

THERAPEUTIC GARDENS FOR PERSONS WITH DEMENTIA:
INTEGRATING THE GARDEN INTO THE CARE ENVIRONMENT

by

ANDREW BENNETT BAILEY

(Under the Direction of Brad Davis)

ABSTRACT

Dementia is currently the sixth leading cause of all deaths in the US and it is projected to reach a total estimated prevalence of eleven to sixteen million people by 2050. As healthcare facilities are constructed and renovated to accommodate, there is a need for more information on how to design and integrate therapeutic gardens for people with dementia into the care environment. This thesis addresses the question: How can designers and facility managers comprehensively and specifically approach improving the quality of care for persons with dementia, through the integration of a well-designed garden space? The thesis presents the findings from two case studies in the UK and uses them as lens to analyze a theoretical framework and existing design guidelines. The thesis proposes several new design guidelines and directs critical attention on the importance of proper integration of gardens, architecture, and therapeutic programming for delivering a high quality of care.

INDEX WORDS: Therapeutic Garden, Alzheimer's Disease, Dementia, Environmental Psychology, Garden Design, Landscape Architecture, Dementia Therapy Garden, Non-Pharmacologic Intervention

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DEDICATION

This thesis is dedicated to my family, whose love and support throughout my life and educational pursuits have greatly attributed to my success. I am forever grateful to you all. Most importantly I dedicate this thesis to my father who despite his struggles with dementia, continues to serve as a model of love, compassion, and devotion for everyone around him.

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	v
LIST OF TABLES	ix
LIST OF FIGURES	xi
CHAPTER	
1 INTRODUCTION	1
Research Questions	7
Structure	9
Language	9
Audience	11
2 THEORETICAL FOUNDATIONS	12
Kaplan and Kaplan	12
Roger S. Ulrich.....	23
Edward O. Wilson	35
Stephen R. Kellert.....	37
Bridging the Gap: Identifying a Theoretical Framework for Dementia Care Gardens	46
3 REVIEW OF DEMENTIA SPECIFIC RESEARCH	51
Clinical Stages of Dementia.....	51

Separate Gardens for Separate Stages	55
Exposure to Sunlight.....	57
Visual and Physical Access; and Enclosure	60
Cultural Implications.....	64
Organizational Policy and Staff Attitudes	66
Programming, Social Support, and Exercise	68
Synthesis of Dementia-specific and Related Research	72
4 RESEARCH METHODOLOGY	74
Research Instruments.....	75
Case Study: Charnley Fold Enhanced Dementia Day Support.....	82
Case Study: Springwood Residential Care Home and Day Center	122
Data Analysis Procedure	143
5 RESULTS AND DISCUSSION	147
Limitations.....	147
Content and Categorical Analysis of Interview Data.....	149
Utilizing Theoretical Frameworks.....	158
Analysis of Existing Design Guidelines.....	173
6 CONCLUSIONS	271
Integrating Gardens into the Care Environment.....	272
Integration of Theory	283
Integration of Guidelines	285
Implications for Future Research	289

Final Thoughts	291
REFERENCES	293
APPENDICES	
A INSTITUTIONAL REVIEW BOARD RECRUITMENT SCRIPTS	301
B INSTITUTIONAL REVIEW BOARD VERBAL CONSENT SCRIPT	302
C INTERVIEW CONTENT CATEGORIES.....	303
D INTERVIEW TRANSCRIPTS	310
E ABILITY LEVEL REFERENCE GUIDE FROM CHARNLEY FOLD.....	378
F SUGGESTED DESIGN GUIDELINES: QUICK REFERENCE	379

LIST OF TABLES

	Page
Table 2.1: The Preference Matrix	14
Table 2.2: A Typology of Values in Nature	38
Table 2.3: Supportive Relationships Between Kaplan and Ulrich’s Theories	48
Table 2.4: Expression of Biophilic Values and “Sense of Place” Supporting Attention Restoration Theory and Theory of Supportive Gardens	50
Table 3.1: Clinical Stages of Dementia: Stages 1-5	53
Table 3.2: Clinical Stages of Dementia: Stages 6-7	54
Table 4.1: Additions and Adaptation to Garden Over Time at Charnley Fold - A	109
Table 4.2: Additions and Adaptation to Garden Over Time at Charnley Fold - B	110
Table 4.3: Additions and Adaptation to Garden Over Time at Charnley Fold - C	111
Table 4.4: Additions and Adaptation to Garden Over Time at Charnley Fold - D	112
Table 4.5: Interview Content Categorization and Quantification Method Example	145
Table 5.1: Comparison of Case Study Sites	149
Table 5.2: Evaluation of the Kaplan’s A.R.T. at Springwood	164
Table 5.3: Evaluation of the Kaplan’s A.R.T. at Charnley Fold	165
Table 5.4: Evaluation of the Ulrich’s Theory of Supportive Gardens at Springwood	166
Table 5.5: Evaluation of the Ulrich’s Theory of Supportive Gardens at Charnley Fold..	167
Table 5.6: Evaluation of Biophilic Values & Sense of Place at Springwood	168

Table 5.7: Evaluation of Biophilic Values & Sense of Place at Charnley Fold.....	169
Table 5.8: Collaborative Design Process Sub-Category Data.....	179
Table 5.9: Correlation of Interview Response Categories	179

LIST OF FIGURES

	Page
Figure 2.1: Conceptual Model: Effects of Gardens on Health Outcomes	25
Figure 2.2: Hypothetical Expression of Biophilic Values	40
Figure 4.1: Charnley Fold Site Context.....	89
Figure 4.2: Seven Meaningful Spaces at Charnley Fold	93
Figure 4.3: Charnley Fold Landscape Plan	95
Figure 4.4: Seven Meaningful Spaces Photographs	103
Figure 4.5: Charnley Fold Photographs - A	104
Figure 4.6: Charnley Fold Photographs - B	105
Figure 4.7: Charnley Fold East Garden Additions	107
Figure 4.8: Charnley Fold Paving Additions	108
Figure 4.9: Springwood Site Context	125
Figure 4.10: Proposed Interior Changes at Springwood.....	127
Figure 4.11: Plan View of Back Gardens at Springwood.....	130
Figure 4.12: Plan View of Day Center Patios at Springwood	134
Figure 4.13: Plan View of Front Garden at Springwood	135
Figure 4.14: Springwood Photographs	136
Figure 4.15: Springwood Access Issues at Greenhouse.....	141
Figure 4.16: Horticultural Activities at Springwood	141

Figure 5.1: Effects of the Garden at Springwood; Positive vs. Negative	152
Figure 5.2: Positive/Negative Response Categories at Springwood Care Home	152
Figure 5.3: Factors Limiting/Challenging Garden Use at Springwood.....	153
Figure 5.4: Factors Promoting/Supporting Garden Use at Springwood	153
Figure 5.5: Interview Response Category Proportions at Springwood	154
Figure 5.6: Effects of the Garden at Charnley Fold; Positive vs. Negative.....	155
Figure 5.7: Positive/Negative Response Categories at Charnley Fold.....	155
Figure 5.8: Factors Limiting/Challenging Garden Use at Charnley Fold	156
Figure 5.9: Factors Promoting/Supporting Garden Use at Charnley Fold	156
Figure 5.10: Interview Response Category Proportions at Charnley Fold.....	157
Figure 5.11: Theory Matrix for Springwood	170
Figure 5.12: Theory Matrix for Charnley Fold	171
Figure 5.13: Visual Access to the Garden at Springwood	186
Figure 5.14: Visual Access to the Garden at Charnley Fold.....	187
Figure 5.15: Visibility to all areas of a defined garden space at Charnley Fold	188
Figure 5.16: Spatial Archetypes at Charnley Fold – “The Back Garden”.....	194
Figure 5.17: Spatial Archetypes at Charnley Fold – “The Pocket Park”	194
Figure 5.18: Using “Props”	197
Figure 5.19: Enabled Workspace at Charnley Fold - A	198
Figure 5.20: Enabled Workspace at Charnley Fold - B	198
Figure 5.21: Enabling space at Charnley Fold - Raised Beds.....	199
Figure 5.22: Enabling space at Charnley Fold – Poly-tunnel	199

Figure 5.23: Small Watering-cans Enable Activity at Charnley Fold	200
Figure 5.24: Top Five Reported Benefits of the garden at Charnley Fold	201
Figure 5.25: Picket Fence Reinforces Domestic Aesthetic at Charnley Fold	203
Figure 5.26: Enabling Space at Springwood	206
Figure 5.27: Culturally Appropriate Activities.....	208
Figure 5.28: Sun and Shade Diagram at Charnley Fold.....	210
Figure 5.29: Sun and Shade Diagrams at Springwood	211
Figure 5.30: Slope Provides Open Enclosure at Springwood.....	218
Figure 5.31: Security Fencing at Springwood.....	219
Figure 5.32: Destination Garden with Views to Outside World at Springwood.....	219
Figure 5.33: Retaining Wall and Fence Combination at Springwood	220
Figure 5.34: Open View to Farmland at Charnley Fold	220
Figure 5.35: Screening the Security Fence and Gate at Charnley Fold	221
Figure 5.36: Examples of Door Handles to Avoid.....	227
Figure 5.37: Doors with Windows and Foyer Space.....	228
Figure 5.38: Accessible Doors, Windows, Handrails, and Ramps at Springwood	229
Figure 5.39: Close Proximity of Restrooms to the Garden Entry at Springwood.....	231
Figure 5.40: Close Proximity of Restrooms to the Garden Entry at Charnley Fold	232
Figure 5.41: Seating at Charnley Fold	237
Figure 5.42: Seating at Springwood Residential Care Home	238
Figure 5.43: Circulation at Charnley Fold	241
Figure 5.44: Circulation at Springwood Residential Care Home	242

Figure 5.45: Spatial Orientation Diagram from Charnley Fold.....	246
Figure 5.46: Wooden Archway Aids in Way-Finding at Charnley Fold.....	246
Figure 5.47: Clay Markers Made by Service Users at Charnley.....	247
Figure 5.48: Site Elements Aiding Spatial Orientation at Springwood.....	247
Figure 5.49: The “Woodland Path” at Charnley Fold	250
Figure 5.50: Provide Challenges for Those Who are more Physically Able	250
Figure 5.51: A Variety of Interesting Plant Combinations Provided at Charnley Fold ..	254
Figure 5.52: Water Features at Charnley Fold	258
Figure 5.53: Engaging with Residents During Thesis Research	261
Figure 5.54: Chickens at Charnley Fold	262
Figure 5.55: Poly-Tunnel at Charnley Fold	263
Figure 5.56: Nature-based Activities at Charnley Fold	264
Figure 5.57: Bringing Gardening Indoors at Charnley Fold	265
Figure 6.1: Ideal Integration Model for Care Environments.....	273
Figure 6.2: Garden Integration Model at Ideal Integration Conditions	275
Figure 6.3: Garden Integration Model Applied at Springwood.....	280

CHAPTER 1

INTRODUCTION

Over the past several decades, healthcare design has become a quickly evolving and important area of practice for many landscape architects and garden designers. There is substantial body of research to suggest that well designed environments can have significant effects on health outcomes. The design of the physical care environment has been shown to support medical interventions, protect against exposure to disease, and strengthen a person's health status and or personal characteristics (Rubin 1998). While primarily focused on the effects of interior physical environment, this research has been critical in changing the way the broader medical community views the importance of design in affecting positive or negative health outcomes (Ulrich 1999, 29). A result of this acceptance has been an increased acknowledgment of the whole care environment, including outdoor space, as important to delivering a high quality of care (Ibid.). As a result, an increasing body of research now confirms the benefits of exposure to nature for improving health outcomes, including but not limited to, reductions in depression, stress, and anxiety; a reduction in the need for certain medications; reduced blood pressure; and improved mood and well-being (Ulrich 1999, Rodiek 2002). However, while there is now plenty of research to suggest that access to outdoors is beneficial for older populations, there is relatively little research available on how the design of the outdoor environment affects the behavior, quality of life, and

health outcomes of people living with dementia (Rodiek 2006, Pollock and Marshall 2012). Thus, it is the intent of this thesis to direct critical attention towards furthering the collective understanding of the role of designed outdoor space for treating persons with dementia in healthcare facilities.

To understand the critical nature of this research, it is important to begin with a discussion of the basics of this progressive disease. Dementia is an all-embracing definition for a collection of diseases of the brain, which are progressive (Pollock and Marshall 2012). The most well known and prevalent type of dementia, accounting for an estimated 60-80% of all cases is Alzheimer's Disease (AD), which is defined by the Alzheimer's Foundation of America (2012) as a progressive, degenerative disorder that attacks the brain's nerve cells, or neurons, resulting in loss of memory, thinking and language skills, and behavioral changes. It is the most common form of dementia, or loss of intellectual function, among people aged 65 and older (Alzheimer's Association 2012). However, there are several other types of dementia that share similar characteristics of symptoms, and since long-term research demonstrates that many older populations have brain abnormalities consistent with a mixed variety of dementias, this research will henceforth use the term dementia to collectively describe the condition (Alzheimer's Association 2014).

Current figures estimate 5.2 million Americans of all ages have dementia; an estimated 5 million of which are 65 and older and approximately 200,000 of which are under the age of 65 and have early-onset dementia (Ibid.). Dementia is the sixth leading cause of all deaths in the US, and the 5th leading cause of death in Americans aged 65

and older. Documented symptoms of this medical issue include but are not limited to denial, anger, social withdrawal, anxiety, depression, exhaustion, sleeplessness, irritability, lack of concentration, and increased risk of other health problems (Alzheimer's Association 2012). Little is precisely known about why the disease progresses at different rates amongst individuals, how the disease can be prevented, or how its progression can be slowed. There is currently no cure for dementia and it is ultimately fatal (Alzheimer's Association 2014). What is particularly alarming and unsettling is the current and projected prevalence of the disease.

“Every 70 seconds, someone in America develops AD; by 2050, this time is expected to decrease to every 33 seconds. Over the coming decades, the “baby-boom” population is projected to add 10 million people to these numbers. In 2050, the incidence of AD is expected to approach nearly a million people per year, with a total estimated prevalence of 11 to 16 million people” (Alzheimer's Association 2009).

“Between 2000 and 2010, deaths attributed to Alzheimer’s disease increased 68 percent, while those attributed to the number one cause of death, heart disease, decreased 16 percent” (Alzheimer's Association 2014).

The aforementioned figures and projections pose a very serious problem for our current healthcare system. As the number of people affected by dementia skyrocket, our society is faced with a very serious problem regarding public health. Our existing care facilities, underfunded and poorly designed, will not be equipped to handle this increase. As new facilities will inevitably be built and old facilities renovated, there is a

need to provide designers and facility managers with a point of reference from which they can progress and base their decisions as they create outdoor environments that heal, reduce, and slow the progression of symptoms.

Dementia is progressive in nature and poses a unique set of challenges in the design of exterior spaces. People afflicted with dementia possess a wide range of needs that are often in direct conflict with one another depending on the stage of the disease (Hoover 1995). Additionally, persons with dementia share many of the same limitations and impairments as other older populations such as “impaired sight, hearing, and mobility”, however “these are exacerbated for people with dementia because they may forget they have these impairments and may be unable to understand and deal with them” (Pollock and Marshall 2012, 12). The cognitive impairment from dementia can also greatly impair the ability of the person to effectively communicate their feelings. This can lead to behavior that is challenging to staff and those around them (Ibid., p.13). In light of these challenges it becomes apparent that the designs of exterior spaces in dementia care facilities must provide specialized support for the person with dementia, but also assist staff in their efforts to reduce challenging behavior and provide supportive care (Ibid., p.13).

As previously noted, there is a significant amount of research on the benefits of outdoor space for elderly populations, which is useful in providing justification for the important benefits of contact with nature and general design guidelines for people with dementia. However, the amount of research pertaining specifically to the design of gardens for people with dementia is more limited to date. Past research in this area has

resulted in prescriptive lists or design checklists for the design of exterior healing environments. While they are helpful and important, they can often produce gardens that appear devoid of a larger organizing principle (Hoover 1995). Some researchers propose the use of a variety of environmental interaction theories as a point of reference for the design of therapeutic gardens (Ibid). Unfortunately, the implications of these theories are very broad in nature while the issues of dementia are very complex and specific. Research presented in this thesis will attempt to determine the applicability of these theories for dementia care as both a guiding framework for design, as well as, for an indicator of how well a facility provides restoration.

There is also an apparent need to evaluate the role of the therapeutic garden as a factor of the larger care environment, in order to determine how it can be most suitably integrated in order to maximize its benefits to users and staff. Existing research relevant to this topic can be problematic because of differences in facility type (assisted living, day care, residential care, and nursing care); type of outdoor space; culture; access; operational policy and staff attitudes; building design; and most importantly the differences in behavior and experiences of the people with dementia who use the spaces (Rodiek 2008, Pollock and Marshall 2012, Grant and Wineman 2007). Research presented in this thesis will take this into account and attempt to provide a model through which garden integration can be understood and achieved.

Given the range of variation amongst existing facilities, there is also a need for post-occupancy evaluations of as many different facilities as possible, in order to inform the collective understanding of the restorative benefits and design strategies for

therapeutic gardens in healthcare facilities that treat dementia. No individual set of design guidelines will be completely comprehensive. Thus research presented in this thesis develop and expand upon existing guidelines, as well as shed light on new areas for consideration. This will be particularly useful for designers and facility managers who are interested in improving the quality of care provided at facilities through the integration of therapeutic outdoor space.

Research Questions

The purpose of this thesis is to further the collective understanding of the roles of therapeutic gardens for treating persons with dementia in residential and day facilities.

The following chapters will collectively attempt to answer the following question:

How can designers and facility managers comprehensively and specifically approach improving the quality of care for persons with dementia, through the integration of a well-designed garden space?

In order to successfully answer the primary research question, the thesis will attempt to answer the following sub-questions, as well as, evaluate the corresponding hypotheses:

- **Question:** Is it possible to develop a model to comprehensively guide designers and facility managers in making decisions on how to feasibly improve the delivery of care for persons with dementia within the constraints of the site, building, and staff?
 - **Hypothesis:** The garden serves an integral role in improving the quality of care for persons with dementia, however this role is complex and is greatly influenced by other physical, psychological, and managerial aspects of a care environment.

- **Question:** How can human/environmental interaction theories support and or inform a design or management approach?
 - **Hypothesis:** A garden or care facility that meets all the required mechanisms of Kaplan's *Attention Restoration Theory* and Ulrich's *Theory of Supportive Gardens* successfully delivers the highest level of care.
- **Question:** In what ways does the study inform, nuance, and confirm existing design guidelines for dementia gardens? Can the case studies uncover new design guidelines or best management practices that specifically address strategies for improving care?
 - **Hypothesis:** Evaluating exemplary case study sites against current existing design guidelines will uncover important suggestions to improve or nuance existing guidelines, as well as, uncover new guidelines for how to specifically improve the quality of care.
 - **Hypothesis:** A collaborative, adaptive, and or integrated design process will result in a more successful care environment.
- **Question:** What is the role of the landscape architect or garden designer who specializes in the design of therapeutic gardens for persons with dementia? How can this role be redefined in the future to ensure that the benefits of the garden design are maximized?
 - **Hypothesis:** Traditional roles of a landscape architect or garden designer are not adequate in the evolving area of therapeutic healthcare design
- **Question:** What are important areas for future research?

Post-occupancy evaluation of two exemplary facilities in the UK were performed in order to elucidate the complexities of how gardens are integrated into successful care environments for persons with dementia, regardless of existing limitations of the site, facility, and service. A complex descriptive strategy combines interviews and site observations to provide supporting data.

Structure

Chapter 2 provides a review of literature and a theoretical framework. Chapter 3 provides a review of research relevant to the design of therapeutic gardens for dementia. Chapter 4 details the research methodology and provides in-depth case studies for both sites. Chapter 5 presents and discusses the results of the research, which includes: a content and categorical analysis of interview data; a theoretical analysis; and a comprehensive analysis of existing design guidelines. Conclusions are presented in Chapter 6 and finally, implications for future research are explored in Chapter 7.

Language

As with any specialized area of practice or research, therapeutic gardens for persons with dementia have their own unique vocabulary. Through the process of this research the investigator has adopted new language to better describe people and activities. As mentioned previously, the term dementia will be used to collectively

describe all of the varying types of dementia, such as Alzheimer's Disease, lewy body dementia, vascular dementia, mixed dementia, etc. The term therapeutic garden implies that the intent of the design is to provide restorative benefit to the user, either actively or passively. The term active will refer to activities where the user is physically participating in planned or autonomous garden activity (this will include walking) and the term passive will refer to activities where the user is visually and sensually interacting with the environment (this may also include walking but will depend on the context). Horticultural therapy or horticultural activity will be used as an umbrella term to describe multiple types of planned engagement with plants and gardening. Therapeutic garden will often be used interchangeably with healing garden; dementia care garden; exterior or outdoor environment; and restorative garden. In the spirit of a "person-centered approach" to treating dementia, the term patient will be omitted and replaced with the term person(s)/people with dementia. The term wandering often used to describe aimless walking for people with dementia will be omitted. Through this research it has been understood that people with dementia do not wander aimlessly. In fact they often have specific agendas and intentions regarding where they want to go or where they think they are, however, through their cognitive decline, the ability to communicate this is often diminished and thus it is wrongly deduced that they have aimless intentions. Lastly, the research will investigate two facility types. Residential care describes a facility where people live full-time and receive comprehensive care; people who live there are referred to as residents. Day care or day support in this thesis describes a facility where residents come during the daytime often only several times a week and

where the care is focused more on therapeutic activities as opposed to tasks associated with full-time care; people who attend the facility are referred to as service-users. At times, both groups will be referred to as [garden] users.

Audience

Academics and practitioners in landscape architecture, garden design, architecture, horticultural therapy, and medicine, along with managers and staff from healthcare facilities can reference this thesis for guidance with therapeutic garden design and further research. The case studies present two exemplary dementia care facilities and their evaluation can provide critical knowledge on the effectiveness of applied ideas and guidelines.

CHAPTER 2

THEORETICAL FOUNDATIONS

In order to understand the therapeutic role that nature and garden environments play in the treatment of dementia, it is imperative to assess the theoretical underpinnings that presuppose the benefits of human interaction with the natural environment. The following chapter will discuss this through exploring a body of research concerning the psychology, culture, and evolution of human and environmental interaction. The subsequent chapter (3) will summarize theory and research specific to dementia therapy gardens. Chapters 2 and 3 will conclude with a synthesis of the research, identifying key components of a theoretical framework and design criteria for dementia therapy gardens.

Kaplan and Kaplan

Stephen and Rachel Kaplan Ph.D., environmental psychologists, have contributed a lifetime of research concerned with the relationship between humans and the natural environment. Their work is built upon the foundational idea that “human functioning depends on information” and that “much of this information is provided by the immediate environment” (Kaplan and Kaplan 1989, 3; Chalfont 2012b). Their early research explored this relationship and how it played into our evolution as a species. The Kaplans contend that early human survival relied not only on the ability to grasp large amounts of information, but to act upon that information quickly (Kaplan and

Kaplan 1978). They referred to this concept as a “high knowledge-low contemplation system”. High knowledge aided through cognitive mapping – our ability to create mental maps of the environment, stores previous information gleaned from the environment. Low contemplation was found to be the result of a “desire for clarity”, “a state of mind characterized by a strong focus and the suppression of distraction” (Kaplan and Kaplan 1978).

With an understanding of how humans evolved to process and act upon information, the Kaplans became interested in how we perceive our environment, and furthermore, how that perception then informs our preferences. It is important to understand that the Kaplans view environmental preference as “an expression of underlying human needs”. Humans “are far more likely to prefer a setting in which they can function effectively” (Kaplan and Kaplan 1989,10).

Through numerous studies that asked participants to rate images of nature based upon preference, it was determined that humans prefer two distinct categories of views; content-based and spatial configuration. The content-based results showed that humans preferred environments where human intrusion is minimized and where nature is dominant to the built environment. The spatial configuration results suggest that humans prefer spaces with relative openness and spatial definition. Such settings support effective functioning by allowing humans to extract information quickly (Kaplan and Kaplan 1989).

The Preference Matrix: Through their research on preference, the Kaplan’s found that it was difficult to express common characteristics that linked the least

preferable scenes and most preferable scenes. This led to the creation of the Preference Matrix (table 2.1), a framework through which preference can be evaluated and predicted.

Table 2.1: The Preference Matrix

	Understanding	Exploration
Immediately apparent	Coherence <i>(the extent to which the scene seems to “hang together”)</i>	Complexity <i>(information richness of the scene)</i>
Can be inferred or predicted	Legibility <i>(the predicted navigability of the scene upon further exploration)</i>	Mystery <i>(the promise of the scene offering additional information upon further exploration)</i>

Relationship between factors predicting environmental preference
(adapted from Kaplan 1987, 1988)

The matrix is split into two domains that represent the human relationship of extracting information from the environment. The first domain includes the human need for understanding and exploration. To *understand* is simply to make sense of what is occurring in an environment. Understanding is partially shaped by prior experience. This strong human need for understanding results in preferences for environments that readily facilitate comprehension. Along with the need for understanding, the matrix identifies the human need for *exploration*. Exploration is the human preference for

“circumstances that require them to expand their horizons” (Ibid., 51). Exploration is also influenced by prior experience. This foundational need for exploration suggests that human preferences will be greater for environments that facilitate the need to explore (Kaplan and Kaplan 1989).

The second domain on the Preference Matrix is concerned with the *degree of inference* required to extract needed information (Ibid., 52). This is further categorized based upon if the information is immediately apparent or inferred and predicted. In comparing the domains using the matrix, the Kaplans arrived at four unique informational factors for understanding preference: Complexity; Coherence; Legibility; and Mystery. (See table 2.1)

Complexity is understood “in terms of the number of different elements defined in a scene; how intricate the scene is; its richness” (Ibid., 53). *Coherence* aids in “providing a sense of order and in directing attention” (Ibid., 54). It is aided through spatial organization, requiring very little inference, while supporting understanding. *Legibility*, a term adopted from Kevin Lynch’s book, *The Image of the City* (Lynch 1960), is defined by the Kaplans as a space that is easy to understand and remember (1989, 55). The utilization of distinctive and easily identifiable elements within a well-structured space, create readily navigable, and *legible* space (Kaplan and Kaplan 1989, 55). The last informational factor, *Mystery*, is about the promise of gaining additional information. Scenes with *myster* “encourage[s] one to enter and venture forth, thus providing an opportunity to learn something that is not immediately apparent from the original vantage point” (Ibid., 55).

The Kaplans explain, “the purpose of the Preference Matrix is to inform intuition” (Ibid., 66). It is intended as a framework through which we can evaluate, analyze and predict human preferences for different types of environments. The preference matrix is acknowledged by the Kaplans as an evolving conceptual tool and they point out preference is often the product of several of the factors acting simultaneously – a factor that is hard to measure through statistical analyses. Generalization across numerous studies suggests that combinations of informational factors yield significant results. Complexity was only found to be a positive predictor in one study, where urban scenes were less preferred and rated higher in complexity. Legibility was shown to be hard to evaluate, playing insignificant roles in the majority of studies. Coherence and Mystery proved to be the most significant informational factors for predicting preference in the studies (Ibid., 66). To summarize, the Kaplan’s work “suggests that the needs for understanding and exploration are both important; one can not replace the other. Similarly, the desire for both the immediate and the more inferential coexist” (Ibid., 66). The studies show that in preference regarding understanding, immediate availability of information is particularly important. These well-organized, coherent scenes allow one to quickly understand the environment. The studies also indicate that in terms of the need for exploration, preference is greatly influenced when scenes emphasize the promise for additional information. These mysterious scenes, suggest that more information can be acquired through further investigation, satisfying the human need for exploration (Ibid., 66-67). Lastly, these results have the potential to be particularly useful

when evaluating the design of environments that facilitate successful human functioning and well-being.

Kaplans' Theory of Restorative Environments and Attention Restoration

Theory (ART): The Kaplans' extensive research on preference for environments that facilitate effective human functioning, in combination with additional research on the benefits and satisfactions of the natural environment, provide significant insight into the human-nature relationship. The Kaplans next area of research builds upon this insight, exploring the concept of a restorative environment and the means through which a restorative experience can be achieved. The resulting theory of this research is based on the premise that our society is ever burdened by stress and mental fatigue. It is important to point out that the Kaplans view stress and mental fatigue as distinctly different concepts. They define stress as involving "the preparation for an anticipated event that has been evaluated as being threatening or harmful" (Kaplan and Kaplan 1989, 178). Mental fatigue, while often a result of stress, can also arise from participating in "hard work on a project one enjoys". "In such cases there is no threat of harm, no negative evaluation, and no anticipation" (Ibid., 178). To address the aforementioned premise the Kaplan's research points to restorative experiences, which they define as opportunities to restore human effectiveness through the reduction or recovery from directed attention fatigue (Kaplan 1995, 172). In order to examine this theory more closely it is important to define the key concepts.

Directed Attention: The Kaplans' research identifies two types of attention; involuntary and directed -- the latter of which being a critical component in the theory of

restorative environments. The distinctions between the two types of attention reference the work of William James (1892), who referred to the two types as voluntary and involuntary. Involuntary attention refers to attention that requires no effort at all. This type of attention is triggered through exciting and intriguing stimulus patterns, such as beauty, movement, wildlife, unusual things, etc. In contrast, voluntary attention is that which requires substantial effort. This is the case particularly when the subject of attention is particularly uninteresting (Kaplan and Kaplan 1989, 179).

The Kaplans adopted the term *directed attention* to describe a similar idea of James' voluntary attention. Directed attention, as defined by the Kaplans is "a mechanism with the following properties: it requires effort, plays a central role in achieving focus, is under voluntary control (at least some of the time), is susceptible to fatigue, and controls distraction through the use of inhibition" (Kaplan 1995, 170). The key difference between the terms lies with the concept of inhibition. James put forth that in order to maintain voluntary attention, one must successfully inhibit all other distractions. Thus in order to maintain focus on one or a variety of tasks, one must continually call upon the same mechanism of inhibition. The frequency in which this mechanism is called upon suggests that the attention required for inhibition is susceptible to fatigue (Kaplan and Kaplan 1989, 180); a concept not addressed in James' work. The Kaplans are concerned with the state of mind or mental fatigue that accompanies this mechanism, and thus put forth that prolonged directed attention is the underlying cause of mental fatigue.

Directed Attention Fatigue (DAF): Directed Attention Fatigue is understood to be the result of “any prolonged mental effort” (Kaplan 1995, 170). The repetitive mechanism of directing attention through inhibiting distractions weakens our ability to focus on voluntary tasks. The loss or fatigue of directed attention has serious implications for effective functioning in modern society. These are characterized by behavior that is unproductive, accident-prone, impatient, high-risk, socially irresponsible, irritable, and aggressive. The results of such behaviors can often be catastrophic and counter productive to effective human functioning (Kaplan and Kaplan 1989, 180-182).

Given that directed attention is a vital mechanism in effective human functioning, it is interesting to consider the reasons why our directed attention is susceptible to fatigue. The Kaplans provide an evolutionary perspective, suggesting that it may not have been advantageous for early humans to pay attention to one particular thing for prolonged periods of time. The resulting fatigue might increase their vulnerability to unexpected danger. “Being vigilant, being alert to one’s surroundings may have been far more important than the capacity for long and intense concentration” (Kaplan 1995, 170). Since the focus of early human life was concerned with more innately fascinating stimuli, such as danger, wild animals, and wild nature, it is reasonable to assert that evolution would tend to favor involuntary attention (Ibid.).

However, in our very specialized and complex modern societies the need for directed attention has become critical to effective functioning. Our roles in society are increasingly specialized and our tasks require substantial hours of prolonged mental effort. At the same time our environments have drastically changed by processes of

population growth, industrialization, and urbanization (Kaplan and Kaplan 1989, 182). Taking this into account, it becomes easy to see the need for new approaches to the design of our built environments.

Attention Restoration Theory (ART): *“If mental fatigue is the result of an over-worked capacity for directed attention, then resting this capacity would seem to be the route to recovery” (Kaplan and Kaplan 1989, 182).*

The Kaplans’ prior research on nature preference and wilderness experience has shown that humans innately prefer natural environments. These preferences reflect environments that make us feel safe and enhance our effective functioning. In such environments we are able to relax and experience pleasure, engaging our involuntary attention and reducing our need for directed attention. This implies that preferred natural environments facilitate resting of directed attention. Thus a preferred environment is “more likely to be a restorative environment...and since nature plays a powerful role in what is preferred, in general terms, there is a theoretical basis for expecting natural environments to be restorative” (Ibid., 189).

Now that there is an understanding of the necessity to rest our directed attention, it is key to identify the mechanisms through which we can engage our involuntary attention. Fortunately, we know through the preference research that nature provides endless opportunities to achieve this. The Kaplans have identified four components or qualities of human-environmental interaction that must be present in order restore mental capacity, thus reinstating our ability to function effectively in modern society (Kaplan 1995, 173). These components are defined below:

Fascination: Fascination is a central component in the restorative experience. The Kaplans adopted the term as a substitute for James' "involuntary attention". Thus, fascination as a mechanism captures a person's attention through very little effort and can sustain that attention, allowing directed attention to rest. Fascination can be derived from many different sources and can occur through both process and content. Fascination of processes is exemplified in activities such as watching sunrises and sunsets; the way the wind blows through grasses; or by watching the waves crash on the beach. This type of fascination allows a person to build upon information they already possess, expanding their understanding through contemplation. Object fascination is concerned with content, such as the diverse flora and fauna found in natural environments. It can be influenced through extremes of scale, such as the Grand Canyon or the intricate details of a flower. Fascination must also be understood along a gradient with regards to being soft or hard. Watching a sporting event, for example, would be considered "hard fascination". ART is concerned with "soft fascination", such as watching clouds in the sky. This type of fascination, readily provided by nature is less dramatic in its appeal while providing the opportunity for reflection (Kaplan and Kaplan 1989, 182, Kaplan 1995, 173).

Being Away: Being away "psychologically—implies involving oneself in cognitive content different from the usual" (Kaplan and Kaplan 1989, 189). This act, whether physically or conceptually, allows a person to escape or separate themselves from the stressors of life, which require their directed attention. Natural environments, such as mountains and beaches, have long been the preferred destinations for relaxing

vacations and “get-a-ways”. Here again, nature can provide infinite possibilities and thus is a key resource for restoring mental fatigue. Nature within urban and suburban environments, referred to by the Kaplans as “nearby nature” might seem to be at a disadvantage, because it is not being away in the literal sense that a trip to the beach might facilitate. However, the Kaplans explain that being away can also occur conceptually as a state of mind (Kaplan and Kaplan 1989, 189, Kaplan 1995, 174). This is readily facilitated through designed parks, green spaces, and back yards. This notion of being away has particularly important implications in guiding the design of our built environments.

Extent: Extent is defined by the scope of the setting as well as by a sense of connectedness. This is often described as “being in a whole other world”. This feeling can be understood either physically or perceptually. To achieve extent, it is “necessary to have interrelatedness of the immediate perceived elements, so that they constitute a portion of some larger world” (Kaplan and Kaplan 1989, 184). In distant nature this is easily achieved, however smaller areas of nearby nature can also be designed to provide the feeling of extent. The space must be designed in a way that is easily understood, while also stirring the notion that there is more to discover and explore. Designers can create extent through the manipulation of scale, making a space seem larger than it actually is. Extent can also be achieved on a more conceptual level, such as through the use of historic artifacts or memorabilia, which can “promote a sense of being connected to past eras and past environments and thus to a larger world” (Kaplan 1995, 174).

Compatibility: Compatibility should be understood as a gradient of agreeability amongst environmental patterns, individual inclinations, and actions required by the environment. The Kaplans explain, “the setting must fit what one is trying to do and what one would like to do” (Ibid. 173). Settings that are high in compatibility facilitate smooth functioning and thus require less directed attention. This can be best understood when analyzing environments where compatibility is absent. For example, an environment where one intends to read a book would not be compatible if it was noisy, dark, and there was no seating. It becomes clear that design can play a key role in facilitating compatibility particularly with regards to nearby nature. Designing for this quality force one to pay careful attention to the individual needs and inclinations of participants. This is particularly important for populations with special needs such as dementia.

Roger S. Ulrich PhD

Roger S. Ulrich, PhD, EDAC is Professor of Architecture at the Center for Healthcare Building Research at Chalmers University of Technology in Sweden, and is adjunct professor of architecture at Aalborg University in Denmark (Roger S. Ulrich 2014). His research has focused on the empirical and theoretical benefits of design in healthcare environments. This review will focus on his more recent work that deals with the effects of nature and gardens on patient health outcomes.

Theory of Supportive Gardens: Ulrich’s work is centered on the concept of stress. Stress defined by Ulrich is the “process of responding to events and

environmental features that are challenging, demanding, or threatening to well-being” (Ulrich 1999, 30). Stress, being a significant outcome on its own accord, also accompanies and affects many other health outcomes (Ibid., 33). According to Ulrich, “the concept of stress makes it possible to develop a scientifically grounded theory of supportive garden design that conceptualizes the impacts of environmental features and design approaches in ways that are directly and credibly linked to effects on health outcomes” (Ulrich 1999, 35, Ulrich 1992).

The basic premise of Ulrich’s theory is that if a garden is to be healing and supportive to one’s health and well-being, it must facilitate “stress-coping and restoration” (Ulrich 1999, 36). Based upon research and theory, from multiple related disciplines as well as available literature on gardens, Ulrich crafted a theoretical framework of four essential stress-coping mechanisms that should be leveraged in the design of gardens in healthcare facilities. (Ulrich 1999). (See figure 2.1)

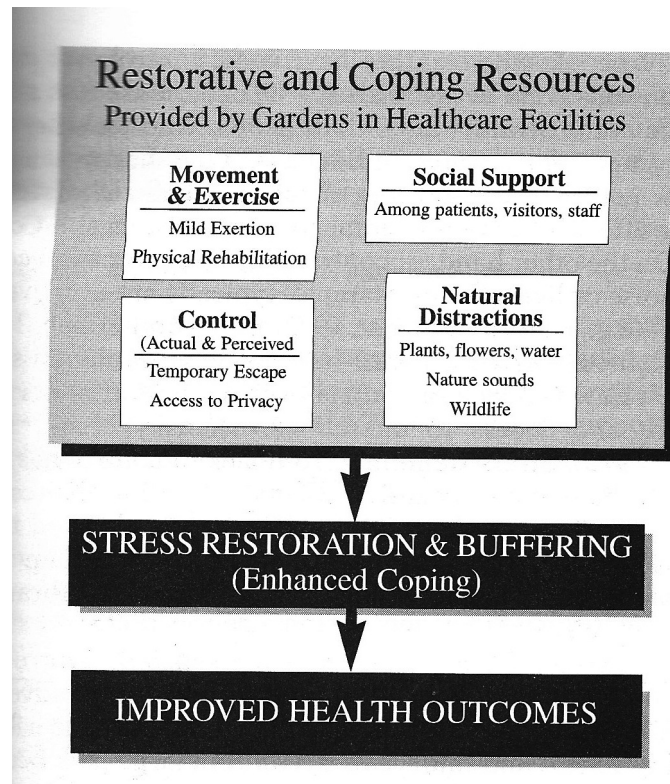


Figure 2.1: Conceptual Model: Effects of gardens on health outcomes (Ulrich 1999, 37)

Requisite Condition: Prior to discussing the four mechanisms, it is important to note that Ulrich has put forth a requisite condition for his theory. In order for the stress-coping mechanisms to be effective, the garden must “convey a sense of security” (Ulrich 1999, 36). If a garden space does not feel safe, it will be a source of stress, and users will most likely avoid it (Ibid., 36).

Sense of Control: In order for a person to have sense of control they must have “real or perceived ability to determine what they do, to affect their situations, and to determine what others do to them” (Gatchel, Baum, and Krantz 1997, Ulrich 1999, 37). In healthcare settings this is particularly important because poor health and the

procedures that accompany, are beyond the immediate control of the person, which can lead to stress. Gardens can facilitate sense of control through “temporary escape”, a term similar to Kaplan’s notion of “being away”. Temporary escape can occur passively, such as through staring out a window at nature and escaping in ones mind. It can also occur actively, such as in the active choice to walk down a woodland path to sit on bench. The two can also occur simultaneously. Though both active and passive escape is supported by research on restoration of the stress response, it is easiest to see that active escape involves an actual or perceived choice, which in turn engenders a sense of control. In a healthcare garden, sense of control must be an underlying mechanism in all aspects of the design. Ulrich states that “potential users must know the garden exists, be able to find their way to the setting without difficulty, and be able to use the garden in an active and or passive manner” (Ulrich 1999, 40-41).

Social Support: “Social Support refers to perceived emotional support or caring, and material or physical aid, that a person receives from others (Ulrich 1999, 42, Brannon and Feist 2010). This mechanism illustrates the importance of the human component in the restoration process. The garden or the building is the setting in which social support can occur. In a successful healthcare garden, the environment and human component are inextricably linked. Horticulture therapy, exemplifies this connection, through activities in the garden, which provide emotional support from a therapist as well as the opportunity for social interaction amongst other participants (Ulrich 1999, 45). While there is a small amount of research supporting the role of gardens for cultivating social contact, Ulrich, points out a gap in the research, stating

that further research is needed “to confirm that social contacts in gardens actually are linked to positive health influences” (Ibid., 45).

Physical Movement & Exercise: The benefits of physical activity and exercise are numerous and widely accepted. Ulrich’s theory is primarily concerned with “psychological or emotional benefits of exercise and related therapeutic effects on stress” (Ibid., 47). Research in this area is substantial, with studies showing reduction in depression and anxiety as well improvements in mood (Ulrich 1999). Ulrich points to a 1994 study by Ruuskanen and Parketti (1994), which found that higher levels of physical activity amongst older people in nursing homes was associated with lower depression. One controlled study of moderately depressed older people showed that walking for twenty minutes, three times a week reduced the symptoms of depression (McNeil, LeBlanc, and Joyner 1991). The design of therapeutic gardens can include elements that promote walking such as pathways and destinations. Outdoor spaces that are readily accessible can promote independent exercise. Physical activity can also be linked to social support with group exercise activities such as “chair aerobics” lead by trained therapists.

Natural Distractions: “A positive distraction is an environmental feature or situation that promotes an improved emotional state in the perceiver, may block or reduce worrisome thoughts, and fosters beneficial changes in physiological systems such as lowered blood pressure and stress hormones” (Ulrich 1999, 49). While positive distractions take many forms, Ulrich is concerned with restorative influences of viewing natural settings such as foliage, flowers, and water (Ibid.). This concept is the keystone

to Ulrich's theory because nature is the central component of a garden. The following paragraphs will explore the theoretical perspectives and research that explain why nature is so effective at reducing stress.

The first of these perspectives “emphasizes *learning* as the major mechanism by which people acquire restorative and positive responses to nature” (Ulrich 1999, 50, Ulrich and Parsons 1992). The idea here is that people learn to associate restoration with the natural environment and that they learn to associate stress with urban environments. This is exemplified by the association of restoration with relaxing vacations in natural environments, and conversely the association of stress with the phenomena that occur in urban environments, such as traffic, work related stress, and crime (Ulrich 1999, 50). Ulrich and Parsons, also looked at cultural explanations that “likewise emphasize learning, proposing that people are taught or conditioned by their society to have positive associations with certain types of environmental features and perceive others as negative or unsettling” (Ulrich 1999, 50, Ulrich and Parsons 1992). However, Ulrich's studies on cross-cultural responses to nature indicate that positive responses to nature are largely similar across diversely different cultures (Ulrich 1999, 50, Ulrich 1993). Thus, Ulrich has concluded that learning-based theories are inadequate to explain the association of nature with restoration.

Given that a positive human response to nature cannot be supported by cultural or learning based theories, Ulrich puts forward an evolutionary perspective, which can “plausibly explain why certain types of nature scenes should have restorative or stress-reducing effects across diverse groups of people” (Ulrich 1999, 51). This theory

“contends that acquiring a partly genetic or biological capacity for a restorative response to certain nature settings held major survival related advantages for early humans” (Ulrich 1999, 51, Ulrich 1993, Ulrich 1983, Ulrich et al. 1991). Early humans who could recover quickly and completely from the ‘flight or fight’ induced stress of a demanding and threatening environment, would have increased health and emotional well-being, thus enhancing their chances for survival (Ulrich 1999, 51). Ulrich proposes this advantage was critical for survival and that natural selection would favor individuals “with a biologically prepared disposition to quickly acquire and persistently retain restorative responses to certain nature settings” (Ibid., 51). Furthermore, Ulrich’s research suggests that the health-related benefits of this restoration of stress should include “ a shift toward a more positive emotional state, alleviation of deleterious effects of physiological mobilization (reduced blood pressure, reduced levels of circulating stress hormones, enhanced immune function), the recharging of energy, and gains in cognitive performance” (Ulrich 1999, 51, Ulrich 1993). Another key concept that arises from this theory is that “restorative responses to nature should occur fairly rapidly – usually within a few minutes rather than over several hours” (Ulrich 1999, 51, Ulrich et al. 1991). Lastly, this theory implies that humans have a genetic predisposition “that motivates them, following a stressful experience, to seek out, approach, and spend time in nature settings with restorative properties”(Ulrich 1999, 52).

This evolutionary perspective is particularly useful moving forward because it predicts that humans in modern society have evolved through a process of natural selection, which favors the aforementioned capacity to acquire and retain a quick

restorative response from certain natural settings, materials and phenomena (Ulrich 1999, 52). Conversely, this theory predicts that modern humans would have no evolutionary disposition toward “most built environments and their materials” (Ulrich 1999, 52, Ulrich 1993). Further research from Ulrich has shown that the characteristics of nature settings, most effective in promoting restoration, include: “verdant plants, calm or slowly moving water, some spatial openness, park-like or savanna-like properties (scattered trees, grassy understory), and a sense of security or low risk” (Ulrich 1999, Ulrich 1993).

The View to Recovery: Ulrich’s theory and research indicates that restoration from stress happens quickly through several coping mechanisms, including sense of control, social support, and physical exercise. There is also a large body of research indicating that simply *viewing* nature provides restorative benefits. The following paragraphs will look specifically at the restorative effects of viewing nature in healthcare settings, however for a summary of corroborating research on the physiological and psychological benefits of viewing nature in non-patient populations see Ulrich (1999, 52-57).

High levels of stress are intrinsic to most healthcare settings. For persons experiencing these high levels of stress, it seems probable that there would be an increased likelihood of restorative benefits from viewing nature (Ulrich 1999, 57, Ulrich 1979). The results of one interview study indicated that the “most widely shared preference regarding the physical environment of healthcare facilities was for access to nature – including gardens, outdoor sitting and walking areas, balconies, views from

patient rooms, indoor plants, and pictures of nature”(Ulrich 1999, 58, MacRae and Michel 1998). Other studies in healthcare facilities found significant stress restoration in highly stressed patient groups when they were exposed to nature for short periods of time ranging from five to fifteen minutes (Ulrich 1999, 58).

Given the noted restorative benefits of viewing nature for only a matter of minutes, it seems likely “to expect that longer duration exposures to nature in healthcare facilities (several hours, a few days) could have comparatively persistent and perhaps larger restorative effects on emotional, physiological, and behavior components of stress” (Ibid., 59). Furthermore, it would be reasonable to assume that over time these restorative effects would influence positive health outcomes (Ulrich 1999, 59, Ulrich 1984).

View Through a Window: This notion is supported by Ulrich’s study, which investigated the visual effects of nature on patients, post-cholecystectomy (gall bladder surgery). Forty-six patients were matched into twenty-three pairs based on a variety of criteria including “sex, age (within five years), being a smoker or non-smoker, being obese or within normal weight limits, general nature of previous hospitalization, year of surgery (within six years), and floor level” (Ulrich 1984). All of the postoperative rooms were identical except with regards to the views out of the window. Some of the windows had a view out onto a small stand of deciduous trees, while others looked out onto a brown brick wall. As mentioned previously, the patients were paired for similar characteristics with exception of whether their window had the nature view or the brick wall view. Recovery data looked at five variables: number of days of hospitalization

(day of surgery to day of discharge); number and strength of analgesics (pain medication); number and strength of doses for anxiety each day (tranquilizers and barbiturates); minor complications (headaches, nausea, etc); and nurses general notes on patient condition (Ibid.). The results of the study showed that “in comparison to the wall-view group, the patients with the tree view had shorter postoperative hospital stays, had fewer negative evaluative comments from nurses, took fewer moderate and strong analgesic doses, and had slightly lower scores for minor postsurgical complications” (Ibid.). Ulrich notes that the results of this study imply greater therapeutic influence from nature views; it does not necessarily imply that all built views will elicit the same results. The brick wall in this study was particularly monotonous and the patient-groups evaluated were all recovering from the same surgery. Thus it is probable that other patients groups, particularly those who are under stimulated and in long-term care, might exhibit benefit from more exciting built views. However, even taking this into account, the study shows significant implications for the design of hospital settings, particularly in regard to building location, and the quality of views from windows (Ibid.)

