighting levels need to be easy to adjust, throughout the course of the day non-family caregivers need lights on dimmers to control light levels and minimize resident behaviors (HV, M, G).
3. Resident washrooms are not designed with resident and non-family caregiver in mind, especially residents who are no longer ambulatory and require a walker, wheelchair or lift (HV, M, G).
4. Flooring presents limitations; carpet is the most 'home-like' flooring solution but it presents many shortcomings in the built environment for individuals with AD, linoleum or vinyl flooring is more sanitary and easier to navigate but can be noisier, is not as nice to stand on and creates a more institutionalized feel (HV,M,G).

The third research question asked, to what degree has the built environment helped or hindered the way non-family caregivers perform tasks related to providing care. Macro points about what helped the built environment addressed concerns related to visual

accessibility to outdoor spaces and the need for open concept design. Micro responses related to flooring materials and the need for integration of technology. Aspects that participants found to hinder the built environment included visual barriers, lighting, resident washroom sizes and flooring materials. In analyzing elements that help and hinder the built environment, it was useful to reference EBD at the Weiss Pavilion. According to Calkins (2003), 'another contribution to EBD was the post occupancy evaluation that was conducted the year after it opened, which added insight and depth to the hypothesis that the building represented' (Calkins, 2003, p. 70). Additionally, consideration should be given to the voice of non-family caregivers paired with findings from historic context, case studies and the design process. When questioning if enough had occurred with programming to help the built environment, Lacey (1999) recommended, highlight key areas that require consideration for continued improvement. What was not addressed was the need for recommendations for the future relationship between non-family caregivers and the ever changing needs of the built environment. Perhaps there is not enough attention being paid to EBR and non-family caregiver needs.

Looking at the Woodside Place model, the process of development included a 'multi-disciplinary team, including specialists in dementia, geriatrics and architecture from West Penn Hospital, Perkins Eastman Architects, the University of Pittsburgh and Carnegie Mellon University' (Danes, 2012, p. 222). Another striking similarity were the detailed POE

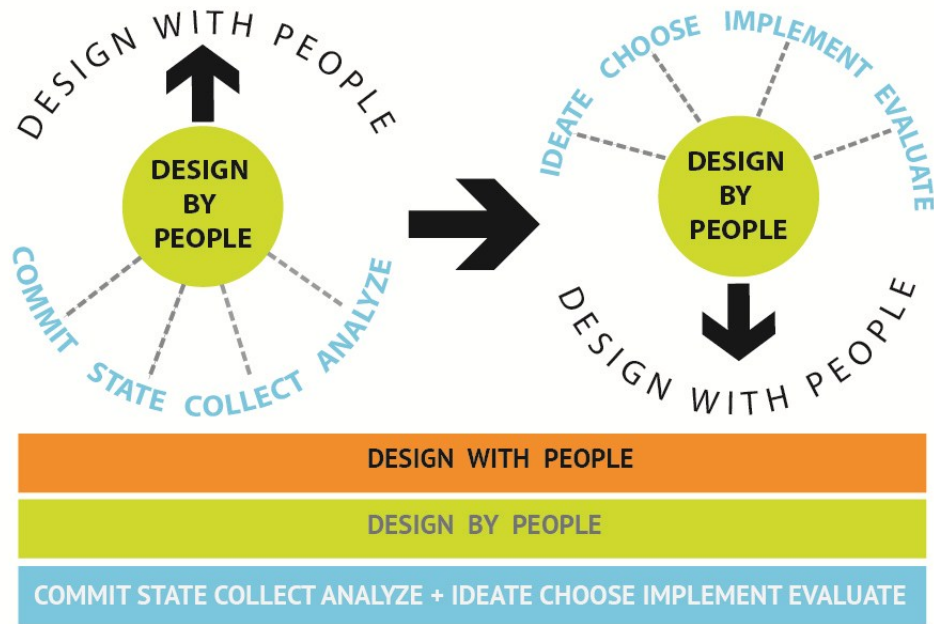
that Lawton's projects underwent. The Woodside Place model performed extensive POE as well. Success of the Woodside Place model can be attributed to the design itself, because the information uncovered from investigative studies through a 'series of POE by the Perkins Eastman Research Collaborative conducted interviews with both non-family caregivers and family members through a series of follow up questionnaires' (Danes, 2012, p. 221). The POE concluded that Woodside Place 'had been successfully adapted to a variety of contexts, populations and programs' (Danes, 2012, p. 221). At Perkins Eastman architects, individuals follow with POE and work with clients and organizations who are looking for a better understanding of clientele to educate about facilities as well as how well the building is fulfilling the mission of the organization and to educate the architectural and design community.

Case studies often provide examples of how the built environment has been improved, adapted or changed to create improved living environments. Dementia Village for example, was built with streets, squares, gardens and a park where residents have the ability to roam safely. The village setting offers innovative amenities for residents such as 'a selection of facilities such as a restaurant, bar and theatre' (Village, 2013). Such amenities were not found in environments for AD in the past.

The design process can have direct correlation to how the built environment has helped or hindered the way non-family caregivers

provide care to residents. According to Kilmer and Kilmer (1992), the design process can be identified by 'two simple phases: analysis and synthesis' (Kilmer, 1992, p. 155). However, programming and research have not always been associated with the profession of interior design. At the end of a design project, end users often participate in POE to 'evaluate, grade and critique changes for future application' (Kilmer, 1992, p. 159). Kilmer and Kilmer see POE as an opportunity to reflect on areas for self-improvement for the interior designer as well as a way to improve implementation of the design process. However, according to John Pile (2003), he states that 'unfortunately actual users are not often consulted in developing this information' (Pile, 2003, p. 189). This tends to occur when managers or supervisors provide information based in inferences and not actual data provided by user groups. Correcting this process calls for the inclusion of hands-on, participation such as (in the case of design for AD) non-family caregivers. According to Pile, eliminating such participation or relying on limited or incorrect data 'can lead to a design solution that proves to be unsatisfactory' (Pile, 2003, p. 139). Clearly there are potential disadvantages to the traditional design process that may fail end users. When the design process fails, it can result in a built environment that hinders how workers perform. Designing AD care facilities, for example, without input from non-family caregivers could have negative effects if the design program does not meet the needs of the end users (non-family caregivers and residents). This is why participatory programming and user-center design practices might

offer a better solution for designing interiors for AD care facilities. Because of this, the work of Sanders and Stapers (2008), should be given consideration as they state that a 'co-creation at the early front-end of the design development process can create positive, long-term consequences' (Dell'Era, 2014, p. 137). Through the analysis of a number of case studies that adopted a user centered design approach Sanders and Stapers indicate that this approach has 'enhanced or enabled the development of new interpretations of design as an organizational process' (Dell'Era, 2014, p. 141). Through my research, case studies and literature about the design process there are many factors that have an impact on how outcomes of the built environment can either help or hinder how non-family caregivers perform tasks. Based on the findings, opportunities for further research related to the built environment, participatory programming and design for AD exist. Research of this nature could add to a body of EBR to support outcomes for the design of future care facilities for AD.



owner + non-family caregiver + design team
 PARTICIPATORY PROGRAMMING

Figure 4.43.3 Model for the Design Process

Figure 4.43.3 illustrates a proposal for ‘people’ centered design for future AD care facilities. Including non-family caregivers throughout all phases of the design process could potentially reshape how interior design responds to the needs and requirements of end users and advance the outcomes of the built environment.

Emerging research about design that is inclusive to ‘people’, paired with findings from participant responses to interview questions in the research, makes a case for changes to the way interior designers approach the design of future AD care facilities. Pairing current research with invaluable input generated from end user experiences has the potential to advance design and contribute to a body of

research about participatory design, while enhancing the overall quality of the built environment for non-family caregivers and residents alike.

4.44 Summary of Findings

The design of Alzheimer's care facilities has made a slow but gradual progress over the last hundred years. Only recently have non-family caregiver perspectives been consulted or considered as part of design for the built environment. Looking at the contributions of Powell Lawton on establishing design criteria for AD care facilities, specialized research devoted to design for AD by Uriel Cohen and Kristen Day, and case studies such as the Woodside Place model, The Retreat, and Dementia Village support the need for interior design programming to rely on evidence based research in the design of future AD care facilities. Case studies provide a documented precedent for examples and improvements to interior design for AD. There is also need for further research documentation identifying specific design interventions required for well designed, user-centered environments for AD care facilities.

SUMMARY OF FINDINGS

1

From a non-family caregiver perspective, what changes need to be made, within the next five years (future) in order to **improve the built environment** for individuals with AD in London, Ontario?



- ADAPTABILITY
- ACCESSIBILITY
- Powell Lawton - advancements in the design of care facilities for AD
- Cohen & Day - the importance of case studies
- Adaptability and Accessibility models: Woodside Place, The Retreat, Dementia Village
- Participatory programming for the design of AD care facilities

2

What do non-family caregivers believe are necessary design **characteristics of positive living environments** for individuals with AD in London, Ontario?



- VISUAL ACCESSIBILITY
- SMALL (10-12) RESIDENT GROUPS
- Powell Lawton - importance of psychological and social aspects of aging and the built environment
- Woodside Place** - small resident groups
- The Retreat** - separation of early, mid and late AD
- Dementia Village** - human-centered approach to design

3

To what degree has the **built environment helped or hindered** the way that non-family caregivers in London, Ontario perform tasks related to providing care for individuals with AD?



- HELPED** - VISUAL ACCESS TO OUTDOORS, OPEN CONCEPT DESIGN
- HINDERED** - VISUAL BARRIERS, LIGHTING
- Powell Lawton - Evidence Based Design
- POE + multi-disciplinary team approach to design
- John Pile - The traditional approach to the design process can fail a project
- Participatory design - **DESIGN WITH PEOPLE**
DESIGN BY PEOPLE

HELPED

- NON-FAMILY CAREGIVER PERSPECTIVES
- RESEARCH + CASE STUDIES
- THE DESIGN PROCESS

LEGEND

Figure 4.44.1

A summary of findings, illustrated in figure 4.44.1, provides a diagram that connects the three research questions with findings from one-to-one interview data collected from non-family caregivers, research and case studies about AD care facilities and the design process. Research question one looks at changes that need to be made to the built environment in the next five years. Non-family caregiver perspectives indicate that adaptability and accessibility are key factors to consider. Designing a built environment that not only includes adaptable spaces, but supports changes in care delivery which has the potential to benefit residents, non-family caregivers and family members.

Accessibility relates to designing care facilities that reach beyond local building code standards and create a built environment that is suitable for both ambulatory and non-ambulatory resident needs. The work of Powell Lawton provides principles and research such as environmental behavior studies, and interior design standards that are applicable to current and future environments for AD. Cohen and Day, (1993) reinforce the importance of including case studies as research tools in the design process. Exposing non-family caregivers to case studies as part of the preliminary design process has the potential to provide research based evidence to support adaptation and changes for well-designed spaces. Research related to past and current approaches to the design process provides evidence that supports the value of incorporating participatory programming in design for AD care facilities, drawing on input and spatial experiences of non-family caregivers.

The second research question considers characteristics for positive living environments in AD care facilities. In the one-to-one interviews, non-family caregivers indicated that reducing or eliminating visual barriers in the built environment and smaller (10-12) resident populations are important characteristics to support improved quality of care and minimized agitation and behavior of residents. Powell Lawton's research supports the positive outcomes associated with smaller resident groups, short corridors, orientation cues and small rooms for social activity. Additionally, case study examples such as Woodside Place, The Retreat and Dementia Village illustrate benefits associated with small resident groups, separation of early, mid and late AD as well as outcomes associated with a human-centered approach to design.

The third research question looks at how the built environment has helped or hindered the way non-family caregivers perform care for individuals with AD. In the one-to-one interviews, non-family caregivers indicated that visual barriers and lighting without dimmer switches hinder the built environment. However, designing spaces with lots of windows providing visual access to the outdoors has helped individuals with AD. Through research and case studies examined in the literature review, the importance of EBD as well as POE adds credibility and provides examples of how to improve the built environment. John Pile, (2003) outlined how the traditional approach to the design process can fail a project and hinder the

outcome of a design project. However, findings associated with participatory programming provide examples of how an inclusive, person-centered approach to design of the built environment has the potential to create positive outcomes for end users.