As Ulrich and critics of this study have pointed out, the findings cannot be readily transferred to different patient groups. However, multiple other studies have confirmed similar findings on the benefits of nature views across varying patient groups: For more information see: (Ulrich, Lunden, and Eltinge 1993, Baird and Bell 1995, O'Connor, Davidson, and Gifford 1991, Miller, Hickman, and Lemasters 1992). One such study, relating to the topic of this thesis showed the benefits of nature exposure in persons with late stage dementia. The study compared the levels of agitation and aggressive

behavior caused by shower baths in two room conditions. One room condition played recorded nature sounds and had large color posters of nature scenes on the walls, while the other did not. The findings showed significant reduction in agitation for the persons showered in the nature condition (Whall et al. 1997, Ulrich 1999, 61). While little can be empirically understood regarding the perception of those with dementia, the results of this study show the potential for the use of nature as therapeutic tool for dementia care. If perceived nature elements such as nature recording and photographs can elicit positive results, then it seems highly likely that exposure and connection to actual nature settings could produce similar or potentially greater results for people with dementia.

In order to further strengthen the argument for natural distractions as the key mechanism for stress restoration, Ulrich has also looked extensively at negative distractions in gardens. In contrast to natural distractions, negative distractions tend to create stress and thus promote associated adverse health outcomes. Ulrich identifies several types of negative distractions such as noise, smoking, sunlight, and features that are abstract and not easily understood. Through indentifying and understanding these types of distractions, it is possible to come up with design solutions that negate their effects.

Research from Cooper Marcus and Barnes (1995) found that users of healthcare gardens had negative reactions to sounds from air-conditioning units and street traffic. Cooper Marcus and Barnes also provide evidence that suggests “smoking is an aversive negative distraction for many users of healthcare gardens” (Ibid.). In both

instances, design can play an important role in mitigation. Designers should aim to site gardens away from noisy streets or utilize hedges and walls to dampen unwanted noise. They might also use water features or plants that encourage birds, to create positive nature sound. For smoking, it is important to design distinct and separate areas for smokers and non-smokers. While smoking is a activity most healthcare facilities do not want to encourage, the implications of a user worrying about not smoking might encourage additional stress. For the non-smokers, it is important that access to major garden areas be smoke-free and inviting. The goal here is to allow both groups to exist within the garden, free from alienation and unwanted stress (Ulrich 1999, 63).

Sunlight is somewhat of a double-edged sword in the healthcare garden. For example, one study “found that serum vitamin D concentrations in groups of elderly were positively related to individuals’ levels of outdoor exposure” (Ulrich 1999, 64, Lamberg-Allardt 1984). Low and inadequate vitamin D levels were seen with low levels of outdoor exposure and high levels of vitamin D were seen with elderly who spent a lot of time outdoors (Lamberg-Allardt 1984). While the benefits of exposure to sunlight are numerous, designers must also take into consideration that too much sun might raise issues for certain patients. The elderly are particularly sensitive to variations in temperature, and prolonged sun exposure might result in overheating or sunburn. Furthermore, many people in healthcare facilities may be taking medications that make them particularly sensitive to sunlight and thus easily susceptible to sunburn and rash, even after a matter of minutes (Ulrich 1999, 64). Therefore, designers must provide

adequate shaded seating as well as opportunities for sitting in sunny areas. This also supports the need for sun facing windows in healthcare buildings.

Another negative distraction identified by Ulrich is the use of ambiguous and abstract garden features. Ulrich notes that this type of distraction may arise when aesthetic preferences of the designer differ significantly from the user/viewer. In a supportive healthcare garden, where users are emotionally distraught, stressed and plagued by illness, it is comprehensible that such users would react differently than healthy people to abstract or ambiguous garden elements. Research from Ulrich, confirmed this showing that “patients responded positively to representational pictures dominated by nature, but responded negatively to pictures having either ambiguous or unintelligibly abstract content” (Ulrich 1999, 67, Ulrich 1986). For the designer, the research suggests that healthcare landscapes be designed in ways that are easily understandable and do not include abstract and ambiguous elements.

Edward O. Wilson

Wilson is currently the Pellegrino University Research Professor, Emeritus and Honorary Curator in Entomology of the Museum of Comparative Zoology at Harvard University. Regarded as “the father of sociobiology” and as one of the greatest living scientists, Wilson is the author of numerous texts, including two Pulitzer Prize-winning books, *On Human Nature* (1978) and *The Ants* (1990, with Bert Hölldobler). The recipient of many awards, fellowships, and honors, Wilson’s visionary writings on *consilience* and *biophilia* have greatly influenced the scientific community and have

forged links between disciplines as he seeks to emphasize the importance of a conservation ethic by elucidating the reciprocal relationship between nature and culture. (Wilson 2014).

The Biophilia Hypothesis: For the purposes of this thesis, this review will focus on Wilson's Biophilia Hypothesis. Biophilia literally translates as "the love of life". Wilson defines biophilia as "the innately emotional affiliation of human beings to other living organisms". Biophilia should be viewed as both an evolutionary and learned affiliation with the natural world. While the primary understanding of our modern relationship with nature has been focused on material exploits, our emotional, cognitive, aesthetic, and spiritual development is also directly influenced. Wilson argues that biophilia has evolved through the process of biocultural evolution, meaning that culture gained structure over time under the "influence of hereditary learning propensities while the genes prescribing the propensities were spread by natural selection in a cultural context" (Kellert and Wilson 1993, 32). This evolutionary relationship with nature has directly affected our fitness as a species by providing us with distinct advantages in the evolutionary struggle to adapt, persist, and thrive as individuals and as a species" (Ibid., 42). Thus, by degrading our relationship with the natural world, we are degrading our very existence across broad material, emotional, and spiritual spectrums. For therapeutic gardens, biophilia provides an explanation at a genetic level for the importance of fostering our relationship with nature. Stephen Kellert's work with Wilson (Kellert and Wilson 1993, Kellert 2005) described in the following section, will expand on

the importance of our relationship with nature by analyzing the individual ways we affiliate with nature and the specific benefits conferred through this interaction.

Stephen R. Kellert

Kellert is the Tweedy Ordway Professor Emeritus of Social Ecology and Senior Research Scholar at the Yale University School of Forestry and Environmental Studies (Kellert 2014). His work focuses on the relationship between human and natural systems, with particular interest in the implications of this relationship for nature conservation and sustainable design and development. As opposed to the more widely studied negative effects that human activity yields on the environment or the negative effects of disturbed and degraded environments on human well-being, Kellert's research is focused on the more positive interactions between humans and natural systems. In other words, Kellert's work explores "how the experience of nature fosters human physical and mental well-being, and even how beneficial human actions can actually enhance the functioning of natural systems" (Kellert 2005, 9).

Science and Theory of Connecting Human and Natural Systems: Kellert's "Mastodon study" is an observational-correlation study that explored the relationship between ecosystem health, human environmental values, and socioeconomic benefits. He has hypothesized that human performance and productivity is inextricably linked to ongoing experience of natural systems. He asserts that the interactions between people and nature occur everywhere, including urban and rural areas. Overall, his hypothesis states, "that the health and integrity of natural systems exercise a crucial influence on

people's values of nature, which in turn influences their economic, social, and psychological well-being" (Ibid., 33). In order to evaluate his hypothesis, Kellert developed a conceptual framework, which identifies three concepts: ecosystem services, nature values, and sense of place. The following pages will focus on the nine basic ways that humans derive benefit and attach meaning to the natural world (table 2.2), as well as, the significance of 'sense of place' in this research.

Table 2.2: A Typology of Values in Nature

Aesthetic	Physical appeal of and attraction to nature
Dominionistic	Mastery and control of nature
Humanistic	Emotional Attachment to nature
Moralistic	Moral and spiritual relation to nature
Naturalistic	Direct contact with and experience of nature
Negativistic	Fear and aversion to nature
Scientific	Study and empirical observation of nature
Symbolic	Nature as a source of metaphor and communicative thought
Utilitarian	Nature as a source of physical and material benefit

Adapted from (Kellert 2005, 34)

Kellert has developed these nine basic values (table 2.2) as a universal framework to further explore Wilson's (1993) previously discussed concept of biophilia, which describes the presumed inherent biological affinity for the natural environment. Kellert defines the concept of biophilia "as a complex of weak genetic tendencies to value nature that are instrumental in human physical, material, emotional, intellectual, and moral well-being" (Kellert 2005, 50). Biophilic values developed over evolutionary

timeframes have persisted into our modern world because they contribute to the individual and social fitness of our species. While the adaptive occurrence of these biophilic values are considered as the essential basis for human evolutionary fitness, Kellert defined the values as “weak” genetic tendencies because they “depend highly on sufficient learning, experience, and cultural support to become functionally manifest” (Ibid., 50). This suggests that without adequate exposure and experience of nature our values may become atrophied or remain undeveloped “resulting in material, emotional, and intellectual deficits” (Ibid., 50). Conversely, adequate and satisfying exposure to nature allows these biophilic values to adaptively express and this functional occurrence results in diverse physical and psychological benefits. Understanding these values as “biocultural” constructs – a reflection of human biology, evolution, and cultural tendencies, is critical to Kellert’s hypothesis and to understanding how these values are either adaptively or dysfunctionally expressed. Accepting that biophilic values are strengthened through learning and cultural support, it is easy to understand how the outgrowth and development of these values is reliant on human choice and free will. Furthermore, because the values are the products of both learned and genetic tendencies, variations in culture and experience result in significant diversity in the content and intensity of the values expressed amongst individuals and groups. Kellert explains his hypothesis of how biophilic values are expressed along a continuum and he notes that the dictates of human biology provide a limit to the variability of this adaptive expression, allowing for a more universal application of his continuum (See figure 2.2). (Ibid., 50).

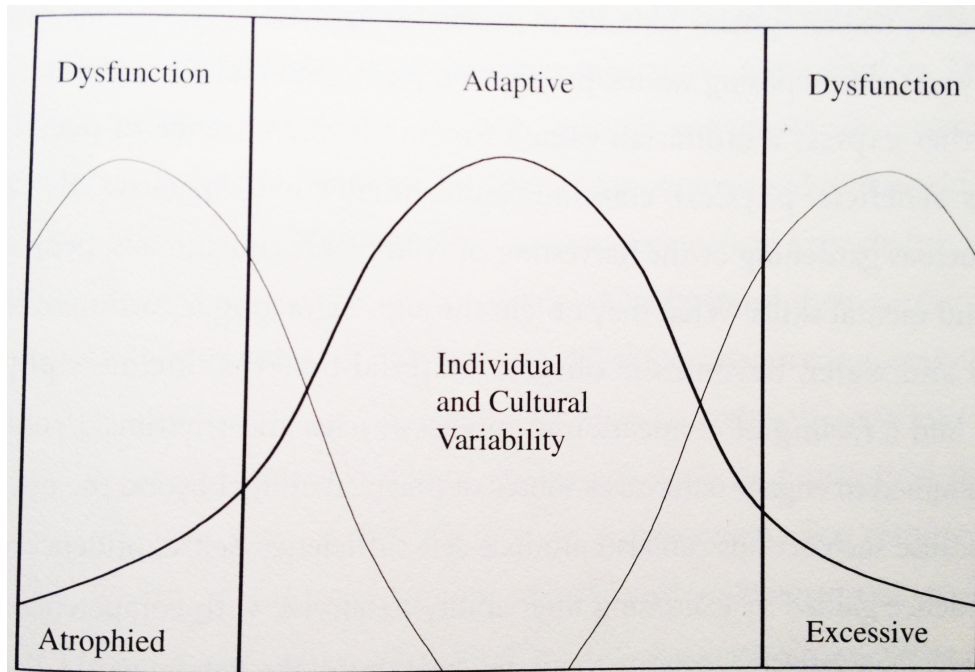


Figure 2.2: Hypothetical Expression of Biophilic Values

“Each value, thus, occurs hypothetically along a continuum that reflects functional variation within biological limits among individuals and groups, with dysfunction occurring at outer extremes when either sufficient or atrophied development or excessive or inordinate expression occurs” (Kellert 2005, 50).

Nature’s Value: The nine biophilic values elucidate the interdependence between the health of natural systems and human fitness. Kellert’s hypothesis hopes to foster an increased “ethic of concern” for our natural environment through the “extended realization of self interest”. Below is a brief description of the values and the corresponding physical and material; intellectual and emotional; moral and spiritual benefits they confer (Ibid., 50).

The **Utilitarian** value reflects the inclination to affiliate with the natural world for physical and material benefits. All people are biologically programmed to rely on natural systems for food, clean water, medicine, building materials, and overall security. Engaging in this utilitarian relationship with nature can offer skill and craft opportunities spanning beyond material rewards that provide intellectual and emotional benefits including feelings of self confidence, competence, and independence. This value can also be understood in terms of the value of ecosystem services to sustain human life (Ibid., 51).

The **Dominionistic** value reflects the desire to control and subjugate nature. Through the expression of this tendency humans sharpen their mental and physical fitness. Other benefits include increased feelings of safety and security; increased self-esteem and self-reliance; risk taking and resourcefulness; and increased coping skills. While modern society no longer faces many of the threats from wild nature, time spent in wild nature still cultivates a sense of strength and competency (Ibid., 52).

The **Naturalistic** value reflects the discernment of nature as an abundant source of stimulation, detail, and fascination. By immersing oneself in the natural world, one can experience feelings of calm and peacefulness, as well as, heightened senses and awareness of the surrounding environment. Similar to the Kaplan's concept of fascination and "being away", as well as, Ulrich's mechanism of positive natural distraction, this value perceives nature as an endless source of mental, physical, and spiritual stimulation. Kaplan's work has shown that restoration can occur as nature fascination provides opportunities to rests demands on directed attention. Ulrich

similarly has shown how positive nature distractions facilitate recovery from the physical and psychological manifestations of stress (Ibid., 52).

A **Scientific** value reflects the need to empirically and intellectually understand ones environment. This tendency utilizes observation, categorization, identification, and many other processes to gain greater intellectual understanding of the environment. Through these informative processes, individuals improve cognition, curiosity, critical thinking, problem solving, and analytical abilities. Furthermore, these processes improve the ability to adaptively express other biophilic values. These information rich processes can foster increased appreciation for the environment and can provide more meaningful experiences with the natural environment (Ibid., 53).

A **Symbolic** value reflects the symbolic and metaphorical association we make with nature. This association assists the way we exchange and understand information, particularly through the development of language. Nature's imagery has been used in historic and modern society to develop important language and communication skills. This is often seen in the use of imaginative stories to explain natural processes. Anthropomorphic symbolism plays an important role in the psychosocial maturation of children, enabling them to confront complex and frightening subjects by applying human emotion and motives to nature (Ibid., 53).

An **Aesthetic** value reflects the natural world as a source of beauty and lure. Kellert asserts that while the intensity of aesthetic values varies across individuals and groups, the occurrence of aesthetic appreciation is universal. Thus, while contemporary learning can strengthen the ability to recognize, appreciate, and learn from aspects such

as order, symmetry, repetition, and balance in nature, there is a strong argument that we all possess a weak genetic tendency or evolutionary basis to aesthetically value nature. The evolutionary aesthetic appreciation of environmental features that sustain human life can be seen in our appreciation of landscapes with clean flowing water, prospect and refuge, shelter, and food. Modern examples of this include persons willing to pay more for properties and dwellings with physical and visual access to nature and cultivated gardens. Adaptive expression of aesthetic values of nature can be developed over time increasing the capacity for observation, discovery, and creativity (Ibid., 54).

Humanistic Values reflect the natural world as a source of emotional affection, attachment, and social support. Humans are a very social species and thus, this value tends to “foster the capacities for giving and receiving affection, forming intimate and companionable bonds, and developing cooperation and trust”. Ulrich’s mechanism of *social support* describes the adaptive expression of this value as a key component in his stress restoration model. Whether bonding occurs with plants, domestic animals, or other humans, this process increases our capacity for cooperation and sociability – key skills for effective functioning in modern society. Furthermore, the act of caring for another or ostensibly being cared for can benefit self-esteem, self-confidence, and emotional well-being. This value is particularly important to develop in healthcare environments, particularly those dealing with dementia, because the disease can be alienating and often times the person with dementia can experience depression from feeling as though they are no longer useful. Kellert notes that in times of crisis and

stress, it is the expression of this value that causes us to inherently seek out the healing power of nature (Ibid., 55).

A **Negativistic** value reflects our inherent and learned tendency to avoid and fear the natural world. While this value may seem contrary to the idea of biophilia, the inclination to affiliate oneself with the natural world for the benefits of self preservation easily explains the need to question, avoid, and exhibit concern for potential dangers in the natural world. This tendency when adaptively expressed can strengthen the capacity of awareness and limit the occurrence of potentially risky behavior. Furthermore, this value can provoke positive feelings of awe and admiration in the presence of the sheer power found in natural systems – such as a visit to Niagara Falls or the Grand Canyon (Ibid., 56).

A **Moralistic** value reflects our need to find moral and spiritual insight from the natural world. Kellert notes “people obtain purpose and spiritual significance in their lives by developing feelings of connection with creation” (Ibid., 57). Adaptively expressing this value can foster “a heightened sense of meaning, increased self confidence and self-esteem, and a willingness to treat nature with kindness and respect” (Ibid., 57). It is through this value that we can understand our place in the interconnected universe and through this understanding hopefully emerge with a developed environmental ethic (Ibid., 57).

As demonstrated above, these nine biophilic values collectively describe how we interact, attach meaning, and derive physical and psychological benefit from the natural world. Kellert’s thorough exploration of these biophilic values and the diverse benefits

gained through their adaptive expression elucidates the interdependent connection between humans and the natural world. By increasing our awareness of the benefits as vital instruments in advancing human welfare, well-being, and overall existence as a species, we can make decisions that support the health and integrity of the natural systems. Embracing this reciprocal relationship increases our ability to achieve the “physical, material, emotional, intellectual, and moral benefits crucial to human existence” (Ibid., 57)

Sense of Place: The final concept Kellert explores in his study is the role that “sense of place” plays in the relationship of man and the natural world. Sense of place describes the “unique integration of nature and culture” that occurs over time as result of an “iterative interaction with the natural environment” (Ibid., 58). Over time interaction produces a comfortable compatibility of nature and culture in a particular biogeographical context. Both nature and culture are thought to fundamentally alter one another. The results are “buildings and landscapes that reflect the distinctive natural and social characteristics of a particular biocultural setting”, as well as, intimate relationships formed in a community through a shared relationship with a spatial-environmental identity (Ibid., 58). Sense of place should be thought of as the final link between ecosystem services, biophilic values, and increased quality of life. Healthy ecosystems that have co-evolved with a culture over time will support our ability to adaptively express our biophilic values. This relationship allows us to draw meaning and identity from our environment, and reap the many benefits provided by nature, which are vital to our existence and quality of life (Ibid., 61).

Kellert's work provides an interesting perspective on the interconnected relationship between nature and well-being by proposing that our values toward nature are both a factor of evolution and cultural learning. While Kellert acknowledges that learning can occur throughout one's life, he states, "the most critical period for forming any genetically encoded tendency is likely to be childhood" (Ibid., 62). Thus, nature and early childhood development has been one focus of his work. As this review of literature begins to address research that is specific to the relationship of persons with dementia and the natural environment, it will consider the challenges involved in fostering or re-establishing biophilic values for persons with dementia who by the nature of the disease are older in age and experience a reduced mental capacity.

Bridging the Gap: Identifying a Theoretical Framework for Dementia Care Gardens

The four previously discussed theories support the vital importance of the human relationship with the natural environment. These theories certainly support the notion that gardens in healthcare facilities can serve important and diverse therapeutic roles for broad user groups. But how does this translate for the specific design of healthcare environments for persons with dementia? The following paragraphs address this question, identifying potential mutualisms between the theories and synthesizing them into a framework that can be used for later analysis.

In order to understand how to approach improving the quality of care at residential and day care facilities through the integration of the garden, it will be


important to analyze the case study sites through the lens of existing theories on restorative environments and human/environmental interaction. The Kaplans' Attention Restoration Theory and Ulrich's Theory of Supportive Gardens are identified as being the most useful indicators of how well a facility theoretically facilitated restoration. Their structure being very similar, each with four required mechanisms facilitates a straightforward analysis. Ulrich's theory is preferred for evaluating dementia care gardens because it allows for the inclusion of a staff component to meet the requirements of the mechanisms, which is vital in ensuring that the benefits of a garden space are maximized for persons with dementia, who require staff assistance and support. In contrast, the Kaplans' theory only provides a model through which the physical environment can be evaluated. Nevertheless, both of these theories are useful because they are prescriptive, making it easy to identify what characteristics of the garden, building, or service is present or lacking with regard to meeting the needs of the prescriptions. Furthermore, since all of the mechanisms of the individual theories must be met in order to obtain the end result of restoration or improved health, the analysis is able to point directly to areas where the care environment is lacking, providing evidence that can improve the quality of care. A closer look at the theories also reveals some mutualisms (table 2.3). For example, the Kaplan's concept of "fascination" is very similar to Ulrich's concept of "natural distractions", providing additional reinforcement of the data. Kaplan's mechanism of "compatibility" is defined as the degree to which an environment agrees with its intended purpose and thus, if properly designed, a compatible environment could readily support "safety", "sense of control", "movement











and exercise”, and “natural distractions”. “Safety” can be provided through sites that promote “extent”; “Sense of control” can be obtained through “extent” and through the act of “being away”; and physically “being away” can support “movement and exercise”.

Table 2.3: Supportive Relationships Between Kaplan and Ulrich’s Theories

RELATIONSHIP BETWEEN ULRICH’S THEORY OF SUPPORTIVE GARDENS AND KAPLAN’S ATTENTION RESTORATION THEORY

KEY

 = SUPPORTIVE RELATIONSHIP BETWEEN MECHANISMS

		KAPLAN’S ATTENTION RESTORATION THEORY			
		Fascination	Being Away	Extent	Compatibility
ULRICH’S THEORY OF SUPPORTIVE GARDENS					
	<i>*Requisite Condition: Safety</i>				
	Sense of Control				
	Social Support				
	Movement and Exercise				
	Natural Distractions				

An analysis of Kellert and Wilson’s *Nine Biophilic Values* and their concept of *sense of place* is slightly more difficult to translate as a guiding theme for dementia care because it is less prescriptive and is more of a model to describe the interdependence between humans and the natural world. However, because these nine biophilic values represent the ways in which humans gain “physical, material, emotional, intellectual, and moral well-being” from their environment, it provides an interesting way to evaluate

and understand the connection between elements of the care environment and certain benefits gained from the expression of these values (Kellert 2005, 50). While it seems reasonable to assume that the expression of all of the biophilic values are important, because they provide humans with a range of benefits, the theory alone provides no way of ranking their importance for the specific needs of people with dementia.

However, when looking at the evidence from the case studies, which supports the expression of these values, it is possible to see how the values can contribute and support the mechanisms and collective goals of the other two theories – such as how “humanistic” values can support Ulrich’s mechanism of “social support” and how “aesthetic” values can support “fascination” and “natural distractions” (table 2.4).

Furthermore, Kellert and Wilson contend that these values are only “weak genetic tendencies” that can become atrophied and thus must be reinforced and strengthened by contemporary learning. This implies that a person with normal cognitive function might be able to obtain long-lasting benefits from occasional contact with nature. Since the cognitive ability to learn and retain new information is compromised for people with dementia, this theory may be very useful to justify contact with nature on a daily basis in order to keep reinforcing the benefits of these values through daily learning.

Additionally, Kellert and Wilson’s concept of “sense of place” proves to be very useful for evaluating the sites, because it describes a setting that is culturally familiar and thus best facilitates the expression of biophilic values for an individual. For persons with dementia, it is important that the garden and the building reflect a “sense of place” that is familiar to their living environment prior to attending or moving into a facility. The

concept of cultural archetypes used at Charnley Fold, which are discussed later in this thesis help to reinforce “sense of place”, thus providing an environment that is more conducive or compatible to the expression of biophilic values. In a way, sense of place can be thought of as a requisite condition for the nine biophilic values, ensuring that any benefits gained through their functional expression is maximized.

Table 2.4:

EXPRESSION OF BIOPHILIC VALUES AND SENSE OF PLACE SUPPORTING ATTENTION RESTORATION THEORY AND THEORY OF SUPPORTIVE GARDENS

		KELLERT & WILSON'S BIOPHILIC VALUES AND SENSE OF PLACE									
		Aesthetic	Dominionistic	Humanistic	Moralistic	Negativistic	Scientific	Symbolic	Utilitarian	Naturalistic	Sense of place
MECHANISM	ULRICH'S THEORY OF SUPPORTIVE GARDENS										
	<i>*Requisite Condition: Safety</i>										
	Sense of Control										
	Social Support										
	Movement and Exercise										
MECHANISM	Natural Distractions										
	Fascination										
	Being Away										
	Extent										
	Compatibility										
KAPLAN'S ATTENTION RESTORATION THEORY											

CHAPTER 3

REVIEW OF DEMENTIA SPECIFIC RESEARCH

The following section will explore research and resulting design criteria specific to the design of gardens in healthcare facilities for people with dementia. At times other research relevant to outdoor environments but not necessarily specific to dementia will be discussed. While a multitude of sources are evaluated in this section, the author has largely used Chapter 10 in Cooper Marcus and Sachs (2014) *Therapeutic Landscapes* text as guide for exploration.

Clinical Stages of Dementia

As previously noted, dementia is a rapidly progressing disease of the brain. While little is known about why the disease progresses at different rates amongst individuals or how the disease can be prevented (Alzheimer's Association 2014), the process of the disease's progression has common characteristics that are readily identifiable (Reisberg and Franssen 1999). A widely accepted framework from Reisberg and Franssen (1999) identifies seven clinical stages of the disease. The stages can be described both globally and in terms of clinical elements or symptoms. However, many conditions that interfere with normal functioning, which are associated with dementia, can also be attributed to problems frequently found in older populations. Thus, a combination of global changes and their functional symptoms are used to determine clinical stages of the disease (Ibid.) Tables 3.1 and 3.2 list the clinical stages

and successive sub-stages of the disease and their common characteristics (adapted from Reisberg and Franssen 1999). Through understanding the needs at each stage of the disease designers will be able to understand the range of complex and changing needs of the people they are designing therapeutic spaces for.

Table 3.1: Clinical Stages of Dementia: Stages 1-5 (*adapted from Reisberg and Franssen 1999*)

CLINICAL STAGES OF DEMENTIA: STAGES 1 - 5

Stage	Description
Stage 1: Normal	Persons may potentially be free of objective or subjective symptoms of cognition and functional decline and also free of associated behavioral and mood changes.
Stage 2: Normal Aged Forgetfulness	<p>Characterized by subjective reports of forgetfulness, which is often associated with old age. These symptoms are not particularly notable to intimates or other external observers and are generally benign.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Inability to recall names as well as previously • Inability to recall where they placed things • Difficulty finding the correct words when speaking
Stage 3: Mild Cognitive Impairment	<p>Characterized by deficits which are notable to those closely associate with the person. Ability to perform complex occupational and social task is compromised. Manifests in diverse ways.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Person may noticeably repeat queries • Job performance may decline for those who are still working. Decrease in ability to master new skills • Difficulty finding the correct words when speaking • Person may experience anxiety that is overtly evident to others • Loss of ability to organize
Stage 4: Mild Alzheimer's Disease [Dementia]	<p>Characterized by functional deficits which decrease the persons ability to manage instrumental (complex) activities of daily life. Diagnosis can be made with considerable accuracy in this stage. Most persons at this stage can still recall: their current address, the weather conditions outside, prominent government figures. People at this stage can potentially survive independently in community settings.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Decreased capacity to manage personal finances • Inability to independently shop for food and groceries is compromised • Decreased ability to cook or order food at a restaurant • Person may experience emotion withdrawal and be less emotionally responsive • Person may be cognitively aware of their deficits and exhibit psychological defense mechanism of denial which is closely interrelated with the emotional issues
Stage 5: Moderate Alzheimer's Disease [Dementia]	<p>Deficits are of sufficient magnitude as to prevent independent, catastrophe-free, community survival. Characterized by incipient deficits in basic activities of daily life. Person requires support.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Behavioral problems such as anger and suspiciousness • Cognitive decline may include inability to recall current events, address, weather conditions, president • Difficulty recalling correct years or calculating • Decreased ability to choose what clothing to wear

Table 3.2: Clinical Stages of Dementia: Stages 6-7 (adapted from Reisberg and Franssen 1999)

CLINICAL STAGES OF DEMENTIA: STAGES 6 - 7

Stage	Description
<p>Stage 6: Moderately Severe Alzheimer's Disease [Dementia]</p> <p>(Five Successive Sub-stages)</p>	<p>The cognitive effects are of a sufficient magnitude as to interfere with the ability to carry out basic activities of daily life. This stage is broken down into five successive sub-stages a-e.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • 6a: Decreased ability to put on clothing correctly without assistance • 6b: Require assistance with bathing, hygiene, and adjusting the temperature of bathwater • 6c: Lose the ability to independently manage the mechanics of toileting correctly • 6d: Urinary incontinence generally occurs first. Requires assistance to maintain continence. • 6e: Fecal incontinence. Requires assistance to maintain continence. <p>Other general characteristic may include:</p> <ul style="list-style-type: none"> • Inability to answer questions about their current life circumstances • Loss of ability to recall current events, heads of state, names of schools they attended, names of their parents, former occupation, or country where they were born. • While may still recall their own names, they may begin to confuse spouses for other people or mistake the identity of family and friends • Inability to calculate or count backwards from 10 by 1's • Emotional changes generally become noticeable; fidgeting, pacing, moving things around; feeling of purposelessness; verbal outburst, threatening or even violent behavior • Counseling or other pharmacologic interventions may be necessary • Loss of ability to articulate speech; Paucity in speech and stuttering
<p>Stage 7: Severe Alzheimer's Disease [Dementia]</p> <p>(Six Successive Sub-stages)</p>	<p>People at this stage of the disease require continuous assistance for daily survival. The stage is broken down into six consecutive sub-stages a-f.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • 7a: Speech becomes very limited; use of a half a dozen intelligible words or fewer when queried • 7b: Speech becomes even more limited to, at most, a single intelligible word • 7c: Once speech is lost the ability to ambulate independently is invariably lost • 7d: Loss of ability to sit up independently; may fall over when seated without appropriate arm rests • 7e: Loss of the ability to smile; only grimacing facial movements are observed in place of smiles • 7f: Loss of the ability to hold their head up independently <p>Other general characteristic may include:</p> <ul style="list-style-type: none"> • Certain neurological and physical changes become increasingly evident such as rigidity • Rigidity and Contractures; loss of passive or active range of motion in joints such as elbows, wrists, and fingers • Strong "primitive" reflexes are evident such as grasping, sucking, or plantar extensor reflex

*** People commonly die in this stage of the disease. The mean point of demise is when people lose the ability to ambulate and sit up independently. Frequent causes of death are pneumonia and aspiration. At this stage people with dementia are more vulnerable to common causes of mortality including stroke, heart disease, and cancer. Some appear to succumb to no other identifiable condition other than dementia.*

Separate Gardens for Separate Stages

Research and literature indicates that it may be beneficial to provide separate and uniquely designed gardens for users with dementia, based upon their stage in the disease – severe, moderate, and mild (Cooper Marcus and Sachs 2014, 154, Beckwith and Gilster 1997, Hoover 1995). Landscape architect, Robert C. Hoover, explored this concept when he was commissioned to design the gardens for Sedgewood Commons, a dementia care facility in Falmouth, Maine. Observing the broad range of needs exhibited by residents with dementia, Hoover recognized that user “needs are often in direct conflict with one another” (Hoover 1995, 1). In terms of providing stress-free stimulation, Hoover notes that what might be considered stimulating for someone in the early stages of the disease, could actually be very stressful for someone in the later stages of the disease. Thus, the broad application of accepted design guidelines could prove problematic for facilities that treat dementia in its various stages. In order to correct this shortfall, Hoover put forth a theoretical design model called “Remembrance Therapy”. His goal being “to develop a theory of how individuals with Alzheimer’s disease experience their world, that is, to define a common point of reference and second, based on that theory, to develop a method for the design of gardens for Alzheimer’s disease facilities” (Hoover 1995, 1). Rooted in Barry Reisberg’s “progressive degenerative disease model” (Reisberg 1986, Reisberg et al. 1982) and Eric Erikson’s “stages of human development” (Erikson and Erikson 1997), Remembrance Therapy proposes the hypothesis of “Fast Forward Reverse”, which correlates a stage of Alzheimer’s disease to an age in normal human development

(Hoover 1995). For example, the advanced stages of Alzheimer's are equivocated to age zero - seven years in terms of emotional and physical needs. Hoover combines the "emotions" work of Elisabeth Kubler-Ross (Kübler-Ross 1982) with Julie Messervy's work on landscape archetypes (Messervy and Abell 1990) to identify landscape archetypes rooted in the emotional equivalent to each stage of the disease. Utilizing this hypothesis, Hoover designed three gardens to conceptually and thematically address the emotional correlate of the three specific stages of the disease (Hoover 1995, 1999). To date there have been no formal post-occupancy evaluations to determine the efficacy of Hoover's design method at Sedgewood Commons, however it seems rational to assume that facilities large enough should contain separate gardens to treat separate stages of the disease (Cooper Marcus and Sachs 2014, 154).

This concept is further strengthened by the work of Dr. Garuth Chalfont, an expert in the field of therapeutic garden design for persons with dementia, whose concept of a "Risk-Free Garden" or a "Risk-Assumed Garden" address similar concerns. Chalfont rejects the assumption typically found in care home gardens "that everyone must be able to use all spaces safely – completely on their own" (Chalfont and Walker 2013, 16). He asserts, "a garden with the lowest level of risk fails those with the highest level of need" (Ibid. 16), particularly residents exhibiting distressed behaviors. The intent of the Risk-Free Garden is that persons with dementia use it independently and without staff assistance. The space is designed to be risk-free for persons in all levels of dementia. The requisite condition for a Risk-Free Garden is that "any resident area outside is visible from indoors and a person in it can therefore be seen by staff through

the windows or doors” (Ibid. 16). Unassisted users are seen and monitored by staff to ensure safety. This type of environment greatly relies upon the architecture of the building and the training of the staff to effectively operate. Conversely, Risk-Assumed Gardens are areas where staff and or family members must accompany persons with dementia. The intent of these gardens is that they contain elements (which might be unsafe in an risk-free garden) that will encourage staff and visitors to engage in fun and meaningful experiences with residents. These spaces allow the user to experience elements from gardens in the outside world in a safe and monitored environment. Risk-Assumed gardens may or may not be completely visible from indoors and they are intended to be special destinations where the majority of therapeutic activity with staff and family will occur (Ibid. 16-17). Similarly to Hoover, Chalfont advocates for the use of cultural landscape archetypes when designing care gardens. The idea being that a small space can be designed in such a way that it represents a variety of familiar cultural spaces, thus broadening its potential appeal to various users (Chalfont, Interview 2013).

Exposure to Sunlight: Considerations for Persons with Dementia

As previously discussed in Ulrich’s positive and negative distractions, access to sunlight can play an important role for humans in facilitating photoproduction of vitamin D. Sufficient vitamin D levels are widely accepted as a key mechanism for optimal health. A review of these health benefits from Grant and Hollick (2005) indicate strong evidence for a protective effect of vitamin D for “several bone diseases, muscle weakness, more than a dozen types of internal cancers, multiple sclerosis, and type 1

diabetes mellitus”. Older populations are less efficient at photoproduction of vitamin D and are “less likely to produce vitamin D from UVB irradiation because they generally spend less time in sunlight than do younger people” (Grant and Holick 2005). As previously noted, studies from Lamberg-Allardt (1984), confirm a correlation between higher serum vitamin D levels and time spent out outdoors. Furthermore, Grant and Hollick (2005) note that sufficient vitamin D levels in combination with “adequate dietary calcium and related minerals, and exercise help reduce the risk of falls and [bone] fractures” (p 99)—a significant concern for elderly populations, particularly in garden settings. Vitamin D, calcium, and exercise facilitate this reduced risk by strengthening bone mass density, increasing muscular strength, and improving neurological control of balance/neuromuscular function. Furthermore, Grant & Hollick's (2005) review supports solar UVB as a preferred source of vitamin D because it is natural and it maintains in the body longer than ingested sources of vitamin D. They conclude that moderate and controlled access to sunlight provides benefits that greatly outweigh the health risks associated with UV exposure. While no large scale studies of which the author is aware have been found to link the use of vitamin D to the treatment of dementias, recent pilot studies have shown encouraging data in experiments with mice, where vitamin D enriched diets correlated to a decrease in amyloid plaques found in the brain – a known causal agent in Alzheimer’s Disease (Yu et al. 2011).

The medical research clearly demonstrates the many known and potential benefits of vitamin D, particularly from natural sunlight, for older populations. Additionally, healthcare garden studies from Cooper-Marcus and Barnes (1995) show

twenty-five percent of those interviewed named sunlight in the garden as a factor for improving their mood and reducing stress. Research from Ancoli-Israel et al. (2003) suggests that persons in the mild to moderate phases of the disease may exhibit reduced agitation after exposure to bright morning light. Their previous research links agitation, depression, wandering, sleep cycle, and “sundowning” (increased agitation in the evening) to disruptions in circadian rhythms. As the disease progresses the person with dementia experiences progressive phase shifts in circadian rhythms due to damages of the supra-chiasmatic nuclei. Thus bright light exposure in the morning may only be beneficial in treating the early stages of the disease. Overall, the 2003 study showed increasing light exposure, regardless of time of day, to decrease caregiver ratings of verbal and physical agitation in participants (Ancoli-Israel et al. 2003, Ancoli-Israel et al. 2002).

Furthermore, literature from Randall et al. (1990) suggests that exterior garden spaces should be located on the southeast side of a building to ensure that only a singular large shadow be cast across the garden by the afternoon sun. Their work suggests that persons with dementia may be frightened by or see delusions in shadows cast from garden elements as a result of improper building placement (Randall, Burkhardt, and Kutcher 1990). Persons with dementia may also be taking medications that make them particularly photosensitive and they may also “have difficulty recognizing when they are too hot” (Cooper Marcus and Sachs 2014,152) or even too cold. Designers must recognize this and provide adequate spaces for sun and shade.

Visual and Physical Access, and Enclosure

Survey data obtained for 320 US facilities for Alzheimer' patients with outdoor areas showed that "25% of the respondents cited an accessibility reason for non-use of their spaces" (Ibid.). Furthermore, 69% of the facilities relied on staff members to accompany residents outside (Ibid.). The cost implications of this level of staff support places a burden on facilities and can lead to a reduction in use of outdoor areas. In order to promote the use of outdoor spaces and enhance resident autonomy and sense of control, the literature suggests that staff utilize TV monitors and visual contact through windows to supervise user safety in an enclosed area (Cohen-Mansfield 2007, Chalfont and Walker 2013, Cooper Marcus and Sachs 2014). Visual access to the garden from the inside of the facility has also shown to have multiple benefits for persons with dementia. Numerous window studies have demonstrated the positive effects that interior views to nature scenes play in stress restoration, pain reduction, and emotional well-being (Baird and Bell 1995, Kaplan 1993, Ulrich 1984). Window views not only provide opportunities for passive engagement with nature, but it is reasonable to assume that views may encourage resident curiosity in using the outdoor space. The need for large and numerous windows in dementia care facilities is further supported by the benefits of light exposure discussed in the previous section. Light exposure through windows can provide important external cues that reinforce time of day and season for users experiencing phase delayed circadian rhythms (Ancoli-Israel et al. 2003, Ancoli-Israel et al. 2002, Cooper Marcus and Sachs 2014, Zeisel 2007).

Visual accessibility must also be considered in terms of how a person with dementia experiences the garden while they are in it. Literature indicates that it is important that users with dementia be able to view all parts of the garden at all times. Complete visual access of the garden, aided by wide circular paths, and familiar landmarks, decrease the likelihood of a user getting lost or becoming disoriented, which may result in fear and agitation. Thus, for dementia facilities gardens, designers should abandon traditional garden design principles that use garden elements to encourage exploration of concealed garden spaces in order to facilitate the need for “mystery” and feelings of “being-away” (Furness and Moriarty 2006, Cooper Marcus and Sachs 2014). Tyson and Zeisel (1999) suggest the use of Kevin Lynch’s *Image of the City* (1960) as an adaptive framework for the design of outdoor spaces for people. Lynch’s five elements for way-finding and orientation: *paths, edges, districts, nodes, and landmarks*, adapted for garden design, further reinforce a users spatial orientation within a space, reducing their need to form cognitive maps—a function progressively impaired in persons with dementia. Elements from this framework show significant potential in increasing user understanding of the space, thus strengthening user autonomy through visual accessibility. When examining this concept through the lens of Kaplan and Kaplan’s Preference Matrix and Attention Restoration Theory, it is reasonable to assume that for persons with dementia, coherence and legibility will play a larger role in the preference for garden spaces. Based on this idea, it is also likely that the need to feel safe and to understand a garden space immediately and with a lesser degree of inference will support greater functioning for persons with the dementia. Additionally,

the feeling of “being-away” will need to be facilitated through designs that pay careful attention to the person’s with dementia reduced cognitive ability to infer information from landscapes.

Literature also suggests that **physical access** to outdoor areas is a key component in the design for persons with dementia. A one year study from Mooney and Nicell (1992), showed a 19% decrease in the rate of violent incidents for five dementia facilities that provided residents access to a secure garden environment, while the non-garden facilities showed a staggering 681% increase in the rate of violent incidents. When examining access further, it is important to note that physical access is often inextricably linked to visual access. This link is demonstrated in Cooper-Marcus and Sachs (2014) design guidelines which require that there be a single entry door to the garden, designed as a visually accessible landmark, so that users can easily understand where to return to go back indoors. The physical and visual connection from the building to the garden cannot be overemphasized. The connection between indoor and outdoor spaces must be visually apparent, direct, and easily accessible to users. Several sources suggest that facilities avoid using heavy doors and entrances with thresholds because they may be difficult to open and may impede wheelchair access. Furthermore, outdoor space entrances should consider using doors with automatic openers or easily usable handles (Carpman, Grant, and Simmons 1986, Cooper Marcus and Sachs 2014). Another study found that not having a window in or next to the door impeded resident use because they could not see the garden (Lovering et al. 2002). Additionally, the door to the garden should remain unlocked when possible

(Cooper Marcus and Sachs 2014). One study found that agitation and [wandering] were greatly reduced for people with dementia when doors to the garden were left unlocked (Namazi and Johnson 1992). Cooper-Marcus and Sachs (2014) point out that leaving the doors unlocked will require that staff become comfortable with users being alone in the garden. This may require additional training and changes to organizational structure. Easy physical access to bathrooms and drinking fountains was also mentioned as a concern by a minority of facilities in a survey of 320 US dementia facilities (Cohen-Mansfield 2007) and thus bathroom facilities are recommended to be located close to a garden entry (Cooper Marcus and Sachs 2014). Additionally, research suggests that access be facilitated through simple looped or figure eight pathways in order to minimize spatial confusion (Zeisel and Tyson 1999, Cooper Marcus and Barnes 1995). The proper design of pathways is noted to be a key design component for promoting exercise through walking and as an interventional tool for residents with dementia who exhibit “[wandering] behaviors” (Calkins 1991, 243).

Related to the concepts of access and the relationship of the building to a garden for persons with dementia is the concept of **enclosure**. A prominent concern with dementia facilities is patient safety and the tendency for patients to want to elope. Persons with dementia often believe that they have to pick up their children from school or meet their wife for dinner, which may result in stress and agitation from not being able to freely leave. Thus it is important that gardens have adequate enclosure to prevent users from eloping, as well as, interesting interior garden elements to redirect attention inward and away from the need to leave. Guidelines suggest that the building edge

should enclose the garden to the greatest degree possible, so that areas requiring walls or fencing are minimized. Where fencing is required, guidelines suggest that the fence be at least 8 feet tall to discourage climbing and be screened in entirety by plant material. Screening the fence aims to minimize external distractions and direct the attention of the user toward elements and activities inside the garden. The overall goal is to create spaces that make the user feel secure but not trapped in (Cooper Marcus and Sachs 2014, 153). Exceptions to this guideline include sites that border beautiful landscapes. Research suggests that designers may take advantage of these “borrowed landscapes” by opening up a view through fencing, providing beneficial visual stimulus without exacerbating the need of the user to elope (Randall, Burkhardt, and Kutcher 1990, Carman 2002). Furthermore, where exterior gates are required for staff and resident emergencies, it is suggested that they be subtly located or designed in such a way that they are camouflaged or appear like a normal section of fence (Cooper Marcus and Sachs 2014, 153).

Cultural Implications

Research suggests that designers pay careful attention to the cultural implications of their design elements in respect to the location of their facilities and the populations that they serve. Cooper-Marcus and Sachs (2014) point to the example of fencing in Australia, where fencing is considered normal for keeping out wild animals. Within this cultural context, persons view visible fencing as important for their safety and not as a structure keeping them in (Pollock and Marshall 2012, Cooper Marcus and Sachs 2014, 153). Overall the materials utilized in the construction of the garden and

facility should reflect culturally familiar settings. A correlation study found that persons living in secure dementia facilities “with a more residential, less institutional environment expressed lower levels of overall aggression than those living in more institutional settings” (Zeisel et al. 2003, 708). Gardens and facilities should also be provided for culturally appropriate activities. As persons with dementia progressively lose their memories and functional ability, it becomes particularly important for them to maintain a sense of cultural identity. Fostering cultural identity through garden design is acknowledged as a complex process, particularly when designing for a mix of cultures. While there is certainly a need for more research on this process, literature suggests interviews with staff, family members, and care givers as an invaluable source for gaining cultural insight into types of activities that are culturally important and how to provide for them (Cooper Marcus and Sachs 2014, 154). Incorporating culturally and generationally appropriate elements that encourage user engagement can ease the transition into nursing care. Elements that engage the user in domestic, every day activities may restore a users sense of control, motor skills, and help them to connect with deep memories of an earlier life (Chalfont 2008b, Zeisel and Tyson 1999). Depending on the cultural background these may include items like clotheslines, rakes, and vegetable gardens – items that reinforce the daily routines of a past life (Chalfont 2008b, Cooper Marcus and Sachs 2014). As new generations of people enter dementia care facilities there will be opportunities to examine what has changed regarding daily routines and the objects that support them. Will future generations associate best with leaf blowers, automatic washer and dryers, and smart phones? While only time will tell,

biophilic values suggest the importance of incorporating natural elements such as water in dementia gardens as a way to evoke genetic memories. It is worth mention that water must incorporated in a way that is both stimulating and safe for persons with dementia (Cooper Marcus and Sachs 2014, 154-155).

Organizational Policy and Staff Attitudes

In a comprehensive study of five dementia gardens Grant and Wineman (2007) found organizational policy and staff attitudes to be equally as important as garden design, visual access, and physical access in encouraging the use of garden spaces. Important factors in their Garden-Use Model, organizational policy and staff attitudes represent the crucial and intangible components required for a successful dementia garden.

“Organizational policy was defined by such elements as facility mission statement, available literature and brochures, the education and training of staff, interviews with facility directors or administrators, and programming philosophy. To encourage use of the available outdoor space at a facility these elements should promote residents’ independence and maintaining their optimal abilities; encompass a positive belief in the value of the outdoors for residents; and through programming reflect an active effort toward exposing residents to the outdoor space” (Grant and Wineman 2007, 110).

Their research was able to identify area direct connections between organizational policy and the use of garden spaces. While all of the facilities in the study had organizational policies that supported outdoor use of the garden and the value of

access to nature for improving client health and well-being, surveys of garden use were often in conflict. For example, one facilities program director had a philosophy that programmed activities would detract from the garden being a place of respite. This was reflected by the absence of all programmed or staff-initiated activities. The research suggests that a change in organizational policy to encourage programmed outdoor activities would greatly impact the use of the garden, improving client health and well-being(Ibid.).

“Staff attitudes involved the overall staff mindset regarding the importance of the available outdoor space and the benefits that spending time outside offered residents. In order to encourage use of the outdoor space, it became evident during the case studies that staff attitudes were an important ingredient in encouraging residents to go outside and allowing residents a degree of independence and risk taking ” (Ibid., 111).

Again, their research was able to find direct links between staff attitudes and garden use. When staff was of the mindset that it was beneficial for residents to use the garden, data reflected that residents used the garden more freely. Conversely, when staff exhibited concerns about patients being outside unsupervised, the result ended in the locking of doors and restriction of garden use (Ibid., 110). Other research suggests that education and staff training, possibly in the form of a users manual, is incredibly important for communicating the value and importance of access to outdoor space. Manuals or handbooks would explain large concepts as well as specific garden activities and would aid in issues of staff turnover (Cooper Marcus and Sachs 2014,

151, Chalfont and Walker 2013). Finally, these studies support the guideline that designers should involve management and staff in the design of the garden (Cooper Marcus and Sachs 2014, 151).