Chapter Five

5.1 Summary

Non-family caregivers are healthcare professionals who work directly and indirectly with individuals with AD. Their presence in care facilities has evolved over the years as has the type of care they deliver as well. Today non-family caregivers provide a professional family-member approach to interact and assist in the welling of resident in AD care facilities. Focusing on non-family caregiver perspectives for this research provided an opportunity to explore ways they perform their job and interact with residents in the built environment. As non-family caregivers spend almost as much time in care facilities as residents do, caregiver's knowledge and experience with spatial advantages and disadvantages provides an opportunity to gain important information that could be used in the design of future AD care facilities. As care facilities have evolved over the last 50 years, the role interior designer's play has become more significant. Unfortunately, however, there appears to only be a small number of peer reviewed publications about interior design research focusing specifically on design for AD. As well, the literature is limited on the topic, non-family caregivers and how their knowledge and experience can potentially contribute to the design process and therefore impact the outcome of the built environment. In order to respond to these challenges, designers will

benefit from the input of those who work most closely with individuals with AD and in AD environments.

Qualitative research was used to gather data from non-family caregivers through one-on-one interviews. Each interview consisted of a series of questions that addressed participant's demographic profile, the physical environment and future considerations to improve design programming for AD care facilities in London, Ontario. Engaging non-family caregivers in research about current and future AD care facilities opens the door for a dialogue about the review of care methodologies and provides real-world data for improvements that could result in models and programs to shape the design of the built environment for AD care facilities.

The findings from the interviews with non-family caregivers from three research sites in London, Ontario were compared and contrasted with three case studies; the Woodside Place model, The Retreat, and Dementia Village. The design process was examined, assessing strengths and weaknesses associated with the traditional design process and how it may help or hinder the outcome of the built environment for AD care facilities. The concept of participatory programming shows evidence of the importance of including all stakeholders throughout the phases of the design process. Involving non-family caregiver perspectives and participation could potentially have a positive impact on the design of the built environment for future AD care facilities. Moving away from traditional practices of

“design for people” and venturing toward a mentality of “design with people” and “design by people” has the potential to reshape design for the built environment for AD care facilities in the coming years.

Although AD care and the built environment for AD care facilities have come a long way over the last 100 years, there is still a lot of work to be done. Bridging gaps between spatial guidelines for public and private care facilities may not be possible. However, there are opportunities to look at incoming generations and address changes such as the increased number of non-ambulatory residents. These findings have the potential to be utilized to shape supportive design solutions that result in innovative and safe living environments. Thus, creating a built environment that supports human-centered environments that respond to the needs of all end users. Through evidence based research, case studies, POE, paired with more emerging research to support outcomes associated with participatory programming, there is potential to advance the future of the built environment for AD care facilities.

5.2 Limitations

Throughout the course of this research study, it was determined that there is little existing research about non-family caregiver perspectives related to the built environment for Alzheimer’s care facilities. It was also discovered that there is minimal Canadian content related to this topic in academic literature. Although these discoveries presented

limitations in accessing data from existing evidence based resources, it presented an opportunity to uncover relevant findings throughout the research process that supports the need for more research on this topic.

It was noted in section 1.9 Limitations of Study, the findings from the qualitative research represented data collected from three Alzheimer's care facilities in London, Ontario. Additionally, within the three research sites, the findings were representative of a small group of non-family caregiver perspectives. The research site directors selected the participants for this research study. While the participants were unknown to the researcher, they were known to the site directors and therefore represented a select group of opinions and accounts from non-family caregivers. However, each research site provided a cross-section of non-family caregivers who worked in various capacities which resulted in findings that related to their job roles and spatial relationships with the built environment. Given the opportunity to conduct further research, a different method of participant selection criteria might be considered. For example, if the researcher had the opportunity to select participants randomly, this might have been more successful because there would have been no prior knowledge of the individuals or pre-existing relationships. However, regardless of selection criteria, the interview and research questions functioned effectively to address non-family caregiver perspectives on current and future Alzheimer's care facilities and uncover rich data.

5.3 Significance of Research

Exploring non-family caregiver perspectives on current and future Alzheimer's care facilities in London, Ontario using qualitative research methods including grounded theory and the constant comparison method resulted in a contribution to evidence based research from a Canadian perspective. Using theory grounded in data from the qualitative research gathered in one-to-one interviews with non-family caregivers, findings were triangulated and compared against existing research and case studies. These findings were then further tested and validated against theories related to the design process. It was uncovered that considering a different approach to the design process using methods associated with participatory programming may have the potential to improve outcomes of the built environments in future Alzheimer's care facilities.

Based on the findings from this research, what non-family caregivers see as important improvements needed in the built environment are not entirely new ideas. What is unfortunate is that if existing research and case studies related to the design of AD care facilities were more commonly utilized, the outcomes of the built environment might respond to changes that non-family caregivers are looking for. For example, design interventions and theories related to the importance of small resident numbers, private bedrooms, minimizing corridors and eliminating nursing stations date back to 1965 and Powell Lawton's creation of the Weiss Institute model. Although this work has

demonstrated proven success in improved quality of the built environment and improved well-being in end users, Canadian examples of AD care facilities have been slow to adopt these methodologies. Research uncovered in this study supports that although the built environment has come a long way, there is still more work to do in creating spaces that support user-centered design. The future of the built environment for AD care facilities needs a foundation that stems from the importance of people; design with people and design by people.

What has resulted from this research is not dissimilar to existing theories related to the design process and participatory design. The literature reviewed in this thesis supports the findings. What has been generated is qualitative research utilizing grounded theory that needs to be further tested. The theory needs to be tested using more qualitative and quantitative research methods. This research study involved a limited number of participants, nonetheless, challenging the design process and looking at ways of incorporating a participatory design program may have positive outcomes on the future of the built environment for AD care facilities. This is a theory that emerged and needs further exploration given the number of authors who advocate that perhaps it is time to prove that participatory design makes a difference.

Another significant contribution of this thesis is its potential for application in interior design education and interior design practice.

Utilizing examples found in history, case studies, exploration of the design process, paired with original research, this study provides a document that focuses on one specific area of interior design.

Healthcare design is a growing area of specialty in design education and industry practice. Taking a look at “healthcare design” and addressing one specific area of focus; AD care facilities, provides documentation for learning and for further research consideration related to this emerging sector of interior design. Researching AD care facilities from the perspective of non-family caregivers will hopefully share a Canadian perspective that will support and give value to the need for future interior design research. Contributions to future research in interior design not only has the potential to further validate the profession, but also contribute to evidence based research that speaks from a Canadian perspective.

5.4 Future Research

There five are important lessons to be learned from non-family caregiver perspectives about current and future built environments for AD care facilities.

1. Findings from this research could potentially to contribute to future research projects, interior design education and interior designers who practice in health care design (specifically AD care facilities).

2. Future research is needed to investigate what could be done to further strengthen the design process. This could include exploration into ways that the design process could be implemented or even mandated through adoption of participatory design practice. This would potentially create a framework that requires the inclusion of non-family caregivers throughout the duration of the design process.
3. There is a need for more Canadian based research related to non-family caregiver perspectives on current and future AD care facilities. A research collective encompassing regional, provincial and national findings would not only add to evidence based research findings, but establish a stronger relationship of findings in support of the future of design for AD care facilities in Canada.
4. There is also opportunity for establishing focus groups that might include non-family caregivers and family members of individuals with AD to discuss the built environment related to current and future AD care facilities.
5. It would be beneficial to investigate 'who' might benefit from this research data outside the interior design community. Sharing research findings and data with preliminary decision makers such as developers and investors might be a way to expose findings and better inform stakeholders on ways to

improve design and ultimately provide multiple benefits to non-family caregivers, residents and families.

References

- Age Friendly London - Report to the Community. (2010) (pp. 37).
London, Ontario: The City of London.
- Alzheimer's Foundation for Caregiving In Canada: Definition of Terms.
(2013). Retrieved May 1, 2013, from
<http://www.alzfdn.ca/AboutAlzheimers/statistics.html>
- Architecture, Cornerstone. (2014a). In O. Concept (Ed.). London,
Ontario.
- Architecture, Cornerstone. (2014b). Common Area, McCormick Home.
- Architecture, Cornerstone. (2014c). Common Corridor, Village of
Glendale Crossing.
- Architecture, Cornerstone. (2014d). Cornerstone Architecture.
Retrieved May 26, 2014, from www.cornerstonearchitecture.ca
- Architecture, Cornerstone. (2014e). Country Kitchen, Village of Glendale
Crossing.
- Architecture, Cornerstone. (2014f). Dining Area, McCormick Home.
- Architecture, Cornerstone. (2014g). Open Concept, Village of Glendale
Crossing.
- Architecture, Cornerstone. (2014h). Public Seating Area, McCormick
Home.
- Association, Women's Christian. (2014). WCA. Retrieved June 1, 2014,
from www.wcalondon.ca
- Author, by. (2013a). Exterior View 2, Village of Glendale Crossing.
- Author, by. (2013b). Exterior View, Village of Glendale Crossing.
- Author, by. (2013c). Exterior, Chapin House. London, Ontario.
- Author, by. (2013d). Garden Area. London, Ontario.
- Author, by. (2013e). Sunroom View. London, Ontario.
- Author, by. (2014a). Compiling and Analyzing Research *Inspiration*.
London, Ontario.
- Author, by. (2014b). The Design Process.
- Author, by. (2014c). Exterior View, McCormick Home. London, Ontario.
- Author, by. (2014d). Exterior, McCormick Home. London, Ontario.
- Author, by. (2014e). Framework for Research *Inspiration*. London,
Ontario.
- Author, by. (2014f). Future Considerations *Inspiration*. London, Ontario.
- Author, by. (2014g). Future of the Built Environment, McCormick Home
Inspiration.
- Author, by. (2014h). Future of the Built Environment, Village of Glendale
Crossing *Inspiration*.
- Author, by. (2014i). Green Space, McCormick Home. London, Ontario.
- Author, by. (2014j). Model for the Design Process *Adobe Illustrator*.
London, Ontario.
- Author, by. (2014k). Participation in the Design Process HR *Inspiration*.
London, Ontario.
- Author, by. (2014l). Participation in the Design Process, McCormick
Home *Inspiration*.

- Author, by. (2014m). Participation in the Design Process, Village of Glendale Crossing *Inspiration*.
- Author, by. (2014n). Research Questions *Inspiration*. London, Ontario.
- Author, by. (2014o). Summary of Findings *Adobe Illustrator*. London, Ontario.
- Author, by. (2014p). Three Research Questions *Inspiration*.
- Author, by. (2014q). Triangulation of Data *Inspiration*. London, Ontario.
- Boeije, Hennie. (2002). A Purposeful Approach to the Constant Comparative Method in the Analysis of Qualitative Interviews. *Quality & Quantity*, 36, 391-409.
- Borrie, Michael, Dr. (2013, May 30, 2013). [Number of reported Alzheimer cases in London, Ontario].
- Botti-Salitsky, Rose Mary. (2009). *Programming and Research Skills and Techniques for Interior designers*. New York, USA: Fairchild Books.
- Built Environment. (2013). Retrieved June 11, 2013, from Collins Dictionary www.collinsdictionary.com
- Calkins, Margaret P. (2003). Powell Lawton's Contributions to Long-Term Care Settings. *Journal of Housing For the Elderly*, 17(1-2), 67-84. doi: 10.1300/J081v17n01_06
- Canada, Government of. (2012). Health Reports, Alzheimer's Disease. Retrieved May, 1, 2013, from <http://www.statcan.gc.ca/studies-etudes/82-003/archive/5001942-eng.htm>
- Cohen, Uriel and Day, Kristen. (1993). *Contemporary Environments for People with Dementia*. Milwaukee: The Johns Hopkins University Press.
- Creswell, J.W. (2007). *Qualitative Inquiry & Research Design Choosing Among Five Approaches* (S. Edition Ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Danes, Stefani. (2012). Design for Dementia Care: A Retrospective Look at the Woodside Place Model. *Journal of Housing for the Elderly*, 26(1-3), 221-250.
- Danes, Stefani (2013, September 24, 2013). [Woodside Place Model].
- Definition of Interior Design. (2012). from www.ncidq.org
- Dell'Era, Claudio and Landoni, Paolo. (2014). Living Lab: A Methodology between User-Centered Design and Participatory Design. *Creativity and Innovation Management*, 23(2), 137-150.
- Denzin, Norman, K.; Lincoln, Yvonna, S. (2000). *Handbook of Qualitative Research*. United States of America: Sage Publications Inc.
- Dr M. Powell Lawton, 77; elder statesman of gerontology January 2001 Obituary. (2001). *Polisher Research Institute* Retrieved May 2, 2013, from <https://www.abramsoncenter.org/pri/staff/MPLawton-obit.htm>
- Eastman, Perkins. (2011). Woodside Place floor plan: Routledge.
- Evidence Based Research. (2012). Retrieved May 7, 2013, from www.extension.iastate.edu/sfp/inside/definition.html