Programming, Social Support, and Exercise

The literature has demonstrated a strong link between the physical design of a dementia garden, the intended use, and the therapeutic programming that supports its intended use. Therapeutic programming, enabled by organizational policy and staff attitudes represent a vital component in increasing the restorative benefits of nature for residents through increased usage of the garden (Grant and Wineman 2007). Ulrich's theory of supportive gardens identifies social support as a key coping mechanism for the restoration of stress leading to improved health outcomes (Ulrich 1999, 42). Furthermore, qualitative research from Chalfont (2012b) recognized interesting dynamics resulting in an increased sense of self-identity when persons with dementia combined pleasant sensory experiences with nature and enjoyable social interaction with another person. Thus, Chalfont's Prosentia Hypothesis states, "if a person interacts with nature and another person, they are able to maintain a sense of self" (Chalfont 2012b).

At the intersection of garden design, people, and nature-based therapeutic programming lies the allied health profession of **horticultural therapy** (HT). Engagement in garden activities as a therapeutic regimen has a rich history dating back to the mid- 1900's and the rise of the practice of occupational therapy. Horticultural Therapy as we know it today came into being post-WWII, when garden club volunteers

set up garden programs in military and veterans hospitals around the country to rehabilitate wounded and returning soldiers (Gerlach-Spriggs, Kaufman, and Warner 1998). The profession of HT continued to develop over the years and in 1973 in the US, a professional organization was formed that is known today as the American Horticultural Therapy Association (AHTA)(2014). The AHTA recognizes four types of garden programs, three of which require trained professionals to facilitate, and three of which are relevant to dementia therapy gardens. **Horticultural Therapy** engages clients in horticultural activities with a trained therapist in order to achieve specific and documented treatment goals. The focus here is on rehabilitation and these programs often occur in hospitals, rehabilitation centers, and long-term care nursing facilities. **Therapeutic Horticulture** is very similar to HT, requiring a trained therapist to lead plant-related activities, however the goals are less specific and aim to generally improve client well-being through either passive or active participation. **Social Horticulture** is defined as recreation through gardening activities and focuses on social interaction through horticulture activities. It does not require a trained therapist, and does not define specific treatment goals; rather the therapeutic benefits are determined by the participants' individual goals (AHTA 2007, Hazen 2014, 250-251). The type of programming used will be dependent on staff, clients, therapeutic goals, and type of facility. It is highly probable that facilities for persons with dementia may employ a combination of programming. Therapeutic Horticulture programs are thought to have the widest appeal due to the increased number of people using a variety of senior-living services (Hazen 2014). The AHTA has published a set of universal design guidelines,

found through the AHTA website (2014) and elaborated on in Kavanagh (1998) and in Hazen (2014). The design guidelines for HT share many of the same traits as those mentioned in this chapter but should be cross-referenced for populations with dementia. Examples of important guidelines would include, using raised beds and containers at varying heights; avoiding toxic plants and other potential toxins; providing direct access to HT area; and recommendation of a greenhouse, atrium, or screened porch (Hazen, 1999). While this review concludes that there is a need for more research to document the effect of horticulture therapy and its variations on specific dementia populations, a 2008 study at a dementia care home found that “horticulture therapy contributed to the maintenance of memory abilities and attention span” for the subjects. Overall the study reported positive effects on cognitive functioning and well-being for the participants (D'Andrea, Batavia, and Sasson 2007)

In addition to horticulture-based activities, a variety of outdoor activities can be therapeutic for persons with dementia. As mentioned previously, a range of domestic activities including, hanging out the laundry, sweeping and raking, cleaning, and feeding wildlife can provide users with emotional and physical benefits. These types of activities provide exercise, a sense of accomplishment, and opportunities to engage socially with staff and other users (Chalfont 2008b). The physical and mental benefits from exercise in the garden through activities and exercise programs are supported by several studies. One controlled study of moderately depressed elderly found a significant reduction of depressive symptoms over six weeks in a group that exercised by walking for increasing durations, accompanied by an experimenter, as well as, from a control

group that received social contact from visits with experimenters at their home. While both groups showed a decrease in depression when compared to the non-exercise/non-social contact control group, the exercise group also benefited from a reduction of somatic symptoms including poor appetite, increased fatigue, and disturbed sleep (McNeil, LeBlanc, and Joyner 1991). Another cross-sectional study, examining subjects in the early stages of dementia, showed a morphological correlation that associated increased cardiorespiratory fitness with reduced brain atrophy – implying that cardiorespiratory fitness may moderate dementia related brain changes (Burns et al. 2008). Furthermore, a controlled study in Brazil, divided forty elderly nursing home residents into an exercise group and a non-exercise group. The exercise subjects showed significant qualitative and quantitative improvement in obstacle course scores, lower limb function, gait velocity, isometric knee extensors strength, lower limb proprioception, depressive symptoms, and cognitive status via MMSE (Mini-Mental State Examination). The non-exercise group showed significant decline in the same tests (de Carvalho Bastone and Filho 2004). Lastly, a 12 month controlled study in Germany, saw improvement in lower limb strength and functional performance for older subjects with dementia after 3 months of regular high-intensity, progressive motor training. The training regimen consisted of resistance training, and functional training focusing on basic motor functions such as keeping balance while standing, walking, stepping, sitting down, standing back up; and progressed to more challenging tasks such as climbing stairs, crossing obstacles on the floor, etc. The most promising findings from this study showed that while subject performance decreased continuously

after cessation of training (the greatest losses occurring in the first three months), an evaluation at nine months post-training showed significantly better functional performance results in the exercise group as compared to the control non-exercise group. While the results need to be replicated, and examined at larger statistical effect sizes, the findings show significant promise in the long-term sustainability of benefits from exercise for persons with dementia (Zieschang et al. 2013).

Synthesis of Dementia-Specific and Related Research

The previous section has provided broad context regarding the current state of research in the area of therapeutic gardens for people with dementia. The research has demonstrated the need for specialized exterior spaces and garden elements, which can address the spectrum needs of people afflicted by this progressive disease. New research is surfacing which indicates the importance of natural sunlight for the photoproduction of Vitamin D3 in reducing amyloid plaques, a known causal agent for dementia. Visual and physical access was identified as important factors to promoting the use of the garden and reducing agitation for users. Research indicates the importance of designing spaces that sensitively address the culture of a given project locale. Furthermore, studies were identified that show how operational policies and staff attitudes can be equally important as garden design in promoting the use of garden space and ensuring that benefits are maximized. The literature also revealed the importance of social support through therapeutic programming signifying the importance of staff to support the use and objectives of the garden.

Overall, the dementia specific research implies the importance of integrating the physical and social aspects of the care environment to successfully deliver therapeutic care for users, however the connections are sparse and are made through a variety of individual guidelines. A stronger understanding of these connections will be useful in understanding how to best integrate gardens into care facilities. Furthermore, while valid and informing, the design guidelines discussed are the result of studies from a variety of facilities with unique characteristics, limitations, and user populations. Thus, continued evaluation of these guidelines through the lens of the two case study sites covered later in this research will be helpful in confirming, developing, and expanding upon these ideas providing important information to the collective body of knowledge surrounding therapeutic gardens for persons with dementia. The next chapter will discuss the research methodologies used in this research, as an attempt to clarify the connections between the garden and the care environment.

CHAPTER 4

RESEARCH METHODOLOGY

The preliminary intent of this research was to investigate the effects of an *integrated design process* on the efficacy of dementia care gardens to provide a restorative or therapeutic experience for persons with dementia. While design process is certainly addressed through this study, it became apparent to the author, very early in the process, that the study design also shed light on organizational policy, philosophy of care, and specific design interventions.

The study design chosen successfully provided a more comprehensive understanding of how therapeutic gardens can be integrated into care facilities for persons with dementia. The study data is able to identify guidelines that apply to the broader understanding of a care environment as an amalgamation of people, built structures, nature, and care practice.

Therefore, this research aims to investigate how designers and facility managers can approach improving the quality of care for persons with dementia, through the integration of garden space. Through this process, the research aims to support, confirm, and nuance existing design guidelines, discussed in the previous chapter, for the design of therapeutic gardens for persons with dementia. Additionally, this study adds several new guidelines to the existing body of research, in order to assist both the tenured and novice therapeutic garden designer in creating successful therapeutic

garden spaces for dementia healthcare facilities. Furthermore, this research aims to identify how existing human-environmental interaction theory supports design guidelines and how theory can inform a model of integration for gardens in the larger care environment. Lastly, this research points to important new areas of research and suggest the role of the landscape architect in this evolving area of practice.

This chapter will describe the process through which field research was conducted, including the Institutional Review Board (IRB) submittal and approval process, and research methodologies utilized to investigate two exemplary case study sites in the UK. It will also describe why the case study sites were selected for this study. Additionally it will provide a description of how the research methods evolved, and the lessons learned by the author during the process. The case studies will be included later in the chapter.

Research Instruments

Due to the fact that this study involved human subjects and a special population of subjects (persons with dementia), approval was sought prior to the study from the University of Georgia's Institutional Review Board (IRB). Approval from the IRB was granted in May 2013 (project number 2013-10921-0) for two case studies of dementia health care facilities in the UK. The facilities chosen for the study, *Springwood Residential Care Home* and *Charnley Fold Enhanced Dementia Day Support (CF)*, were selected for their reputation of utilizing the garden as a central component of person-centered dementia care protocols. Case study sites were also chosen to investigate potential differences between a residential care facility and a day support facility.

Differences in design process were also a determining factor in site selection.

Furthermore, sites in the UK were chosen because of the strong cultural associations with gardening in English culture (Helmreich 2002). The author presumed that this strong cultural association with gardening would facilitate exemplary interactions with the garden amongst subjects, thus providing valuable insight into the way facilities could potentially function in other cultures such as the United States. Access to the sites was facilitated through the garden designer, Dr. Garuth Chalfont PhD, a well published and respected practitioner in the area of therapeutic garden design for persons with dementia. Travel and lodging funding was made possible through the Neel Reid Travel Scholarship, a collaborative effort of the Atlanta Peachtree Garden Club and the UGA College of Environment + Design.

The complex descriptive research strategy utilized a combination of formal interviews, informal discussions, and observation data, as well as, in depth study of existing design documentation provided from the garden's designer. Prior to visiting the case study sites, a thorough review of existing design documentation was completed. This documentation included; plan view drawings of garden design and architectural layouts; before and after site photos; photos of gardens in use by clients; plant lists; construction estimates; and design presentations. In the case of Charnley Fold Enhanced Dementia Day Support, documentation also included case studies (Chalfont 2011, Chalfont and Walker 2013, 26-27), written summaries of the design concept (Chalfont 2008a, 2009b), and a one-year assessment report (Chalfont 2009a). Informal conversations, open-ended interviews, and reviews of other projects (not mentioned in

this thesis), were conducted prior to visiting the case study sites to gain deeper understanding of the designer's philosophy and approach toward the design and management of dementia therapy gardens. Qualitative case studies, presented later in this chapter will present this data in a summarized format.

The following is an explanation of the research strategies and methods of inquiry utilized for the case studies:

Cultural Integration and Participation: Performing a study in a close community of elderly persons with dementia requires a sensitive approach particularly when the study investigator is from another country and speaks with a foreign accent. Precautions were taken to dress very casually, as not to be mistaken as an institutional figure with a potentially negative connotation such as a tax collector, physician, etc. Staff introduced me to new groups as a "graduate student from the United States, here to study the garden". In order to fully integrate into the care home culture as a visitor, and develop rapport with the residents, the majority of time was spent engaging in regular activities such as meals, having "tea", and conversation in the garden. The researcher joined in a variety of planned activities at Charnley Fold and actually led several garden based activities at Springwood Care Home. This integration was key to the research in that it provided an environment where: *1) the clients felt comfortable speaking honestly with the researcher 2) observation, interviews, and informal conversation could be easily facilitated.*

Observation: Observation occurred in the garden and inside the care facilities. Observations were recorded as written notes and photographs. Observation in the form

of site inventory was facilitated through previously provided design documentation and onsite note taking and verification. Observation in the form of *People Mapping*, a technique that aims to spatially locate people and then record their location and activity on a plan view map of the facility was also attempted. This method was mostly abandoned for note taking during the study due to time restraints and the researchers direct engagement with subjects in daily activities. Observations recorded included notes specific to: *perceived emotional state of the user, abilities of person with dementia, use of the garden, garden elements, weather, staff interaction with user, design ideas, etc.* Written notes were transcribed for later analysis.

Interviews: Digitally recorded interviews were conducted for staff, adult family members, service users with dementia, the garden designer, and garden carpenters. When possible the interview took place in the garden, however multiple interviews took place inside of the facilities, with windows overlooking the garden space. The garden designer and/or facility managers facilitated recruitment for participation in the interviews. For interview participants with dementia, *IRB Recruitment Script - Version 2* was used, which omits the word dementia to avoid upsetting participants who may not be aware that they have dementia (See Appendix A). Subjects interviewed submitted verbal consent (See Appendix B) and were asked a series of open-ended format questions This type of interview format was chosen as the primary research instrument in order not to limit subject responses and thus gain a more comprehensive view of what makes the chosen case study sites unique. While this approach has proven to be effective for acquiring large amounts of information on the topic, the lack of organization

and standardization makes analyzing and/or replicating the results particularly difficult. Recorded interviews were transcribed for later analysis (See Appendix C). Interview subject names were kept confidential and they are identified by job title in the transcripts. The following is a description of the four interview types:

Staff: Formal Interviews were conducted with all available members of staff at both facilities. In the instance where a staff member was not available for interview, measure was taken to interview at least one person in a similar staff position (i.e. care worker). Staff participants were asked a series of open-ended format questions, intended to get the participant to share whatever they wanted about the garden and their experiences working with persons with dementia in the garden; beginning with: *What is your job title?* and *What are your roles and responsibilities?*. Further questions evolved based on answers to the previous questions, at the discretion of the interviewer, and thus varied greatly. However, common question types included:

How is the garden used?

How has the garden changed or evolved since the facility began working with a landscape designer?

What works well in the garden? What does not?

Would you change anything about the garden?

What effects do you think the garden has on your residents or service users?

Family Members: It was the intent of the study to conduct formal interviews with adult family members at both facilities. Younger participants were excluded from the study, to avoid consent issues. Unfortunately, due to the timing of the study, there was a lack of available participants and thus only one interview was conducted with a family member at the Charnley Fold site. Questions were open-ended format and varied but included ones similar to the following:

What is your connection to this facility?

Do you ever come and spend time with your family member in the garden?

Does your family member ever talk about the activities they are involved in here?

Does your family member seem to enjoy the garden?

What do you think makes this facility successful?

Persons with Dementia: It was the intent of the study to conduct formal interviews with persons with dementia at both facilities. The researcher quickly realized the challenges of conducting formal interviews with this specialized user group, particularly those in the later stages of dementia. Many participants exhibited difficulty engaging in sustained formal conversation and ethical dilemmas arose in determining who was cognitively able to give informed consent. To avoid the problem of contacting family members with power of attorney for consent, interviews were substituted with “informal conversations” that were recorded as observational notes. Due to this issue, only one formal interview was conducted at Springwood

Residential Care Home with a group of women, on the day center side, who were in the early stages of the disease (as identified by trained staff).

Questions were kept “simple and conversational” and conversation was often kept initiated by a staff member. Examples of questions include:

When you sit outside in the garden, how does it make you feel?

What do you like about the garden?

Do you have a garden at home?

What sorts of things did you grow in your garden?

Landscape Designer and Contractors: Lastly, formal interviews were conducted with the garden designer of the two sites, Dr. Garuth Chalfont, who has also consulted on changes to the architecture of both facilities. Interviews were conducted with the garden contractors or carpenters, known as “joiners”. These interviews utilized the open-ended question format, yet more specifically addressed topics of design process, garden elements, architectural renovations, site history, design concepts, and design philosophy.

Case Study:

Charnley Fold Enhanced Dementia Day Support

Facility: Age Concern Central Lancashire:

Charnley Fold Enhanced Dementia Day Support (CF), Bamber Bridge, UK

Designer: Dr. Garuth Chalfont PhD, ASLA, of Chalfont Design, Sheffield, UK

Overview of the service:

“Charnley Fold is a newly remodeled facility in Bamber Bridge, Lancashire, which supports older people with complex mental health needs. A wide range of services include a health and well-being centre; a carer’s café and support service; a community based assessment, diagnostic and treatment service; a Memory Clinic and a specialist staff of psychiatrists, psychologists and social workers. Partners include Lancashire County Council, Central Lancashire Primary Care Trust NHS, Alzheimer’s Society, Age Concern and Lancashire Care NHS Foundation Trust. Charnley Fold also provides an enhanced day care (EDC) facility for older men and women with complex mental health needs including dementia”. (Chalfont 2011)

“The EDC offers 125 day places weekly to service users who attend for over a 12 week session. Neurological conditions range from early onset dementia to those with severely impaired memory and attention, language and problem-solving skills, as well as challenging behaviour and depression. Comorbidities include stroke, diabetes and Parkinson’s disease. Staffing ratio is generally 1 to 3 with a maximum of 25 clients attending daily”. (Chalfont 2011)

Design Philosophy: Garuth Chalfont is a leading researcher, lecturer, and practitioner in the field of therapeutic garden design, with particular focus on the use of

gardens in care facilities for persons with dementia. With a career spanning nearly two decades, he has designed numerous successful dementia care gardens, and has greatly advanced the field of dementia healthcare design through his research. His overall design philosophy “promotes activity with meaning and purpose, for rehabilitation and well-being, regardless of disability or impairment” (Chalfont 2014).

Chalfont’s approach at Charnley Fold “embeds the philosophy of care into the physical setting, ensuring that the landscape, the building, and the staff work together to achieve well-being for the service users” (Chalfont 2012a, 179). The philosophy of care is grounded in a “person-centered” care approach (Maslow 2013) and is focused on enabling “each individual to freely access, engage with, enjoy and benefit from the environment” (Chalfont 2012a, 179).

The goals of the design are outlined by Chalfont (Ibid., 179) as the following:

- Facilitate rehabilitation and therapeutic opportunities through connection to nature.
- Enable service users to regain and maintain skills and abilities
- Maximize staff’s ability to provide an enhanced service
- Improve happiness and well-being through an interesting, year-round outdoor experience

Design Concept: The design of the physical environment supports the goals of the design philosophy through an integration of the following four concepts: connection to nature, emotional and psychological access, spatial archetypes, and enabling space

(Chalfont 2011). These concepts will be explored further in the section titled: Description of the Outdoor Space.

Design Process: Chalfont's design process at Charnley Fold is integrated, iterative, collaborative, and adaptive. The process employs a combination of conventional and innovative techniques to achieve the goals of the design philosophy. Viewing the garden as an ever evolving product and an endless format for therapeutic engagement, Chalfont constantly evaluates, modifies, and adapts the design to best serve the users. Furthermore, Chalfont utilizes the design philosophy as an educational tool and a point of reference for those involved in the construction of the project and the ongoing management of the facility.

Since CF was to be an innovative facility, without any local precedence, a collaboration of public and non-profit agencies including the NHS, Lancashire County Council, Age Concern, and the Alzheimer's Society was vital in getting the project off the ground and running. The opportunity to renovate the existing building (a former care home) was pivotal in the design process because it allowed for a more functional integration of the indoor and outdoor spaces. Working with Alex Walker, Lead Commissioner for Dementia at NHS Lancashire, Chalfont Design consulted on the interior architecture and the landscape. This initial part of the design process was more conventional, utilizing inventory and analysis, in combination with the specialized knowledge of the designer to inform the design; which went through multiple iterations. The first phase of the project included the architectural changes to the building, and the majority of the structure of the garden such as pavements and woodwork.

While Chalfont's utilizes detailed plan drawings for this project, his approach for CF construction documentation, appears to be less focused on providing plans specified out to the nail, but rather focused on a collaborative, hands on approach with the contractor. This approach proved difficult with the building and perimeter fence contractors because their previous experience building facilities for dementia care shaped opinions in direct conflict with the design philosophy at CF. Chalfont spoke to this issue in an interview stating, *"He had some very old fashioned ideas and whenever you say dementia, people automatically think high security, walls, locking people in...they think managing, controlling, and containing...and that is the main thrust of where dementia care was"* (Chalfont Interview). Due to this Chalfont had to constantly argue with the contractor and educate him about what he was trying to achieve with the design. While this approach to construction detailing and project management proved problematic with the building contractor, a similar working relationship with the custom joiners (carpenters) who constructed the exterior garden elements has been particularly productive and has been a noteworthy component in the success of the space. The joiners, who won the bid for the exterior wooden structures, also happen to run a social enterprise from their workshop. The social enterprise works with people with a variety of emotional issues, teaching them woodworking skills as a form of therapy. The joiners previous experiences working with people that have special needs made them particularly open to the philosophy at CF. Chalfont educated them on the special needs of people with dementia and spawned a working relationship that allows for adaptation and iteration of the design onsite in order to accommodate the changing needs of the

user. Through this type of working relationship the joiner is enabled to become the designer, adding valuable knowledge of built structures to the construction of the garden elements. This relationship also works well because the joiners take their time with the projects -- engaging with the residents and staff. They have “tea” in the facility and take the time to make conversation with the residents about what they are building.

Chalfont’s process for working with persons with dementia views even the construction of the landscape as an opportunity for therapeutic activity and engagement. When addressing the unique relationship he has with the joiners he states:

“I have always been a strong believer that if you are working for a facility, that provides care to people with dementia, take your time with projects -- you should talk with people, engage people, let them into the process of what you are doing....it can only enrich the final product. We can learn from people with dementia...(in a sense) it is people with dementia that are the experts at these designs...we are just the interpreters, carrying it out, facilitating...Usually there is not much happening at care homes and so it is an opportunity for users to engage and have a different day” (Chalfont Interview)

Chalfont’s design process embraces the need to evaluate and adapt the garden to best fit the needs of the service users and staff over time. In an interview he states, *“I was constantly evaluating and visiting the place...talking to people and asking how it was working”* (Chalfont Interview). As mentioned above, he strongly believes in getting feedback from service users as well as staff. Thus, part of his process after the initial phase of the garden had been installed and used for some time was to run a workshop

for the service users in order to get feedback. In an interview Chalfont points out that he did not run an input workshop with the service users at the beginning of the project simply because they did not exist as a group prior to the service being up and running. The workshop for the service users was focused on gaining feedback for the recreation side of the garden that was to include an activity lawn, but also to gain any useful feedback or ideas for how to develop any other part of the garden. Using large posters with imagery of garden elements and smaller handouts with the same information, Chalfont worked with the staff to gather feedback from the service users who would be using the space. This was mainly done on a one to one basis, with staff helping to elicit comments and recording the comments in the form of notes. It was also during this process and through various other correspondences that feedback was gathered from the staff. While some very useful feedback is gleaned from these workshops, Chalfont sees the workshops as yet another opportunity for therapeutic activity and engagement. It is interesting that this very process becomes a therapeutic activity for the service users. This is a trend common in Chalfont's work. He is always looking for ways to incorporate therapy and engagement into his process and work at care facilities. This information in combination with staff observations and requests; as well as his professional expertise shaped the final design. He notes that designers cannot fully rely on focus groups for the information needed to create innovative spaces. He says this is mainly because in the field of dementia therapeutic garden design there is not a lot of good precedence or innovative work from which the layperson can reference. His approach seems to be, to obtain as much information regarding the site, staff, and users

as possible, and combine that with the creativity and expertise of the designer to create a successful space. He views the process as never being complete and thus is constantly striving to adapt and make improvements to the space (Chalfont Interview).

Description of the Facility and Outdoor Space: The site is located off of the main road in Bamber Bridge, UK, separated by a block of residential houses (See figure 4.1). Its other boundaries are adjacent to an industrial site and a small agricultural field. The 1.7-acre site is relatively flat and roughly one third of the acreage is open green space and garden areas. The one story building occupies approximately 16,800 square feet and is located in the center of the site. The building is a series of connected linear blocks approximately thirty feet in width, arranged in a rectangle that partially encloses a central courtyard. The western section of the internal courtyard is separated by a covered walkway with windows on all sides. The building serves multiple uses, with a carer's café, doctor's offices, and a lobby on one side and the enhanced dementia day service on the other. From the main entrance, you enter the memory café, where a gabled roof has large windows from the floor to the ceiling looking out into the internal courtyard gardens (See figure 4.5 – c).

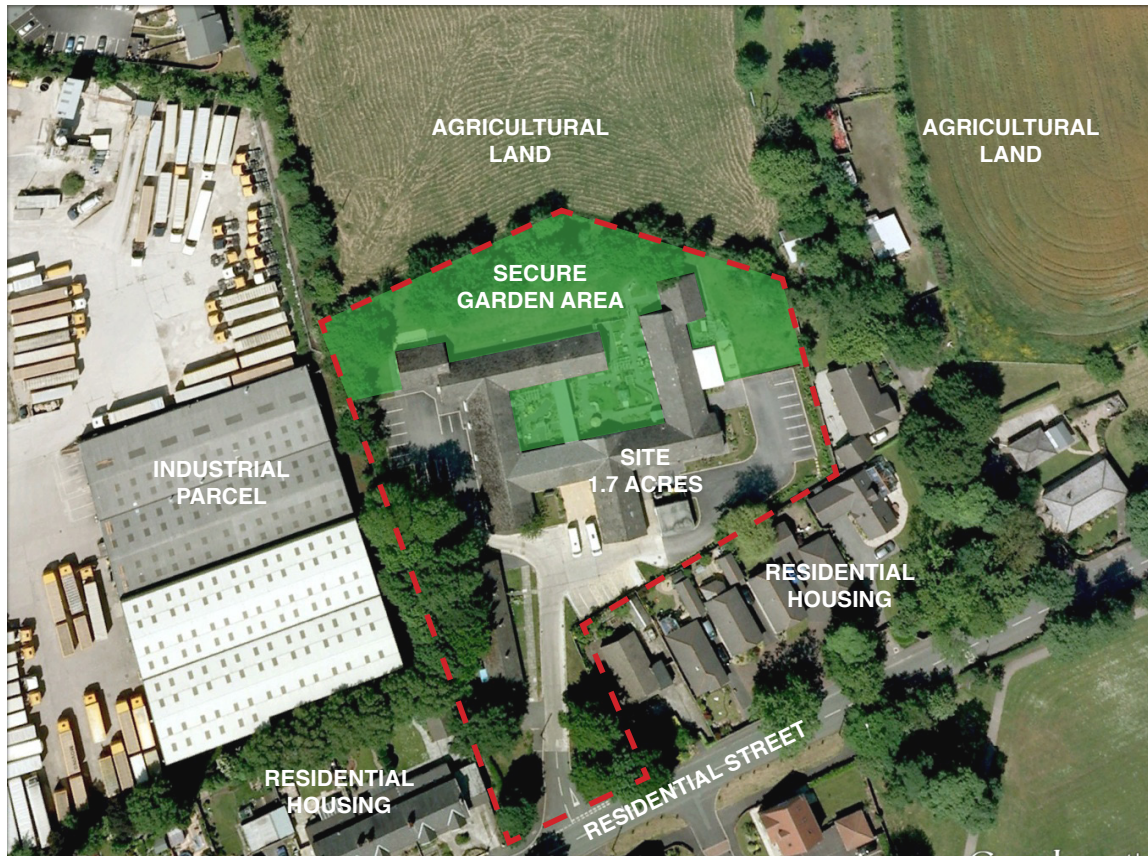


Figure 4.1: Charnley Fold Site Context

The day center side of the building, which has been the primary focus of this study, occupies just over 4800 square feet and flanks the internal courtyard to the east (See figure 4.1, 4.2, 4.3). It is a linear space with a central hallway connecting rooms on either side. This wing of the facility is surrounded by the garden on three sides. At the southern end of the hallway is a large open activity room. A planting bed with variety of flowering plants and a birdhouse screens views from this room out onto the parking lot. A large activity room/dining room on the northern end is catty-cornered, with windows on all sides, providing views out onto all areas of the user-accessible garden space. Halfway down the hall to the east is a 500 square foot conservatory connected to the

hallway by an open lounge area with small tables. The conservatory is heavily used due to the unpredictable English weather and is equipped with blinds to provide shade from the afternoon sun. The conservatory is set up much like any living room with comfortable sofas, chairs with ottomans, rocking chairs, and side tables. A television in the corner plays a live feed of the inside of a birdhouse where users can watch the mother bird wait for eggs to hatch.

The overall feel of the day center is very home-like as opposed to institutional. The walls are painted bright colors and covered with photographs of service users and service user artwork. The floors are carpeted and the furniture chosen is very comfortable and similar to what you would find in most private homes. The hallways have railings and the three large activity rooms are equipped with kitchenettes for serving tea and washing dishes. On the western side of the hall are also two smaller rooms for small group activities that look out onto the courtyard gardens (See figure 4.5 – a). One of the rooms is used for more private conversations and for compiling the life stories of the service users -- an activity that is started before a service user starts attending the service and is continued throughout their first twelve-week program. The other room, known as the garden room, has French doors opening out into the garden and is used for a variety of activities including many garden related tasks. Adjacent to the garden room is a hallway leading to the courtyard garden that has been widened to create a foyer space, with a coat rack and a bench. The door out into the garden has windows on either side. The intent here is to create a space where people can sit and look out into the garden, hopefully making the decision to go outdoors when something

piques their interests. Furthermore, this foyer space equipped with coat racks and boots by the door becomes a familiar and recognizable space, that signals to the service user “ok, we are going outside” (Chalfont Interview). The building has several specially equipped bathrooms along the hallway that are quickly accessible from all the indoor and outdoor spaces. Other small interior spaces include storage, staff office, and a fully functional kitchen.

Free access to the outdoors, a major component of the design philosophy, is embodied in the design of the day center. During business hours, there is an open door policy, with almost all doors exiting the day center remaining unlocked. The only exceptions are the double doors connecting the day center to the NHS side of the facility and several other smaller doors that open into the parking lot. The smaller doors including the one in the southern activity room are disguised and blocked by potted plants and do not currently pose any problems. Furthermore, the single doors are in areas that are not typically used by service users, making the issue easy to manage by staff. The doors connecting to the Carer’s Café must remain locked because they open into the lobby, which has direct access to the parking lot and the main street beyond – posing safety concerns. The building overall provides unrestricted access to the fenced in garden space. On warm sunny days, the doors in the conservatory are often propped open encouraging users to go outside.

Once out in the garden, there are a variety of circulation loops, connecting to other areas of the garden and back into the building. Directly outside exit doors are “edge spaces”, that can be likened to exterior foyers, which are often shaded and have

a bench so that service users can gradually make their way out into the garden based on their own level of comfort (Chalfont Interview)(Chalfont and Rodiek 2005)(See figure 4.5 – c). Similar to the idea of the doorway foyer, this space is a place for pause, hopefully providing the service user with an opportunity to engage with the nature beyond, building a curiosity to further investigate other areas of the garden.

Approximately 30,000 square feet (.69 acres) of garden area is fenced in and freely accessible to service users (See figure 4.1). Of that square footage, approximately 5800 square feet (.13 acres) “are designed for intensive therapeutic and rehabilitative uses” (Chalfont Interview) (See figure 4.3). The layout of the garden is based on the concept of spatial archetypes. Chalfont states:

“ Archetypal spaces are culturally relevant, they resonate with meaning and they prompt behavior. A place that is recognizable and familiar, with multi-sensory cues, will help a person know what to do there. Such places encourage people to take ownership and to participate in ways that feel right for them, whether it is sweeping, digging in the soil, feeding the chickens or simply watching” (Chalfont Interview).

This concept is meant to reject the institutional aesthetics of clinical facilities, which perhaps unintentionally *“disempowers the person from doing anything in the garden”* (Chalfont Interview). Chalfont points out that *“there are a lot of subliminal messages about landscape...who does it?; who takes care of it?; who owns it?; and who can fiddle around in it?”* (Chalfont Interview). Thus, the garden spaces at Charnley Fold are designed to be more familiar and domestic in appearance, with the intent that people will feel comfortable in the space and not have any reservations about engaging

with the garden. After identifying the types of public and personal gardens spaces that people in the area would have access to, Chalfont came up with seven archetypal spaces to guide the garden layout and dictate the garden elements found in those spaces.

These “Seven Meaningful Spaces” include *The Courtyard*, *The Pocket Park*, *The Back Garden*, *The Yard*, *The Countryside*, *The Stroll*, and *The Nook* (See figure 4.2 and 4.4).

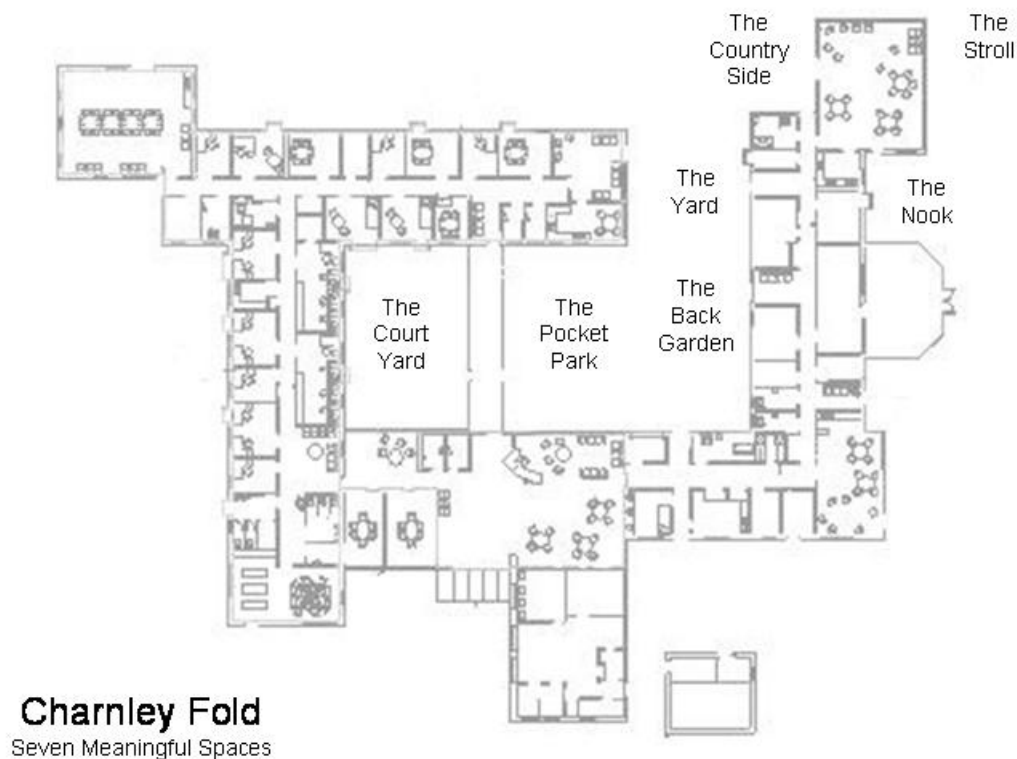


Figure 4.2: Seven Meaningful Spaces at Charnley Fold

Separated by the glass-covered walkway, **the courtyard** is an area that service users cannot readily access without the accompaniment of staff or family (See figure 4.4 – a). The space is fairly small and simple. It contains a variety of ornamental plants

and a looping pathway. It has two pergolas and a fountain, as well as a slightly larger area with a bench for quiet reflection. The pocket park, the back garden, and the yard, all technically share the same contiguous space, but Chalfont uses fencing, pavement, and other subtle changes in garden elements to differentiate between the three (See figure 4.5 – f and 4.6 – a,g).

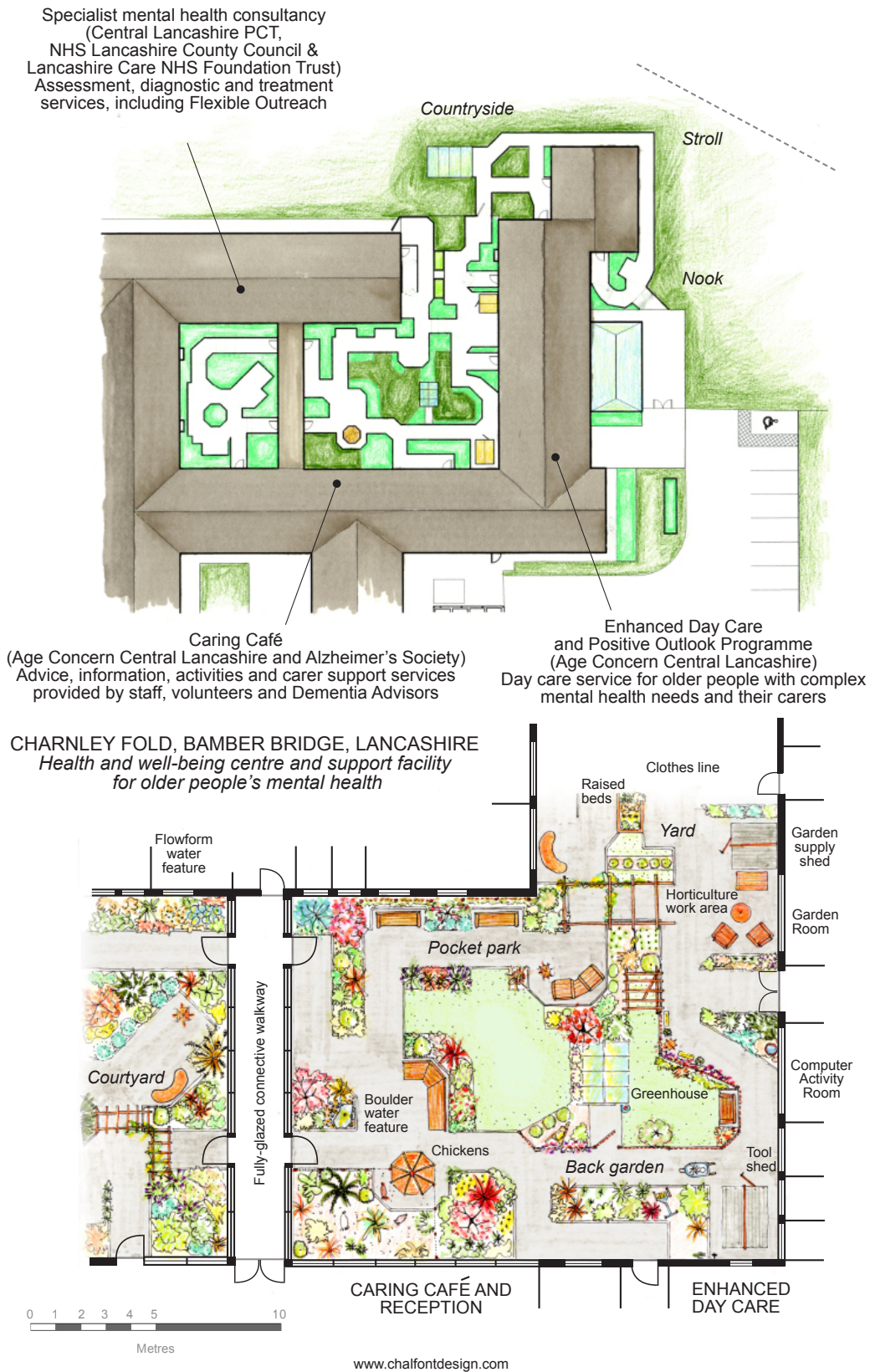


Figure 4.3: Charnley Fold Landscape Plan

The **pocket park** is the space right outside the café area (See figure 4.4 – b). There are two benches against the wall of the building separated by an apple tree that is underplanted with lavender. The benches are slightly larger; similar to what you would find in an actual park that can accommodate up to three people. In front of the benches is a walkway and then an open lawn area. A low boxwood hedge, gives definition between the spaces as the lawn extends into the back garden, but does not physically separate the spaces. Overall, the plantings are kept low giving the space a larger feel. A few upright evergreens and specimen trees are used throughout to soften the building and to delineate between spaces. Next to the lawn, a larger area of tarmac pavement extends off the main path for a circular picnic table with an umbrella holder. Past the park benches another picnic table is nestled underneath a small ornamental Japanese maple. A small bubbling fountain is adjacent. Directly in front of the café windows is a fenced area for chickens with a decorative octagonal chicken coop.

Following the tarmac pathway through the pocket park leads the user to **the back garden** (See figure 4.4 – c and 4.6 – c,g). This area has evolved over time, but is intended to mimic the look and feel of a private backyard garden. The eastern edge of this space is delineated by a forty-two inch high, custom-built picket fence, which gives the space a very domestic look. The space has wooden tool sheds, a culturally significant symbol for men in British culture (Moriarty and Manthorpe 2012, 64). Custom built wooden flower boxes are attached to the fencing with removable liners. This space also used to house a small greenhouse similar to what is common in many private English gardens, however a storm destroyed the greenhouse. The space now has a

paver pathway that connects through the spaces. Users can enter and exit the back garden through small gates that are usually left open. Following the paver pathway, users pass underneath low wooden pergolas covered in vines. Throughout the back garden there is a variety of seating, custom built to the needs of the elderly, and slightly smaller in scale to the seating in the pocket park. A newly built feature, designed by Chalfont and the joiners, called a swing seat is enclosed on three sides and has a roof for shade. The two opposite sides of the swing seat have latticework to allow light to penetrate, but are backed by plexi-glass to block the wind, excess noise, and control the temperature. Short chains attached to ledgers on the inside of the walls facilitate a very slight swing for the two-person bench. By limiting the amount of swinging, users with limited mobility and strength can more easily stand up and sit down on the bench. Overall the scale and location of the plantings and elements in the back garden make the space seem smaller and more intimate.

Next to the back garden is **the yard** – this space is intended to be more of a practical domestic space (See figure 4.4 – g; 4.5 – f; 4.6 – d). This space has a clothesline for pinning up laundry and an antique mangle in the corner to stimulate reminiscent conversation. There are raised beds for growing vegetables and containers with flowers. Stacks of empty plant pots, hose caddy's, containers, of soil, and garden are left out to encourage user engagement and to indicate that this area is a place to work. A low black steel fence that connects the gap between the buildings is disguised by custom wood lattice covered with flowering vines. The fence gate is left open and has a wooden arch with vines to mark the entry. After the loss of the initial greenhouse,

a large poly-tunnel was built just outside the fence that can accommodate larger groups of service users (See figure 4.5 – a). Inside are workbenches and railings to hang flower baskets. Being on the opposite side of the fence, the poly-tunnel and the area in front of it has become its own individual space, however the visual connection and purpose of the space makes a strong connection to the yard. There are three doorways that enter into the yard, one from the dining room to the poly-tunnel and two from the garden room and entry foyer into the edge of the yard. The entrance from the garden room is flanked by raised beds and has a pergola overhead with a plexi-glass ceiling, a transition space, protected from the elements for users who might be initially timid about venturing out into the garden. With the French doors to the garden room open there is an excellent and seamless transition between the garden and the building. This transition is further aided by gradual ramps, a characteristic found at all doorways with a threshold.

The area past the poly-tunnel that extends around the dining room is **the countryside** (See figure 4.4 – d). The garden borrows pastoral views from the adjacent agricultural field. A few large trees shade this area and frame views out into the field. Vegetation along the fence is wild and is kept low as not to obstruct the view. The fence along the back is wooden post with wire for the same purpose. The countryside extends far behind the poly-tunnel into an expansive open lawn area.

The stroll is a tarmac path that hugs the façade of the building and has benches for users to sit and enjoy the view (See figure 4.4 – f). It connects the nook and the patio outside of the conservatory to the eastern garden. Its purpose is to facilitate a leisurely stroll from the eastern garden to the gardens in the central courtyard.

At the end of the stroll, is **the nook** – a bench with lattice on the sides and covered with a roof (See figure 4.4 – e). The bench is tucked into the plantings with a small slightly obscured path behind it, leading to the back entrance of the dining room. The tarmac path that extends past the bench is covered by a low wooden arbor that eventually will be covered with flowering vines. The nook has a view out into a lawn and a wooded area beyond.

The **eastern garden** that includes the stroll and the nook is a large grassy area with a slight slope down to the fence. Designed spaces occur along the edges and there is clear visibility from the building across the entire garden. Designed spaces include a newly installed **games pitch** – a level area of turfgrass meant for playing lawn games. This is directly outside of the dining room to the east. Benches have been added along the façade of the building where the stroll path comes through for spectators waiting for their turn to play. At the southern end of the games pitch another swing seat was added for the same purpose. Outside of the conservatory is a **patio area** with large square concrete pavers that come flush to the French doors (See figure 4.5 – f). This space accommodates two wooden picnic tables with umbrellas for outside dining and activities. There is ample room on the patio for users to walk around the table when in use to access other parts of the garden. Wooden window boxes with removable plastic

liners and flowering annuals are hung against the conservatory (See figure 4.6 – b). At the southern end of the patio, a tall steel fence separates the parking lot from the garden. From the garden side, wooden lattice and plantings disguise the fence. The gate and its locking mechanism are also hidden appearing to be just another panel in the wooden fence. A curvilinear path identified as the **bird path** or **woodland walk** with bright yellow aggregate starts at the conservatory patio and winds along the perimeter of the garden through a shaded area with large mature trees, and connects back to the stroll at the northeast corner of the dining room (See figure 4.5 – b). Under the trees by the woodland path are chairs and benches that can be moved around to accommodate a variety of views. Birdhouses and birdfeeders made by service users are hung in these trees.

Overall the garden provides a great deal of variety in terms of spaces and plantings. There is a consistency in the materials used that give the garden a very unified and domestic look. Almost all of the furniture, pergolas, fences, and wooden structures are custom made by the same joiners – giving it a very rustic appearance. The similarities in the woodwork can be seen in every detail, from the type of wood used to the smooth routed edges of each piece of lumber. The paving surfaces used throughout are either black tarmac or yellow pavers. The plant palette utilizes a variety of plants to mimic the feel of a home garden that has evolved over time. In this way, plants are used to create a comfortable space and reinforce the idea that it is acceptable to work in the garden. Chalfont speaks to this in an interview saying:

“...it’s about plants as well because if you are planting a landscape you are going to buy 100 of one kind of plant and if you are planting in a garden you are going

to buy 1 of 100 different kind of plants. Because it's the experience of the one plant....a person who has their own budget who goes out and buys things for their garden, that they actually use....if they do the gardening, they are not going to have a fortune to spend on plants, so they are going to get as many different kinds as they can and try to have the bloom and interest happen throughout the year....so that's an issue.....that's one of the design criteria is to make it look interesting. It can be 'hickety-pickety', it doesn't have to be perfect, it doesn't have to be completely done and it certainly shouldn't look like its designed by a designer...it should look like its designed by the guy or the woman that lives there" (Chalfont Interview).

Circulation in the garden is clear and navigable and is aided by familiar landmarks such as plants and pergolas. The paths are tightly integrated with the therapeutic spaces and provide a variety of options for those in wheelchairs and for those with increased mobility. The majority of the garden is wheelchair accessible, however areas such as the woodland walk and other grassy areas are accessible to people with greater mobility or people who are aided by a staff member. Visual access in the garden is mostly open, however there are areas, still visible by staff through windows that can facilitate the feeling of being away or unseen (See figure 4.6 – a,g). Ample seating is provided in every area and the edges of the garden are clearly defined by the building, plants, and fencing. Scale is used creatively as a design tool to make certain areas appear larger and other areas appear smaller and more intimate. The concept of spatial archetypes truly communicates what the spaces are to be used for. The integration of the building and the landscape works particularly well, facilitating psychological and physical access to nature. There are windows looking out onto every

area and multiple entry doors to encourage easy access. Spaces such as the poly-tunnel, the garden room, and the conservatory allow for an increased connection to outdoors, even when the weather is not conducive for outdoor activities.