- Fenn, H., Luby, V., Yesavage, J. A. (1993). Subtypes in alzheimer's disease and the impact of excess disability: recent findings. *International Journal of Geriatric Psychiatry*, 8(1), 67-73.
- Groat, Linda; Wang, David. (2002). *Architectural Research Methods*. Canada: John Wiley & Sons.
- Hans, Barbara. (2012). Dutch Village Offers Dignified Care for Dementia Sufferers. Retrieved May 9, 2013
- History of Evidence Based Design (EBD). (2013). *About Evidence-based Design Accreditation and Certification (EDAC)*. Retrieved March 3, 2013, from <http://www.healthdesign.org/edac/about>
- Ho, Denny K. L. ssdenny polyu edu hk, & Lee, Yanki C. (2012). The Quality of Design Participation: Intersubjectivity in Design Practice. *International Journal of Design*, 6(1), 71-83.
- Hogeweyk, Dementia Village. (2013). Dementia Village. The Netherlands.
- Home, McCormick. (2014a). McCormick Home (pp. logo). London, Ontario.
- Home, McCormick. (2014b). McCormick Home. Retrieved June 2, 2014, from www.mccormickhome.on.ca
- Home, McCormick. (2014c). WCA.
- I.D.E.A.S. (2014). I.D.E.A.S, Inc. Senior Staff. Retrieved August 14, 2014, 2014, from www.ideasconsultinginc.com
- Katzman, R., Bick, K. (2000). *Alzheimer's Disease, The Changing View*. San Diego, CA: Academic Press.
- Kilmer, Rosemary; Kilmer, W. Otie. (1992). *Designing Interiors* (pp. 621). United States of America: Thomson Learning Inc.
- Lacey, Debra. (1999). The Evolution of Care: A 100-Year History of Institutionalization of People with Alzheimer's Disease. *Journal of Gerontological Social Work*, 31(3/4), 101-131.
- Lawton, M. Powell. (2001). The physical environment of the person with Alzheimer's disease. *Aging & Mental Health*, 5, S1.
- Lawton, P. (1974). Social Ecology and the Health of Older People. *Social Ecology and Health*, 64(3), 257-259.
- Lawton & Nahemow. (1973). *Toward an Ecological Theory of Adaptation and Aging*. Paper presented at EDRA. http://www.edra.org/sites/default/files/publications/EDRA04-Nahemow-24-32_O.pdf
- Lawton, P.. (1977). *Methodologies for Evaluation in Environments and Aging*. Paper presented at the EDRA. <http://www.edra.org/sites/default/files/publications/EDRA07-V2-Lawton-211-216.pdf>
- Lincoln, Yvonna, S. and Guba, Egon, G. (1985). *Naturalistic Inquiry*. USA: Sage Publications, Inc.
- Olinger, Monte, S. (2012). Making a Difference: Resident-Focused Models for Memory Care Facilities. *Journal of Interior Design*, 37(3), 1-7.

- Pearlin, et al. (2001). An overview of the social and behavioral consequences of Alzheimer's disease. *Aging & Mental Health*, 5(Supplement 1), S3-S6.
- Pile, John, F. (2003). *Interior Design* (Third ed.). New York: Prentice-Hall Inc., and Harry N. Abrams, Inc.
- Piotrowski, Christine, M. (2002). *Professional Practice for Interior Designers*. Canada: John Wiley & Sons, Inc.
- Residences, Highview. (2010a). Highview Residences *JPG*. London, Ontario.
- Residences, Highview. (2010b). Highview Residences excellence in Alzheimer's, Elder and Respite Care. Retrieved June 2, 2014, from www.highviewres.com
- The Retreat. (2009). Retrieved June 11, 2012, from www.retreatnm.com
- Retreat, The. (2009). The Retreat. New Mexico.
- Smith, Dr. Lena (2013). [The Retreat].
- Smith, Lena. (2012). *Managing Behaviors in Dementia*. Paper presented at the Environments for Aging, Disney Contemporary Resort, Orlando, Florida.
- Tofle, Ruth Brent. (2009). Creating a Place for Dying: Gerontopia. *Journal of Housing For the Elderly*, 23(1-2), 66-91. doi: 10.1080/02763890802664646
- Village, Dementia. (2013). Hogeweyk. Retrieved April 5, 2014, from www.dementiavillage.com
- Villages, Schlegel. (2012a). RIA Model.
- Villages, Schlegel. (2012b). Schlegel Villages. Retrieved May 20, 2014, from www.schlegelvillages.com/london
- Villages, Schlegel. (2012c). The Village of Glendale Crossing. Ontario.
- Weisman, Gerald D., & Moore, Keith Diaz. (2003). Vision and Values. *Journal of Housing For the Elderly*, 17(1-2), 23-37. doi: 10.1300/J081v17n01_03
- Zimmerman, Sheryl; Williams, Christianna, S.; Reed, Peter, S.; Boustani, Malaz; Preisser, John, S.; Heck, Elizabeth; Sloane, Philip, D. (2005). Attitudes, Stress and Satisfaction of Staff Who Care for Residents With Dementia. *The Gerontologist*, 45(1), 96-105.