Figure 4.4: Seven Meaningful Spaces Photographs

a – the courtyard, b – the pocket park, c – back garden, d – the countryside, e – the nook, f – the stroll, g – the yard

(Photo credit: Garuth Chalfont a-f, Andrew Bailey g)



Figure 4.5: Charnley Fold Photographs - A
***a** – panorama of interior courtyard gardens, **b** – window boxes with removable liners, **c** – back garden, **d** – entrance to the yard, **e** – pocket park, **f** – back garden, **g** –pocket park and back garden (Photo credit: Andrew Bailey)*

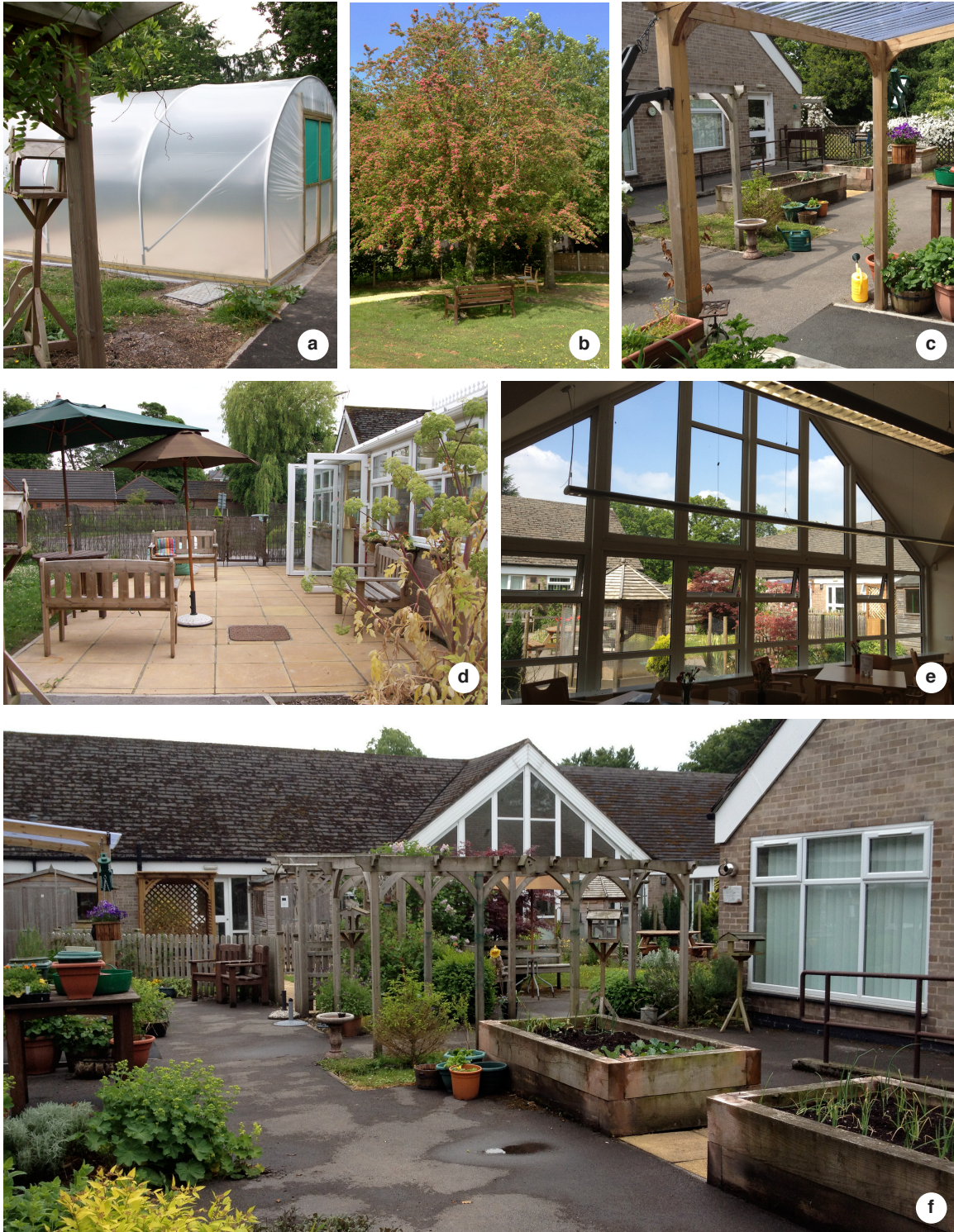


Figure 4.6: Charnley Fold Photographs - B
a – polytunnel, b – woodland walk, c – edge space, d – conservatory patio, e – view from carer's café, f – view from the yard
 (Photo credit: Garuth Chalfont a,d,f; Andrew Bailey b,c,e)

Progression and Adaptation of the Garden Over Time: Chalfont's

commitment and willingness to assess, adapt, and develop the garden over time is a key factor in the success of the gardens at Charnley Fold. Constantly evaluating how the garden is used and eliciting feedback from both staff and service users, Chalfont, in partnership with the staff, adapts the design of the garden to best meet the needs of the current group of service user. Tables 4.1, 4.2, 4.3, and 4.4 identify some changes and developments made in the garden since its original installation and discuss the reasoning behind these changes. These tables also indicate the process of change, which describes how the designer obtained the information that led to the change. Figures 4.7 and 4.8 illustrate some of these changes in plan view.

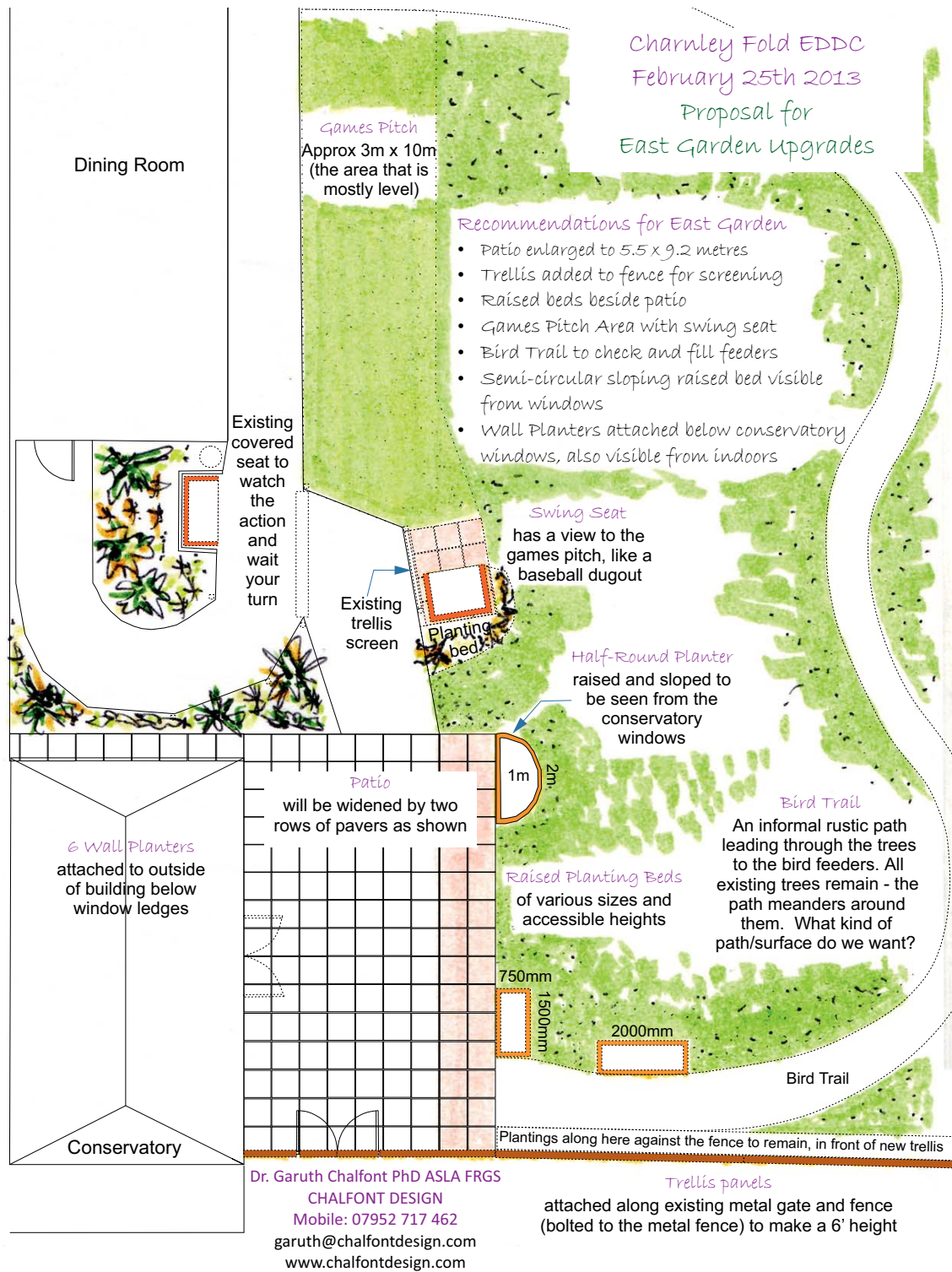
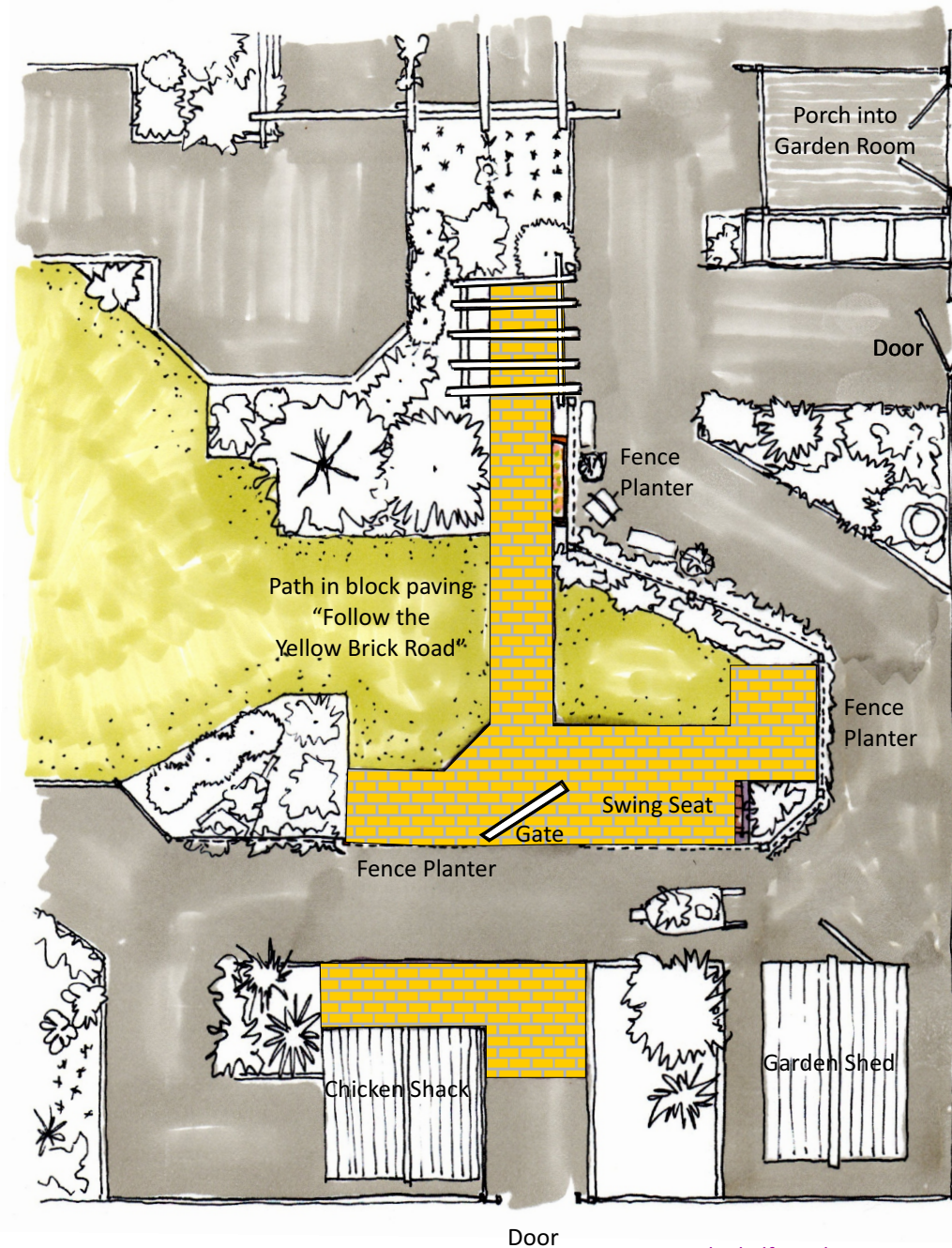


Figure 4.7: Charnley Fold East Garden Additions

Charnley Fold EDDC
 February 20th 2013
 Paving requirements updated



Recommendations for New Walkway Paving

- All paving shown is to be block paved in a design of yellow & buff (exact colour/pattern to be determined)
- This includes the section around the chicken shack
- All tarmac remains as it is

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Figure 4.8: Charnley Fold Paving Additions

Table 4.1: Additions and Adaptation to Garden Over Time at Charnley Fold - A

ADDITIONS AND ADAPTATION TO GARDEN OVER TIME

Name	Description	Process of Change	Reasoning
Games Pitch / Activity Lawn with Swing Seat	Flat area with well maintained turfgrass, approx. 10'x 33', along Eastern edge of dining room in East Garden. Area to be used for games and activities such as bowling and ball games. Swing Seat constructed at Southern end, where users can sit and watch or wait their turn --similar to a 'dugout'.	Service User Workshop	Workshop for a recreation area, showed service user interest in playing yard games. View from dining room windows encourages engagement. Seating provides places for users to watch and/ or wait their turn to play.
Swing Seats	Covered structures with shed roof and a two person swing bench. The two opposite sides of the swing seat have latticework to allow light to penetrate, but are backed by plexi-glass to block the wind, excess noise, and control the temperature. Short chains attached to ledgers on the inside of the walls facilitate a very slight swing for the two-person bench.	Designer and Joiner Innovation	Current designs for swings make it difficult for elderly users to sit down and stand up. Short chains and a slightly higher seat height make it easier to use. Needed protection from sun, rain, wind, and noise -- thus a roof and plexi-glass windows were added. Being partially enclosed the swing seat is able to provide thermal comfort and a place for quiet reflection and a soothing swing, apart from noisy distractions
Trellis Screening for Metal Fencing at Parking Lot	Wooden trellis was attached to tall black steel fencing which separates the parking lot from the East garden. Existing gate was disguised as part of fence and latch is also disguised.	Staff Feedback, Designer Intent	Steel fencing required by authorities allowed a direct view into parking lot through steel 'prison-like' bars. Staff wanted to screen views to parking lot to discourage users wanting to leave and to minimize distractions. Designer wanted a very domestic look to the fence as opposed to an institutional one. Screening the gate and disguising the latch discourages users from knowing it is an exit.
French Doors from Garden Room into the Garden	Garden shed was relocated and Double doors were added to the garden room that open out into the courtyard garden. A ramp aids in a smooth transition out of the building. A trellis was installed overhead and raised beds flank the entrance.	Designer Input, Staff Feedback	Feedback from staff showed garden room was under-utilized. Need a space with open connection to garden, for working with small groups on garden related task. Pergola with plexi-glass roof provided a shelter area where users can engage with the garden without having to go completely out into it.

Table 4.2: Additions and Adaptation to Garden Over Time at Charnley Fold - B

ADDITIONS AND ADAPTATION TO GARDEN OVER TIME

Name	Description	Process of Change	Reasoning
'Back Garden' Renovations	Small greenhouse was removed after it was destroyed during storm. Gate moved to east, so that it lines up with exit door from Memory Café. New paver pathway installed. A swing seat was installed. Opened up space and facilitated better circulation through garden.	Staff Feedback	The destruction of the original small greenhouse by a storm provided reason to revisit the design of the 'back garden'. The original design involved too many turns for service users exiting the building. The new path connects users on a hard surface directly from exit door into the garden. Swing seat was added to as new destination element
Conservatory Patio Extension	Two additional rows of large square pavers were added to the existing patio outside of the conservatory	Staff Feedback	Service users enjoyed using the patio but there was not enough room for everyone to sit and comfortably move through the space.
Woodland Walk / Bird Trail	Curvilinear path that connects the conservatory patio to the NE corner of the dining room near the poly-tunnel in the East Garden. Topped with a bright yellow aggregate the path meanders along the edge of the property through several mature trees where residents hang birdfeeders. Movable seating is provided along the path. Design of the path is more informal to match the character of the countryside beyond. Material catches the eye and invites exploration.	Staff Feedback, Service User Workshop	Area by path was not being fully utilized. However, it was being used for birdwatching and birdfeeding activities. Due to shade from large trees and because the area was at the bottom of a sloping lawn, the ground was often very muddy and slippery -- a potential concern for users with limited mobility. Staff also needed a more informal path where they could take users on walks who may be experiencing unsettling behavior. Path is intended not to be accessible for everyone -particularly those in wheelchairs, but instead is meant for those with increased mobility who need the experience of 'being away' or going on a walk
Window Boxes with Removable Inserts	Custom-built wooden window boxes with removable plastic liners were installed outside of the conservatory and along the back garden fence. Boxes are planted with bright flowering annuals.	Staff Feedback, Service User Workshop	Service users wanted to see more color. Staff reported that majority of current service users can no longer work in ground level beds- need for elevated accessible plantings. Previous wire hanging baskets, were reported as difficult for users to access and water. Removable liners allow flower arrangements and weeding to be done indoors, at picnic tables, in polytunnel, etc.

Table 4.3: Additions and Adaptation to Garden Over Time at Charnley Fold - C

ADDITIONS AND ADAPTATION TO GARDEN OVER TIME

Name	Description	Process of Change	Reasoning
Poly-Tunnel	The poly-tunnel is a plastic covered hoophouse style greenhouse located outside of the dining room to the West. It is used for garden related activities. Inside are work benches and waist-high railings for hanging wire-baskets. It is easily accessible from both the courtyard gardens and from the dining room. Staff use rollcarts to bring garden materials indoors when necessary. Folding chairs are provided for users who would like to sit.	Staff Feedback, Service-User Workshop, Volunteer Assistance	The original greenhouse (destroyed by a storm) with glass walls was very small and could not accommodate even small groups of people. Staff report ever-decreasing attention spans and decreased mobility with groups of service users over time. It was difficult to maintain the attention of a group, when not everyone could be inside and when those inside users could see out through the glass and become distracted. The larger poly-tunnel can accommodate larger groups and its plastic covering lets light in but does not allow users to see out into the garden, keeping them focused on their tasks. It allows for more year round activities in the garden because it is warmer and it protects users from the elements. Staff work with service users to make hanging baskets that can fund future garden improvements
Plantings	A variety of flowering plants are added to the garden over time. The majority of structural plants (shrubs and trees) are already in place, so new additions mainly include perennials and some annuals. Plants are chosen for seasonality and are placed in 'one's and two's', as opposed to large massings of one type of plant. Factors such as plant toxicity, or thorns are considered during selection but do not necessarily exclude the use of a particular plant. Some plants may require that a person ingest large quantities of them to cause problems. This is managed by through staff awareness and by placing problematic plants out of reach.	Designer Additions, Staff Feedback, Service-User Workshops,	Planting style is meant to evoke the feeling of a home garden. With the garden ever evolving over time, there is a need to add and move around plants as the compositions grow. Annuals are added to provide additional color. Feedback from service users at design workshops, often reveal connections to a certain plant, such as roses or lavender. These are included to aid in reminiscence. Furthermore, because the garden is a large part of the community at CF, staff and family members may bring plants to incorporate into the garden.

Table 4.4: Additions and Adaptation to Garden Over Time at Charnley Fold - D

ADDITIONS AND ADAPTATION TO GARDEN OVER TIME

Name	Description	Process of Change	Reasoning
Additional Raised Beds	Two timber frame raised beds were added to 'the yard' area. One is slightly higher with a wooden cap around the top perimeter. They are mostly used for growing vegetables	Staff Feedback, Service User Workshop	Feedback from staff shows that groups of service users entering the facility over the past several years, have a decreased ability to work in the garden at the ground level, as compared to groups in the past. Thus, there was a greater need for elevated areas for gardening.
Chicken Coop Relocation and Fencing	The decorative, octagonal chicken coop, once placed in the back garden, was relocated into the bed in front of the Carer's Cafe windows. This area was enclosed by a low fence.	Staff Feedback, Service User Workshop	Staff report that chickens were a favorite element and activity for service users. Kept in the coop at night and let out during the day, the chickens were destroying plants and scratching the mulch from planting beds. Thus the coop was relocated and was enclosed by fencing.

How the Garden is Used – Integrating a Philosophy of Care: The gardens are an integral component of the service at Charnley Fold (CF). CF is successful because it adheres to a philosophy of care that is embedded into “the physical setting, ensuring that the landscape, the building, and the staff work together to achieve well-being for the service users” (Chalfont 2012a, 179). Each component of the service is vital to achieving therapeutic goals and thus without the high level of staff commitment and programming, the garden cannot function to its fullest potential. The same is true contrariwise – without the garden, the staff cannot achieve the greatest therapeutic potential from their programming. The same relationship is true between the building and staff, as well as, the building and the garden. Aided through on-going training from the designer, the staff at CF understands and embraces the philosophy of care. It is recognized that in order to best serve their clientele, staff must fully utilize the restorative and therapeutic properties that the connection to the garden offers. All components of the care environment are inextricably linked and thus must be discussed through this understanding.

At Charnley Fold this begins with the “person-centered” care approach. With the facility “serving a total of 60 participants, each attending one to four days a week over a twelve week session” (Chalfont 2012a, 179), the needs of the individuals using the service vary from day to day. Thus, the particular use of the garden varies greatly and it is the responsibility of the staff to evaluate individuals and place them in activity groups that best meet their needs. Through skilled

evaluation, the staff identifies service users into one of four activity level categories; Planned Activity Level; Exploratory Activity Level; Sensory Activity Level; Reflex Activity Level (See Appendix E). Group placement is also facilitated through life-story work; a therapeutic activity in itself for service users, carried out over a period of six to twelve weeks and aided by family members, which lets the staff get to know the user, identifying important information that is helpful in determining what activities best suit their preferences. However, this information may only be used as a rough guide, as the needs of an individual may vary greatly from day to day and week to week. For example, a life-story may indicate that a user had a strong interest in gardening in the past, however, after a gardening activity, it becomes apparent that now they prefer more passive activity or that they become frustrated when their motor skills and mobility limit their ability to perform the task. The staff meets this challenge by constantly communicating and assessing the well-being of service users and measuring their progress across a spectrum of broad and highly-specific goals. The staff operates on a very flexible program allowing for instant changes to be made based on how well a group or individual is benefitting from an activity. The assistant manager at CF spoke to this flexibility stating,

“The sessions shouldn’t be controlled by us...if you plan a session and it goes off in another or multiple directions...let them take it and make it what ever they want to make it at that moment, because that is their moment...but you have to give the right sorts of stimulation in an activity and that’s all” (Interviews)

The design of the care environment complements the flexible programming extraordinarily well by providing free access to a range of garden spaces, which are highly visible from building windows and provide opportunities for both active and passive engagement. The open door policy in combination with the numerous open windows into the garden facilitates easy physical and visual access for all of the service users. Service users who are more mobile and tend to walk a lot freely go out into the garden and are not expected to join activity groups unless they want to. Staff manage these users by being aware of who they are (a person who likes to walk) and keeping an eye on them from the building. Staff utilizes the numerous paths and places to sit, as interventions for users that are unsettled or are exhibiting aggressive behavior, escorting them on a walk or to a seating area and engaging them in conversation and allowing them to become distracted by nature. A support worker spoke of the benefits of the garden as a behavior intervention tool stating *“I mean just a little walk around the garden and back in sometimes is just enough and it can change somebody’s mood” (Interview with staff)*. There is also an ample amount of seating in every space that is used on a regular basis by staff and service users. Staff reported that service users on their own accord have already used the newly installed woodland walk and swing seats. The tables in the garden provide areas where staff occasionally serves lunch, tea, and snacks.

The garden also provides spaces for programmed activities. The staff facilitates thirty programs per week, three in the morning and three in the evening. A gardening group and a nature group utilize the garden directly for activities such as pruning, sweeping, raking, weeding, watering, transplanting seedlings, planting, and feeding the chickens. Most of the garden work has a staff to service user ratio of 1:1 or 1:3 because it is so task oriented. The poly-tunnel, the garden room, and the “yard” area with the raised beds (figure 4.4 –g and figure 4.5 – f) are used primarily for these activities, however they do occur in all areas of the garden. The frequency of rain in England often moves horticultural activities indoors and the proximity of the poly-tunnel (figure 4.6 –a) to the dining room and the covered pergola outside of the garden room seems to facilitate this well. The nature group engages in other garden activities, such as filling up birdfeeders, making birdfeeders, scrapbooking items from the garden, etc. Other groups include baking, arts and crafts, reminiscence, cinema, ladies and men’s, life-story, flower, games, pampering, exercise, music, choir, and current events (Chalfont 2011). Additionally, the staff constantly comes up with ideas for new activities and groups that can be implemented. While the majority of these activities are not directly related to the garden, they all have some connection to nature and the outdoors. For example, the arts and crafts group may use pieces from the garden such as pinecones in their art or they may draw or paint things from the garden. They make pottery that will be planted with flowers and sold at their ‘garden party’ to raise funds for the garden. The

baking/cooking group cans beets from the garden, makes rhubarb pies from the garden, and uses herbs grown in the garden. The “men only” group participates in a program they refer to as “Men in Sheds”, a cultural pastime for many British men, where they go out into the tool sheds in the garden and do activities. The newly installed games pitch is used for lawn bowling. The conservatory is frequently used, providing a great indoor/outdoor experience for activities without users actually being outdoors. On nice days the double doors are propped opening enhancing the connection to the garden and drawing service users out onto the patio. For groups that have even less of a connection to the garden, the staff will suggest, weather permitting, that the activity be done in one of the spaces in the garden. It is important to note that while the design supports free access to the garden space, the staff often has to prompt the service users to go outside.

The Occupational Therapist (OT) at CF supports the garden as a therapeutic space because of its capacity to promote functional ability through both cognitive and physical skills; however, she notes that there should be a balance of indoor and outdoor activities. The garden at CF provides opportunities to exercise through active engagement that can build socialization skills and maintain motor skills. But the garden is also greatly used as a tool for passive engagement activities, such as reminiscence -- using the garden as a conversation piece to evoke memories (Interview with OT). The great variety of flowering plants, structures, views, and antique machinery in the garden

facilitates these kinds of conversations. Furthermore, the variety of spaces and the archetypal spaces they represent, truly appear to work well at Charnley Fold. The spaces successfully communicate what a user is supposed to do there. This is best exemplified by “the yard”, where raised beds, stacks of pots, and tools appear to clearly communicate to the users that the space is to be used for working in the garden (See figure 4.4 –g and figure 4.5 – f).

Overall, the use of the garden appears to be very successful at meeting the goals outlined previously for facilitating therapeutic engagement with nature; regaining and maintaining skills and abilities; improving happiness and well-being; and maximizing the staff ability to provide a therapeutic service (Chalfont 2012a). Interviews with staff indicate that the use of the garden, improves mood and well-being for service users. The occupational therapist at CF notes that the goal of the therapy is not preventative, but rather to maintain functional ability. She notes that the staff typically see a gradual improvement in new service users during the first twelve weeks of the program, however this is most likely attributed to the fact prior to enrolling in the program, their home environment was very isolated and they lacked social stimulation (Interview with OT). Thus, true baseline data for service users is gathered at the end of the first twelve-week session. Other data collected by Age Concern shows that the service at Charnley Fold is able to maintain the level of functioning of its users for extended periods, keeping them out of a more costly residential care setting (Interview with Deputy Chief Executive). While there is broad evidence supporting the benefits that the

garden provides at CF, more post occupancy studies would be beneficial for understanding specifically how individual design elements improve well-being and maintain functional ability for users with dementia. Furthermore, it would be beneficial to further investigate through controlled studies, the role that archetypal space serves in user comfort, spatial recognition, and user engagement.

KEY GARDEN MERITS:

- Use of spatial archetypes through the “Seven Meaningful Spaces” to guide the development and character of the garden spaces – enabling user spatial recognition, activity, and cultural familiarity.
- Design process that involves staff and service users, constantly evaluating, developing, and adapting the design of the garden to best meet the needs of the current service users.
- Use of physical design and props to enable activity. (i.e. a rake left out for someone to pick up and use)
- Free-Access to garden through multiple unlocked doors.
- Visual Access to garden through large windows.
- Philosophy of Care supports the integration of the garden, building, and staff programming as inextricable components for achieving therapeutic goals. Person-centered care.
- Well-trained and enthusiastic staff that operate a flexible activity program.

- A variety of spaces of different sizes to facilitate both large groups and intimate conversations. The variety of spaces enables the garden to be flexible in accommodating the ever-changing interests and abilities of different service user groups. There are spaces for active and passive activities such as gardening vs. sitting and quiet reflection. There are also adequate spaces for sun and shade.
- A diverse plant palette of structural and flowering plants, which stimulate the senses and evoke memories for service users.
- Well-integrated network of level circulation paths, connecting spaces, and looping users from one entrance to another. Variety of paths for users with varying levels of mobility.
- A variety of seating options through out garden.
- Open views to neighboring agricultural field.
- Wooden trellis screening along black steel security fences
- Garden facilitates year round activities through use of conservatory, garden room, and poly-tunnel.
- Use of antique memorabilia as sculptural elements in the garden that stimulate conversation and promote reminiscence (i.e. antique mangle in “the yard”)
- Games Pitch for outdoor recreation.
- Water-Features
- Chicken-Coop

- Secure garden boundaries
- Custom built wooden structures such as trellises, arbors, and archways that serve as visual landmarks and provide a unified domestic aesthetic to the garden
- Large conservatory
- Raised beds, window boxes, and containers that allow users with limited mobility to participate in horticultural activities.
- Main exit door into courtyard gardens has a foyer with a bench and windows on either side of the door encouraging users to go outside.
- Development of edge space or exterior foyer where users can ease their way into the garden at their own pace and comfort level.

Possible Concerns:

- Maintenance of ground level plantings, particularly weeding was reported as a burden on staff.
- Potential obstruction of view through back garden into the pocket park area from the day centre side of the facility. While the other side of the facility has full visual access to this area, the designer reported that users who were over in that area unattended were sometimes escorted back to the day centre by staff on the medical side of the facility. Further view studies are needed to confirm this.

Case Study:
Springwood Residential Home and Day Center

Facility: Sheffcare Ltd: Springwood Residential Home and Day Care,
Sheffield, UK

Designer: Dr. Garuth Chalfont PhD, ASLA, of Chalfont Design, Sheffield, UK

Overview of the Service: Springwood is a facility operated by Sheffcare Ltd a non-profit organization operating in Sheffield, South Yorkshire, UK. A range of services includes long-term residential care, dementia care, day care, and respite care. Springwood is a three-story facility with forty bedrooms for residential clients and ten spaces for day center clients. Of the forty current full-time occupants, twenty-four are registered with dementia and sixteen are registered as “residential care”, most of which exhibit symptoms of early on-set dementia. The service employs a person-centered care approach. Overall, the general staffing ratio is 1:10; 1:7 for dementia residential care and 1:3 for day care. The service provides daily assistance for basic needs including dispensing medications; bathing and maintaining personal hygiene; housekeeping; serving meals; and social support. Additional support services include assistance with finance and funding and escorts for doctor’s visits and shopping. Regularly scheduled activities and excursions are provided.

Design Philosophy: Dr. Garuth Chalfont PhD is a leading researcher, lecturer, and practitioner in the field of therapeutic garden design, with particular focus on the use of gardens in care facilities for persons with dementia. With a career spanning nearly two decades, he has designed numerous successful dementia care gardens, and has greatly advanced the field of dementia healthcare design through his research. His overall design philosophy “promotes activity with meaning and purpose, for rehabilitation and well-being, regardless of disability or impairment” (Chalfont 2014).

Design Concept: The design aims to enhance the existing garden infrastructure to best facilitate therapeutic activity, connection to nature, emotional and psychological access, enabling space, and variety of separate activity spaces. The concept develops separate spaces for user groups to foster a sense of ownership.

Design Process: Chalfont Design provided design and consultation on the development of the existing garden space and the interior design of key rooms within the building. Chalfont also provides on-going staff training and volunteers his time to work and conduct studies in the garden. The design process at Springwood appears to follow the conventional approach of survey, analyze, design, and evaluate. The design work has focused on individual spaces at a time, when funding becomes available. Chalfont will design a specific space and then consult with staff, residents, and family members about what types of plants to put in. Furthermore, Chalfont studied various aspects of the

garden and architecture at Springwood as part of his doctoral work at the University of Sheffield. He conducted various studies and organized focus groups eliciting feedback from staff, residents, and family members, which he has used to inform the design and development of the garden. His approach while structured formally, is carried out in a very friendly and informal manner—making friendly conversations to gain input and integrating him into daily routines with residents such as having tea or sharing meals. Like most of his projects, Chalfont's work is on going with Springwood. He continues to evaluate, provide training for staff, volunteer his time to help in the garden, and design/develop new areas when funding is available.

Description of Facility and Outdoor Space: Springwood is located in a residential area North of Sheffield's city center. It is located on a corner lot at the intersection of a residential street and a busy connector road (See figure 4.9). The lot is approximately one acre, with approximately two-thirds of the property in open green space. The three-story building has a footprint of approximately 8,015 square feet and is arranged in an L-shape with the day care center located on the first floor in the smaller section of the L. A flat roofed function room with large windows and high ceilings is located at the north corner. The building originally constructed in 1970 underwent renovations in the late 90's, converting it from sheltered accommodation to a residential care home and reducing the number of beds from fifty-one to forty. This was achieved by combining several pairs of single bedrooms into double rooms, and thus the facility now offers eight

larger bedrooms. The building is arranged with rooms on either sides of a long narrow hallway. Sitting lounges are arranged at the ends of the hallways. Bedrooms have windows looking out onto green space, with windows that can prop open outwards. There are also large dining areas with bay windows looking out into the garden.

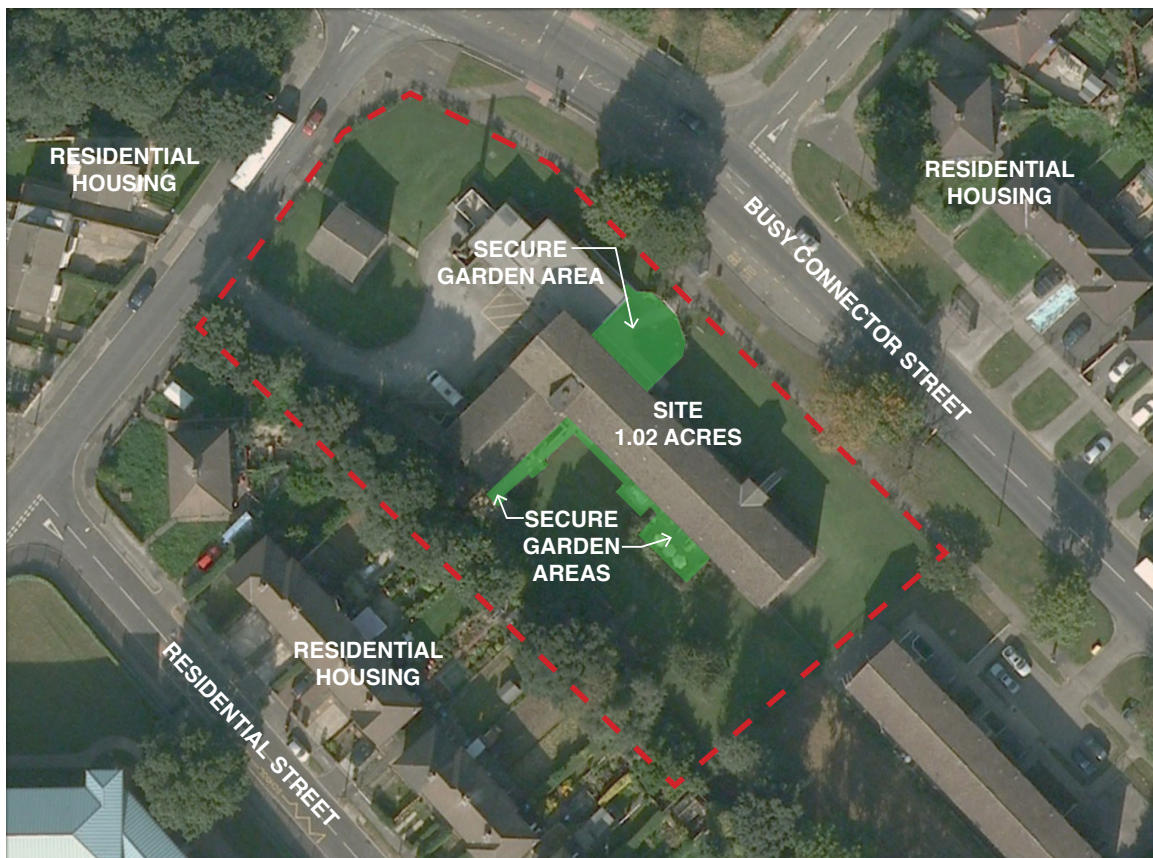


Figure 4.9: Springwood Site Context

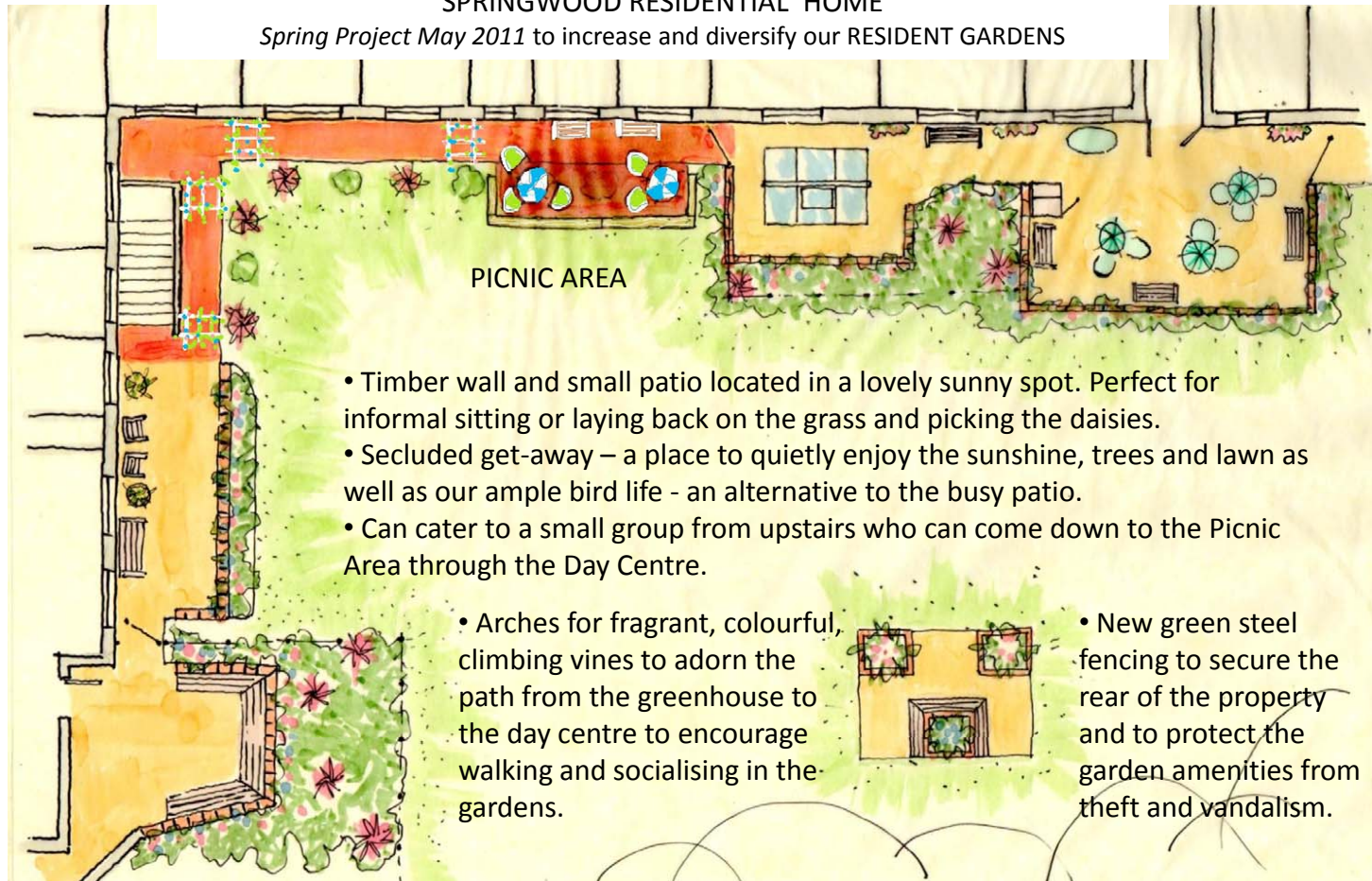
Chalfont consulted with Springwood on creating family kitchens, an idea that arose from the need to create a welcoming space for families, particularly children, to come and visit their family member. A study from Chalfont showed this concept was so successful that it was later implemented throughout all of Sheffcare's homes. He also consulted on the implementation of a Snoezelen room -- a concept from the Netherlands-- a multi-sensory room that uses lights, music, smells, and tactile surfaces for dementia residents, but also for young children who are visiting. Chalfont consulted on several other interior changes as well; for more information see figure 4.10. The hallways are secured to the outside world, but the first floor unit has one unlocked set of double doors leading out into a secure large patio area. An elevator and stairs accesses the second and third floors and residents use this main door as access to the garden. The day center side of the facility also has a door leading out into a smaller patio area. Another door outside of the function room leads out to a front garden area, but cannot be accessed without staff supervision. All three doors have glass panels facilitating visual access out into the gardens. They also have ramps and handrails to facilitate access for those in wheelchairs and those with limited mobility. On the day center side there are two lounge/ living room areas and a dining/activities areas with a kitchenette.

The **main patio space** is approximately sixteen feet by twenty-five feet (400 Square Feet) and is accessed from the first floor by double doors with have a ramp and railings down into the space (see figure 4.11 and 4.14 – a,f). The patio is cut into the hillside by approximately five-foot tall brick retaining walls that enclose the space on three sides with space for a five-foot wide tarmac walkway along the building. The patio surface is constructed of large, yellow square pavers in a running bond pattern. The area is further enclosed by black steel fencing, which runs along the top of the retaining wall at a height of approximately four feet and connects to the building with gates that are approximate eight-feet tall and have the ability to be locked. Several flowering vines are planted and trained on top of the fence to soften the appearance and provide a shade area underneath. Wooden trellises are placed against the building between windows with planters underneath. Potted plants are placed through out the space, flanking the entry door surrounding the perimeter. Three wooden benches are located against the retaining walls along with wooden trellises. Birdbaths, garden statues, and an antique mangle are also placed along the patio edges. Two circular tables with large shade umbrellas are located in the middle of the patio and can accommodate five to six residents comfortably. An oval shaped plastic table for gardening activities is against the wall and can be easily moved around the space. A small wooden tool shed is located against the brick wall to the east by the gate.

Moving from the main patio to the east, you pass into the **greenhouse area** (~254 Square Feet) (see figure 4.11 and 4.14 - d). The greenhouse is a small structure similar to what one would find in many home gardens in England. The doors have been removed and the metal thresholds have been cut out to provide a trip-free passage through the greenhouse. The doorway is large enough for one person to pass through at a time but cannot facilitate wheelchair access. There is small pathway about fifteen inches wide around either side of the greenhouse (See figure 4.16). On the backside there is a low concrete block retaining wall with plantings. The black steel fence extends from the main patio and encloses this space with a gate to the East.

SPRINGWOOD RESIDENTIAL HOME

Spring Project May 2011 to increase and diversify our RESIDENT GARDENS



Design input from Chalfont Design www.chalfontdesign.com
Comments and offers of help are always welcome: garuth@chalfontdesign.com
or contact the home on 0114 232 5472

Figure 4.11: Plan View of Back Gardens at Springwood

Exiting the greenhouse area through the steel gate to the East is the **picnic area** (See figure 4.11 and 4.14 - b). A more recent edition to the garden by Chalfont, this space is a small rectangular patio (~140 Square Feet) off the main tarmac pathway that takes advantage of the sunny southern exposure. The space is cut back into the hillside by a low timber retaining wall with a yellow cement paver cap that matches the pavers used for the patio's surface. Two garden benches are placed at a forty-five degree angle in the corners of the patio and a four person wooden picnic table with a shade umbrella is placed in the center, perpendicular to the retaining wall. Across from the patio, along the building edge are three green metal patio tables with chairs. Hanging baskets and pots line the edge of the space, some of which are planted and other are left empty waiting for residents to plant them.

The next areas are two transitional spaces with seating. The tarmac path continues through the picnic area and makes a ninety-degree turn toward the day center. A potted plant marks the corner and set of chairs connected by a table looks out onto the hillside. After turning the corner a brick wall with a concrete cap is to the right. This wall keeps users from falling down into a stairwell that accesses the boiler room; there is a low metal gate at the entrance to the stairs. Past the stairs another low concrete retaining wall creates a small rectangular seating area with a bench, two chairs and seating. A retractable fabric awning can be opened up over the area to provide shade. An evergreen tree that has

been limbed up is planted above the wall to provide shade but allow visual access out onto the hillside.

Past this area is the **day center patio** (See figure 4.12 and 4.14 - e). It is a much smaller version (~260 Square Feet) of the main patio but is configured similarly. A brick retaining wall encloses the space, however it steps its way up the slope. A black steel security fence encloses the space and has a tall gate, however space is left between the wall and the fence, where a specimen Japanese maple and other plantings are installed. Small pots and hanging baskets line the top of the retaining wall and extend off of the building with brackets. Two round tables with shade umbrellas occupy almost all of the patio space. The entrance from the day center enters the space directly and has a ramp for wheelchair access and railings. A small narrow space extends around the side of the building where staff stores gardening supplies.

At the top of the hill in the back, there are a series of brick raised beds. Years ago these were constructed by a volunteer group. Unfortunately, due to the slope residents cannot physically access this area, and thus the area is not used or maintained (figure 4.11). A clothesline is set up in the southwest corner. Several small trees have been planted in the lawn area atop of the hill. Large mature trees and a thick vegetated border screen the view of the residences that abut the back property line.

Around the front side of the building is the **front garden** designed by Chalfont (see figure 4.13 and 4.14 - c). This is an enclosed space (1,254 Square

Feet) with a variety of flowering plants. A variety of wooden structures covered in vines are used throughout. A door by the function room from the lobby opens out into the space where an open patio has several options for seating. A small lawn area connects to the left and surrounded by plantings. A low fence encloses the garden and there is a double gate that opens out to the sidewalk. During this study, the gate had been knocked off its hinges, by a large commercial mower while trying to access the interior lawn for maintenance.

Other unsecured areas of the garden, include a staff break area to the west of the main patio, a rock garden at the main entrance, and hanging baskets all along the exterior façade by the entrance. All other areas are left to lawn.

Progression of the Garden over Time: The gardens at Springwood are constantly being added to and developed over time. Funding improvements to the garden is scarce, and thus the project is implemented in phases over time, focusing on economical improvements within the existing garden infrastructure. The retaining walls that dictate the structure of the main patio and day center patio were installed circa 1998. Since 2004 Chalfont has been designing and overseeing the installation of new garden areas and enhancing the existing spaces.

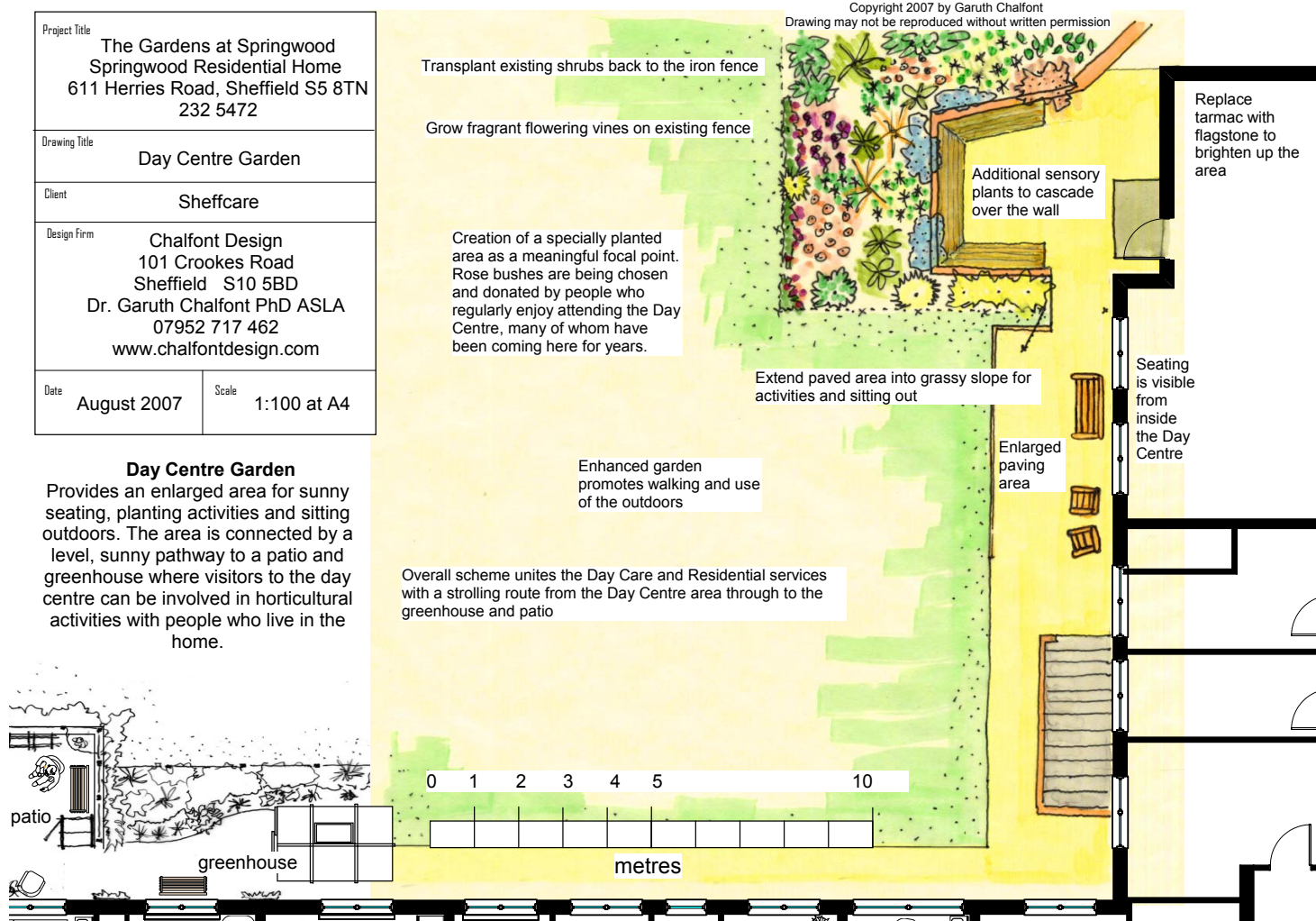


Figure 4.12: Plan View of Day Center Patios at Springwood

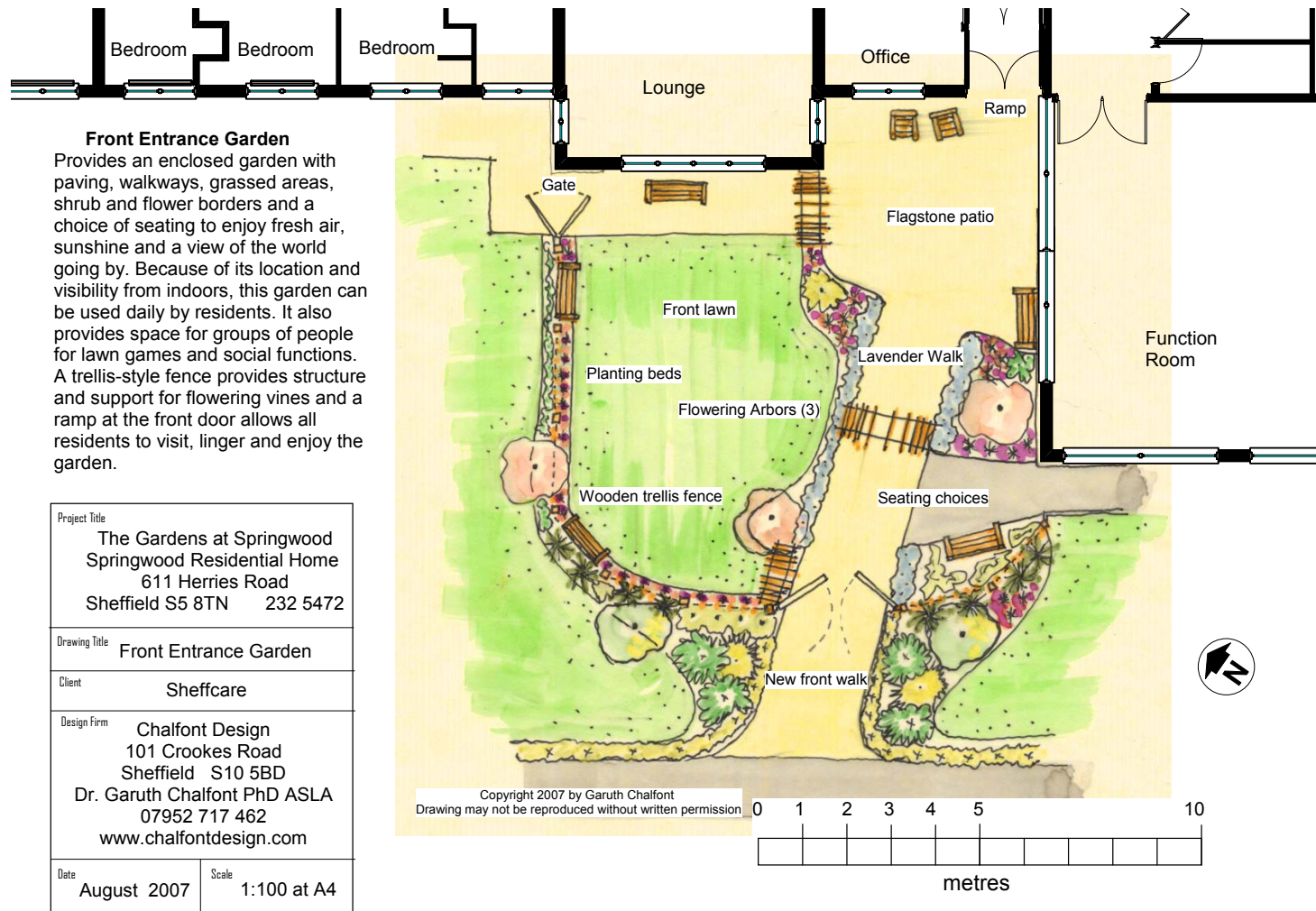


Figure 4.13: Plan View of Front Garden at Springwood

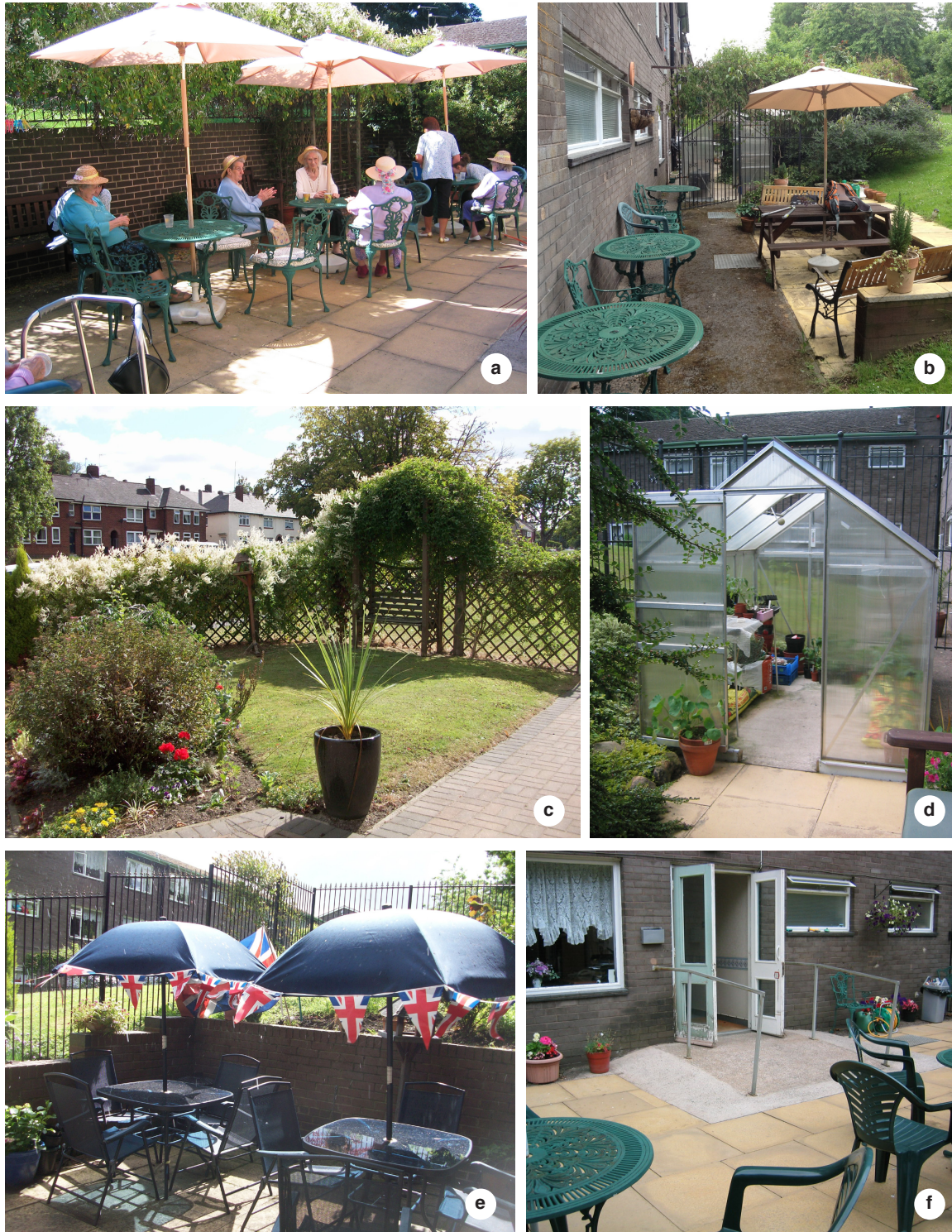


Figure 4.14: Springwood Photographs

***a** – the main patio, **b** – the picnic area, **c** – the front garden, **d** – the greenhouse, **e** – the day center patio, **f** – French doors into main patio with ramp and handrail (Photo credit: Garuth Chalfont a,c,d,e; Andrew Bailey b,f)*

How the Garden is Used: The gardens at Springwood are used very much as outdoor living rooms. Primarily patio spaces, the staff uses the space to get residents outside for fresh air and sunshine. British-weather permitting, the staff will take residents outside to have tea, read, and have conversations. Occasionally the staff will prepare a cold lunch and serve that outside in the picnic area and on the main patio. Staff reports that residents with dementia are never left unattended in the garden. Staff takes time to find out about new residents and try to accommodate activities to suit their needs. Some residents are taken for weekly walks around the neighborhood. A recently hired Activities Coordinator works twenty hours per week and programs activities for the residential side of the facility. These activities include baking, bingo, arts and crafts, chair aerobics, singing groups and gardening. Activities are focused on maintaining basic living skills and can include things like polishing brass, cleaning the outdoor furniture and sweeping. Reminiscence groups also use the outdoor patio. Tables in the main patio area are easily moved around making it a flexible space that can accommodate the singing and chair aerobics activities. The day center side of the facility operates in the same manner. During this study the picnic area, the day center patio and the main patio were used for horticultural activities such as weeding containers and planting them with new flowers (See figure 4.16). Small watering cans that do not get too heavy when full were used by residents to water containers throughout the facility. Low retaining walls and tables provide excellent areas for gardening activities. It was observed that the

bench seating along the edge of the patio was not being used. Staff stated the reason is likely to be simply because the staff are not seating them there.

Another thought was that chairs provide two arms rest that residents can use to brace when they stand up, while sitting on the edge of a bench only provides one armrest making it more difficult to use without assistance. Tools referred to as “props” are left out to encourage use and statues and antique machinery is used to evoke conversation and reminiscence.

The front garden is used as space where staff can accompany residents and they can view the outside world, watching people and cars pass by on the street and sidewalk (See figure 4.14 – c). During this study the space was not being used because the gate at the street had been damaged, however this was only a temporary problem.

Overall, staff reports that the outdoor space is underutilized. They report access issues, time and staff as hindrances to using the gardens. One member of staff reported *“it’s just up to us to get it used [the garden]...I mean sometimes I bet it doesn’t even get used in a week”* (Deputy Manager interview). Overall, the managing staff seems to support and agree with the need for residents to connect with nature through spending time in the gardens. However, they mention in the interviews that the majority of their time is spent taking care of basic needs for residents (many of which are requirements by the government for care homes), such as chores; bathing and hygiene; getting them up and dressed; serving meals and drinks; ensuring that medications are taken; etc. Getting out in

the garden not being a required provision for residents can often result in it not occurring at all. So managing staff identifies a challenge in ensuring that all subordinate members of staff remember to take people outside. Staff turnover exacerbates this problem. Furthermore, it was reported that several residents would refuse to go outside. Access is also reported as an issue. Three secured floors means that someone has to physically escort residents from the upper floors down to the garden level. The greenhouse blocks access to the picnic area for those in wheelchairs and so they have to go around the building through the day center to access that space (See figure 4.15). Staff from the day center reports a challenge in getting residents from the bus in the morning to go outside because they have to pass through a lounge area, where many of them will want to sit down and not get up again to go to the garden patio. Furthermore, the slope in the back limits access to the upper areas. This area is mainly for visual access from the upper floor and from the lower patios. The staff has a clothes line where they hang laundry in the upper corner, but other than that the space is not used because residents are not physically able to walk up the slope.

Besides the horticultural activities carried out with residents over the course of this study (See figure 4.16), observations indicate that not many garden related activities had been carried out for some time. Chalfont who has been involved in starting several garden related programs at Springwood in the past commented on this in an informal conversation. He likened the process to inflating a balloon, meaning that himself or volunteers will come and help to get

the gardening program started and give it momentum, inflating the balloon.

However, once they leave and it becomes the full responsibility of staff to keep the program running, the balloon slowly begins to deflate and once again the daily responsibilities of caring for dementia residents overtakes the need to get people out in the garden doing therapeutic activities.

Overall, the design of the garden space successfully meets the needs of providing a therapeutic and enabling space for residents. The gardens at Springwood are a great example of what can be achieved with limited space and limited resources. The building, existing garden infrastructure, topography, and funding greatly limit the amount of changes that can be made to the outdoor space and how it is accessed from the indoors. However, the existing spaces provide ample room for a variety of activities and moveable furniture allows the spaces to be highly adaptable. Circulation is limited in the small spaces yet seems to work well, with the exception of the paths around the greenhouse area which prove challenging to navigate particularly on the building side when windows to residents rooms are propped open, partially obstructing the path (See figure 4.15). While the intent of the greenhouse placement was to separate the residential and day center sides of the garden, staff are observed as wanting to access the picnic area space from the main patio. This is not a smooth transition even when passing directly through the greenhouse. Lastly, a more integrated and frequent use of the garden is recognized as a challenge by a motivated, intelligent, and capable management team who are striving to implement change.



Figure 4.15: Springwood Access Issues at Greenhouse
(Photo credit: Andrew Bailey)



Figure 4.16: Horticultural Activities at Springwood
(Photo credit: Andrew Bailey)

Key Garden Merits:

- A variety of adaptable spaces for outdoor therapeutic activities
- A caring, self aware, and committed management staff that are striving to better incorporate the garden into daily activities.
- A part-time activities coordinator.
- A secure and easily identifiable boundary.
- Space for gardening activities (garden shed, greenhouse, variety of containers and pots)
- Easily identifiable entry and exit doors (wheelchair accessible)
- A variety of moveable seating and tables
- Ample spaces for sun and shade
- Reminiscence elements in garden (antique mangle)
- Small watering cans
- Surrounding greenspace for visual access

Possible Concerns:

- Narrow accessibility through and around greenhouse space (figure 4.15)
- Gate at steps to boiler room presents safety hazard. **This issue was to be addressed with wooden screen after this study occurred**
- Organizational policy in partial conflict with design philosophy
- Lack of adequate staffing or staff with specialized training to support the full integration of the garden space

Data Analysis Procedure

Study data was analyzed through the lens of existing human-environmental interaction theories and existing design guidelines, which were explored in detail in Chapter 2. The case study sites were evaluated based on Kaplans' *Attention Restoration Theory*; Ulrich's *Theory of Restorative Gardens*; and Kellert and Wilson's *Nine Biophilic Values* and concept of *Sense of Place*. The evaluation looked at whether or not each site met the individual components or mechanisms of the theory; how well the mechanism was met (low, medium, high); and what supporting evidence was found. Preliminary content analysis of the interview transcriptions identified four primary, thematic categories of comments that were utilized to categorically organize the data. The four emerging themes/ primary categories found in the interviews were:

- 1. Benefits of the Garden**
- 2. Negative Effects of the Garden**
- 3. Factors Limiting and/or Challenging Garden Use**
- 4. Factors Promoting and/or Supporting Garden Use**

Using this framework, content from the interview transcriptions was categorically grouped based on its relation to the four-themes/ primary categories (See Appendix C). The interview data from each case study site was analyzed separately. Secondary subcategories were created to further to capture the

range of content referenced in the interviews as it related to the third and fourth themes shown above. A multi-case study by Grant and Wineman (2007) that investigated the “interrelationship among organizational/ programming policies and spatial/physical attributes” as they relate to garden use was referenced to guide this process initially, identifying organizational policy, staff attitudes, visual access, physical access and garden design as subcategories. However, the differing structure and goals of this thesis research and the range and complexity of the responses required the addition of several other secondary subcategories.

Tertiary, quaternary, quinary, and senary categories within the secondary subcategories were created and allowed where necessary to retain the quality and unique nature of a response. While both sets of interviews from the two case study sites shared commonalities, each site produced its own unique data. This resulted in each case study having additional categories that were unique to their interview sets. Comments could be categorized in more than one group if needed, but this was minimized and only allowed for within separate secondary categories. For example, comments regarding the “poly-tunnel” were categorized in both the category of “garden design” and “integration of garden and building” because the inclusion of a poly-tunnel was important to both categories.

Interview response data was then tallied and quantified based on the number of occasions that a response subcategory was mentioned in the interviews. Subcategories were tallied and the sum of the responses was recorded at every previous categorical division. Table 4.5 illustrates this method.

Table 4.5: Interview Content Categorization and Quantification Method Example

- Primary Category / Overarching Theme
 - Secondary Subcategory (4) **(Subtotal 28)***
 - Tertiary Subcategory (10) **(Subtotal 24)**
 - Tertiary Subcategory (3) **(Subtotal 14)**
 - Quaternary Subcategory (5) **(Subtotal 8)**
 - Quinary Subcategory (1) **(Subtotal 3)**
 - Senary Subcategory (1)
 - Senary Subcategory (1)
-

* Number of occasions where a category was mentioned in the interviews

Content and categorical analysis of the interviews and site observation data was then used to evaluate existing design guidelines for dementia care gardens. The researcher chose to analyze and evaluate the guidelines published in chapter 10 of *Therapeutic Landscapes: An Evidence Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces* (Cooper Marcus and Sachs 2014, 148-159). It is recognized by the author that this list of guidelines is not entirely comprehensive. Furthermore, Cooper Marcus and Sachs (2014) cross-reference other guidelines in their text, particularly those pertaining to needs of older populations. However, since the guidelines were to only be used as a framework through which to analyze the case study sites this study limited its analysis to those presented in chapter 10 of the *Therapeutic Landscapes* text.

Analyzing the case studies through the lens of human-environmental interaction theory and existing design guidelines has uncovered some interesting results that can collectively contribute to the a greater understanding of how garden space can be leveraged and integrated to improve the quality of care for person with dementia at both residential and day care facilities. The results of this study are presented and discussed in the next chapter.

CHAPTER 5

RESULTS AND DISCUSSION

This chapter reports the results of the analysis of the two case study sites. Each case study offered unique insight on how to approach improving the quality of care for persons with dementia in both residential care and day care facilities with gardens. The chapter will begin with a discussion of the limitations of this study, and will continue on to present the results of the content and categorical analysis of the interview data. The chapter will finish with sections that discuss the study data through the lens of existing theory and design guidelines.

Limitations

The two case study sites examined by this thesis present both opportunities and limitations for the data. The two facilities are quite different in organization, with Charnley Fold operating as day center and Springwood operating primarily as a residential care home, but also as a day center. While providing an interesting contrast for analysis, comparisons are limited by the fundamental differences in the way the facilities operate and by other physical characteristics of their environment (See table 5.1). The number and type of people available for interview at each facility were different as well, which skews the quantitative results in a comparison. For example, the designer was interviewed at CF on three occasions while there was no formal interview with the

designer regarding Springwood. Thus, there are more comments relating to design process and garden design at CF. Furthermore, since the questions were open answer format with only a loose structure, the comments may fail to address important topics on multiple occasions downplaying their importance in a quantitative sense. However, the intent of this research is not to make a particular judgment on the quality of care at one facility as compared to another, but rather to evaluate the facilities individually and collectively to extract conclusions about how to holistically and specifically improve quality of care at both facility types. While limited, the use of quantitative data from the interviews is useful for identifying themes, trends, and suggested level of importance. Therefore, the discussion of the results will at times combine the quantitative results from the interviews with other qualitative analysis of the sites to support a conclusion.

Table 5.1: Comparison of Case Study Sites

COMPARISON OF CASE STUDY SITES		
	Charnley Fold	Springwood
Type of Facility	Day Care	Residential and Day Care
Staff:Client Ratio	1:3	1:10 Residential 1:7 Dementia 1:5 Day Care
Number of Clients Served	125 weekly (25 max daily)	40 Full-time
% of Clients with Dementia	100%	75%
Care Approach	Person-Centered Care	Person-Centered Care
Number of Access Doors to Garden	8	3
Garden Used w/o Direct Supervision	Yes	No Dementia Clients Require Supervision
Visual Access to Gardens from Indoors	Very High	High
Wheelchair Accessible	Yes	Yes
Secure Accessable Garden Space (SF)	30,000 SF	2,766 SF
Number of Interviews Performed	13	6
Interviewee Type (# of Interviews)	Dementia Services Manager Assistant Manager Support Worker (3) Family Member of User Occupational Therapist Deputy Chief Executive Joiners/Contractors Garden Designer (3)	Registered Manager Deputy Manager Care Worker Dementia Clients Activities Coordinator Chair Aerobics Instructor

Content and Categorical Analysis of Interview Data

Content and categorical analysis of the interviews performed at both case study sites are summarized in the charts at the end of this section. Interviews at both sites recorded very few comments relating to the negative effects of using the garden. Negative effects compromised less than 20% of total comments relating to positive or negative effects of the garden (17% at Springwood; 9% at CF). At both sites ‘maintenance burden’ ranked as the highest negative effect. User “agitation”, “overheating”, and “sunburn” were also mentioned. Conversely, the positive effects of the garden mentioned in both sets of interviews were

numerous and varied and comprised over 80% of the total comments relating to positive or negative effects of the garden (83% at Springwood; 91% at CF) (see figure 5.1 and 5.6). At Springwood the most frequently recorded benefits included a “sense of community”, “social interaction”, “exercise”, and “fresh air”. At Charnley Fold the most frequently recorded benefits included “maintains daily living skill, independence, and autonomy”; “interventional tool for unwanted behavior”; and “positively alters mood”. See figure 5.2 and 5.7 for a full list of benefits and negatives. At Springwood comments relating to “garden design”, “staff/service integration”, and “physical access” were recorded as the top factors limiting/challenging garden use. Conversely, “garden design”; “safety and security”; and “staff/service integration” were the top content categories reported to promote/support garden use (see figures 5.3, 5.4, and 5.5). At Charnley Fold comments relating to “staff/service integration” were listed as a top-limiting factor of garden use, however the most frequently mentioned limiting/challenging factor of garden use referred to the varying ability levels of the clientele and how those abilities change over time. The top factors promoting/supporting garden use at Charnley Fold was also “garden design” and “staff/service integration” (see figures 5.8, 5.9, and 5.10).

At both sites, the results demonstrate the importance of properly integrating the physical environment with the staff and service. Even at CF, where the physical access to the outdoors and the integration of the garden and building are ideal, staff still view their roles as one of the most important factors in

both promoting and limiting the use of the garden. Furthermore, the top benefits recorded at both facilities are often a product of both the physical garden space and the staff programming that occurs within the space. For example, exercise, social interaction, and a sense of community are all facilitated through open space and programmed activities. Additionally, the garden spaces at both sites enable users to “maintain daily living skills, independence, and autonomy”, however it is through staff involvement and programming that this benefit is maximized. Moreover, at CF staff report using the garden as an interventional tool for unwanted behavior. The result of the intervention is often a change in mood or behavior that may not have occurred without the staff understanding how to integrate the use of the garden and nature into their care protocol. Therefore, it is reasonable to assume that the best approach for improving the quality of care in facilities that treat dementia lies in the successful integration of the garden, building, and staff/programming. Furthermore, where there are inherent limitations in an existing building or site, or where funding may limit ideal conditions, it may be possible for staff and programming to accommodate for the limitation in order to deliver improved care that achieves increased well-being and benefit for the person with dementia. The next section lends further support to this concept of integration and will address how an integrated strategy can be used to fulfill the requirements of several prominent human/environmental theories.

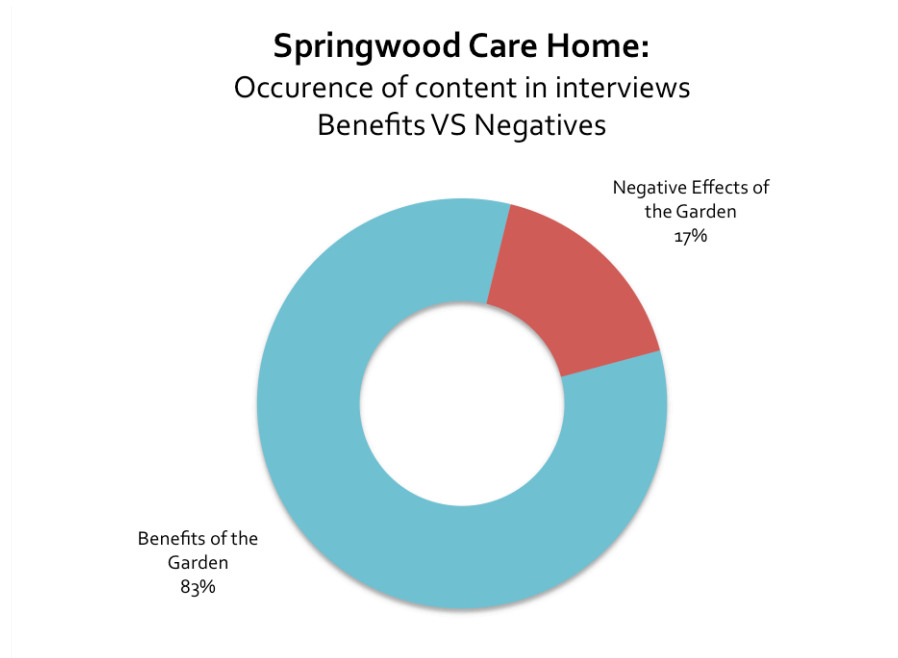


Figure 5.1: Effects of the Garden at Springwood; Positive VS Negative

Benefits of the Garden		Negative Effects of the Garden	
+	<ul style="list-style-type: none"> • Sense of Community (3)* • Social Interaction (3) • Exercise: Increased Mobility & Improved Mood (3) • Fresh Air (3) • Maintains Daily Living Skills & Independence (2) • Privacy (2) • Reminiscence (2) • Increased Appetite & Thirst (2) • Makes residents feel tired, facilitating better rest (2) • Less need for sleeping medications (2) • Positively alters mood; Feeling Happy (1) • Feeling Free (1) • Feeling Safe (1) • Feeling Useful (1) • Feeling Revitalized (1) • Feeling of having gone on a journey (being away) (1) • Sunshine (1) • Provides a visual connection to the world outside of the care facility (1) • Relaxation (1) • Eases 'sundowning' symptoms (1) • Comfortable: Culturally Familiar Place (1) • Multi-sensory stimulation (1) • Visually pleasing to look at (1) • Nature + Activity + Social Interaction = Improved Sense of Self & Well-Being (1) • Pleasant place for families to visit (1) 	-	<ul style="list-style-type: none"> • Maintenance Burden (3) • Sunburn: Some residents take medications that make them highly photosensitive (2) • Overheating (1) • Agitation (1) • Risk of injury creates concern for staff (1)
	<ul style="list-style-type: none"> • Aids in staff retention: access to fresh air; reduced stress; patients require less attention when happy (1) 		

* (#) Number of occasions mentioned in the interviews

Figure 5.2: Positive/Negative Response Categories at Springwood Care Home

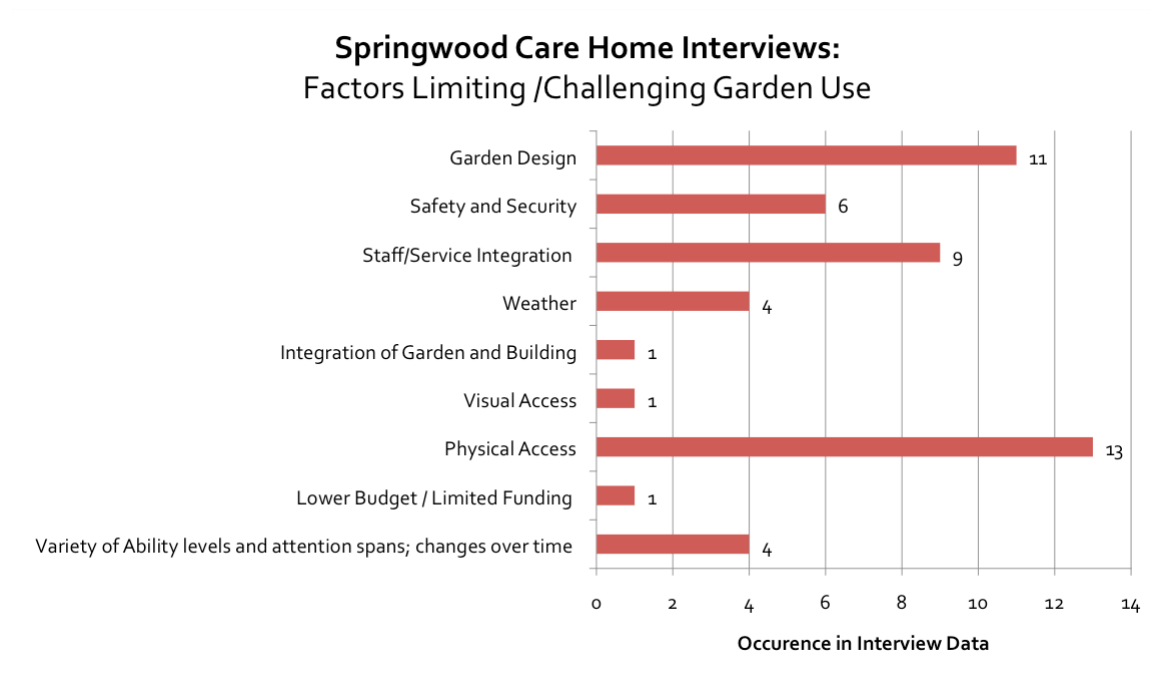


Figure 5.3: Factors Limiting/Challenging Garden Use at Springwood

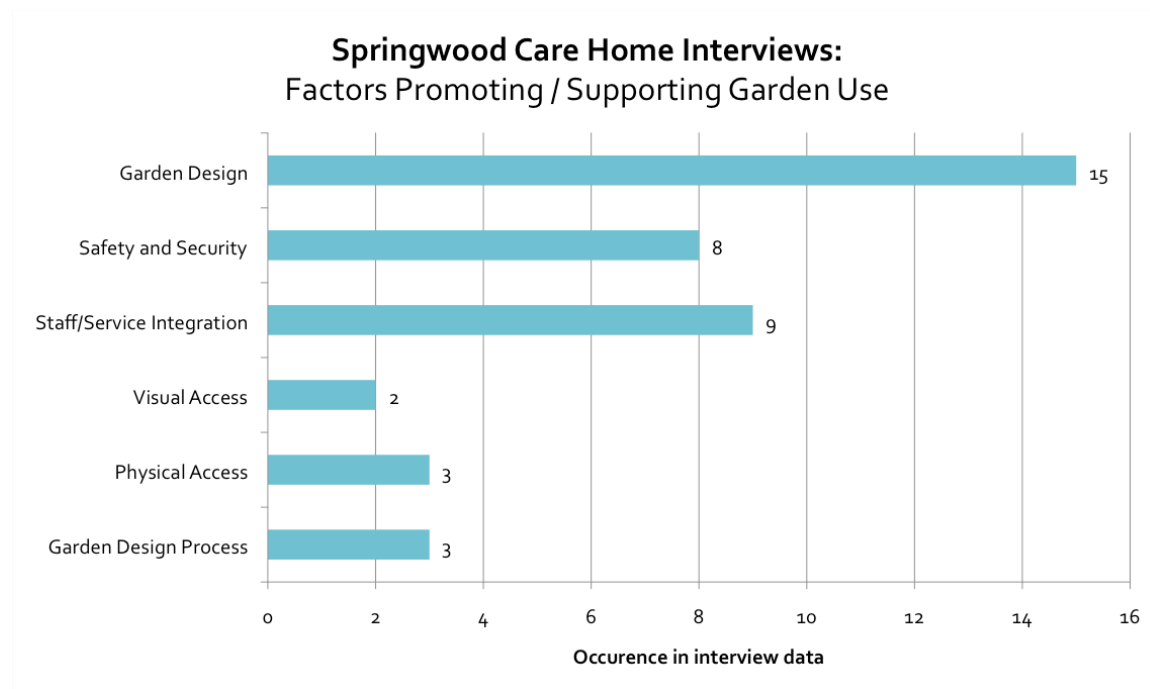


Figure 5.4: Factors Promoting/Supporting Garden Use at Springwood

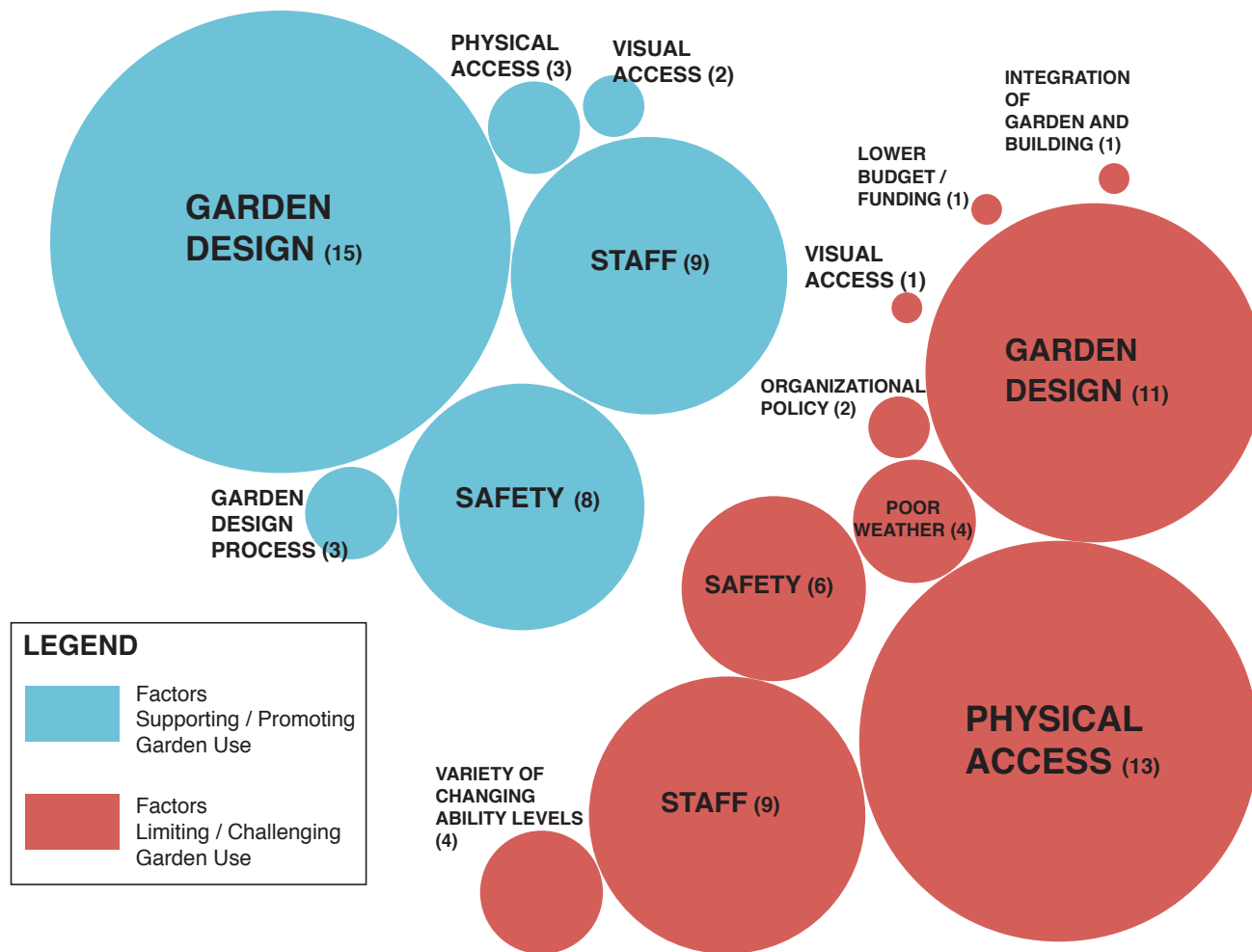


Figure 5.5: Interview Response Category Proportions at Springwood Residential Care Home

Charnley Fold Enhanced Dementia Day Support:

Occurrence of content in interviews

Benefits VS Negatives

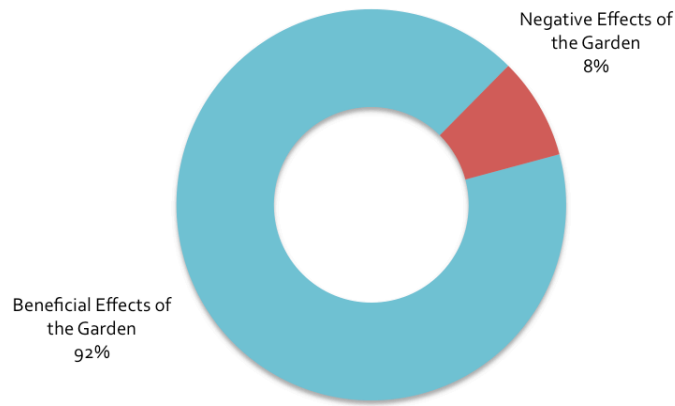


Figure 5.6: Benefits of the Garden at Charnley Fold; Positive VS Negative

Benefits of the Garden		Negative Effects of the Garden	
+	<ul style="list-style-type: none"> • Maintains daily living skills, independence, and autonomy (11)* • Interventional tool for unwanted behavior (9) • Positively alters mood; feeling happy (7) • Promotes engagement and curiosity (6) • Feeling Useful (6) • Reminiscence (6) • Enjoyable setting for staff and family (6) • Feeling of having gone on a journey ; 'being away' (5) • Freedom (5) • Multi-sensory stimulation (3) • Welcoming (3) • Cost savings: keeping people in their own homes and out of costly residential care (3) • Peaceful (2) • Exercise: stamina & mobility (2) • Relaxation (2) • Fresh Air (2) • Stress - Reducing (2) • Socialization (2) • Fascination (1) • Lose oneself in the moment (1) • Respite (1) • Concentration, planning, & sequencing skills (1) • Setting for activities • Sunshine: Vitamin D (1) 	-	<ul style="list-style-type: none"> • Maintenance Burden (8) • Agitation; Activities can be frustrating (1)
	<ul style="list-style-type: none"> • Improved quality of life and well-being (1) • Feeling safe (1) • Calming (1) • Anxiety - Reducing (1) • Promotes Confidence (1) • Dignity; Respect as an adult (1) • Comfortable (1) • Sense of Ownership (1) • Promotes Creativity (1) 		

* (#) Number of occasions mentioned in the interviews

Figure 5.7: Positive/Negative Response Categories at Charnley Fold

Charnley Fold Enhanced Dementia Day Support Interviews: Factors Limiting / Challenging Garden Use

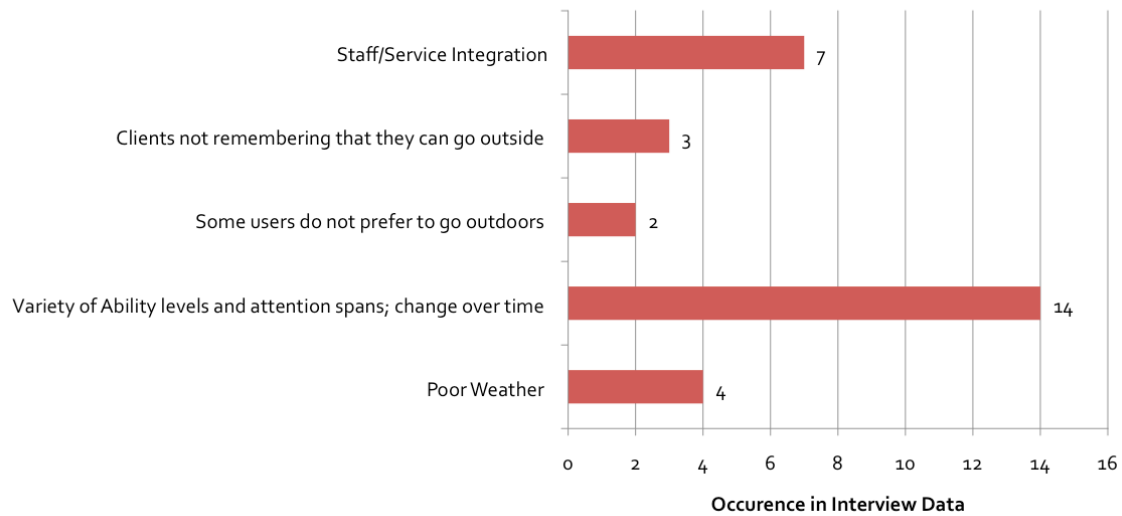


Figure 5.8: Factors Limiting/Challenging Garden Use at Charnley Fold

Charnley Fold Enhanced Dementia Day Support Interviews: Factors Promoting/ Supporting Garden Use

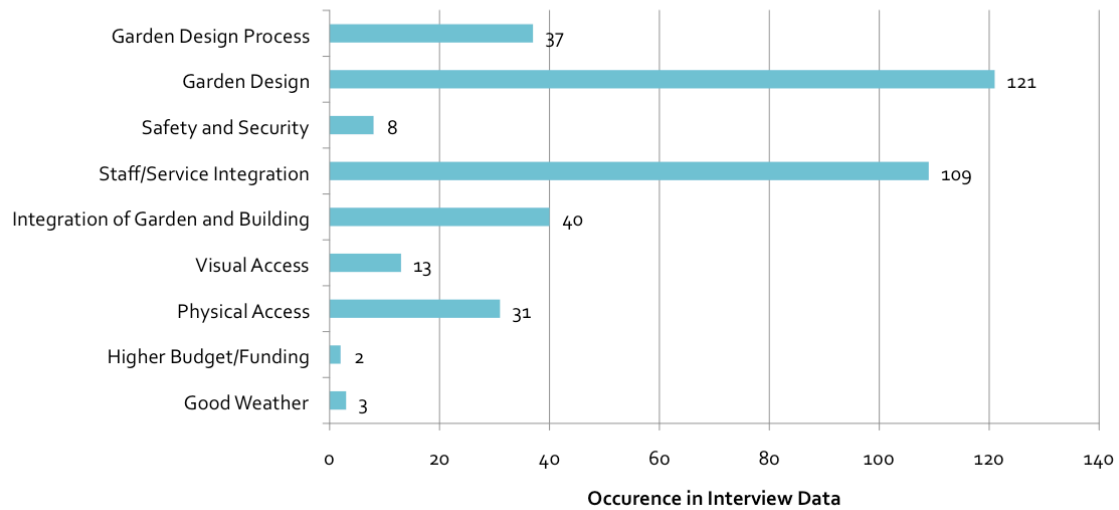


Figure 5.9: Factors Promoting/Supporting Garden Use at Charnley Fold

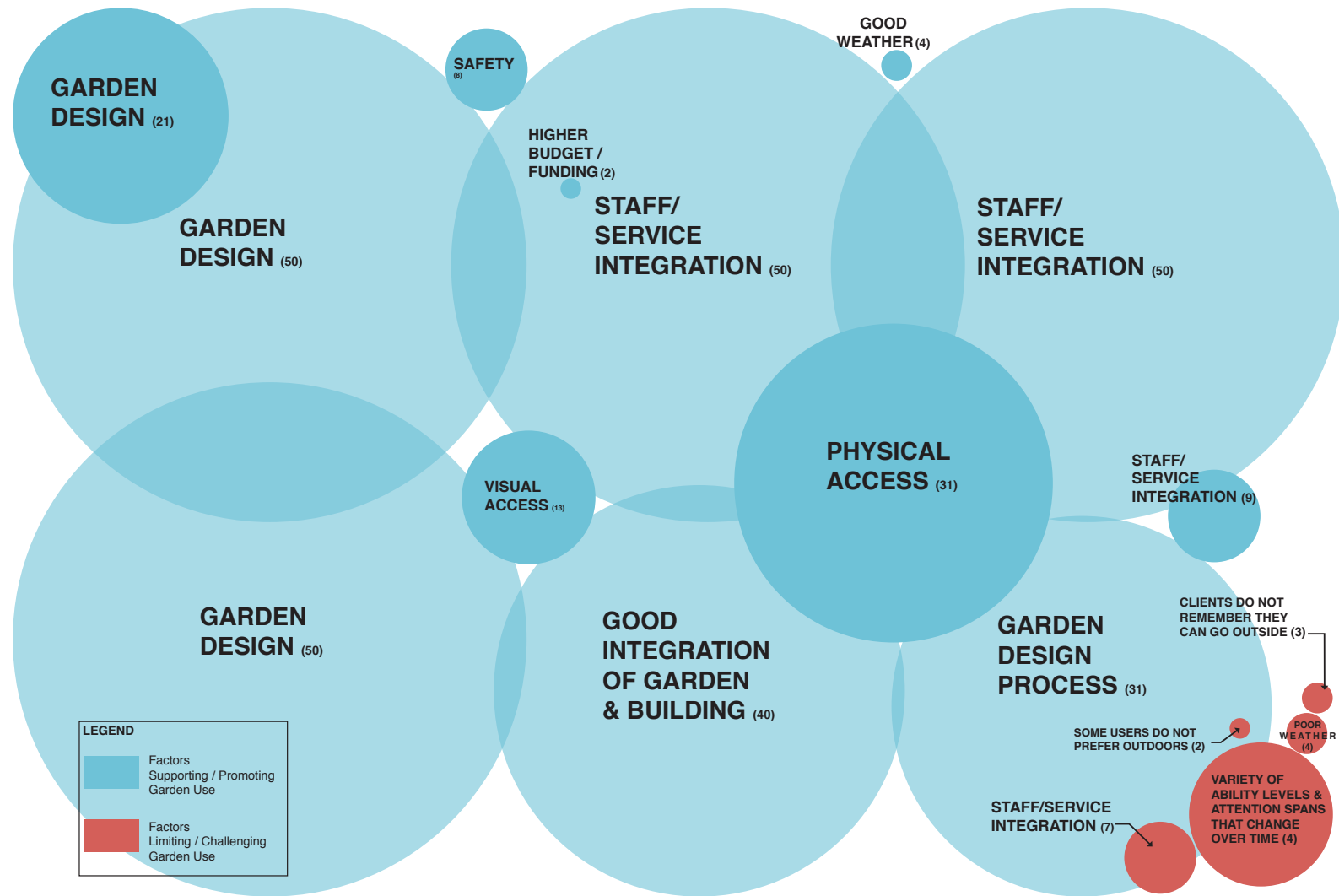


Figure 5.10: Interview Response Category Proportions at Charnley Fold

Utilizing Theoretical Frameworks

In order to understand how to approach improving the quality of care at residential and day care facilities through the integration of the garden, it was important to analyze the sites through the lens of existing theories on restorative environments and human/environmental interaction. As discussed in Chapter 2, The Kaplan's *Attention Restoration Theory* and Ulrich's *Theory of Supportive Gardens* were identified as being the most useful indicators of how well a facility theoretically facilitated restoration. Their structure being very similar, each with four required mechanisms, facilitated a straightforward analysis that asks the questions: *Does the facility fulfill the requirement?*; *How well does it fulfill the requirement?*; and *What supporting evidence is there?*

While both facilities generally meet the requirements of the Kaplan's and Ulrich's theories there are some interesting differences in how well they facilitate each of the mechanisms. For example, at Springwood, "Fascination" and "Natural Distractions" were thought to only partially fulfill the requirements. While the requisite was met through visual access to the surrounding greenspace and open sky, the medium rating was given because of the limited amount of flowering plant material observed onsite during the study. This was felt to be particularly important because the main accessible space is a patio enclosed by retaining walls limiting visual access to plants except for those in containers or overhanging the fence on the wall. In comparison, CF was given a high rating because of the large variety of flowering plants and access to interesting natural features. Springwood also received a low rating for "sense of control" because

of the fact that residents with dementia were on the third floor of the facility and did not have the ability to access and use the garden autonomously. While residents have good visual access from building windows that can facilitate a more passive “sense of control”, their lack of unaccompanied physical access to the garden limits their ability to maintain a full ‘sense of control’.