Appendix A: Research Ethics and Compliance

APPENDIX A

RESEARCH INSTRUMENTS

Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario

Protocol for contacting potential interview participants

DATE: _____

FACILITY:

CONTACT:

“Good morning / afternoon (name of potential interview participant). My name is Natalie Cooper. I am a graduate student in the Post-Professional Master of Interior Design program, Faculty of Architecture, at the University of Manitoba in Winnipeg, Manitoba, Canada. I live here in London, Ontario and am currently working on my thesis and would like to discuss it with you. Is this a good time for a conversation? If not, when would be a convenient time to schedule a follow up phone call?”

Do you have a few minutes for me to describe the nature of my call?

- **Yes** (continue)
- **No** Is there another time that I could contact you?

CALL BACK ON:

If not interested in having a conversation, or if this is perhaps not the best person to speak with:

“I was hoping to speak with a caregiver (RN, nurse practitioner, behavior analyst, music therapist, occupational therapist, psychologist, social worker, spiritual caregiver, therapeutic team) on staff to discuss perspectives on current and future

Alzheimer care facilities in London, Ontario. Can you suggest someone else I might speak with?"

NAME:

CONTACT INFORMATION:

"That is very helpful. Thank you very much for your time and assistance."

YES:

"That is fantastic, thank you very much. My research study is tentatively called *"Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario"*. The goal is to conduct conversations with non-family caregivers to examine the correlation between the built environment (interior work space) and the function or role you perform with Alzheimer patients, what works, what could potentially change, and what the future might hold. Findings from this study may help interior designers, and interior design educators take into account the value in including non-family care givers in their preliminary design processes in current and future healthcare practice."

"The purpose of my call is to see if you would be willing to participate in this study, allowing me to conduct an interview with you. First I would like to outline what your participation would involve and then we can discuss your potential involvement."

"The interview process would involve at least one face to face meeting at your place of business, no more than an hour in length. This meeting can take place at a time that is convenient for you. During the interview I will ask you a series of questions

related to your demographic profile (job position and function), the physical environment you work in and future considerations for advancement of Alzheimer Care Facilities in London, Ontario. The questions I will ask won't pertain to you personally; they are strictly geared toward your profession and the role you play at your facility. In order to assist you in preparation for our meeting, I would send you (email) the questions in advance to allow you a chance to consider your responses. Finally, as part of this study, I will need to send you a consent form to complete and return to me in advance of our interview."

"I am really looking forward to conducting this study and would like very much to include your expertise and insight in my research. Your participation in this study would be voluntary and the information you provide to me would be confidential."

Would you be willing to voluntarily participate in this study?

YES: Continue

NO: "I understand, thank you for taking the time to consider this opportunity. Can you think of another caregiver at your facility that I might contact about my study?"

NAME OF PERSON / CONTACT INFORMATION:

"Thank you very much for your time."

“Excellent, I will put a package together with the questions and consent form and email you later today. Can you confirm your email address for me?”

EMAIL: _____

“Once you receive the documents you may have additional questions for me. Please do not hesitate to phone or email me in advance of our interview should questions arise, I will include my contact information as well as the contact information of my Advisor, Dr. Cynthia Karpan, in the email. Thank you for your time and interest in my study! I look forward to our meeting.”

DATE (MM,DD,YYYY)

Mr. Mrs. Ms. Professor, Dr.
123 Data Street, Avenue
City, Province
Postal Code
Country

Dear name of participant:

Thank you for taking the time to speak with me on the phone _____. As discussed in our conversation I am forwarding the information and forms related to my research study. My thesis is tentatively titled *Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario*. This study is being conducted as part my graduate thesis in the Master of Interior Design program, Faculty of Architecture at the University of Winnipeg, Winnipeg, Manitoba, Canada.

The purpose of studying 'non-family caregivers' perspectives on current and future Alzheimer care Facilities in London, Ontario is to study the built environment, collect data about whether or not existing environments complement the functions, examine criteria for positive living environments for people with Alzheimer disease, and speculate on what the design of Alzheimer care facilities might look like in the next five years. Information for this study will be collected by conducting interviews from approximately twelve to twenty individuals working in different capacities as non-family care givers in Alzheimer care facilities in London, Ontario.

As promised I am including the interview questions for you to review in advance, as well as the consent form which I will need returned to me prior to our interview. The interview will take approximately one hour to conduct, and other than the demographic profile, I will not be asking you questions of a personal nature. The questions are to be answered as a professional non-family caregiver representing your organization, describing activities and functions as they relate to our discussions. Your participation in this interview is voluntary and all information you provide will be kept confidential (please refer to the consent form).

Thank you for agreeing to participate in this study, your time and input are valuable and appreciated. If for some reason after reviewing the questions you choose not to participate in the interview process

please let me know as soon as possible so that I can make alternate arrangements.

As I mentioned in our telephone conversation, I am a Post-Professional Master of Interior Design student at the University of Manitoba and a Professor of Interior Design in the Bachelor of Interior Design Program at Fanshawe College in London, Ontario. You may at any time confirm the authenticity of this study by contacting my advisor Dr. Cynthia Karpan, in the Faculty of Architecture, Department of Interior Design at the University of Manitoba. Dr. Karpan's email address is karpanc@cc.umanitoba.ca and her office number is 204.474.6075.

Sincerely,

Natalie M. Cooper, Post-Professional Master of Interior Design
candidate (MID)
519.000.0000
umcoopen@cc.umanitoba.ca
<http://www.umanitoba.ca/architecture>

Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario

INTERVIEW QUESTIONS

Demographic Profile

1. Describe your job and the types of responsibilities in your current position.
2. What led you to choose a profession working with Alzheimer patients?
3. How many years have you been working in this role?
 - a. How many years have you worked at this facility?
 - b. In the time you have worked here, has your role with patients changed in any way?

Physical Environment

4. How would you describe your typical interaction with Alzheimer patients at this facility?
5. Do you perform the same activity every day?
6. How long do you interact with a patient on a typical visit?
 - a. Describe how you interact with a patient.
7. Do you perform your patient work in the same location every day?
 - a. If not, explain why.

8. Describe physical aspects of the built environment where you perform your tasks (presence of windows, types of lighting, soft or hard surfaces, clinical or home-like environment, large space, small room, loud or quiet, etc.).
9. Does the built environment you work in affect or impact the way in which you do your job? (in positive or negative ways) Provide some examples.
10. Does the built environment you work in affect or impact your patient's behaviors? (in positive or negative ways) Provide some examples.
11. In your opinion, what changes could be made to the built environment to improve the way you do your job? Provide examples.
12. What changes could be made to the built environment to benefit the patient? Provide examples.

Future Considerations

13. What are some of the changes you have seen in the built environment throughout the duration of your career?
 - a. Have they helped to create a better environment for Alzheimer patients?
14. How could changes be made to interior spaces in Alzheimer care facilities to improve the way you do your job?
 - a. Would these changes also translate into improved health and wellbeing of patients?

15. Do you think it would be beneficial to include professionals such as yourself in focus groups in the preliminary phases of design for new Alzheimer care facilities?
- a. Would an opportunity like this positively impact or change the shape of the built environment?
 - b. Do you think it would create an environment better suited to the needs of Alzheimer patients and employees?
16. With respect to the interior built environment, what do you think Alzheimer's care facilities will look like five years from now?
- a. What might be the biggest changes, and are they supportive of a positive patient atmosphere?

Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario

PREFERRED INTERVIEW TIME

Kindly indicate the date, time and exact location that you would prefer to be interviewed in person. Every effort will be made to accommodate your request, if for some reason your requested timeframe is not available please list one alternate time. **Please return this to me by _____ as a PDF file via email to umcoopen@cc.umanitoba.ca .**

Name (first and last):

Institution / Facility name:

Facility Address:

Interview Date (please provide date, time and location):

Alternate Interview Date (please provide date, time and location):

Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario

STUDY RESULTS REQUEST FORM

If you would like to receive a copy of my thesis and summary of results please complete this form and **return this to me by** _____ **as a PDF file via email to** umcoopen@cc.umanitoba.ca .

Please indicate preferred delivery method (email or mail):

Email address:

Mailing Address:

Name of Facility:

Name:

Street / PO Box:

City: _____

Province: _____

Postal Code: _____

Date (MM,DD,YYYY)

Mr. Mrs. Ms.Professor, Dr.
123 Data Street, Avenue.
City, Province
Postal Code
Country

Dear: Name of participant,

Thank you for agreeing to participate in my research study:

**NON-FAMILY CAREGIVER PERSPECTIVES ON CURRENT AND
FUTURE ALZHEIMER CARE FACILITIES IN LONDON, ONTARIO.**

The pages in this document include a project summary with detailed information about the nature and format for my research. There is also a breakdown of the logistics and procedures pertaining to risks, anonymity and confidentiality. Please read the information carefully and contact me if you have any questions or concerns.

There is a consent form at the end which requires your signature. We can complete this document before we begin the interview, I will provide a copy for your records.

Sincerely,

Natalie M. Cooper, Post-Professional Master of Interior Design
candidate (MID)
umcoopen@cc.umanitoba.ca

PRINCIPAL INVESTIGATOR AND CONTACT INFORMATION:

Natalie Cooper

22 Street Court
London, Ontario, Canada
O8N1C4

T:000.000.0000

C:000.000.0000

umcoopen@cc.umanitoba.ca

ADVISOR, RESEARCH SUPERVISOR CONTACT INFORMATION:

Cynthia Karpan, Ph.D., Associate Professor

Department of Interior Design, Faculty of Architecture
201 Russell Building
84 Curry Place
Winnipeg, Manitoba, Canada
R3T2N2

T:204.474.6075

F:204.474.7533

Cynthia.Karpan@ad.umanitoba.ca

<http://umanitoba.ca/faculties/architecture>

This consent form, a copy of which will be left with you for your records and reference, is only part of the informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

SUMMARY OF PROJECT:

The purpose of my research is to investigate non-family caregiver perspectives on current and future Alzheimer facilities in London, Ontario. The goal is to conduct qualitative interviews with a cross section of non-family caregivers in at least three different facilities to examine the correlation between the built environment (interior work space) and role they perform with Alzheimer patients.

Non-family care givers in Alzheimer Care Facilities could include registered nurses, nurse practitioners, occupational therapists, physiotherapists, psychologists, registered dietitians, social workers, speech-language pathologists and members of a spiritual or therapeutic care team. As the staffing dynamics of each of the three facilities is slightly different, a group of participants (2-3) from each location will be contacted by phone to see if they are available to participate in an interview on site at their place of business. The interviewee will receive a copy of the questions in advance of the meeting, and the one hour interview will be audio recorded to ensure accurate transcription which will take place after the interview by the Principal Researcher.

The interviews will consist of a series of questions that address their demographic profile, the physical environment they work in and future considerations that may be helpful to enhancing the design of Alzheimer Care facilities in London, Ontario in the next five years.

Findings from this study will be contrasted with case studies of 'future' Alzheimer Care Facilities in London, Ontario and may

help interior designers, and interior design educators take into account the value in including non-family care givers in their preliminary design processes in current and future healthcare practice.

PROCEDURES

A copy of the interview questions will be provided by email in advance of the meeting; a scheduled time for the one hour meeting will be established at the convenience of the participants. Participants will return the signed consent form, interview time and date sheet via email to the Principal Researcher.

Participants will be asked a series of questions in a semi-structured face to face interview. Documentation of answers will be first audio recorded and then transcribed by hand for completeness and accuracy. No person other than the Principal Researcher and Research Supervisor will have access to the information gathered.

RECORDING DEVICES AND ORIGINAL DATA

The Principal Researcher will take notes and use the assistance of an audio recording device to collect data during the interview process. The recordings will be kept by the Principal Researcher until the end of the thesis and all documentation (both written and recorded pertaining to this project) will be erased or disposed of upon completion of the final thesis presentation.

RISKS AND BENEFITS:

There are minimal risks (physical, psychological and / or emotional) to participants in this study. Participants may benefit

from the collection of information gathered and analyzed about Non-Family Caregiver Perspectives on Current and Future Alzheimer Care Facilities in London, Ontario should they request a copy of the final thesis document.

ANONYMITY AND CONFIDENTIALITY:

The qualitative data collected through one on one interviews will be audio recorded and transcribed. The Principal Researcher will be the only individual with access to this information. The questions asked in the interview do not pertain to personal identifiers; rather the job position and job function and, thus, poses no inherent risk of identification. The work site (location and address) will be identified, but participants will be identified by job title, for example 'Nurse Practitioner' only. Any data gathered by the Principal Researcher will be disposed of at the end of the project.