The organizational policy at Springwood also requires dementia residents to be accompanied by a staff member at all times while they are outdoors. While this reduces a users “sense of control”, it is also an excellent example of providing “social support”, thus demonstrating the need to find a balance between autonomous and supervised use of the garden space. It is also possible that staff accompaniment may increase a user’s “sense of control”, because they feel safe to do what they wish when they know staff is present. Springwood’s lack of walking paths decreases the residents’ ability to walk with purpose and feel as though they have been somewhere, thus limiting their capacity to fulfill the mechanism of physically and psychologically “being away”. A lack of walking paths was also noted as a limiting factor in fulfilling the requirement for “Movement and Exercise”.

Compatibility was rated as medium for Springwood mainly because of the lack of space for purposeful walking and because of some access issues discussed in the interviews. However, it is possible to see how “sense of place” reinforces compatibility at both Springwood and CF, through providing communal spaces that are culturally familiar. The flexibility of the garden space at Springwood also allows it to be highly compatible to a range of activities. It is also interesting to consider how “sense of place”

and “negativistic” values relate to Ulrich’s requisite condition for “safety”. Both facilities received a high rating for “safety” and “sense of place”, while a low rating for “negativistic” values. “Sense of place” was facilitated by culturally familiar and home-like settings, which also promotes a sense of safety. “Negativistic values” are noted to be important because through a fear of nature, humans can learn to avoid risky behavior. However, in dementia care gardens, an expression of this value might lead to a resident not wanting to use the garden space. Thus, in order to provide a safe sense of place where a resident can express other beneficial values, it may be necessary to remove any elements that openly promote “negativistic” values to the person with dementia.

Tables 5.2 through 5.8 show the how the sites were tested against the three theories. Figure 5.9 and 5.10 summarizes these results into categories, which show the area of the care environment where evidence from the case study sites supported / promoted or limited / challenged Kaplan’s ART and Ulrich’s Theory of Restorative Gardens. As a newly renovated facility, carefully integrated with garden spaces, that are designed specifically to deliver therapeutic care to day clients with dementia, Charnley Fold is able to serve as a benchmark facility for this study. The physical environment in combination with staff support is able to meet all of the requirements of both theories and thus it can be assumed that it is successfully providing restoration from stress and directed attention fatigue.

Springwood has limitations that are not found at CF, mainly relating to the amount of available and accessible space, but also to operational policy. The older

three-story building at Springwood creates less than ideal access to the garden for residents, and the amount of accessible garden space is further limited by steeply sloping terrain. Limitations of access reduce and challenge the gardens ability to provide “sense of control”, “movement and exercise”, and “compatibility”. For example, the lack of walking paths as a factor of physical access was reported on multiple occasions in the interviews as an element significantly limiting the outdoor space. The lack of this element reduces the users opportunity for “movement and exercise”, as well as, the opportunity to physically and psychologically “be away” or experience “extent” in the sense of having gone on a journey. Additionally, the fact that often one space has to serve both active and passive functions can limit a user’s ability to “be away” or to maintain a “sense of control” when the space is being used for a conflicting activity. Furthermore the type of care that Springwood provides is both residential and day support. Residential care has to provide a more comprehensive service that includes staff involvement in daily chores and tasks relating to the hygienical, nutritional, medical, and general health and well-being of the people who live there. These daily tasks, combined with reduced operational funding and a lower staff to resident ratio, limits the amount of time that can be allocated to daily outdoor activities. Furthermore, an organizational policy limits the autonomous use of the garden by residents with dementia. The factors of the staff’s time and the organizational policy that requires residents with dementia to be always accompanied by a staff member, limit the user’s “sense of control”. Nevertheless, Springwood is still able to fulfill all the requirements of both theories through other measures. While the multi-function main patio space may

limit “being away” or a “sense of control” when there are two conflicting user groups, the flexibility of the space allows it to provide “social support”, “movement and exercise”, “compatibility” and even “being away” and “sense of control” given the correct conditions. Furthermore, while the organizational policy which requires people with dementia to always be accompanied by staff may limit a resident’s “sense of control” or ability to “be away”, the contact with staff provides “safety” and “social support”, as well as, increased “compatibility” through assistance with programmed activity.

Psychologically “being away” or having a “sense of control” and a more conceptual attainment of “extent” are facilitated through the good visual access maintained inside and outside of the facility. Additionally, the front garden provides a destination space, which can promote “being away” and “extent”.

Evaluating and analyzing the two sites against these theories reveals that there are multiple strategies that can be leveraged to achieve restoration from stress and directed attention fatigue, regardless of limitations from the staff, building, and/or site. However, the results of this analysis indicate that there are certain factors that appear to be more critical than others in meeting the individual requirements of the theories. Visual access appears to meet the criteria for almost all of the mechanisms except for “social contact” and “movement and exercise”. Physical access proves to be particularly important in facilitating a “sense of control” and “compatibility”. Programmed activities such as gardening and the garden elements that support such activity meet almost all of the required mechanisms of both theories excluding “safety” and “extent”. Elements relating to fencing and enclosure foster “safety”, “compatibility”, and “extent”.

Organizational policies regarding autonomous use of the garden have the ability to either greatly influence “sense of control”, “being away” and “compatibility” in a case where free use is encouraged, or “safety” and “social support” in a case where unaccompanied use is not allowed. Elements of garden design (see figure 5.11 and 5.12) have the broadest appeal, because they affect the use of the outdoors and the experience of nature for the user. The development of a variety of spaces to facilitate a range of active and passive activities for small or large groups in sun or shade collectively provides opportunities to meet all of the required mechanisms. Garden elements such as flowering plants, water features, antique machinery, and hand tools further support and increase the potential of these spaces to provide restoration from stress, and directed attention fatigue.

Table 5.2: Evaluation of the Kaplan's A.R.T. at Springwood

KAPLAN'S ATTENTION RESTORATION THEORY

SPRINGWOOD CARE HOME

Mechanisms	Fulfills Requirement?	How Well?	Supporting Evidence
Fascination	YES	MEDIUM	<ul style="list-style-type: none"> • Visual Access to surrounding greenspace and open sky • Visual Access from building windows • Visual Access within garden spaces • Some flowering plants in containers and hanging baskets • Some in-ground plantings around accessible areas • Programmed Activities support connection with nature • Vines and plantings attract birds, birdbath, birdfeeders, etc attract wildlife • Surrounding green-space is park-like
Being Away	YES	LOW	<ul style="list-style-type: none"> • Variety of areas outside of the building with different spatial and experiential characteristics facilitate psychologically being away • No circulation paths to facilitate having gone on a journey • Small spaces adjacent to building limit the ability to physically 'be away' • Flexible -Use Patio can conflict between passive and active use • Front Garden destination place offers connection to outside world • Reminiscence Activities promote psychologically being away • Access issues and lack of walking path limit ability to 'be away'
Extent	YES	HIGH	<ul style="list-style-type: none"> • Retaining walls, hillside, and fences easily delineate spaces • Visual connection to surrounding greenspace and from building windows • Repetition of materials; brick, concrete, and wood • Antique Machinery in garden (mangle) promote a conceptual connection to the past • Front Garden destination place offers connection to outside world • Reminiscence Activities promote conceptual feelings of extent • Culturally Familiar and comfortable aesthetic • Easily navigable spaces • Site Elements that promote wildlife suggest connection to greater landscape
Compatibility	YES	MEDIUM	<ul style="list-style-type: none"> • Variety of spaces facilitate a range of active and passive activities for small or large groups in sun or shade • Adaptability of open space allows for multiple uses • Not enough room to facilitate purposeful walking / no pathways • Access issues limit use of certain areas / small separated areas • Quiet and Relaxing • Enclosed areas • Seating and garden elements that promote activity

Table 5.3: Evaluation of the Kaplan's A.R.T. at Charnley Fold

KAPLAN'S ATTENTION RESTORATION THEORY

CHARNLEY FOLD ENHANCED DEMENTIA DAY SUPPORT

Mechanisms	Fulfills Requirement?	How Well?	Supporting Evidence
Fascination	YES	HIGH	<ul style="list-style-type: none"> • Visual Access to surrounding greenspace, open sky, and farmland • Great Visual Access from building and within garden spaces • Large variety of flowering plants • Bird-feeders, bird baths, and birdhouses attract birds and other wildlife • Chickens; Water feature • Programmed Activities support connection with nature • Passive and Active Spaces support engagement with nature ; Destination Spaces
Being Away	YES	HIGH	<ul style="list-style-type: none"> • Operational Policy supports autonomous use of the garden • Variety of areas outside of the building with different spatial and experiential characteristics • Circulation paths through garden facilitate having gone on a journey • Large area facilitates physically getting away from the building • Spatial Archetypes reinforce feeling of having gone somewhere • Visual connection to surrounding greenspace and farmland • Reminiscence activities; Tai Chi can be meditative
Extent	YES	HIGH	<ul style="list-style-type: none"> • Building around courtyard delineates space • Perimeter and pickets fences and garden structures delineate space • Visual connection to surrounding greenspace and farmland • Repetition of materials; pavers, tarmac, and wood • Antique Machinery in garden (mangle) promote a conceptual connection to the past and water features • Spatial Archetypes reinforce feeling of having gone somewhere through manipulation of scale, plantings, and site elements • Looped circulation paths are easily navigable
Compatibility	YES	HIGH	<ul style="list-style-type: none"> • Large variety of spaces facilitate a range of active and passive activities for small or large groups in sun or shade • Circulation paths facilitate purposeful walking • Spaces are designed to enable a variety of activities • Free Access to space, wheelchair and mobility impaired accessible • Quiet and Relaxing • Variety of seating and table options • High staff to client ratio 1:3; programmed activities, and organizational policy that supports the use of the garden freely

Table 5.4: Evaluation of the Ulrich's Theory of Supportive Gardens at Springwood

ULRICH'S THEORY OF SUPPORTIVE GARDENS

SPRINGWOOD CARE HOME

Mechanisms	Fulfills Requirement?	How Well?	Supporting Evidence
<i>*Requisite Condition: Safety</i>	YES	HIGH	<ul style="list-style-type: none"> • Garden is very secure with several levels of security fencing and hillside • Residents and Clients are never left unattended in the garden thus increasing feelings of security • Outdoor space is home-like, culturally familiar and comfortable • Good visual access in garden and wheelchair accessibility
Sense of Control	YES and NO	LOW	<ul style="list-style-type: none"> • Access and operational policy limit autonomous use of the garden space • No circulation/ walking paths and spaces are small and separated • Variety of spaces and adaptability of main patio space allow users to control whether they engage in active or passive activities, however if space is being used for a group activity, user has limited options of choosing to engage in passive activity within the same space. • Visual Access in the garden and through facility windows passively facilitates 'temporary escape' • Variety of seating and table options • Once in the garden, space is generally easy to understand and navigate
Social Support	YES	HIGH	<ul style="list-style-type: none"> • Residents are always accompanied in the garden by caring and supportive staff • Group spaces and tables on the patios facilitate good social contact with other residents • Outdoor activities, including gardening groups, reminiscence and exercise facilitate good social interaction with staff and other residents
Movement and Exercise	YES	MEDIUM	<ul style="list-style-type: none"> • Chair Aerobics in the main patio space • Small separated spaces and lack of a walking path are a limiting factor • Container gardening and watering plants facilitates movement and exercise • No circulation/ walking paths • Wheelchair and mobility impaired accessible • Site elements that promote activity (greenhouse, shed, tools)
Natural Distractions	YES	MEDIUM	<ul style="list-style-type: none"> • Visual Access to surrounding greenspace and open sky • Some flowering plants in containers and hanging baskets • Some inground plantings around accessible areas • Vines, plantings, and site elements that attract birds, birdbath, bird feeders • Access to sunlight and fresh air • Park-like setting with lawn and trees on hill behind rear garden spaces • Programmed Activities support connection with nature

Table 5.5: Evaluation of the Ulrich's Theory of Supportive Gardens at Charnley Fold

ULRICH'S THEORY OF SUPPORTIVE GARDENS

CHARNLEY FOLD ENHANCED DEMENTIA DAY SUPPORT

Mechanisms	Fulfills Requirement?	How Well?	Supporting Evidence
*Requisite Condition: Safety	YES	HIGH	<ul style="list-style-type: none"> • Garden is very secure with perimeter fencing and partial enclosure from building • Spatial Archetypes /Garden and facility are very home-like, and comfortable • Open visual access throughout the garden and visual access from the building to the garden enhance feeling of security; wheelchair accessible • Presence of staff enhances feeling of safety 1:3 Ratio • Organizational Policy accepts and manages risk
Sense of Control	YES	HIGH	<ul style="list-style-type: none"> • Free Access through multiple doors promotes autonomous use of the garden space ; supported by organizational policy • Variety of spaces for active and passive activities allows users to choose what they want to do • Visual Access in the garden and through facility windows passively facilitates 'temporary escape' • Once in the garden, space is easy to understand and navigate • Variety of circulation routes allows users to freely choose where they want to go • Flexible programming allows users to decide whether or not they want to participate in group activities or use the space independently • Variety of seating and table options ; Wheelchair Accessible
Social Support	YES	HIGH	<ul style="list-style-type: none"> • High Staff to User Ratio provides access to caring and supportive staff • Large group spaces and smaller group spaces facilitate good social contact with other residents and staff; variety of seating and table options • Outdoor activities, including gardening groups facilitate good social interaction with staff and other residents
Movement and Exercise	YES	HIGH	<ul style="list-style-type: none"> • Programmed Activities; Exercise groups and individual Tai Chi instruction • Variety of walking paths facilitate walking ; wheelchair accessible spaces • Recreation area promotes exercise through playing games • Gardening activities and site elements promote movement and exercise
Natural Distractions	YES	HIGH	<ul style="list-style-type: none"> • Visual Access to garden, surrounding greenspace/farmland and open sky • Large variety of flowering plants • Bird-feeders, bird baths, and birdhouses attract birds and other wildlife • Chickens; Water feature • Programmed activities promote connect to natural world • Access to sunlight and fresh air

Table 5.6: Evaluation of Kellert and Wilson’s Biophilic Values & Sense of Place at Springwood

KELLERT & WILSON’S BIOPHILLIC VALUES AND SENSE OF PLACE

SPRINGWOOD CARE HOME

Values	Environment successfully allows for expression of value?	How Well?	Supporting Evidence
Aesthetic	YES	MEDIUM/ HIGH	<ul style="list-style-type: none"> • Visual access to garden and surrounding green space • Containers planted with flowers • Spaces are layed out by aesthetically pleasing design principles
Dominionistic	YES	MEDIUM	<ul style="list-style-type: none"> • Retaining walls create space in the hillside • Security Fencing keeps out threats of wild nature • Gardening allows users to control and subjugate nature
Humanistic	YES	HIGH	<ul style="list-style-type: none"> • Outdoor environment in combination with social support from staff and other residents facilitates excellent social support
Moralistic	YES	MEDIUM	<ul style="list-style-type: none"> • Areas for passive interaction with nature, sitting and contemplating provide opportunity to connect spiritually with the natural world
Negativistic	YES	LOW	<ul style="list-style-type: none"> • Safe garden environment reduces the need to fear the natural world, however visual access to woods area behind the facility could possibly facilitate the expression of this value
Scientific	YES	LOW	<ul style="list-style-type: none"> • Gardening allows users to intellectually understand nature • Being outside reinforces the seasons and understanding of the environment
Symbolic	YES	HIGH	<ul style="list-style-type: none"> • Plants are source of symbolism, stories, and memories for residents • Antique Machinery are symbolic link to past
Utilitarian	YES	MEDIUM	<ul style="list-style-type: none"> • Using the garden to access fresh air and sunlight • Growing vegetables in the garden • Working in the garden, sweeping, and doing activities maintains daily living skills
Naturalistic	YES	MEDIUM	<ul style="list-style-type: none"> • Visual Access to surrounding greenspace and open sky • Some flowering plants in containers and hanging baskets • Some inground plantings around accessible areas • Vines and plantings attract birds, birdbath • Access to sunlight and fresh air • Park-like setting with lawn and trees on hill behind rear garden spaces
<i>Sense of place</i>	YES	HIGH	<ul style="list-style-type: none"> • Design is culturally familiar; domestic backyard patio • Hillside with lawn and trees is park-like; typical English pastoral park • Sense of community at care home reinforces sense of place

Table 5.7: Evaluation of Kellert and Wilson’s Biophilic Values & Sense of Place at Charnley Fold

KELLERT & WILSON’S BIOPHILIC VALUES AND SENSE OF PLACE

CHARNLEY FOLD ENHANCED DEMENTIA DAY SUPPORT

Values	Environment successfully allows for expression of value?	How Well?	Supporting Evidence
Aesthetic	YES	HIGH	<ul style="list-style-type: none"> • Visual access to garden and surrounding green space/ farmland • Variety of beautifully arranged plantings and site elements • Spaces are layed out by aesthetically pleasing design principles
Dominionistic	YES	MEDIUM	<ul style="list-style-type: none"> • Security Fencing and courtyard design keeps out threats of wild nature • Gardening allows users to control and subjugate nature • Pathways are all perfectly flat and accessible • View of farmland as example of subjugating nature
Humanistic	YES	HIGH	<ul style="list-style-type: none"> • Outdoor environment in combination with social support from staff and other residents facilitates excellent social support
Moralistic	YES	MEDIUM	<ul style="list-style-type: none"> • Areas for passive interaction with nature, sitting and contemplating provide opportunity to connect spiritually with the natural world
Negativistic	YES	LOW	<ul style="list-style-type: none"> • Safe garden environment reduces the need to fear the natural world, however visual access to areas beyond the facility could possibly facilitate the expression of this value • Free access to a variety of areas allows users to assess the risk of using the space
Scientific	YES	MEDIUM	<ul style="list-style-type: none"> • Gardening allows users to intellectually understand nature • Being outside reinforces the seasons and understanding of the environment • Nature activity groups study flowers and wildlife
Symbolic	YES	HIGH	<ul style="list-style-type: none"> • Plants are source of symbolism, stories, and memories for residents • Antique Machinery are symbolic link to past
Utilitarian	YES	HIGH	<ul style="list-style-type: none"> • Using the garden to access fresh air and sunlight • Growing vegetables in the garden • Working in the garden, sweeping, and doing activities maintains daily living skills • Staff using the garden as an interventional tool • Staff facilitating therapeutic activities in the garden
Naturalistic	YES	HIGH	<ul style="list-style-type: none"> • Visual Access to surrounding greenspace and open sky • Some flowering plants in containers and hanging baskets • Some inground plantings around accessible areas • Vines and plantings attract birds, birdbath • Access to sunlight and fresh air • Park-like setting with lawn and trees on hill behind rear garden spaces
<i>Sense of place</i>	YES	HIGH	<ul style="list-style-type: none"> • Design is culturally familiar; Archetypal Spaces • View to agricultural land reinforces sense of place • Sense of community at day center reinforces sense of place

SPRINGWOOD CARE HOME:
EVALUATING CARE ENVIRONMENT AGAINST
KAPLAN AND ULRICH'S THEORIES

KEY:

LIMITS /
CHALLENGES

PROMOTES /
SUPPORTS

		Safety	Sense of Control	Social Support	Movement/Exercise	Natural Fascination	Being Away	Extent	Compatibility	Sense of place
Staff / Service	Operational Policy limits autonomous use									
	Residents are always accompanied by staff									
	Programmed Outdoor Activities - gardening									
	Reminiscence Activities									
	Exercise Classes - Chair Aerobics									
Safety	Multiple levels of security fencing and walls									
	Enclosure by hillside									
Garden Design	Culturally familiar & comfortable aesthetic									
	Repetition of materials; tarmac, conc., wood									
	Passive Spaces									
	Active Spaces									
	Large Group Spaces									
	Small Private Spaces									
	Destination Space									
	Flexible Multi-Use Spaces									
	Sun & Shade Spaces									
	Interesting and flowering in-ground plantings									
	Interesting and flowering container plantings									
	Plants for bird and wildlife habitat									
	Surrounding greenspace is park-like									
	Greenhouse and garden shed									
	Symmetrical Layout									
	Antique Machinery (mangle)									
	Variety of seating and table options									
	Site Elements for activity (tools, raised beds, pots)									
	Site Elements for wildlife (bird bath, birdfeeders, bird houses)									
Visual Access	Good visual access to garden from windows									
	Good visual access within garden spaces									
	Visual access to greenspace and open sky									
Physical Access	Limited access from building									
	Easily Navigable patios									
	Small Separated areas limit access									
	Access to sunlight and fresh air									
	No circulations pathways for walking									
	Access issues from greenhouse									
	Wheelchair and mobility impaired access									

Figure 5.11: Theory Matrix for Springwood

CHARNLEY FOLD :
EVALUATING CARE ENVIRONMENT AGAINST
KAPLAN AND ULRICH'S THEORIES

KEY: ■ LIMITS / CHALLENGES ■ PROMOTES / SUPPORTS

		Safety	Sense of Control	Social Support	Movement/Exercise	Natural Distractions	Fascination	Being Away	Extent	Compatibility	Sense of place
Staff / Service	Operational Policy promotes autonomous use		■				■		■	■	
	Operational Policy accepts and manages risk	■							■		
	High Staff:Client Ratio 1:3	■		■					■	■	
	Programmed Outdoor Activities - gardening			■	■	■					
	Reminiscence Activities						■	■		■	
	Exercise Classes - Tai Chi			■			■				
	Flexible Programming promotes free use		■						■	■	
Safety	Gardens partially enclosed by building	■						■	■	■	
	Security fencing around perimeter	■						■	■	■	
Garden Design	Spatial Archetypes - '7 Meaningful Spaces'	■	■				■	■	■	■	
	Culturally familiar & comfortable aesthetic	■						■	■	■	
	Repetition of materials; pavers, tarmac, wood							■		■	
	Passive Spaces (Sitting and watching)		■	■		■	■		■	■	
	Active Spaces (Recreation and gardening)		■	■	■	■			■	■	
	Large Group Spaces		■	■					■	■	
	Small Private Spaces		■				■		■	■	
	Destination Spaces (Woodland path and courtyard)		■	■	■				■	■	
	Sun & Shade Spaces		■						■	■	
	Indoor/Outdoor Space (Polytunnel, conservatory)		■						■	■	
	Low-picket fences delineate space							■		■	
	Large variety of flowering plants throughout				■	■				■	
	Antique Machinery (mangle and mower)					■	■	■		■	
	Water Features				■	■	■			■	
	Variety of seating and table options		■	■					■	■	
	Site Elements for activity (tools, raised beds, pots)		■	■					■	■	
	Site Elements for wildlife (bird bath, birdfeeders, bird houses, chicken coop)				■	■	■	■		■	
	Garden Structures (arbors, pergolas, trellis, gates, polytunnel and garden shed)							■	■	■	
Visual Access	Great visual access to garden from windows	■	■		■	■	■	■	■	■	
	Great visual access within garden spaces	■	■		■	■	■	■	■	■	
	Visual access to greenspace and open sky	■	■		■	■	■	■	■	■	
	Visual access to adjacent farmland	■	■		■	■	■	■	■	■	
Physical Access	Enhanced access through multiple doors	■	■						■		
	Doors are always unlocked		■						■		
	Easily Navigable Garden Space		■					■	■		
	Variety of looped circulation paths for walking		■	■				■	■		
	Access to sunlight and fresh air								■		
	Wheelchair and mobility impaired access	■	■	■					■		

Figure 5.12: Theory Matrix for Charnley Fold

In conclusion, the analysis of the case study sites against these theories elucidates the importance of integrating the physical environment with the services provided by staff. The matrices shown in Figure 5.11 and 5.12 show that no single element relating to staff/service; safety; garden design, visual access; or physical access can meet all of the requirements of both theories. Therefore, it is important to provide a range of factors that can collaboratively meet the requirements of the mechanisms as a product of their integration. This is particularly important when the facility has limitations in a particular area. Limitations of the building or site such as access or available accessible space can be overcome through staff involvement and the provision of a more enhanced program or service. In the same way staff limitations such as time can be overcome by a garden, building, and organizational policy that support autonomous use, safety, freedom of choice, and engagement in meaningful activity. The next section will investigate the case study sites through the lens of existing design guidelines in order to uncover more specifics about how to deliver enhanced care for people with dementia.

Analysis of Existing Guidelines

The following section will analyze and evaluate the guidelines published in chapter 10 of *Therapeutic Landscapes: An Evidence Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces* against the case study data in order to identify holistic and specific ways that facilities can improve quality of care (Cooper Marcus and Sachs 2014, 148-159). As described at the end of chapter 4, it is recognized that this list of guidelines is not entirely comprehensive and that Cooper Marcus and Sachs cross-reference other sets of guidelines in their text as important for all elderly populations. However it is only the author's intent to use the guidelines presented in chapter 10 as framework to facilitate discussion and thus this section will be limited to an analysis of the guidelines presented there. The section format will present the existing guideline, and then discuss what ways the study informs, nuances, and confirms the existing design guidelines. At the end of each discussion new guidelines or addendums to existing guidelines will be presented.

Design Process:

1. Existing Guideline: Involve management and staff in the design of the garden. [continued]....suggests the importance of a user's manual or something equivalent, so that management and staff understand the purpose and value of outdoor space provided (Cooper Marcus and Sachs 2014).

Study Results: This study provides a substantial amount of evidence to support this guideline, which describes the importance of a "collaborative design process" between the designer and management/staff. The existing guideline implies that staff

involvement in the design process will increase their level of understanding of the benefits of the space and how to best utilize it. For the full guideline see (Cooper Marcus and Sachs 2014, 151). However, this guideline fails to address other important benefits gained from a collaborative design process. Furthermore, the results of this study, suggest that a collaborative design process should not only include management and staff, but service users, and contractors as well. Thus, the results of this study would begin by suggesting that the guideline be changed to *“Utilize a ‘collaborative design process’ in the design of the garden.”* This terminology allows the guideline to further discuss the benefits to all stakeholders in the process. The following describes the benefits for all parties involved in the process as observed and noted in the interviews from Charnley Fold:

Management and Staff: As implied in the existing guideline, involvement in the design process benefits staff because it increases their level of understanding of the benefits of the space. Having a say in the design process promotes staff buy-in to the philosophy of care that is trying to be achieved through the integration of outdoor space. This is can be a difficult thing for managers to achieve with staff; particularly those coming from a typical institutional dementia care background. Additionally, feedback from management and staff can lead to design changes that make their jobs easier and improve the quality of life for their clients, which in turn makes their job less stressful and more rewarding. Reduced work stress and a rewarding work environment result in a high level of job satisfaction, which leads to a low-staff turnover rate. Low staff turnover is a benefit for management and provides continuity for the clientele.

Persons with Dementia: For the resident or the service user, participating in a collaborative design process provides the opportunity to socialize and have a different day. Design workshops become a form of therapeutic engagement, where users can reminisce, draw, and socialize. Workshops promote socialization, planning, and sequencing skills. Design provides an opportunity for users to be creative and imaginative, which are an important cognitive skill. Perhaps, most importantly, the opportunity to give feedback allows the person to feel useful and important – a feeling many of them have lost as result of their cognitive decline. Whether the person can recall the activity or how their feedback influenced the design is somewhat irrelevant in light of the many benefits of their participation. However, a workshop setting allows staff to remember design suggestions, that they can remind the user of and engage them with if they become a reality. An example of this might be that during a feedback session a user revealed that they loved to grow a particular plant in the past. If the plant is later installed in the garden, the staff member knows and can take the user to the plant to engage in a reminiscent conversation.

Designer: The designer benefits from a collaborative design process, because he/she receives valuable evaluative feedback from the staff that uses the garden with the client on a daily basis. As the needs of clients progress or change over time as new groups come into the facility, the staff will have the best understanding of how the space meets their needs. Most staff is more than willing to give feedback, especially if it leads to a change that makes their jobs easier or improve the well-being of their clients. Thus, the designer has a free source of insightful site analysis that can be a source of new

work. If the feedback leads to changes, the designer gains experience, which can be applied to other projects. The same is true of feedback from service users. The very act of eliciting feedback from service users helps the designer to better understand the population they are designing for and may inspire new developments in the garden, generating new work and improving the quality of life for the clientele. Furthermore, workshops with users can be an annual service the designer provides for the facility. A collaborative working relationship with garden contractors can benefit the designer, by providing him/her with insight into complexities of working with certain materials, but it also can reduce the needs to create overly specific construction documents. If both parties are willing to do business in this manner, it can yield great results. Lastly, a collaborative design process allows the designer to educate all the stakeholders on the design philosophy and the intended use of the space, which when integrated into all aspects of the care environment, increases the quality of care the facility is able to provide.

Contractors: Involving willing contractors in the design process can improve the end product. An iterative working relationship with the designer, allows the contractor to provide valuable insight that can lead to reduced costs and an end product better suited to the needs of the user. If the contractor has an interest in building gardens for the elderly or people with dementia this relationship can lead to future work with the designer. If the garden is installed in phases, as is the case at CF, the contractor has the opportunity to observe people using their creations and thus can gain insight on how to improve garden elements to better suit user's needs. Furthermore, during

construction, if the contractor is willing to take the time to engage service users about the project, such as asking for their opinion or letting them “supervise”, then the construction of the garden can become a therapeutic activity. Providing a service that is profitable and that helps people allows the contractors to gain added satisfaction from their work, as is the case with the joiners at Charnley Fold.

A Case for a Collaborative Approach: A content and categorical analysis of staff and designer interviews at Charnley Fold shows a “collaborative design process” mentioned on twenty-two occasions as factor promoting and/or supporting the use of the garden, making it the most frequently mentioned element within the category of “garden design process”. Of the Springwood interviews, “collaborative design process” was mentioned on two occasions, once referencing feedback from staff and once referencing feedback from residents. Taking note of the limitations of a comparison of these two facilities, as previously discussed, it is still interesting to see the correlation between the number of times “collaborative design process” was mentioned as a factor supporting the garden and the number of times “Organizational Policy” and “Staff/Service Integration” was mentioned as a factor limiting or challenging the use of the garden. Considering the aforementioned benefits of a collaborative design process for management and staff, specifically in regard to the increased buy-in to the design philosophy; increased understanding of the design and how best to utilize the space provided; low staff turn-over; high job satisfaction – it seems reasonable that there would be negative correlation (See table 5.8 and 5.9). Furthermore, content analysis of interviews from CF recorded six responses in the category “Promote being outdoors and

being active and engaged as the norm; activities and nature as therapy”, a subcategory of “Organizational Policy and Care Approach”. “Low staff turn-over, high job satisfaction” was mentioned on three occasions at CF as well. Conversely, interviews at Springwood report that the garden is underutilized; on three occasions staff commented on needing more staff training to promote “buy-in of the importance of taking residents outside, the design concept, and overall care philosophy”; lastly, “Frequent staff turn-over at the carer level” was reported. While the data starts to paint a picture that suggests CF used a more collaborative approach than Springwood (See table 5.8 and 5.9), interviews confirm that Chalfont used a collaborative approach at both facilities. Therefore there are too many variables with this type of data to fully understand the discrepancies. Further research is needed to consider variables, such as funding, facility type, or the significance of the building and garden integration. CF’s building was renovated at the same time as the garden and thus yielded a much more accessible and integrated relationship between the building and outdoors than the older building at Springwood. While this area will require further research, the study is able to show that there is no negative effect directly associated with a collaborative design process for dementia care facilities.

Table 5.8:

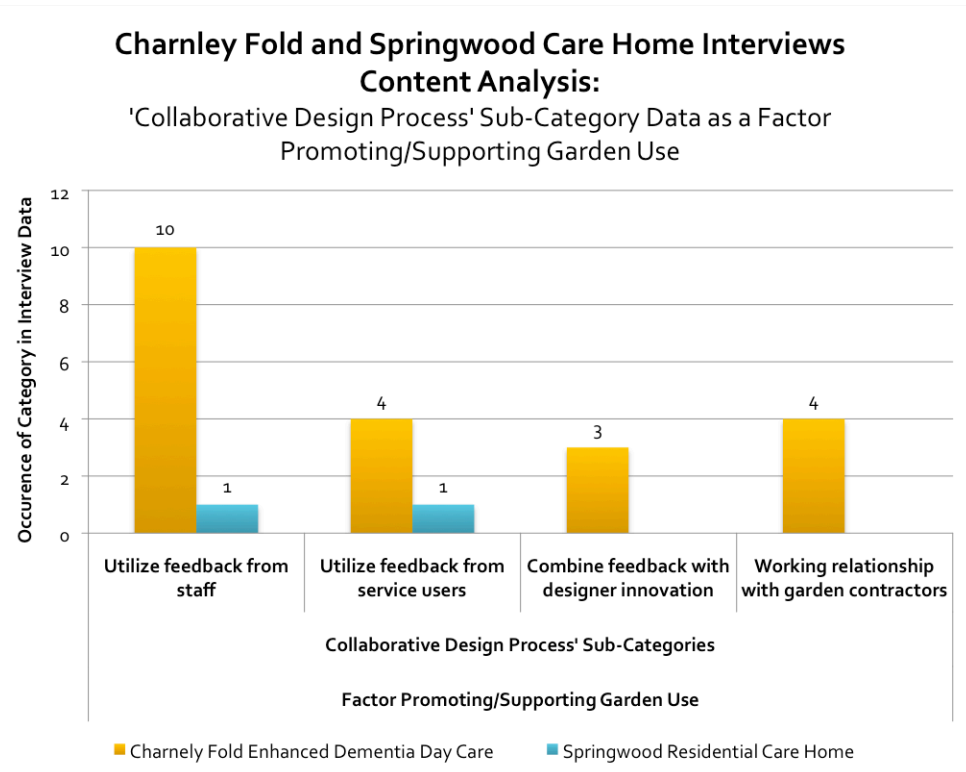
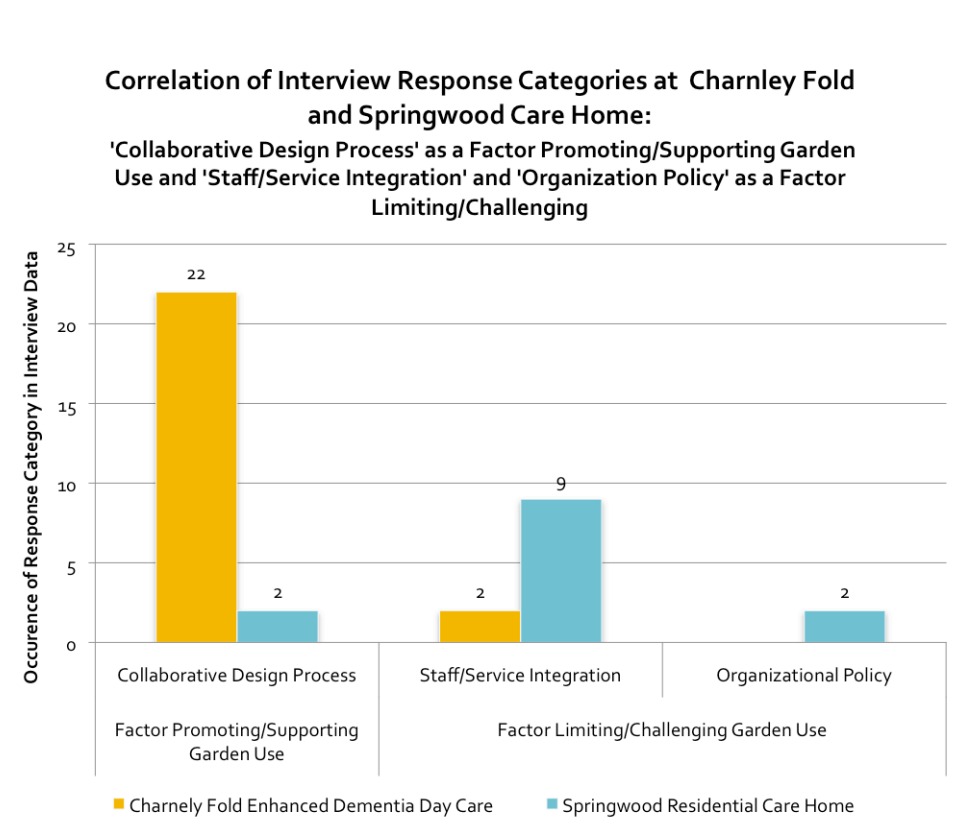


Table 5.9:



With regards to overall design process the study suggest the following additional guidelines:

1. *Suggested Guideline:* Where possible, adapt and develop the garden over time in phases. Install the basic structure of the garden first, let staff and service users use the space, and then elicit feedback that can guide the direction of the garden. Facilities will have different groups of users throughout the years, and the needs of those users will be varied and progressive. Adopting this approach allows the designer to adapt the garden to the needs of the current group as opposed to designing to the needs of one specific group or a theoretical group at the beginning of the project and then moving on.

2. *Suggested Guideline:* When performing site inventory/analysis, design evaluation, or eliciting feedback, the designer must take the time to integrate his/her self into the daily activities of the residents and staff. Dementia care is all about people and thus in order to design for people effectively, the designer must spend time with them. Developing a friendly rapport with staff and users increases the chances of gaining valuable feedback and of being asked to do work in the future.

3. *Suggested Guideline:* When designing a therapeutic garden for persons with dementia, evaluate potential dangers or risks on a gradient. In the field of public health there will always be someone to provide a reason why something cannot be done. While sometimes this is an actual law, other times it is just dogma from

an outdated way of thinking. To be truly innovative, do not eliminate a risk at the expense of a benefit. Instead work with staff to manage risk.

4. *Suggested Guideline:* Integrate the philosophy of care into the design philosophy. The philosophy of care should be embedded in all aspects of the service and physical environment.

5. *Suggested Guideline:* When possible renovate the garden and the building at the same time to ensure that the inside and outside environment are well integrated.

6. *Suggested Guideline:* Consider providing staff training and education as a service for your clients. If possible the designer should include this in the design package. Therapeutic landscapes are highly specialized and thus require specialized training to maximize their use and benefit. Design workshops for service users that are approached as a therapeutic activity, are another service a designer can provide, which can benefit all parties involved.

7. *Suggested Guideline:* When eliciting feedback from people with dementia in a workshop or focus group setting, utilize a lot of imagery, drawing, and maps with cut out trees and site elements that the user can arrange on the sheet. Be sure to get staff involved to assist with the process and so that they can help the client remember if their design suggestion becomes a reality in the future.

8. *Suggested Guideline:* When designing, do not rely solely on feedback from staff and service users. While this is valuable information, be sure to bring your innovation and knowledge to the table. Healthcare facilities can be very resistant

to change and this can be reflected in the attitudes and comments of staff inadvertently.

Visual Access

1. Existing Guideline: Locate the garden so that it is clearly visible from inside the building by residents going about their daily activities (Cooper Marcus and Sachs 2014).

Study Results: As a landscape design guideline, the wording focuses on the location of the garden as it relates to being visible from the building, implying that it should be physically close to the building. However, what it also implies is that the building should provide numerous windows that overlook the garden. As we move towards a better understanding of care environments as an integration of the garden, building, and people, it is important to change our language to reflect such. Landscape architecture as a profession deals with the integration of landscape, architecture, and people and thus designers should be communicating with the architect about where to locate windows and doors in order to best meet the needs of staff and users. It is important that the garden designer and the building designer work collaboratively, not operating within professional silos; otherwise the intent of this guideline cannot be fully expressed. It is also important to consider that in many cases the building may already be in place before the garden designer is contracted to begin work. In this case, work with what exists in terms of windows, but do not hesitate to suggest that renovations be made. Therefore, the author would add to this guideline with the following:

1. Suggested Guideline Addition: [Locate the garden so that it is clearly visible from inside the building by residents going about their daily activities.] Facilitate visual access by coordinating with the architect to ensure that the placement and number of windows is adequate. For existing buildings, first make suggestions regarding locations where renovations for new windows and doors can improve access. If renovations are not possible, work within the constraints of the existing windows to make sure that the requisite for visual access is met.

Both case study sites provide visual access to the garden space through windows. Content analysis of staff interviews at Charnley Fold report “good visual access to garden spaces and surround green-space from all interior spaces by service users and staff” on nine occasions as a factor promoting and or supporting use of the garden. Springwood interviews reported similar information on three occasions. Lots of windows overlooking the garden promote curiosity and interest in using the garden (CF Interviews); a means of passive, psychological escape (Ulrich 1999); and the light/views they provide can provide important information to users about time of day and season (Cooper Marcus and Sachs 2014, 151).

The following are quotes from the interviews that support the need for visual access to the garden from the building:

“We planted some extra trees because it was all a grassed area...just so that the people from the upper floors have got something pleasant to look at”. (Interview with Registered Manager, Springwood)

“The thing I find...and the first thing I ever noticed when I came for my interview was how light and bright it was...you don’t feel restricted in any area of the building...and there are windows all the way around and more importantly...most of them overlook gardens”. (Interview with District Services Manager, CF)

“Yeah, there is one gentleman in particular...sometimes he will participate in a group, but he does like to walk up and down [the hall], but from time to time he will look through the windows and say “look at that, look at that”...it could be a bird, a fly, or a flower, or anything....but he always notices something. Especially at lunch time...the service users will be looking out into the garden...we’ve got a few wood peckers and squirrels, and people that sit on that side of the dining room, we’ll see one and they will be interested”. (Interview with Care Worker, CF)

2. Existing Guideline: Visual contact from a staff area, TV monitors, alarms, and other features can ensure that residents are allowed to go outside alone, thus enhancing autonomy and sense of control (Cooper Marcus and Sachs 2014).

Study Data: This study confirms the guideline for visual access from a staff area. At Charnley Fold, a day center, staff area would be defined as all areas within the building; management has a small office but staff and service users use all other areas. At Springwood, a residential facility, staff area would be defined as hallways, reception area, dining rooms, offices, lounges, and activity areas; bedrooms are private and would not qualify as “staff” areas in that sense, however staff does have access. As mentioned in the previous guideline, content analysis of interviews at CF and Springwood both report “good visual contact to garden space and surrounding green-space through windows”. However, the interviews at CF reported good visual access from “all interior

spaces by residents and staff”, whereas interviews at Springwood report good visual access “from resident’s windows and from common areas” – a result of the different type of facility (Day Care vs. Residential). At Springwood, it was noted that there is good visual access from staff areas to on the day center side with the picnic area, however it was observed that there is limited visual access from staff areas into the main patio area, which may partly explain why residents with dementia are not left unattended in that area.

At Charnley Fold, staff reported on three occasions how the visual contact afforded by windows promotes autonomous use of the garden by service users. Visual access to all areas in combination with a person-centered approach that allows staff to know which service users are more apt to go outdoors independently, enables the staff to effectively manage any risk associated with the service users using the garden on their own. Furthermore, the outdoor gate to the parking lot is equipped with an internal alarm allowing staff to identify the problem and effectively manage it – a factor mentioned five times in the interviews. The following quote describes this:

“You’ve got that freedom here...and for us we don’t need to follow somebody outside, we can just observe from a distance through the windows...in all the rooms you can see out to the gardens...when you’ve been here a length of time you know which patients are apt to go out on their own and you know what window in what room to observe them from depending on where they exited... And we have measures in place...we know if they have opened the gate to the car park...we manage the high-risk areas”. (Interview with Assistant Manager, CF)



Figure 5.13: Visual Access to the Garden at Springwood

a) View through resident's window to day center garden **b)** Numerous resident windows with view to the garden **c)** View from dining room **d)** view from lounge. (Photo credit: Garuth Chalfont)



Figure 5.14: Visual Access to the Garden at Charnley Fold

a) View from Carer's Cafe to garden **b)** View to the neighboring farmland
c) Monitoring residents from staff area **d)** View from Carer's Cafe
 (Photo credit: Andrew Bailey a,d; Garuth Chalfont c,b)

2. Existing Guideline: All parts of the garden should be visible at all times by the user in the garden (Cooper Marcus and Sachs 2014).

Study Results: The two case study sites confirm the importance of this guideline, however observational data would suggest that this guideline requires some minute clarification. The reasons being that at both case study sites the gardens

provide several distinct spaces that are not always visible from one another. For example, at CF there are four main areas—the small courtyard, the main courtyard gardens, the countryside area, and the East gardens that are not always visible from one another while in the garden. These gardens are further divided into individual spaces, but they are all visible from within the setting of the larger garden space. Thus, the author interprets those larger outdoor spaces with an identifiable boundary as individual gardens within the infrastructure of the larger garden (see figure 5.15). Thus, visual access should be provided to all parts of an identifiable garden area. The same situation holds true at Springwood where are three distinctly identifiable garden areas – the main patio, the day center garden, and the front garden.

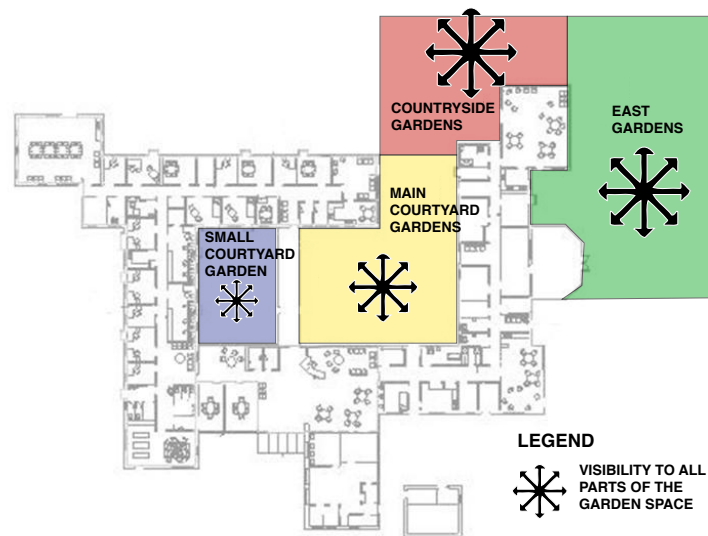


Figure 5.15: Visibility to all areas of a defined garden space at CF

Integrating Space and Culture:

1. Existing Guideline: *The culture where the facility is based, and in particular, attitudes of its residents to nature and the outdoors must be sensitively addressed. For example, most Americans raised with the ideal of a house with a well-maintained yard would be most comfortable in a setting where they can recognize something like this even if it is of a different scale (Cooper Marcus and Sachs 2014).*

Study Results: This study found some very interesting results that support this guideline. With both case study sites being located in the Yorkshire area of the UK, and the author being from the US, the case studies provided an excellent opportunity to observe how information about the local culture could be used to design more successful gardens for persons with dementia. It was hypothesized that since England is widely regarded as a gardening culture, the case studies would facilitate exemplary interactions with the garden amongst subjects. It was confirmed that many subjects had some sort of past experience with gardening or memories of gardening. Others were reported as having outdoor jobs their entire life. It was reported there is a cultural tendency to go outside regardless of the frequent rainy English weather. Vegetable gardening was described as important to creating a sense of community. Most of the residents grew up during WWII, in the time of war rations. Many people were very poor, and neighbors relied on one another for support, which included sharing vegetables from the garden. However, this shared past did not always mean the person wanted to work in the garden. On multiple occasions those identified as having past experience

with the garden, reported not wanting to participate in gardening activities, however they were still quite happy to use the garden passively.

Interviews and informal conversations proved to be a particularly useful tool for understanding the complexities of a different culture and are recommended for any designer working on dementia care gardens, particularly in an area where the cultural is foreign to the designer. Below are some of the quotes from interviews that helped to inform the understanding of this guideline:

"I used to have one (vegetable garden) at the side, one at the back and one at the front.... and a greenhouse and a shed at the side".

(Interview with Day Center Client, Springwood)

"A number of our people...have had jobs that have been outside...they may have been brick layers or gardeners or whatever they have been....they are used to outdoors and I think it is very important for people to continue with the outdoor activity". (Interview with Registered Manager, Springwood)

"They are not old in their mind and so being outside and going on walks is so important and because of our climate as you may have seen....it varies so much day to day...we don't have a week of sun shine all the time. So you dress for the weather here. We encourage people to go out (regardless)....we have the umbrellas and the rain macs and things to use because people will still go out. And the jobs that these people did...they would have been working outdoors in all weathers....so they are used to that sort of thing and they dress for the weather". (Interview with Registered Manager, Springwood)

“...neighbors were neighbors.....now a days you don’t even know your neighbors. In those days everybody knew each other and say you wanted to make stew or something...you could just say “I’ll go next door, I’ll go next door”.....(the neighbor would say) ...ahh love, come on in, help yourself [to the vegetable garden]! It’s not like that now though is it love?”
(Interview with Day Center Client, Springwood)

“Me, oh no ... I don’t like getting my hands dirty....I’ve got my husband for that”.
(Interview with Day Center Client, Springwood)

“We’ve had people here that have said they always enjoyed gardening and then we get them in the garden and they say “I’m not doing that, I’ve done it all my life”. Then you’ll get people who have never done gardening and then all of the sudden they love it.” *(Interview with Support Worker, CF)*

Through these types of interviews it becomes easy to identify the cultural attitudes of residents to nature and the outdoors. However, it is important to exercise caution when applying cultural stereotypes to a landscape or a user group. Understanding users attitude towards nature is only half of the equation. Thus, in order to gain a more complete understanding of culture, Chalfont recommends observing the public and private landscapes of the surrounding areas to develop spatial archetypes, which can be used to create culturally familiar landscapes. Combining this knowledge with the type of information obtained from these interviews has allowed Chalfont to design a culturally familiar garden at CF that promotes activity and caters to a broad user group.