COMPENSATION:

There will be no compensation provided to participants. Cooperation in the interview process is strictly voluntary.

DISSEMINATION:

Should the interview participant wish to obtain a copy of the final thesis document it will be emailed to them upon request and will be available through the University of Manitoba, thesis library collection online (mspace). Additionally the researcher may choose to publish articles or make presentations using the research findings at conferences or other similar events. All interview participants grant permission to the Principal

Investigator to publish, disseminate and present the results for either academic or scholarly purposes as long as the guidelines for confidentiality and anonymity are respected.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in this research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time and / or refrain from answering any questions you prefer to omit without prejudice or consequence. Your continued participation should be as informed as your initial consent so you should feel free to ask for clarification or new information throughout your participation.

This research has been approved by the Joint-Faculty Research Ethics Board (REB) at the University of Manitoba, Winnipeg, Canada. If you have any concerns or complaints about the project you may contact any of the above named persons or the Human Ethics Coordinator (HEC) at 204.474.7122. A copy of this consent form has been given to you to keep for your records and reference.

Name of Participant

Name of Institution, Firm, Organization

Date (MM/DD/YYYY)

Signature of Participant

Natalie M. Cooper, Principal Researcher

Date (MM/DD/YYYY)

Dr. Cynthia Karpan, Advisor

Date (MM/DD/YYYY)

Certificate of Completion

This document certifies that

Natalie Cooper

*has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: 7 February, 2012



UNIVERSITY
OF MANITOBA

Research Ethics
and Compliance

Office of the Vice-President (Research and International)

Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Fax +204-269-7173

APPROVAL CERTIFICATE

May 6, 2013

TO: Natalie M. Cooper (Advisor C. Karpan)
Principal Investigator

FROM: Susan Frohlick, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2013:046
"Non-family Caregiver Perspectives on Current and Future Alzheimer Care
Facilities in London, Ontario"

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). **This approval is valid for one year only.**

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- If you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to the Office of Research Services, fax 261-0325 - please include the name of the funding agency and your UM Project number. This must be faxed before your account can be accessed.
- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) in order to be in compliance with Tri-Council Guidelines.

umanitoba.ca/research

Appendix B: Research Agreements

Objectives of this research project

Significance of (and rationale for) research project

Methods and measurements used

Expected outcomes

Potential impact

Barriers to implementation

**COO.N.01 | TEAM MEMBER PERSPECTIVES ON EFFECTIVE DESIGN TO SUPPORT DEMENTIA CARE
PROJECT SUMMARY**

Modified: September 11, 2013 (sgbrown)

Principal and Co-Investigator(s):

Natalie Cooper *

Master of Interior Design Program
 Faculty of Graduate Studies
 University of Manitoba
 Address: [REDACTED]
 London, ON
 [REDACTED]
 Phone (h): [REDACTED]
 Phone (c): [REDACTED]
 Phone (w): ...
 Fax: ...
 Email: umcoopen@myumanitoba.ca

Dr. Cynthia Karpan

Department of Interior Design
 Faculty of Architecture
 University of Manitoba
 Address: 201 Russell Building
 84 Curry Place
 Winnipeg, MB
 R3T 2N2
 Phone (h): ...
 Phone (c): ...
 Phone (w): 204.474.6075
 Fax: 204.474.7533
 Email: cynthia.karpan@ad.umanitoba.ca

Collaborator(s):

Faculty Supervisor(s):

Dr. Cynthia Karpan (see above)

Student Investigator(s):

Natalie Cooper (see above)

** Natalie is currently a Professor of Interior Design at Fanshawe College. Fanshawe is moving towards a 4-year Design degree program (this will be the standard across Canada by 2015) so in order to continue teaching at the College, Natalie must complete a post-graduate degree. The Master of Interior Design program at the University of Manitoba was able to accommodate her work schedule (through online courses, etc.) and this project is part of her degree. Natalie will be taking over as the President of the Canadian Interior Decorating Educators Association in September.*

FUNDING STATUS

Funding Status: <i>(funded, funding pending, not funded)</i>	Not funded. This project is being completed as part of Natalie's course work.
Funding Agency and Period:	N/A

PURPOSE OF THIS RESEARCH PROJECT

The purpose of this project is to investigate non-family caregiver (i.e., team member) perspectives on the design of current and future dementia care neighbourhoods in London, Ontario. The outcome of the project will be a document that may inform the design of future dementia care neighbourhoods and will contribute to the research-informed evidence base for interior design.



October 15, 2013

Announcement of Research Project with University of Manitoba

Description:

A student from University of Manitoba's Faculty of Architecture is working with us to conduct a research study on how a building's structural layout impacts the ability of health care professionals to care for people with Alzheimer disease and related dementias. The study involves examining the correlation between the built environment (interior work space) and the roles they perform.

Purpose:

As part of the WCA's ten-year goal to be a leader in innovative dementia care, exploring new ways to provide care and support is an integral part of this effort. This exploration involves collaborating in research activity and working with our community partners to discover how we can enhance the lives of those in our care.

Process:

The student recently interviewed five McCormick Home staff members. While her work at the home focuses mainly on nursing, her overall research includes interviewing occupational therapists, registered dietitians, social workers and members of spiritual or therapeutic care teams. The process involves gathering "non-family caregiver" perspectives, including conducting interviews and collecting data about whether or not existing physical environments complement their roles, examining layout considerations that create positive living environments for people with Alzheimer disease and related dementias, and considering the design of future dementia care facilities in the next five years.

To enhance her findings, the student will also be conducting this study at two other dementia care facilities in the area.

Participants:

The student conducting the research, Natalie Cooper, is a candidate in the Master's program of Interior Design at the University of Manitoba. The staff members involved were careful not to provide any confidential or identifying information about residents, families or other members of the McCormick Home community. The information gathered will remain confidential and will only be viewed by Natalie and her research advisory team. Staff participation in the research study was voluntary and the interviews took place in early October. The full study is expected to be completed by spring 2014.

If you have any questions, please contact Steve Crawford, CEO, WCA, at 519-432-2648 ext. 2319, or by e-mail at stevec@wcalondon.ca.