Chalfont discusses the process of indentifying local cultural archetypes:

“A lot of these ideas I came up with by traveling around and looking in the areas where Charnley Fold is located...England is diverse, small but diverse....so it does help to go and have a look at people’s gardens. So I’d drive around looking to see what people are actually doing in their gardens....and also looking at the type of public spaces people have access to ...there is a lot of green space and parks in England”. (Interview with Garuth Chalfont, CF)

At Charnley Fold, Chalfont designed the garden based on seven local archetypal landscapes, naming them the “Seven Meaningful Spaces” (For a full description see Charnley Fold, Case Study, Ch.3). Manipulating scale and using site elements and plants, Chalfont created a series of small garden spaces within a larger garden space that cue behavior and promote a sense of ownership. Observations and interviews concur that these spaces are successful at communicating and promoting use, as well as, providing a variety of spaces for service users and staff. Comments related to “archetypal spaces” were mentioned on fourteen occasions by those interviewed as a factor of the garden design that promote and or support the use of the garden. “Variety of sizes and types of spaces” was mentioned on thirty-nine occasions as a factor of the garden design that promotes and or supports the use of the garden, which is directly influenced by the concept of the “Seven Meaningful Spaces”. Furthermore, content and categorical analysis of the interview data showed that out of thirty-four categories of benefits related to the garden at Charnley Fold, “promotes engagement and curiosity” was the fourth most frequently mentioned benefit. Additionally the interviews mentioned “Comfortable”, “Welcoming”, “Sense of Control”, and “Sense of ownership” as benefits

of the garden. All of these factors and benefits directly match the intended purpose of the “Seven Meaningful Spaces” and thus it is reasonable to assume that the use of archetypal spaces has been a successful design strategy at CF. Therefore, the following guidelines are suggested as a way to address the specific cultural needs of the location in which a designer is working.

1. *Suggested Guideline:* Sensitively address the culture of a particular area by designing using the concept of spatial archetypes. In order to determine what is culturally appropriate for a given locale, utilize interviews and informal conversations with staff and service-users to determine cultural attitudes towards nature and descriptions of familiar landscapes. Conduct a visual survey of the surrounding area, making note of the types of public and private spaces and how people are using them. Combining this information to inform the design of a variety of small spaces that mimic the spatial archetype of a variety of local spaces, will imbue meaning, cue behavior, and promote familiarity, a sense of ownership, and engagement for a broad user group (Chalfont Interviews) (See figures 5.16 and 5.17)



Figure 5.16: Spatial Archetypes at Charnley Fold – “The Back Garden”
Photo credit: Garuth Chalfont



Figure 5.17: Spatial Archetypes at Charnley Fold – “The Pocket Park”
Photo credit: Garuth Chalfont

2. Existing Guideline: *Provide some features that might evoke memories for residents and allow them to engage in meaningful activities. Depending on location and cultural background, these things might include a garden shed, washing line, mailbox, vegetable garden, barbecue, cultural or religious icon, flagpole, or small piece of farm equipment (fixed to ground).*

....be aware of the generation you are designing for. (Cooper Marcus and Sachs 2014)

3. Existing Guideline: *Provide elements that encourage residents to assist in the care of the garden – a small working garden, a garden shed, raised beds, a greenhouse, a potting table accessible to a person in a wheelchair, and outdoor water taps can support gardening, whether in a formal horticultural therapy program or as an informal activity with family member or staff. Rakes, brooms, and small, lightweight watering cans left in the garden may prompt people to engage in satisfying outdoor activities. (Cooper Marcus and Sachs 2014)*

Study Results: The following two guidelines will be evaluated concurrently because they both address the way that the physical design of a garden and location of site elements can promote meaningful engagement in garden activities.

Discussion of the previous guideline concluded with the suggestion that the garden should be designed based on culturally familiar spatial archetypes that communicate to the user what activity is supposed to take place there and promote active engagement. Based on the study of Charnley Fold, the guidelines above are both interpreted to be concerned with the site elements and features required to support and successfully execute a spatial archetype. “Reminiscence” was reported on six

occasions in the interviews as both a top five garden benefit and an important part of the activity programming. Reminiscence activity – an activity that utilizes a particular feature to evoke conversation around memories -- is facilitated by a variety of site elements and features at CF. Beyond reminiscence as a goal driven activity, certain types of site features enable users to reminisce or recall what a space is used for or what they are supposed to do there. Thus, whether the intent of the activity is having a reminiscence conversation or to participate in the care of the garden, culturally identifiable site features will provide meaning and support therapeutic programming. Chalfont refers to this as “enabling space”, a term which encapsulates the intent of both of the above guidelines (Chalfont 2012a, 182) (See figures 5.19 – 5.23).

Using the previously discussed methods for determining culturally appropriate and familiar elements increases a designer’s chances for successfully promoting meaningful activity supported by reminiscence. These methods also allow the designer to be aware of what generation they are designing for, as mentioned in the first guideline. Flowering plants are frequently mentioned as elements that promote reminiscence at CF and thus should be considered (See planting guidelines). Elements and features mentioned in the interviews as factors of the garden design that support and or promote garden use at CF and enable space include “clotheslines”, “antique machinery” (mangle, lawnmower), “window boxes” with removable plastic inserts, “sheds”, “raised beds”, and a “poly-tunnel” style greenhouse (See figures 5.19 – 5.23). Tools left out in the garden to promote use referred to by Chalfont as *props* were also mentioned as garden elements that enable space (Chalfont 2012a, 182) (See figure

5.18). Site observation also noted props such as stacks of flowerpots, containers of potting, soil, and various garden tools such as trowels, rakes, wheelbarrows, watering cans, hoses, and brooms. The use of props is referenced below:

“I do think it’s a good idea and we do leave a few brushes laying around the garden....that way if someone is out for a walk and sees a brush, quite often they will start sweeping up. They do remember what it is for. They do remember doing those sort of things even if they don’t do it now or at home”.

(Support Worker, CF)



Figure 5.18: Using “props” – service user sweeping path at Charnley Fold
(Photo Credit: Garuth Chalfont)



Figure 5.19: Enabled Workspace at Charnley Fold (*Photo Credit: Garuth Chalfont*)



Figure 5.20: Enabled workspace at Charnley Fold (*Photo Credit: Andrew Bailey*)



Figure 5.21: Enabling space at Charnley Fold - Raised Beds
(Photo Credit: Garuth Chalfont)



Figure 5.22: Enabling space at Charnley Fold – Poly-tunnel
(Photo Credit: Andrew Bailey)



Figure 5.23: Small watering-cans enable activity at Charnley Fold
(Photo Credit: Andrew Bailey)

Further evidence to support the use of props and elements that enable space at CF, can be extracted from looking at the top five most frequently reported benefits of the garden from the interviews (See figure 5.24). A category worth calling particular attention to is “feeling useful”. People with dementia, who have worked full-time jobs their entire lives, often suffer frustration and angst from no longer feeling useful in the world. Furthermore, it can be frustrating when they want to help with an activity but find they can no longer do it. Thus, enabling solutions such as raised bed gardening and sweeping patios are useful, because they can accommodate the abilities of the user and they are simple and straightforward enough that can be easily performed by most users.

However, this is not to say that a user will not ever get frustrated with a seemingly easy activity; as previously noted there are a variety of changing needs and abilities associated with those inflicted by dementia. The point is that the garden design made the activity as available and accommodating as possible. Those that can and want to participate are enabled to do so by an environment that communicates its use clearly. For those who do not want to participate or have trouble doing so, staff support and the variety of other enabling features of the garden such as walking paths, benches, and views to natural areas are available to provide more passive options.

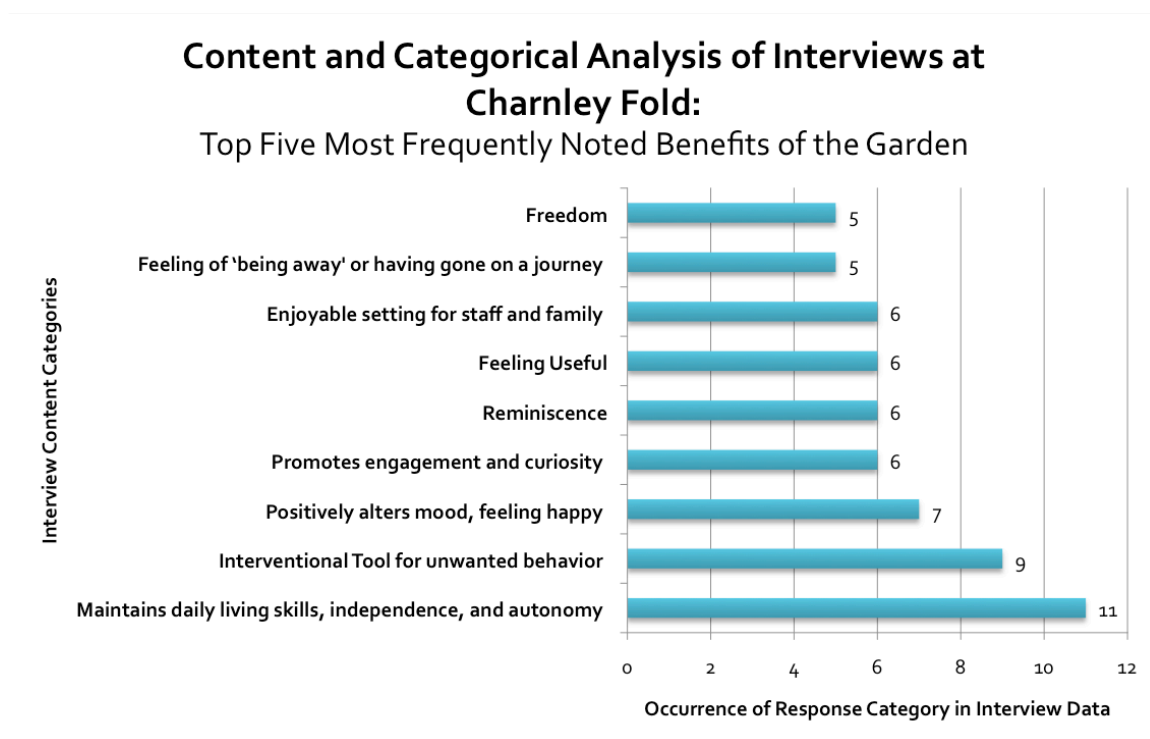


Figure 5.24: Top Five Reported Benefits of the garden at Charnley Fold

Supporting quotes from interviews:

“It can be frustrating if they really want to do it and they can’t. We are solving some of that by getting raised beds...so they can do it, rather than just coming to sit and watch...if they want to get involved they can”. (Support Worker, CF)

“He can’t really follow instruction...I’d say “would you sweep this path?”... He might brush for a couple of minutes with one hand and then that’s it. You know....he tries to do what he can.....but he gets very quickly fed up with it because he is not really contributing”. (Spouse of Service User, CF)

Additionally, when making decisions regarding what types of garden features to include promoting enabling space, it is important to consider the types of materials that are used and what type of an aesthetic that supports. For example, at CF, there are low picket fences around the “back garden” space constructed of wood. A wooden picket fence helps to communicate that the area is a domestic space which signals to the user that is acceptable to work there (see figure 5.25). Whereas, if the fence was made out of commercial grade steel, there is likelihood that the person would associate that aesthetic with a commercial or institutional landscape where they would not be allowed to work in the garden. Thus, it is easy to make a case for providing a domestic aesthetic in therapeutic gardens where activity and participation are paramount. Furthermore, repetition of a material throughout the garden, as is the case with the wooden structures at CF, will further reinforce the desired aesthetic and the type of activity, which it subliminally implies. Other considerations for supporting a domestic aesthetic include the planting design (See Planting Guidelines) and the scale of garden

elements. Chalfont references the aforementioned in an excerpt from the interviews below:

“I am really big on the idea of the picket fence because that tells you this is domestic....you know you don’t see picket fences in public parks and things like that. Using various landscape elements help give people the idea as to what kind of space it is as well. It’s a combination of planting design, the elements that we put in, and the fact that we do have individual different kinds of spaces. You can develop around different characteristics...the size of the bench in the public park area is a little bit bigger...comfortable for 3 people to sit....whereas further around you might have a bench that’s a smaller bench and the whole scale of the space might be a little bit smaller”. (Interview with Garuth Chalfont, CF)



Figure 5.25: Picket fence reinforces domestic aesthetic at Charnley Fold
(Photo Credit: Garuth Chalfont)

“The concept is that if people see a space that they can relate to, that doesn’t look like they are in the hospital, and doesn’t look like they are in a service....because if you go to the dentists office, you’re not going to touch the garden in front of the dentist’s office because its not yours.....and we’ve got to get away from the hospitalization/medical model of facilities that look like part of the NHS or the doctors establishment because what that does is it disempowers the person from doing anything in the garden”. (Interview with Garuth Chalfont, CF)

“Whenever you walk into a bit of the garden here at Charnley Fold....the idea is that the garden itself tells you.....This is a place to sit and look at the birds... This is a raised bed where you can actually dig...this is where you hang the clothes....this is where you pick the berries...this is where you do whatever it is that you are doing. The more that the space tells people: you are invited and encouraged to come and participate with me....then that enables people to do it independently. I was thrilled to come back here to find out that the service users look at this path [woodland walk] and walk on it simply because they look at it and the path says “come and go for a walk with me”. (Interview with Garuth Chalfont, CF)

Observation of the gardens at Springwood also supports reminiscence and enabling space by including site elements such as a greenhouse, a garden tool shed, antique machinery, and a potting table. Props include garden tools, bags of soil, small watering cans, and stacks of flowers. Observations at Springwood also revealed that props for promoting activity do not necessarily have to be directly related to the care of the garden. For example, an inflatable beach ball was brought out and knocked around

by users and costume style garden hats are used not only to protect users from the sun, but also to use in reminiscence activities – see quote below (see figure 5.26).

“Or putting different hats on...”where am I going today?”.....They can then reminisce on what kind of hat am I wearing and what am I going to be doing in this hat....and conversations will just emerge”. (Interview with Registered Manager, Springwood)



a. Ladies in hats



b. Beach ball prop



c. Workspace



d. Greenhouse

Figure 5.26: Enabling space at Springwood
(Photo Credit: Andrew Bailey; Garuth Chalfont (bottom right,d))

Taking into account the evidence from the case study sites, the following guidelines are suggested as a comprehensive way to address the intent of the original guidelines:

1. *Suggested Guideline:* Provide garden features and elements that will evoke memories and enable users to participate in activities in the garden, whether they are directly related to the care of the garden or not. The size, scale, material, and location of features should reinforce a domestic aesthetic as well as culturally familiar archetypal spaces.

2. *Suggested Guideline:* Spaces should clearly communicate to the users what they are and what activities are done there. Use fixed elements such as greenhouses, garden sheds, and raised beds, as well as, garden props such as brooms, trowels, small watering cans, and balls for sport to promote reminiscence and engagement.

3. *Existing Guideline:* *Provide space and facilities for culturally appropriate activities. (Cooper Marcus and Sachs 2014)*

Study Data: While any degree of open space might meet the needs of this guideline, the case studies provide examples of two such spaces, which are particularly relevant. The newly installed games pitch is intended for games such as lawn bowling, which is culturally relevant in the area. Furthermore, interviews with staff at both sites state the importance of having tables and places to sit and have “tea”, which is an important English tradition and occurs multiple times a day (see figure 5.27).



Figure 5.27: Culturally appropriate activities – Having “Tea” at Springwood
(Photo Credit: Garuth Chalfont)

Sun and Shade:

1. Existing Guideline: *Locate the garden so that its use is optimized during morning hours. (Cooper Marcus and Sachs 2014)*

2. Existing Guideline: *Where possible, locate the garden to ensure only a monolithic building shadow is cast into the garden by afternoon sun. Alternatively, a seating area could be located to receive afternoon sun, thus avoiding long shadows at that time of day (Cooper Marcus and Sachs 2014)*

Study Results: Site Analysis at Charnley Fold demonstrates that there are ample garden areas for activities and seating that receive morning sun. The enclosure of the space by the building ensures that only a monolithic shadow is cast into the garden by the afternoon sun and there are several options for seating areas that receive

afternoon sun (See figure 5.28). Furthermore, the facility operates as a day center, and thus service users are able to maximize the use of sunny areas during the daytime only. Staff report the benefit of sunlight for vitamin D production as a benefit of the garden anecdotally.

Site Analysis at Springwood reveals that the rear garden spaces are most shaded by the three-story building and retaining walls throughout the year with the exception of the day center patio and adjacent seating area which receives some morning sun (See figure 5.29). The front patio on the north side of the building provides opportunities for morning sun. Monolithic shadows from the building are cast into garden areas by the building and retaining walls (See Figure 5.29). There are limited opportunities for sitting in the late afternoon sun after 5:00PM. Large mature trees along the southern property line do cast some irregular shadows into the space but this is minimized because the spaces are cut into the hillside by tall retaining walls, which cast monolithic shadows. Interviews with staff report “sunshine” and “eases ‘sundowning’ symptoms” as benefits of the garden, which is a suggested benefit of locating the garden where residents can have exposure to bright morning light (Ancoli-Israel et al. 2003). However, both comments were recorded independently in separate contexts and thus further research would be required to make a clear connection.

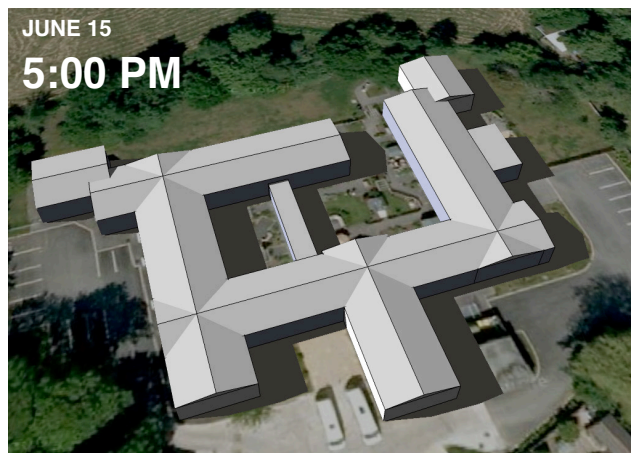


Figure 5.28: Sun and Shade Diagram at Charnley Fold

Note: Ignore shadows from aerial

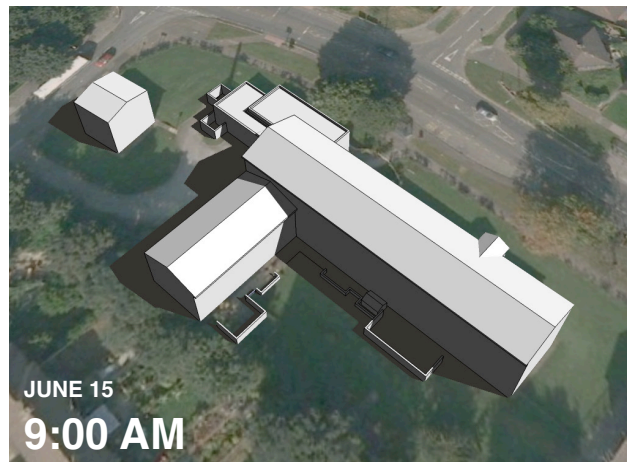


Figure 5.29: Sun and Shade Diagram at Springwood

Note: Ignore shadows from aerial

3. Existing Guideline: While shade is important in any healthcare garden, it is critical for individuals with Alzheimer's' dementia since they have difficulty remembering when they are too hot and would not think to put on a hat or sun block. (Cooper Marcus and Sachs 2014)

Study Data: This study strongly confirms the importance of providing shade in the garden for persons with dementia. Interviews with staff at Springwood reported "sunburn" on two occasions and "overheating" as negative effects of the garden. The list of negative effect categories was relatively small with only five distinct entry categories composed of eight-recorded comments, further suggesting the importance of the responses and the need to provide shade to prevent sunburn and overheating. This health and safety concern is compounded by the fact that many of the residents are taking medications that make them particularly photosensitive and by the fact that the residents are elderly and particularly sensitive to thermal conditions.

Comments from staff:

"Well we don't get sun very often...but we are conscious that people burn easy and sometimes people that are on certain medications can have reactions to the sun. We've had ladies that have been sun burnt yet they've only been in the sun 5 minutes. So you want to place them in the sun but again it can get as hot as this and if they are in the shade and they are cold and want a cardigan on...that's how it is...they are old and sensitive...and they probably haven't been outside in a week...they are not weathered...so to speak". (Interview with Deputy Manager, Springwood)

"I also have to be conscious of the health and safety implications...we don't want them getting sunstroke or sun burnt, etc". (Activities Coordinator)

Staff at Springwood manages the risk of overheating and sunburn by monitoring the amount of time that someone has been in the sun, providing large brimmed garden hats, and applying sunscreen on residents. Observations noted that some residents were adamantly resistant to putting on sunscreen, further supporting the need for shade. Additionally, the garden hats provided were colorful and flowery and of a type more preferred by the women residents. Thus, it is suggested that hats be provided that meet the preference of both genders. Conversely, feeling cold while in the shade was noted, suggesting the need to dress residents in layers that can be easily taken off and put back on. Observations on site noted an instance where a male resident became cold and wanted his jacket even on a hot, sunny day in June. Shortly after the resident became involved in gardening activities and was prompted by staff to take his jacket off by staff to avoid overheating. After taking his jacket off the resident had trouble concentrating on the activity because he was concerned that he had lost his jacket. This type of scenario could suggest the benefit of having a movable coat rack that could be placed right outside of a door or hooks on a wall outside of a door where staff and residents could hang cardigans and jackets when not in use making them readily available and visible.

The garden at Springwood provides ample opportunities for shade throughout the day from the position of the building. The retaining walls of the main patio space have a four-foot fence on top that is planted with flowering vines that provide a deep shade area underneath. Umbrellas are utilized to provide shade over tables, allowing the space to flexibly adapt to the needs of the residents. A retractable awning on the day

center side is also used to provide shade when needed. In the front garden, there are several areas for shade including a covered arbor seat and a seating area covered by the overhang of the building.

The variety of spaces at Charnley Fold also provides opportunities for shade throughout the day along the edges of the building. Throughout the garden, pergolas, covered benches, and tables with umbrellas facilitate shade. Large trees shade the “countryside” area and areas along the “woodland path” throughout the day as well. The following guidelines suggestions are made regarding the importance of shade and thermal comfort:

- 1. *Suggested Guideline:*** Consider using umbrellas and or retractable awnings to provide the flexibility of sun or shade throughout the day.
- 2. *Suggested Guideline:*** Consider providing a place directly outside of an entrance to hang coats and cardigans. This could be a movable coat rack or hooks mounted to the façade of the building. Older residents in general are sensitive to variances in temperature and so it is important to consider their thermal comfort in shade areas.
- 3. *Suggested Guideline:*** With further regards to thermal comfort for persons with dementia, provide adequate screening from predominant winds.

Boundaries and Enclosure:

1. Existing Guideline: *Ensure that the building edge encloses the garden as much as possible, so that the degree to which the garden has to be fenced is minimized. (Cooper Marcus and Sachs 2014)*

2. Existing Guideline: *Where a garden is not enclosed by the building, the boundaries of the garden should provide complete enclosure, with trees and shrubs screening the views of fences or walls. (Cooper Marcus and Sachs 2014)*

3. Existing Guideline: *Where any boundary wall or fence is not screened by planting, ensure that it is at least eight feet high, and avoid any potential foothold on the garden side, so that it is not climbable even if a chair or bench is moved close to it. (Cooper Marcus and Sachs 2014)*

Study Data: Site analysis shows that both case study sites provide complete enclosure of the garden areas using a combination of the building, walls, and fencing. Staff at both facilities report that the safety and security provided by the enclosure is an important factor supporting garden use. At Charnley Fold enclosure is provided by the courtyard layout of the building, but is also provided by fencing around the perimeter of the property. At Springwood the building, retaining walls, a steep slope, and perimeter fencing provide enclosure (See figure 5.30, 5.31, and 5.33). The grassy slope at Springwood provides a nice enclosure for residents because it is open and does not feel trapped in (See figure 5.30). Most residents are unable to walk up the slope, but if they do there is security fencing along the woodland area to keep them secure. At Charnley Fold the black steel security fence along the parking lot is screened by wooden trellis

and plantings, which reinforces the domestic aesthetic (See figure 5.35). At both facilities the enclosures successfully keep the attention inward and focused on the elements within the garden.

“We also screened the commercial fence and the view to the car park with wooden trellis...its no longer a distraction...you can hardly see it...it has become a garden!....it has made a huge difference for the space”. (Interview with Assistant Manager, CF)

At Charnley Fold, most of the perimeter fencing is screened, however a section of fence with a view to the neighboring farmland is left unscreened and is reported as a source of enjoyment for users and staff (See figure 5.34). Maintaining open views out to natural areas is a practice found to be beneficial by other research as well; see (Randall et al. 1990; Carman 2002).

“There is also the country side...because we are blessed here...we’ve got a field behind us and there used to be a long horned steer there...and people named it and looked for it...there is even a photo of it on the wall inside”. (Interview with Garuth Chalfont)

At Springwood, a low fence and the building enclose the front garden space and it has views out into the sidewalk, street, and surrounding neighborhood (See figure 5.32). While this may prove problematic for space intended for every day use, it works well at Springwood because it is a separate space on the other side of the building that is used as a special destination. This space is only used by people in the company of staff or family, which manages the risk of an elopement on to the busy street. This space provides a connection to the outside world that can be important for people with

dementia living in residential care that have little contact with the world outside (Chalfont 2012a, 183).

The following guidelines suggestions are made regarding enclosure:

1. *Suggested Guideline:* If a facility is fortunate to be located adjacent to a piece of property that offers a tranquil view of a natural area, consider leaving the view open by using only a low fence with low plants for screening. Views out to a borrowed landscape can be a source of enjoyment for those using the area and can help to reinforce a spatial archetype.

2. *Suggested Guideline:* In residential care settings, consider providing a destination place separate from the rest of the garden that has unscreened or selected views to the outside world. Connection to the outside world can be important for those with dementia who have reduced contact with the outside world and it can support the Kaplan's mechanism of "extent".

3. *Suggested Guideline:* In situations where there is an existing metal security fence or where metal security fencing is required by code, consider screening the fence with trellis and plantings to reinforce the aesthetic of a domestic garden space.

4. Existing Guideline: A gate to enable maintenance staff to enter, or residents to leave in an emergency, needs to be subtly located or designed to look like part of an opaque fence. (Cooper Marcus and Sachs 2014)

Study Data: The case study at Charnley Fold has successfully implemented this guideline where the metal security fencing meets the conservatory. The black metal fencing and gate were disguised by wooden trellis and the gate appears to be just another panel in the fence (See figure 5.35). Furthermore the latch is slightly obscured to discourage use.



Figure 5.30: Slope provides open enclosure at Springwood
(Photo Credit: Garuth Chalfont)



Figure 5.31: Security Fencing at Springwood
(Photo Credit: Garuth Chalfont)



Figure 5.32: Destination garden with views to outside world at Springwood
(Photo Credit: Garuth Chalfont)



Figure 5.33: Retaining Wall and Fence Combination at Springwood
(Photo Credit: Garuth Chalfont)



Figure 5.34: Open view to farmland at CF
(Photo Credit: Garuth Chalfont)



Figure 5.35: Screening the security fence and gate at CF
(Photo Credit: Garuth Chalfont)

Spaces:

1. Existing Guideline: *Provide separate gardens for patients in the mild, moderate, and severe stages of dementia, where different wards or units serve each stage.....Subtly different gardens should be provided where a facility is large enough and has sufficient residents in each of the three stages of the disease. (Cooper Marcus and Sachs 2014)*

Study Results: Even in facilities where clients are all evaluated to be within a similar stage of dementia, the range of ability levels, attention spans, and personal preference for outdoor space and activities can vary greatly. This variability is often furthered by other physical ailments and disabilities that are separate from dementia

symptoms. In the case of smaller facilities, caring for any group of people across a broad spectrum of dementia and where space and funding is limited, the designer should focus on providing a variety of spaces for both active and passive activity. The results of this study suggest the following addition to the existing guideline:

1. *Addition to Guideline: Passive Mixing vs Active Mixing* -- For activities where users are physically active, designers should consider providing separate spaces for those in separate stages of the disease or with similar ability levels. Mixing opposite ends of the ability spectrum during focused activities may prove to be frustrating and difficult for participants, as well as for staff facilitating the activity. However, mixing ability levels during more passive activities, with no specific objectives, may provide opportunities for those functioning at higher levels to assist those with lower abilities. This is an excellent opportunity to work on socialization skills for both groups and can provide the high-functioning resident with a sense of purpose, responsibility, and usefulness. The lower-functioning resident may benefit from feelings of security through being cared for, and it is suggested that their abilities may increase slightly when in the company of higher functioning individuals (Interview with Activities Coordinator Springwood Care Home).

Physical Access:

1. Existing Guideline: *Provide a single entry door to the garden, designed as a landmark, perhaps through the use of color or a distinctive overhang, so that those using the garden can easily see it from everywhere in the garden and understand where they have to return in order to get back indoors. (Cooper Marcus and Sachs 2014)*

Study Results: This study has shown that multiple points of entry are very effective at facilitating autonomous and programmed use of the garden space without any reported or observed incidents of users becoming lost or not being able to find their way back indoors. At Charnley Fold, a day center for those with mid to late stage dementia, there are eight unlocked doors to the garden space. Several of the doors are more prominent landmarks such as the French doors to the conservatory and the French doors at the garden room which are flanked by raised beds and covered by a small arbor, while others are less prominent yet still readily visible. However, further research is needed to determine whether these more prominent doors are used more than the others. Nonetheless, a content analysis of twelve staff and designer interviews at CF identified the mention of “multiple access doors to the garden” on seven occasions as a factor promoting and or supporting the use of the garden. A network of interconnected paths that loop users through the garden spaces, leading them back to the same or another entrance, supports their use. Additionally, the internal layout of the building at CF is very open and easily navigable. Entrances are located in open activity rooms and in widened foyers, which reduces the chance of any confusion or disorientation when exiting into the garden through one door and entering the building

through another. The high staff ratio (1:3) and multitude of large windows with views into every area of the garden that staff use to monitor the location of those using the garden also supports a multiple door system.

See the following quotes from care workers at CF supporting the use of multiple access doors:

“There are so many doors that lead out into the garden and its nice to see people just have a walk out there where you know they are in a safe place.”

“...that’s access straight out and straight in...you don’t have to use the side doors....but you can if you want. There are enough doors that lead out to the garden as well which is great!”

In contrast, at Springwood Residential Care Home and Day Center, there are only 3 doors, each accessing a separate garden area. The garden spaces are relatively small and thus recognition of the entry door to the building is easily facilitated once in the space. However, a content analysis of six staff and resident interviews at Springwood identified the mention of “not enough access points from the building” on one occasion as a factor limiting and or challenging the use of the garden. Furthermore, interviews identified on three occasions that the “building design limits easy access” and that there is a “need for better integration of the building and the garden”. The following comment from the interviews illustrates the desire for more access doors out into the garden:

“With the building we are in traps...with long corridors...it would be nice to let that corridor flow out...and there could be some meaning to the walk....and they could set off on a walk into the garden but then loop back around to where they started....but safely and know that they’ve been there.....instead of just walking down up and down (the corridor)....”. (Interview with deputy manager at Springwood Care Home)

While further studies are needed to investigate the complexities of a single door vs. a multiple door scenario particularly with relation to staffing ratio, facility type, and building design, this study suggests that multiple doors aided by pathways, building design, and staff oversight are more effective than a single door at facilitating physical access to and from the garden.

2. Existing Guideline: Provide easy access from the building to the garden.

Critically important in facilitating garden access is that the door have an automatic opener or easily usable handle and that the entry should not have a lip that might impede wheelchair access. (Cooper Marcus and Sachs 2014)

Study Results: This study confirms the need for easy access from the building to the garden. The case study of Charnley Fold exemplifies this guideline in part by the 8 entry doors to the garden that are located throughout the building making the garden readily accessible from multiple areas. An interview with Chalfont, the garden designer, mentioned the requirement for “100% wheelchair accessible entrances”. All of the doors that are above the existing grade are fitted with wheelchair ramps and in some cases there are railings. In the following excerpt from the interviews, Chalfont describes

how the foyer space by the door was modified to promote easy access and provide behavioral cues to the user (See figure 5.37):

“when you get to the door, there is not just a corridor straight to the door, but there is an area that is wider right by the door. So there is a place to sit and there is a coat rack with hats, etc...so that people see the boots and the hats and they think, “ok we are going outside”. (Chalfont Interview Part 1)

Doors at Charnley Fold are equipped with easily usable handles that users pull to open. The doors out into the garden have glass panels and windows on either side (See figure 5.37). The intent here is to allow people to look out into the garden, hopefully making the decision to go outdoors when something piques their interests. This is reinforced on the outside of the main courtyard door by a covered arbor and flanking raised beds, creating an outdoor foyer space where users can pause and survey the garden, and make the decision as to whether to go out into the garden or come back inside – Chalfont refers to this as “edge space” (Chalfont and Rodiek 2005).

An informal conversation with Chalfont, recorded in the observation data, states that he tries to avoid the types of door handles with a bar across that you push, particularly in facilities where the door are not always left unlocked (See figure 5.36). If the door is locked and the user leans forward into the bar, the bar makes a loud clap sound and they are jolted as a result of pushing their weight into a locked door. This is reported to be unsettling and agitating for users as they bang on the door trying to get outside.



Figure 5.36: Examples of door handles to avoid

Aside from the architectural limitation of the building at Springwood, the doors provide easy access to the outdoor space. The doors have glass panels allowing users to see through and wheelchair ramps with railings on either side to facilitate access (See figure 5.38). Content analysis of the interviews with staff identified “doors to garden spaces are handicap accessible and have railings” on multiple occasions as important factors promoting and or supporting the use of the garden (See figure 5.38).



Figure 5.37: Doors with windows and foyer space
(Photo Credit: Garuth Chalfont)



Figure 5.38: Accessible doors with windows, handrails, and ramps at Springwood
(Photo Credit: Garuth Chalfont)

3. Existing Guideline: *The door to the garden should be kept unlocked as often as possible for free (unprogrammed) access to the outdoors. (Cooper Marcus and Sachs 2014)*

Study Results: This study confirms the guideline to keep access doors to the garden unlocked as often as possible. Content analysis of staff and designer interviews at Charnley Fold note “doors to the garden are always unlocked” on eight occasions as a factor promoting and or supporting the use of the garden. Site observations would go a step further to add that doors should be left propped open if the weather is nice.

Supporting quotes from CF:

“...all the doors that can be unlocked are unlocked as long as its safe. The only locked doors are out into the carpark, so we’ve got to be careful anyway....and that’s only a lock that they could open anyway...but we have alarms on it....so we are always aware if somebody gets on the carpark side of it....but I think anywhere in the garden they’ve got access all the time...so if they want to come out they can come out.” (Care Worker, CF)

“...he wanted a place with no locked doors , where people weren’t banging on doors trying to get out....because they want to get out because they are looking for something and then they get outside and then they feel like they are locked in anymore...” (Assistant Manager, CF)

4. Existing Guideline: *Locate restrooms very close to the garden entry.(Cooper Marcus and Sachs 2014)*

Study Results: This study confirms the need to locate restrooms close to the entrance. While no direct comments were made in the interviews regarding the location of restrooms with regards to the garden, observation on-site and inventory of the architectural plans show that restrooms are located near entrances (See figure 5.39 and 5.40). Since staff at Springwood report that time spent keeping up with daily chores, including resident hygiene that requires restroom facilities, limits and/or challenges the use of the garden, it is interesting to consider a scenario where restrooms are located outside in the garden space or where there is a direct door into a restroom from the outside. In a facility treating later stages of dementia, where there is a lower staff to resident ratio, this might facilitate staff to accompany larger groups in the garden safely

because they would not have to leave the outdoor space to help someone to the restroom. It might also aid in keeping people outside longer. While the author has found no examples of exterior restrooms in the review of literature, this is certainly an area worth researching.

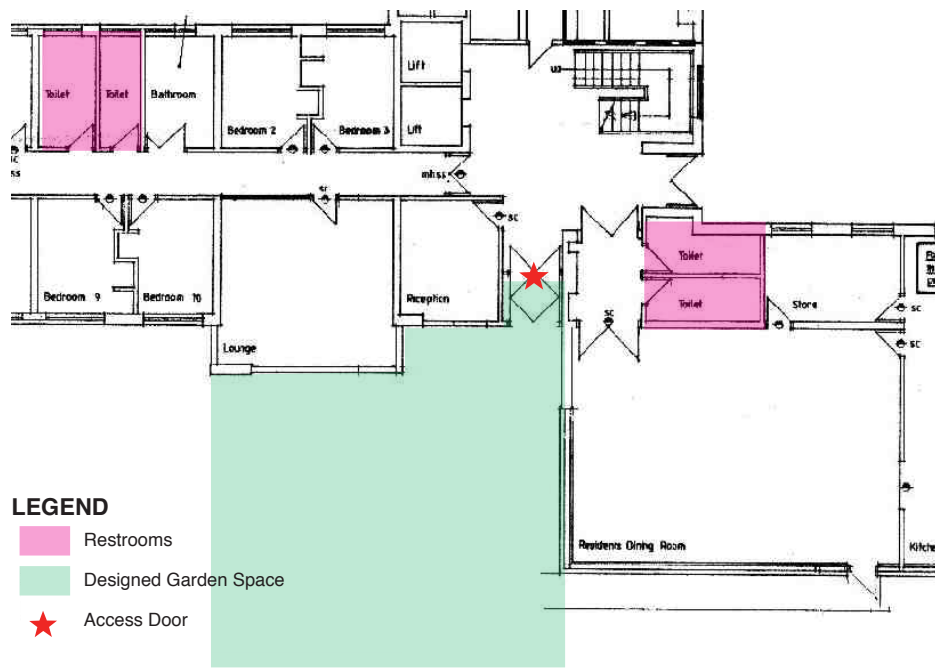


Figure 5.39: Close proximity of restrooms to the garden entry at Springwood Residential Care Home



Figure 5.40: Close proximity of restrooms to the garden entry at Charnley Fold Enhanced Dementia Day Support

Seating:

1. Existing Guideline: Provide seating at relatively frequent intervals along pathways since dementia patients are often restless. They sometimes pace, rest briefly, and then pace again. (Cooper Marcus and Sachs 2014)

2. Existing Guideline: *Provide plenty of different types of seating (for example, a variety of fixed and movable seats) in different locations and with a choice of sun or shade. (Cooper Marcus and Sachs 2014)*

Study Results: This study confirms the need to provide seating at frequent intervals along pathways as well as the need to provide multiple types of seating in both sunny and shady locations. Content analysis of staff interviews at CF and Springwood identified a “variety of seating options” as an element of the garden design that promoted and or supported the use of the garden (See figures 5.41 and 5.42). Figure 5.41 shows the variety of seating options found at CF. While the abundant space at Charnley Fold facilitates walking along paths in the garden and then pausing at places to sit, Springwood has much smaller patio spaces making it more of a direct destination. The following are suggestions from the study about the types of seating, as well as, strategies for their location in the garden.

Suggested Guidelines:

- With regards to selecting seating, it is important to consider the use of the space. Is the space designed for activities or for passive use? Is the space private or public? Benches by design are well suited for narrow areas along paths where the back of the bench is against a building. They are great options for perimeter areas. Benches tend to facilitate passive use, providing a temporary place to rest and observe (See figure 5.41 – b,c,f,g,h and 5.42 – b,e,f,h). Benches are good places for staff or visitors to spend one on one time with residents (See figure 5.41 – c,d). When locating benches or any seating along a path consider creating

an alcove or small pad off of the main path so that it does not hinder circulation for others passing by (See figure 5.41 - f). Furthermore, consider placing a bench directly outside and inside main entry doors, so that users can gradually work their way into the garden. (See figure 5.41 - i) Larger open spaces are better suited for seating with tables to promote social interaction. (See figure 5.41 – j and 5.42 - a,c)

- For facilities with limited space, that requires the flexibility in the use of one large open space for multiple activities, utilize movable furniture so that tables and chairs can be moved to the sides for group activities. (See figure 5.42 - c,d)
- Chair aerobics, a popular exercise activity for older people and people with dementia, requires individual chairs with armrests and an arms length distance between other users.
- Chairs with armrests on either side allow users to brace themselves as they stand up. Sitting on the end of a bench with armrests only provides one handrail to brace against standing up, which can be difficult for some (See figure 5.41– a).
- Along with providing a variety of seating, provide of variety of tables so that users can have a drink or a meal in the garden. Round tables are preferred because they do not have sharp corners and because they promote socialization and equality (See figure 5.42 - a,c). Round tables are also much easier to pull an extra chair up to if needed. Round picnic tables work well when there are separations between the benches (See figure 5.41 - j). Rectangular picnic tables

are observed to be difficult for users to sit down at because they have to step over the bench at an awkward angle to sit down (See figure 5.42 - g).

- Umbrellas and retractable awnings provide flexibility through the option of shade in sunny areas, Make sure they umbrellas are securely anchored (See figure 5.42 - c,d,g).
- Provide accessible seating areas for those in wheelchairs. This may include additional areas of paved surface along a path, similar to where one would locate a bench. Round tables with movable chairs work well (See figure 5.42 - a). See ADA guidelines for further information about table heights, leg clearances, etc.
- Consider using custom built furniture throughout the garden that is designed to the specific needs of older people – rounded edges, elevated seating height. Custom timber can promote a domestic aesthetic (See figure 5.41).
- Provide seating options that are protected from the elements, by some sort of covering overhead and on the sides (See figure 5.41 - c,g).
- Considered installing a “Swing Seat” – designed in collaboration by Chalfont and his carpenters, the swing seat is a custom designed seat for persons with dementia and older persons. The structure encloses a two person-swinging bench with a roof and lattice sides. Plexiglass is used on the sides to block the wind but allow light to penetrate. A short chain allows a gentle swing but is still stable enough to allow those with limited mobility to easily stand (See figure 5.41 - c).

- Consider locating a bench or seating in a far corner of the garden that is visible from the building as a destination point (See figure 5.41 – b,h). Make sure it accessible by a path.
- Locate seating to optimize views of the garden and surrounding areas (See figure 5.41 - h).
- Consider keeping several foldable chairs with armrests in activity areas that require standing in case someone gets tired and wants to sit down or if someone wants to be with the group but not actively participate (See figure 5.41 - e).



Figure 5.41: Seating at Charnley Fold
(Photo Credits: (a-f; i-j) Andrew Bailey, (g- h) Garuth Chalfont)



Figure 5.42: Seating at Springwood Residential Care Home
(Photo Credits: (a,c,g) Andrew Bailey, (b,d,e,f h) Garuth Chalfont)

Pathways:

1. Existing Guideline: *Provide a simple looped or figure-eight pathway circuit to minimize spatial confusion. (Cooper Marcus and Sachs 2014)*

Study Results: This study confirms the need for a looped pathway circuit. Content and categorical analysis of staff interviews at CF mentioned “circulation” as a significant factor promoting and or supporting the use of the garden. Circulation was mentioned on eighteen occasions in the interview making it the third most frequently commented on factor within the category of “garden design”. Furthermore, pathways were mentioned nine times as they relate to “physical access”, accounting for one third of all the comments within that category. The term “looping” at CF does not refer to a curvilinear loop. In fact, the pathways are laid out at ninety degree and forty-five degree angles (See figure 5.43). The eight access doors to the garden allow the paths to be slightly more complex and extensive than simple because all the paths eventually lead back to an entrance. That being said the pathways are very integrated, coherent, and easily navigable connecting a variety of garden spaces for the user. Materials throughout are kept consistent, aiding in way finding, with main pathways being a black tarmac surface, and secondary paths being a yellow concrete paver. A bright yellow aggregate is used for the “woodland path”, which loops around the outskirts of the East garden, aiding in way finding.

At Springwood, the main garden spaces are arranged in a linear fashion with paths connecting three main spaces with a gate separating the residential side of the garden from the day center side (See figure 5.44). When the gate between the two

sides is open, those who are more mobile can walk through the greenhouse and access the other side but each pathway dead-ends into a patio space. When the gate is closed residents have very little room to walk. The Deputy Manager spoke to this in an interview stating:

“...I mean they can walk ‘round the patio, but it’s square...it’s not walking with reason...because they are not walking anywhere far.”

Staff accommodate for the lack of walking paths by taking residents out individually for walks around the neighborhood, however this is limited by the amount of time in a week the staff has available. Thus, staff reported a lack of looping circulation paths for walking and a lack of paths to facilitate physically and mentally being away as factor of the garden design that limit and or challenge the use of the garden. The following are additional suggestions from the study regarding looping pathways:

Suggested Guidelines:

- At facilities that utilize multiple access doors to the garden, provide a system of circulation pathways that are easily navigable, tightly integrated to activity spaces, and that loop back to an entrance door.
- Keep materials consistent throughout to aid in way finding and spatial orientation (for example, one material for main pathways and one material for secondary routes)

- At facilities where a looping pathway is not possible or is not yet provided, work with managing staff to create weekly provisions for supervised walks in the neighborhood.

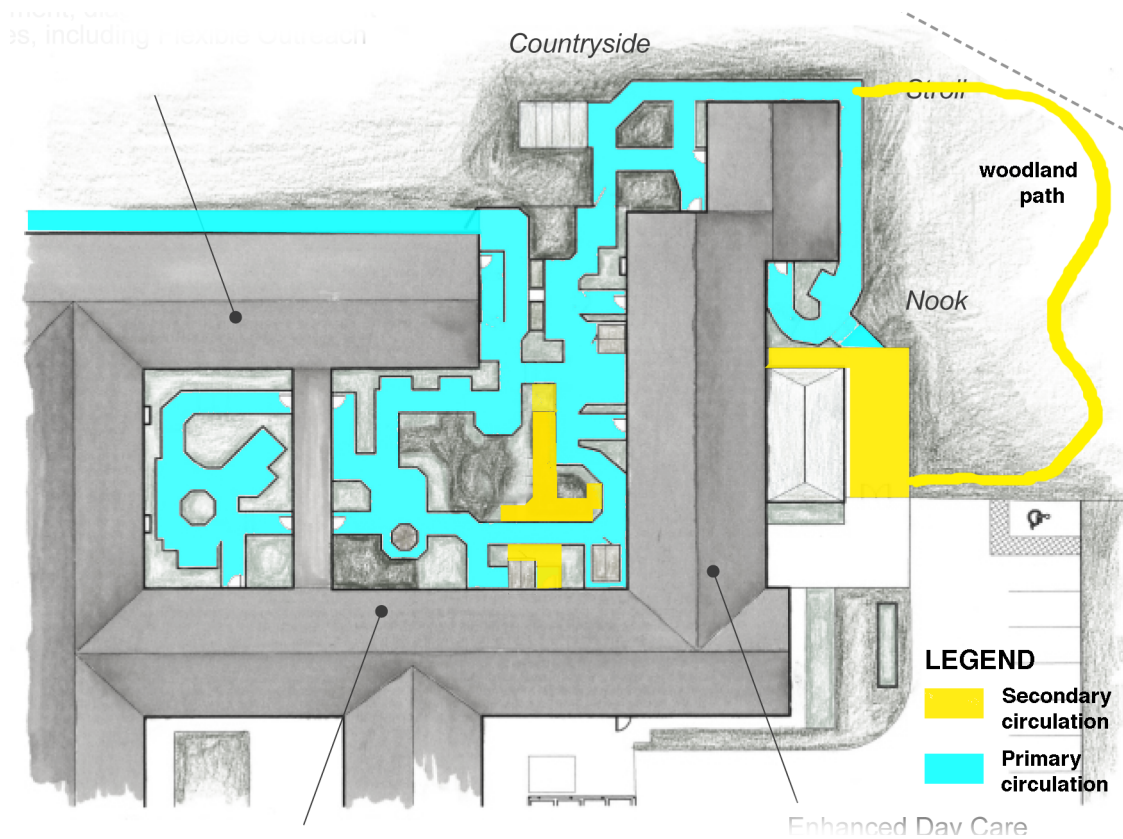


Figure 5.43: Circulation at Charnley Fold

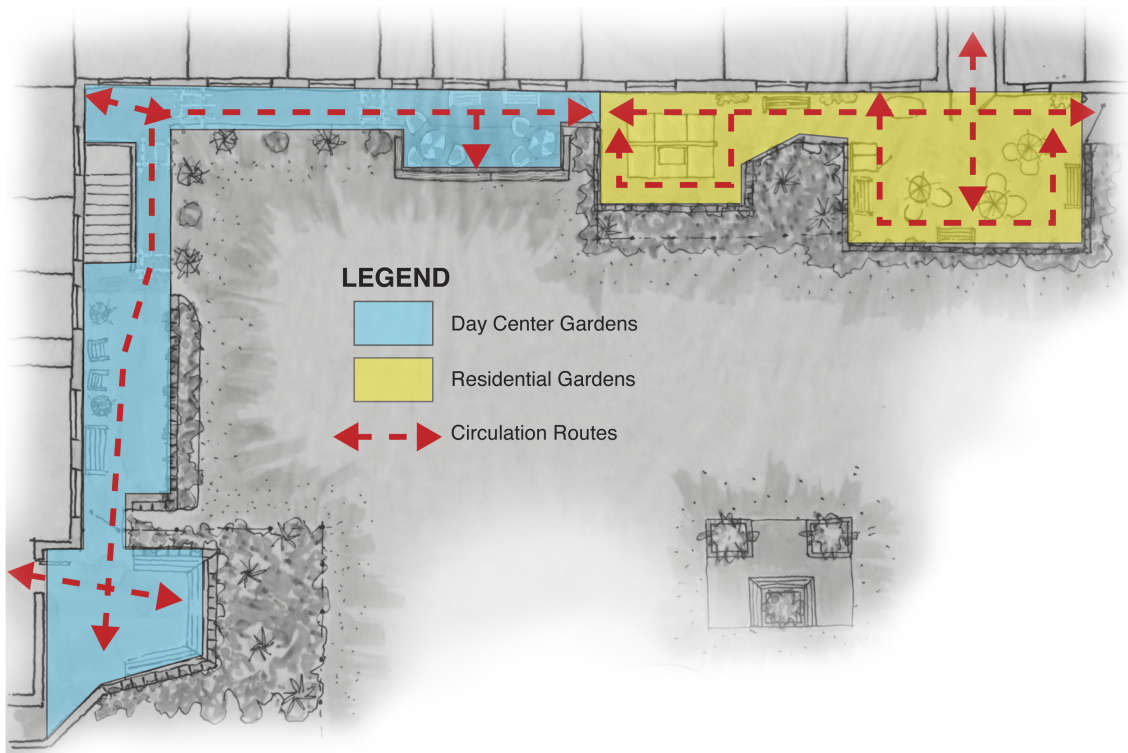


Figure 5.44: Circulation at Springwood Residential Care Home

2. Existing Guideline: Provide markers, landmarks, and interesting elements along the pathway – such as birdfeeders, a weather vane, garden ornaments, a wheelbarrow full of flowers, a flagpole – to assist with spatial orientation and to allow staff or family members to measure how far a resident can walk. (Cooper Marcus and Sachs 2014)

Study Data: The study data confirms the need for this guideline. Site inventory of Charnley Fold shows numerous interesting elements along the way that aid in way-finding and spatial orientation. Furthermore the design of the spaces and arrangement

of these site elements within the spaces make them spatially distinct and culturally recognizable, which supports spatial orientation (For more information see Guideline for Archetypal Spaces, p189). The variety and the different heights of elements combined make way-finding successful at CF. The pergolas, arches, trellises, sheds, chicken coop and taller specimen trees add verticality and serve as visual landmarks, aiding in spatial orientation (See figure 5.45). The low fences clearly delineate space and are useful at guiding the user through the garden. Other smaller elements also serve as visual markers and their variety increases the chances that an individual user will draw a connection to it. For example, one user might have a special connection to a plant and thus remember its location, while another user might recall where the mangle is because they remember it from their youth.

Examples of interesting site elements along paths that support spatial orientation at Charnley Fold include:

- Wooden Structures
 - Picket fences, Trellises, Pergolas, Archways (See figure 5.46), Benches, Picnic Tables, Garden Sheds, Swing-seats, Octagonal Chicken Coop, Raised Beds, Window Boxes, Bird-feeders, Birdhouses, Wheelbarrow planter
- Water Features
- Clothesline
- Antique Machinery – Mangle
- Plantings

- Upright Evergreens, Specimen Trees (Japanese Maples, Hawthorne),
Perennial Beds with interesting plant combinations
- Poly-Tunnel
- Clay markers made by service users (See figure 5.47).
- Miscellaneous statues, birdbaths, artwork made by residents

At Springwood, where the spaces are smaller and there are few paths, spatial orientation is more a factor of the retaining walls that carve out the spaces into the hillside. The names of the spaces also aid users and staff in determining the location of something – the patio, the picnic area, and the day-center patio. However, site elements do reinforce the location of things within the space. Elements such as an antique mangle, a garden shed, a greenhouse, trellis, a wash bucket hung on the wall, the location of potted plants aid in creating cognitive maps for residents. When working with one gentleman with dementia to water plants, the author observed that the man was able to remember the location of the water spigot and locations of the potted plants that needed watering on the other end of the garden after he was led in the activity one time. He remembered that hose was where he would fill up the watering can and that he needed to pass through the greenhouse to the picnic area and day-center patio where the plants needed watering. Furthermore, he remembered that he needed to water only the plants that were in pots (See figure 5.48). Given that this resident was in the later stages of dementia, it is reasonable to assume that the site elements reinforced his ability to spatially orient himself. It is also reasonable to assume, that his earlier involvement with the group planting the flowers in the pots reinforced his ability to recall

their locations because he had engaged with the flowerpots and residents in the group, thus having multiple physical and social layered experiences.

Therefore, the following are additional suggestions from the study regarding the guideline for interesting elements along a pathway to aid in spatial orientation:

Suggested Guidelines:

- Provide a range of site elements at different heights and scales.
- Developing sub-areas around the edges of the space and leaving more open space in the middle supports spatial orientation.
- Pergolas, trellises, and archways are useful landmarks for entryways.
- Bright colored flowers are useful for marking areas.
- Use a combination of upright evergreens and deciduous specimen trees to mark corners and delineate space.
- Low picket fences are useful at delineating space and guiding users along a path.
- Placing artwork in the garden made by service users is a great opportunity for therapeutic activity and can aid in way-finding.
- The greater the variety of interesting site elements = greater chances of connecting to the memories of a broader group of users
- In smaller spaces, site elements are still very important to reinforce the location of elements such as tools and water spigots.
- Having a consistent name for spaces and site elements also reinforces spatial orientation (for example, the “countryside” at CF or the “picnic area” at Springwood)

- Engaging users in the spaces regularly increases the chances that they will recall specifics about the space.



Figure 5.45: Spatial Orientation Diagram from Charnley Fold

Landmarks, markers, and interesting site elements of varying heights along the path aid in spatial orientation and cognitive mapping.



Figure 5.46: Wooden archway aids in way-finding at Charnley Fold
(Photo credit: Garuth Chalfont)



Figure 5.47: Clay Markers made by service users at Charnley Fold
(Photo credit: Garuth Chalfont)

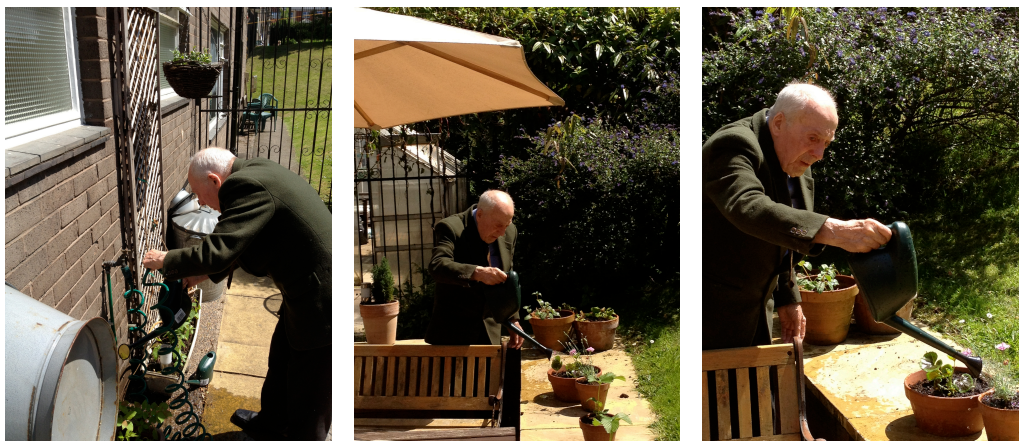


Figure 5.48: Site elements aiding spatial orientation and sequencing at Springwood
(Photo credit: Andrew Bailey)

3. Existing Guideline: *A level pathway system...(Cooper Marcus and Sachs 2014)*

Study Results: Inventory and observation of both sites confirms the need for a level pathway system. Both facilities accessible outdoor space are flat and have hard walkways. Content and categorical analysis of interviews with staff at both facilities mentions “surfaces at the same level (flat)” as an important factor of “Physical Access” – a key component promoting and or supporting the use of the garden.

4. Existing Guideline: *Provide challenges for residents who are more physically able. (Cooper Marcus and Sachs 2014)*

Study Results: It is no surprise that Cooper- Marcus cites Chalfont (2008b) for this particular guideline, because it is evident in his development of the garden at Charnley Fold. All of the main pathways are wheelchair accessible, but the recent addition of an informal “woodland pathway” is only accessible by those who are more physically able or those who are accompanied by staff. The “woodland path” follows the outskirts of the East Garden and is paved with bright yellow aggregate, which helps it to stand out as it passes under the shade of several mature trees (See figure 5.49). In the following excerpt from the interviews, Chalfont describes his viewpoint:

“I was really keen to have these different levels of spaces...something’s very close, something’s very formalized....a lot of hard paving because we’ve got people in wheelchairs....we’ve got people on frames. The whole space doesn’t have to be wheelchair accessible...but there can be some spaces that are very used by people who are physically able...not necessarily wheelchairs but that offer an opportunity for residents who need that kind of opportunity for getting

away...because I don't think we should make everything totally accessible for everyone.” (Interview with Garuth Chalfont)

Staff reported autonomous use of the path by those who are more able and mentioned the “woodland path” on eight occasions in the interviews as a factor promoting and or supporting the use of the garden.

Challenges at Charnley Fold are not limited to paths and rolling terrain, however. On multiple occasions in the interviews, staff report allowing users who are more physically able take on challenging tasks (See figure 5.50). The garden becomes the setting for these activities. Below are some of those quotes:

“[For example,] like when that guy, who used to be the grave digger...he was coming out working with me on these beds...this is a great spot for people who are still relatively independent...” (Chalfont Interview)

“Because what we’ve found is that learned experiences are still there. As long as you’re supervised and the whole thing is done carefully then people can still chop wood, brush the path, water the plants”. (District Services Manager Interview)

“We have a guy here who fiddles with a bicycle. He takes it apart, and puts its back together, doesn’t necessarily get it quite right. But he’ll spend all day, because he was an engineer, getting his hands dirty”. (District Services Manager Interview)



Figure 5.49: The “Woodland Path” at Charnley Fold
(Photo credit: Andrew Bailey)



Figure 5.50: Provide challenges for those who are more physically able
(Photo credit: Garuth Chalfont)

Planting:

1. Existing Guidelines:

A. *Avoid toxic plants in gardens for late stage Alzheimer's patients, since people tend to revert to infancy and put everything in their mouth at this stage of the disease...Plants that are harmful to touch, such as roses with many thorns, should also be excluded. (Cooper Marcus and Sachs 2014)*

B. *Include plants that are culturally appropriate or significant or that might trigger memory (reminiscence) and conversation (Cooper Marcus and Sachs 2014)*

Study Data: While this study certainly confirms that there are potential dangers associated with the use of toxic plants in gardens for people in late stage dementia, the data suggests that this guideline should be re-evaluated for several reasons. The first reason is that not all toxic plants are created equal. Toxicity from plants can cause damage to the human body in a variety of ways including but not limited to skin irritation, intestinal damage, and central nervous system damage. Toxicity should be evaluated along a gradient allowing the designer to avoid highly toxic plants while not completely excluding plants with lower toxicity from the palette. The designer can manage the risk of toxic plants by locating them away from paths and in areas that are out of the physical reach of users. The second reason is concerned with the type of organizational policy that supports the elimination of a risk at the expense of a benefit. For example, guideline B suggests that designers include plants that are culturally significant or that might trigger memory and conversation during reminiscence therapy -- which is an important benefit for persons with dementia. Yet it is quite easy to populate

a list of popular and culturally significant plants that are either poisonous or have thorns, such as hydrangeas, daffodils, angel's trumpets, and roses. In order for the benefits of these plants to be expressed in the garden, design strategies must be integrated with an organizational policy that accepts risk and manages it in order to maximize benefits. In the following excerpt from the interviews, Chalfont describes this viewpoint:

"You have to balance it off with what toxicity really is....and I think that things like roses....the ladies always say "oh I love roses, I would love to have roses!". But roses are against the rules because they've got thorns, but if you've got a space where you can plant a rose where people can see it and maybe get a waft of it without actually cutting themselves on it then I think you should plant roses. You know you've just got to be sensible...you've got to think about your clientele...."
(Chalfont Interview)

Taking this reasoning into account the study supports the following revision to guideline

A:

Addition to Guidelines: Pay careful attention to plant toxicity and danger from thorns when selecting plants for gardens used by those in the later stages of dementia due to their tendency to put plants in their mouths. Become familiar with the different species of toxic plants and their characteristics in order to evaluate them along a gradient of risk. Avoid highly toxic plants altogether. If a plant with medium to low toxicity provides a benefit such as reminiscence, manage the risk to the user by locating the plant away from paths and out of reach where it can be still be visibly enjoyed. Further manage this risk by

educating staff about the location and toxicity or dangers of the plant so that they can actively manage the risk and actively engage users with it for its benefits.

With specific regard to planting guideline B, the follow interview excerpt confirms that they are following this approach at CF:

“We get lots of comments about what sorts of plants people like and what plants they remember or used to grow up with or like the fragrance of and so we often get a list of different sorts of plants which really does inform the planting palette. ...What we are going to put in...but then a lot of the plants that you are going to see at Charnley Fold are plants that the service users have put in anyway...staff will buy what they want and then they will put them in...but that’s more like annuals”. (Chalfont Interview)

Therefore, the follow additions to the guideline are suggested:

1. Suggested Guideline: It is recommended that designers provide a variety of flowering plants to ensure interest throughout the season and to reinforce the aesthetic of a home garden, promoting user engagement. Planting *en masse* is a style often associated with commercial and institutional landscapes that convey messages of “don’t touch” and “private property”. For example, Chalfont points out *“you’re not going to touch the garden in front of the dentist’s office because it’s not yours...”* (Chalfont Interviews). Home gardeners are more likely to acquire a variety of plants over time and thus a planting style that mimics this is more apt to promote use of the garden. However, make sure to consider the

cultural norms for home gardens in your area to guide the end result. (Chalfont Interviews)

“...it doesn’t have to be perfect, it doesn’t have to be completely done and it certainly shouldn’t look like its designed by a designer....it should look like its designed by the guy or the woman that lives there” (Chalfont Interviews)



Figure 5.51: A variety of interesting plant combinations provided at CF
(Photo Credit: Garuth Chalfont)

Maintenance:

1. Existing Guideline: The garden should be designed for ease of maintenance.

(Cooper Marcus and Sachs 2014)

Study Results: The study has found that this guideline is much “easier said than done” with regards to plantings. Built structures and paving at both sites use durable materials and maintenance does not appear to be an issue at this point. With regard to plantings, this guideline seems to directly contradict guidelines calling for a variety of interesting plants with year-round interest. Every plant in the garden requires some level of maintenance, and diverse mixes of plants require work. Content analysis of staff interviews at both facilities cites ‘maintenance burden’ as the top negative effect of the garden (Springwood – mentioned three times, CF – mentioned eight times). Since many resident and service-users are unable to kneel down to weed beds, staff takes it upon themselves to maintain ground level plantings. However, with no official responsibility to care for the garden and a lack of time during the day from caring for basic needs, even a small lapse in maintenance during the growing season can deteriorate the garden – a problem that has limited the gardening program at Springwood in the past.

Chalfont offered a solution to this issue in an interview:

“I have been pushing for a long time for a position to be created where the responsibilities are half hand’s on carer and half taking care of the home. Someone who is a handyman, a gardener, and a careworker.....often time in care homes responsibilities are very separated and there is little crossover in roles and responsibilities.” (Interview with Garuth Chalfont, CF)

Therefore, the follow additions to the guideline are suggested:

1. *Suggested Guideline:* The garden should be designed for ease of maintenance but not at the expense of providing an interesting plant palette. In order to find a balance:

- Consider creating a position whose responsibilities are split between being a care worker and a gardener/handyman
- Create a maintenance schedule with rotating responsibilities to ensure that there is not a gap in the maintenance of the garden
- Foster relationships with outside volunteer organizations, schools, and family members who would be willing to help maintain the garden or do “clean up” days.
- Research and implement best horticultural maintenance practices for your given area
- Fill up ground level beds with plants to outcompete weeds in perennial beds.

2. *Existing Guideline:* *Ensure that the garden is attractive and well maintained so that family members might be encouraged to visit more often and take their family outdoors*

Study Data: While degree of attractiveness is a subjective measure, observations at both case study sites by the author consider both of the garden spaces to be attractive and to contain attractive garden elements. As discussed in the previous guideline, maintenance was reported to be a significant issue at both facilities – see

suggestions for facilitating ease of maintenance above. Staff at Springwood reported the garden was “visually pleasing to look at” and a “pleasant place for families to visit”. Staff at CF report that the garden is “welcoming”, “comfortable”, and an “enjoyable setting for staff and family”. This study has also implied that the degree to which a space is maintained doesn’t have to be perfect; some level of “messy” and incomplete is perfectly acceptable because it provides opportunities for users to engage. Considering the concept of enabling space; a space that needs weeding, a path left un-swept, or a pot left unplanted can communicate to a user that there is a need to do so. This is not to suggest that the garden be left unmaintained, which can lead to a lack of use, but rather to propose a philosophy of care, which is constantly seeking ways in which the garden can promote engagement with users. Users with dementia may not be able to prune correctly, know when to stop watering a container, or distinguish weed from flower. What is important, however, is that the space allows them to participate in the activity and part of that can mean that the end result is less than perfect. Thus the garden should strive to be attractive but not necessarily perfect.

Miscellaneous:

1. Existing Guideline: Provide elements such as water that may evoke genetic memories. (Cooper Marcus and Sachs 2014)

Study Data: Site inventory of Charnley Fold show the inclusion of two small water features in the garden space (See figure 5.52). They are located in the garden along paths and can be viewed from seating areas. There is no further evidence from

this study that supports their direct benefit, but it is reasonable to assume that providing a water feature adds an interesting and calming element to the garden space that may evoke genetic memories.

An interview with management at Charnley did mentioned that there was a challenge with getting water features approved early on in the design process due to perceived risks from residents drinking the water. Thus, any potential risk should be managed through staff awareness and fountain design and placement. An informal conversation with Chalfont, revealed that he prefers water features that you can buy as one unit and plug in onsite due to the ease of installation and maintenance.



Figure 5.52: Water Features at Charnley Fold
(Photo credit: Garuth Chalfont)

2. Existing Guideline: Include a small play area or basketball hoop to engage visiting grandchildren, who may be puzzled or concerned about changes of behavior in a grandparent or who might get bored during a visit. (Cooper Marcus and Sachs 2014)

Study Data: Interviews with staff at Springwood address the importance of providing an environment where family, especially young children could come and

engage with their family member. Providing both indoor and outdoor areas for family interaction can change the experience of visiting a residential home and encourage family to visit more often.

“...because (before) the kids would come in and want to go home because they would just have to stand there. By introducing drawing and flower arranging and the Snoezelen that we have here.... the kids found it fascinating with the lights! So it made visiting a whole new experience for people. And then taking the ball outside and having the kids play on our secure lawn....the residents would look at the kids and watch them playing....which again was something nice for older people to look forward to doing”. (Interview with Registered Manager, Springwood)

Therefore, the follow additions to the guideline are suggested:

1. Addition to Guideline: Locate the play area where residents who enjoy watching children at play, can view it.

Additional Guidelines From the Study:

The following are additional guidelines extracted from the study that were not directly related to this existing set of guidelines.

1. Suggested Guideline: Create and foster relationships with professionals and universities to perform studies and provide training that will benefit the facility.

Residents operating on any level of budget can benefit from creating relationships with professionals and academia that are researching healthcare facilities. Facilities will benefit by having researchers interact with staff and residents (See figure 5.53) and will be provided with valuable outside analysis of

their facility including how it may be improved or how it is providing value for its residents; which can be used in promotional materials, or for writing grants.

Researchers benefit by gaining valuable knowledge, which they can publish and make available to the larger public. For example, a study by Chalfont on the benefits of family kitchens at Springwood led to the adoption of family kitchens throughout all of Sheffcare's facilities.

2. Suggested Guideline: Work with facility managers to ensure that the organizational policy and philosophy of care acknowledges the importance of providing connection to nature for residents and service users; supports the integration of the garden as fundamental to the delivery of care; and that it does not conflict with the intended goals for the outdoor space. For example, a study from Grant and Wineman (2007) showed that organizational policy and staff attitudes were just as vital to improving the use of the garden as access and garden design.

3. Suggested Guideline: With specific regard to organizational policy, ensure that the policy towards risk looks to manage risk and not avoid it. Eliminating a risk altogether at the expense of a potential benefit should be avoided. Instead, focus on the potential benefits associated with a risk and work with staff to manage any potential negative consequences.



Figure 5.53: Engaging with residents during thesis research
(Photo credit: Garuth Chalfont)

3. Suggested Guideline: When culturally appropriate, consider having an area for chickens preferably fenced in with a decorative coop that can be opened up for used to view inside (See figure 5.54). Chickens are reported at Charnley Fold as a favorite garden addition for residents. Chickens are easy to care for, and their daily care such as feeding, watering, collecting eggs, and cleaning the coop can become engaging activities for users. Chickens also provide the opportunity for reminiscence conversation. Their eggs can be brought inside and used for baking activities, which strengthens the connection to the outdoors. Be sure to consult the local planning department for regulations on having chickens in a given area.



Figure 5.54: Chickens at Charnley Fold
(Photo credit: Garuth Chalfont)

4. Suggested Guideline: Provide indoor-outdoor space. These can be areas such as conservatories, covered pavilions, and poly-tunnels (See figure 5.55) that provide the feeling of being outside while offering some protection from the elements. These areas can facilitate many of the benefits users receive from nature indoors and allow for activities to take place regardless of the weather.

5. Suggested Guideline: Consider installing a plastic covered poly-tunnel instead of a glass greenhouse for horticultural activities (See figure 5.55). They are inexpensive to construct even at fairly large sizes and the opaque plastic covering keeps users attention focused inside as opposed to glass where they

can see out and get distracted. Locate the entrance to the poly-tunnel close to a building entry.



Figure 5.55: Poly-Tunnel at Charnley Fold
(Photo credit: Garuth Chalfont)

6. Suggested Guideline: Work with staff to find ways to integrate nature into as much of the programming as possible. Even the most seemingly unrelated activities could be done in an outdoor setting on a nice day. Flowers can be brought inside for arranging, bits of nature can be used for artwork (See figure 5.56), and bird feeders can be made. Staff interviews at CF fold mentioned on seven occasions activities that included nature and had a connection to the garden, but that were not necessarily gardening activities. A great example at CF is the addition of a live feed camera placed in a birds nesting box that is displayed on a television in the conservatory.



Figure 5.56: Nature-based activities at Charnley Fold
(Photo credit: Garuth Chalfont)

6. Suggested Guideline: Provide as much of a variety of sizes and types of spaces as your site will allow. This should include: active spaces and passive spaces; public spaces and private spaces; sunny areas and shady areas; noisy areas and quiet areas; open spaces and closed spaces. Providing choice and opportunity is important for engaging with a broad user group. Categorical analysis of interviews with staff at CF reported a variety of spaces on thirty-nine occasions as an important factor of the garden design that promotes and or supports the use of the garden space.

7. Suggested Guideline: Keep lightweight pots, hand tools, soil caddy's, and pushcarts on hand to facilitate gardening activities indoors. The pushcart at Charnley Fold was very useful at moving gardening activities from outside to inside (See figure 5.57).



Figure 5.57: Bringing gardening indoors at Charnley Fold
(Photo credit: Andrew Bailey)

6. Suggested Guideline: Provide small watering can for residents so that they can easily lift them and carry them around the garden. Water weighs just over eight pounds per gallon and so large watering cans can become unmanageable for residents very quickly. Small watering cans at Springwood were observed to be very manageable by residents.

8. Suggested Guideline: If space allows, create a path that leads to an area of the garden that is physically away from everything else to provide users with a sense of “being away”. Using the garden as an “interventional tool” for unwanted behavior was the second most frequently reported benefit of the outdoor space. The “woodland path” at Charnley Fold and the seating along it that overlooks the adjacent farmland is an archetypal example and staff report that it works well as an area for nature interventions. While most sites will not have the same access to views as CF, creatively work within the limitations of the site to find opportunities to promote psychologically and physically “being away”.

In an interview, Chalfont describes how the woodland path is used by the staff as an interventional tool for service users who are unsettled or irritated:

“...and it’s a meandering path so if the service user is a little agitated or bothered or not really settling, then staff have an option to go outside and not just walk on the hard paths that connect all the main activity spaces...but to get a bit off that path and to provide a different sort of experience that is a little more like “c’mon lets get away from folks a minute and just have a little chat ourselves”. People need that sense of “being away” and at the same time they are not leaving the site...but they

are having an experience in the landscape that feel like you are off the beaten path.” (Garuth Chalfont, CF)

9. Suggested Guideline: Provide a break area for staff in the garden that is separate from areas accessed by the residents. Caring for people with dementia can be physically and emotionally taxing, so it is important to provide an area for staff to “be away” and evoke the restorative properties of nature. At Springwood, a staff area for smoke breaks is outside of the secure main patio area, but maintains some visual access into the space, which is ideal.

10. Suggested Guideline: With regards to becoming a successful designer in the field of therapeutic gardens for person with dementia, understanding the importance of staff and people in the deliverance of therapeutic care cannot be overstated. Designers are often guilty of thinking that they can solve problems solely by perfecting a form or “tweaking” the design of a space ever so slightly. While very important, designs merely provide spaces where things can happen. For people with dementia the support of staff is essential and it is through their hard work that designers can ensure that the right things do happen in the designed spaces provided.

At Springwood comments related to “Staff/Service Integration” were mentioned on nine occasions as supporting the use of the garden and on nine occasions as limiting the use of the garden. At Charnley Fold “Staff/Service Integration” was mentioned on seven occasions as limiting the use of the garden and on 109 occasions as supporting the use of the garden. In both sets of

interviews, the questions varied but the majority of the questions related specifically to garden design and yet the responses regarding staff integration were quite noteworthy – in fact over a third of the responses that promoted and or supported the use of the garden design at Charnley Fold were categorized as “Staff/Service Integration”.

Through understanding how important staff are in maximizing the use and intent of designed spaces, designers have an opportunity to step out of their normal roles and become educators. Providing staff training is essential to designing successful therapeutic gardens. Therapeutic gardens for persons with dementia are so incredibly specialized that in order for staff to use them they require instruction and thus training staff is an important role that designers will need to accept in this area of expertise moving forward. However, as discussed in further detail in the previous section on design process, designers must also listen and elicit input from staff in order to understand user needs. An iterative dialogue between staff and designer must occur in order to create spaces, an organizational policy, and a design philosophy that work.

The study also suggests that therapeutic garden designers should become knowledgeable about the architectural design of dementia care facilities, particularly with regard to how the interior spaces connect and support the exterior space, so that they can successfully communicate their requirements to project architects or act as architectural consultants for renovations. Additionally, designers of therapeutic gardens must realize that that the primary goal of their

designs is to provide therapeutic benefit, which “ethically obligates the garden designer to subordinate or align his or her personal tastes to the paramount objective of creating a user-centered, supportive environment” (Ulrich 1999, 30).

In the same way that Chalfont created successful designs at Springwood and Charnley Fold, successful designers should “seek input from patients and staff, and assiduously utilize the available research to inform their creativity and design approach” (Ibid., p.30).

Guidelines Analysis: The analyses of existing guidelines have contributed some important information regarding how designers can holistically and specifically improve the quality of care at dementia care facilities through the integration of garden space. The suggested guidelines address a variety of strategies for improving physical and visual access from the building and within the garden, as well as, strategies for creating spaces that can accommodate a variety of uses and enable activity. The analysis also points to a variety of specific design elements such as seating, props, and plantings that can be used to support meaningful activity. The concept of designing garden spaces based upon spatial archetypes was identified as a successful method for creating a culturally familiar sense of place that encourages activity. A variety of other guidelines addressed ways that the staff can create stronger connections between the garden and the delivery of care, such as providing a walking path with a destination point for behavior interventions or programming activities that connect to the garden space on some level, even if it is not directly related to gardening. Philosophy of care

and organizational policy was addressed, with guidelines promoting a management approach that accepts risks and manages them through staff involvement in order to maximize opportunities for benefits. Potential solutions were uncovered regarding ways to approach the maintenance of the garden, which was the number one reported concern by staff at both facilities. Design process was found to be an area with incredible potential for improving care and creating therapeutic spaces. Overall, the analysis of the guidelines has demonstrated the complexities of designing for people with dementia. The range of guidelines addressed supports the need for an overarching approach that integrates all of the components required for a successful care environment. The next section will use the information from the above analyses to derive a model that can be used by designers and facility managers to determine the best approach for improving care for people through the use of garden space.

CHAPTER 6

CONCLUSIONS

This chapter will present the conclusions of this research and end with implications for future research in this area. The purpose of this research is to further the collective understanding of the roles of therapeutic gardens for treating persons with dementia in residential and day facilities. The research investigates how designers and facility managers can holistically and specifically improve the quality of care for persons with dementia, through the integration of a well-designed garden space. In depth case studies and analysis of two exemplary facilities in the UK were performed in order to elucidate the complexities of how gardens are integrated into successful care environments for persons with dementia, regardless of existing limitations of the site, facility, and service. A complex descriptive strategy combining interviews and site observation attempted to answer the following research question and sub-questions.

- **How can designers and facility managers comprehensively and specifically approach improving the quality of care for persons with dementia, through the integration of a well-designed garden space?**
 - Is it possible to develop a model to comprehensively guide designers and facility managers in making decisions on how to feasibly improve the delivery of care for persons with dementia within the constraints of the site, building, and staff?

- How can human/environmental interaction theories support and or inform a design or management approach?
- In what ways does the study inform, nuance, and confirm existing design guidelines for dementia gardens? Can the case studies uncover new design guidelines or best management practices that specifically address strategies for improving care?
- What is the role of the landscape architect or garden designer who specializes in the design of therapeutic gardens for persons with dementia? How can this role be redefined in the future to ensure that the benefits of the garden design are maximized?
- What are important areas for future research?

Integrating Gardens into the Care Environment

With regards to how designers and facility managers can comprehensively approach improving quality of care, the study uncovered some interesting results about the role of the garden in the larger context of the care environment. It was initially hypothesized that the role of the garden space was integral to improving quality of care for persons with dementia, however this role is complex and is greatly influenced by other physical, psychological, and managerial aspects of a care environment. The study data supported this hypothesis revealing that while the garden was a key component of the physical environment and the delivery of care, its benefits could not be maximized without the support of the building and the integration of staff and programming. Thus,

the care environment should be considered comprehensively as an amalgamation of these three factors and any approach that seeks to improve the quality of care must consider how the garden, building, and staff/service interact, particularly when faced with existing limitations. Ideally, it is proposed that in a highly effective care environment the garden, building, and staff equally support the goal of delivering quality care to the person with dementia (See figure 6.1).

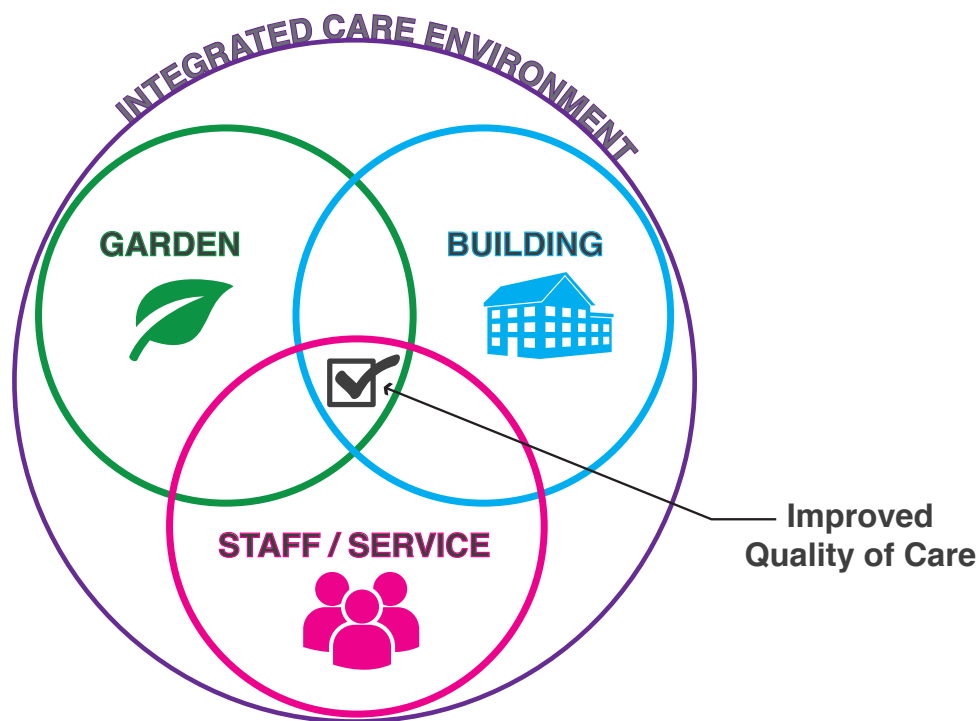


Figure 6.1: Ideal Integration Model for Care Environments

While designers and managers planning new facilities can use this model as a general guide for providing more integrated care environments, the majority of existing facilities and even new facilities providing care for persons with dementia have

limitations set in place that prevent them from achieving this ideal condition. This study shows that limiting factors for existing facilities can include but are not limited to operating budget, number of staff, staff training, facility type, operational policy, existing architecture, and constraints of the site such as topography, location, and amount of available garden space. So the question becomes: How do facilities provide an integrated and high quality of care through the use of the garden notwithstanding the preexisting constraints of the care environment?

The analysis of the case study sites offers an informative comparison, because the observations, interviews, and theoretical analyses suggest that both sites deliver a high quality of care. This is not to suggest that either site cannot be improved but rather that they both currently operate at a high level. Charnley Fold has conditions, which mimic closely the ideal integration model (figure 6.1), while Springwood has more limitations including an existing building with access issues to the garden; a limited amount of garden space; a limited budget; a limited staff to client ratio; and a reduced amount of staff time that can be devoted to outdoor activities. Accepting the fact that facilities have a variety of inherent limitations, the author proposes a new model for improving the quality of care at facilities for persons with dementia -- a model that assesses limitations and addresses the potential for adaptation with regard to the existing garden, building, and staff/service. Beginning with the same ideals set forward in the ideal integration model; that the building and staff must support the garden equally, the new Garden Integration Model for Therapeutic Care Environments (See figure 6.2) is represented by an equilateral triangle where each point falls upon an axis

that represents the degree to which the garden, building, or staff meets the needs of the clientele. At ideal integration each point of the triangle falls at 100%. While exact percentage is somewhat arbitrary in comparison to proportion and may be derived through a variety of different metrics, it is used to aid in the discussion of the model.

Garden Integration Model for Therapeutic Care Environments:

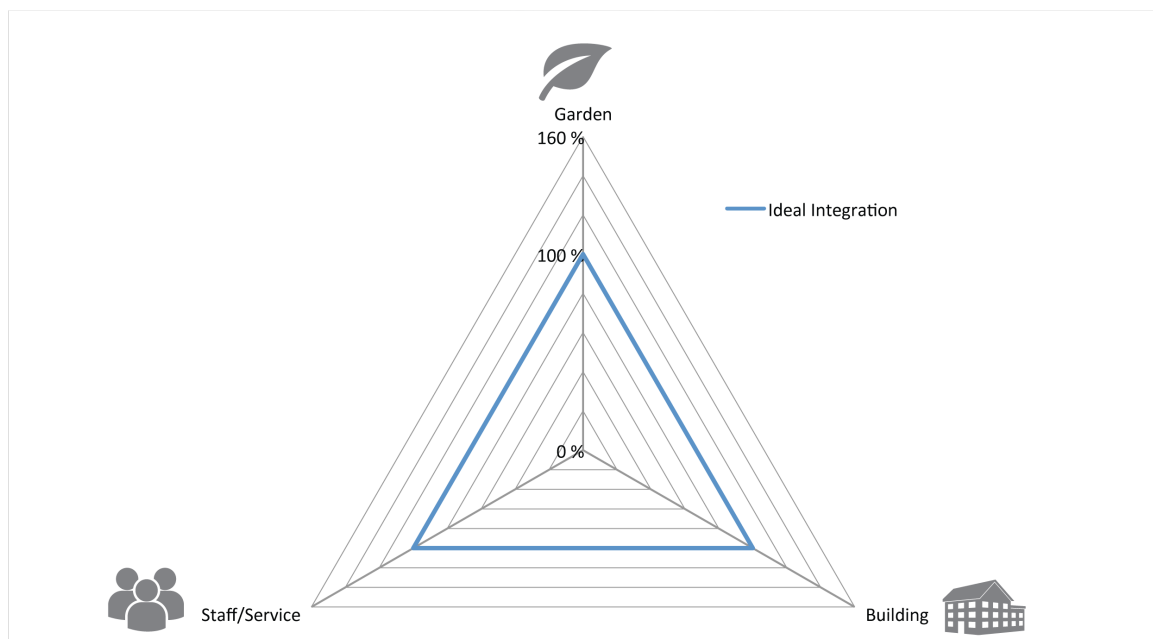


Figure 6.2: Garden Integration Model at Ideal Integration Conditions

Using Springwood as an example to illustrate how the model works, it is first necessary to assess the limitations of the facility. Staff interviews identified elements of garden design, staff/service integration, and physical access as the top factors limiting garden use (See figure 5.3). A closer look at comments related to garden design reports: the size of the patio is too small; there are no looping circulation paths for

walking; and that the placement of the greenhouse limits access to other garden spaces and divides the community. Comments related to staff/service integration report that: the organizational policy limits autonomous use; there are no required staff provisions for daily or weekly garden use; there is a lack of time for garden related activities because staff time is occupied by daily operational tasks; there is a current lack of programmed garden related activities; and that staff require further training in order to understand the importance of taking residents outside. Comments related to physical access report that: there are not enough access points from the building; the building design limits easy access; the garden areas are segregated; and the sloping terrain limits physical access to the upper area of the garden. Additionally and quite importantly a low budget was reported as a factor challenging the use of the garden. Assuming that budgetary constraints play a large role in whether or not a solution for a limitation is implemented, it is possible to make predictions about what changes are feasible at Springwood.

The building originally constructed in the 1970's would have to undergo expensive and extensive renovations in order to improve access from all levels and increase the number of doors leading out into the garden; so that is a solution, which is probably not financially feasible. The small spaces mentioned regarding the garden design are a direct result of the topography of the site. In order to build the existing patios, large amounts of soil had to be excavated and expensive retaining walls had to be constructed. So increasing the size of the existing spaces is also probably not financially feasible. However, there is an opportunity to extend a walking path around the building from the main patio to the front garden space. While this solution also has

inherent costs, the feasibility of such an improvement seems reasonable in comparison to other solutions; particularly through the aid of grants or volunteer labor.

Limitations relating to the integration of the staff/service, however, would appear to have the most potential for adaptation and change. Not in the sense of hiring more staff – while quite beneficial, this solution is also costly and is probably not feasible – but in the sense of improving operational policy, providing more specialized training to existing staff, increasing the number of programmed garden activities, and through creating required daily or weekly provisions for outdoor use. For example, a simple change in operational policy could allow autonomous use of the garden space and staff training could support this by increasing the comfort level of staff regarding leaving residents unattended for short periods of time.

In the interviews, staff reported safety and security as the fourth most important factor limiting the use of the garden, however site analysis shows that the areas are very secure and present a very small amount of risk as compared to any common area within the building. Thus, it is reasonable to assume that the operational policies and staff attitudes regarding leaving residents outside unattended are based more on perceived risk than actual risk. Adopting a management approach that more readily accepts risk and manages it will allow the staff more freedom regarding the use of the garden space. Furthermore the creation of more outdoor-programmed activities is an inexpensive solution to improving the integration of the garden. Therefore, an assessment of the limitations at Springwood suggests that the addition of a walking path, changes in operational policies, and investment in existing human capital through

staff training is the most feasible approach to improving the integration of the garden and delivering an improved quality of care. While these improvements are considered critical to improving integration, a variety of other small changes are also feasible and are discussed in detail in the guidelines section of chapter 5. For example the inclusion of more flowering plant material at Springwood can improve the quality of the outdoor space.

Now that it is established that changes in staff/service integration are the most feasible solutions given the existing constraints of the building and site, it is possible to see how the ideal integration model can be modified to achieve improved quality of care through an adaptation in the way that the three factors integrate and support one another. In figure 6.2, the blue line represents the ideal integration of the three factors, while the red line represents the current integration at Springwood. In this example, the model utilizes the data category, “factors limiting/challenging garden use” (figure 5.3) from the interviews as a rough metric to determine what percentage of limitation separates the garden, building, or staff/service from the ideal condition. For example, out of fifty total comments in the category “factors limiting/challenging garden use”, fourteen comments were recorded relating to limitations of physical access from the building and the integration of the building with the garden, comprising approximately 30% of the total comments for that category. For the purpose of this example, an assumption is made that a lack of all limiting/challenging factors represents the ideal integration (blue triangle) at 100%. Given this assumption, from the total number of comments made in the category “factors limiting/challenging garden use”, the

percentage of “limiting/challenging” comments relating to the building, garden, or staff/service separates the current condition from the ideal. Hence the building is limited approximately 30%; ~25% for the garden; and ~20% for staff/service. These points represent the current conditions (red line).

Through this model, it is possible to understand holistically and theoretically how well the facility currently integrates the three factors of the care environment and where improvement can occur. Given the analysis of limitations, it was determined that staff/service integration is an area where it is most feasible to make improvements. Thus the green line in the model represents the proposed integration for Springwood. The building remains the same; the garden improves through the addition of a walking path around the building; and the improvements to operational policy, staff training, and garden programming extend beyond the ideal condition (blue line) to compensate for the limitations of the other two factors (figure 6.3). Therefore, through the compensation of staff/service it is possible for Springwood to achieve enhanced integration and deliver an improved quality of care for their residents, despite the limitations and constraints inherent to the site and the building.

Garden Integration Model for Therapeutic Care Environments:

Springwood Residential Care Home

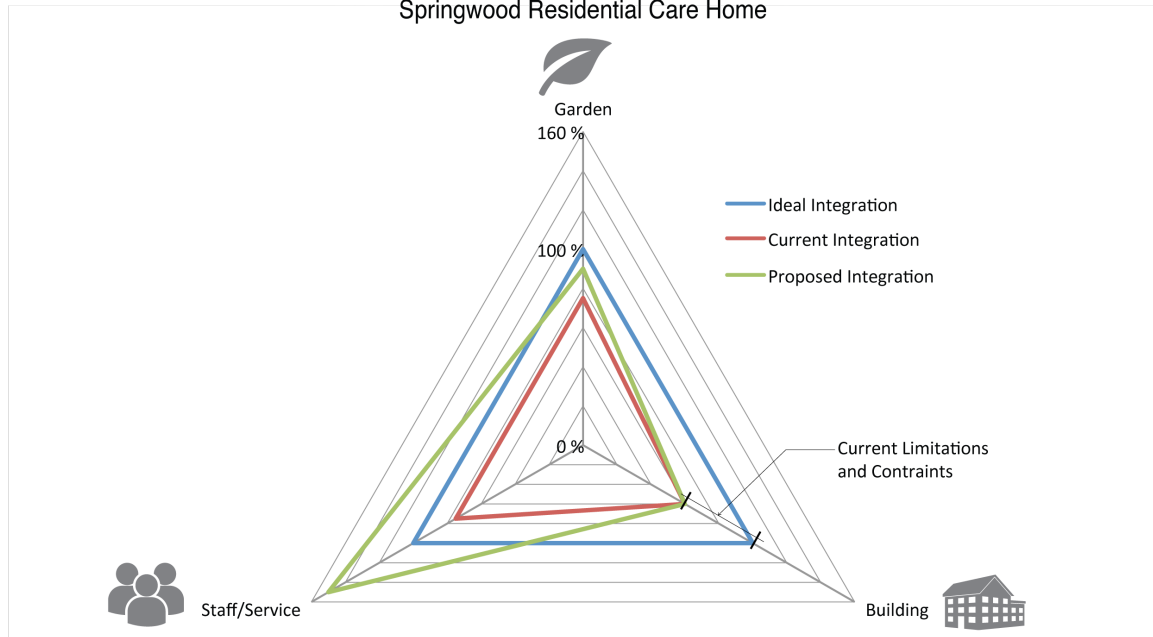


Figure 6.3: Garden Integration Model Applied at Springwood

Through the use of this model, garden designers and facility managers can broadly assess the ways in which they can improve the integration of the physical and human environment, thereby delivering an improved quality of care to their clientele. The most important conclusion that this model illustrates is that, no matter how well designed, the inclusion of a garden alone is not adequate to provide a high quality of care. The garden and design philosophy must be successfully integrated into all aspects of the care environment in order for persons with dementia to receive maximum benefit. The garden integration model is also particularly useful because it is flexible and allows for adaptation within reason. In the interviews, both facilities reported that the variety of ability levels and attention spans of their clientele, which change over time, are a significant challenge regarding the use of the garden. It has been established that

the needs of people with dementia can vary from day to day and from week to week. Furthermore, the disease is progressive and eventually groups of users will transition to other forms of care and the facility will have a new group with a new dynamic and range of needs. Adopting a model with flexibility allows designers to understand where they can make improvements in order to accommodate the needs of a dynamic clientele. Thus the ideal condition may be slightly different for individual sites. For example, staff may develop more intensive gardening programs for a group of users with good mobility or the designer may include new plants with cultural or personal significance for a new user.

However, this model is not fully developed and will require future research to confirm its validity across multiple facilities. For example, metrics used to assess how well the garden, building, and staff/service meet the needs of the clients are not standardized. In this example, quantified data from staff interviews was used, however it is possible to use a variety of other data types as long as the data is an assessment of two main factors: 1) how well the facility supports and meets the needs of its users and 2) what factors limit or challenge the facility from meeting those needs. Furthermore, this data must be categorized into information that can be discretely categorized as information relating to the garden, building, and staff/service. The metric data must also be used to quantify a limitation as a percentage of all limitations recorded. The use of existing garden design guidelines including the ones proposed by this research could be useful in determining the ideal condition for a particular garden. Furthermore, this model proposes that staff/service integration has the most flexibility to expand past the ideal

integration model, not only because of the economic feasibility of implementing new policies, programming, and training staff, but because of the creative potential of human beings to adapt and solve problems through the integration of more efficient systems and creative programming.

However, further research is needed to identify the limits of how much the garden, building, or staff can expand past the ideal conditions in order to feasibly accommodate the limitations of the other factors. A system of ratios would be useful for guiding this. For example, the ideal integration model has a ratio of [1 : 1 : 1] (garden : building : staff) and the proposed integration for Springwood has a ratio of [0.9 : 0.7 : 1.4]. It would be useful to determine the thresholds of feasibility for each factor; such as how much can staff/service integration be improved before hiring additional staff is necessary. Certainly the garden could be designed and improved to accommodate for limitations of an existing building but to what extent and in what proportion to staff/service. Also at some threshold a severe limit in staff/service cannot be accommodated by the building and garden. Thus, future research is needed to understand the thresholds and acceptable ratios of adaptation for the three factors, particularly when using the model to evaluate a facility with severe limitations in any particular area.

In conclusion, while not fully developed and tested, the Garden Integration Model for Therapeutic Care Environments (figure 6.3) is a platform for designers and managers that facilitates discourse and analysis regarding how to approach improving the integration of the garden into the care environment, thus improving the quality of

care for persons with dementia at new or existing, residential or day care facilities. As it currently exists, the model is particularly useful for improving the quality of care at facilities that already provide an integrated and high level of service, such as the example of Springwood. While this model provides a general platform for identification and evaluation, the complexities and specifics of designing for persons with dementia requires additional consideration in order to deliver an improved quality of care.

Integration of Theory

Evaluating the sites through the lens of human/ environmental interaction theories yielded some important conclusions that support the goal of improving the quality of care through the integration of garden space. It was initially hypothesized that a garden or care facility, which meets all the required mechanisms of Kaplan's *Attention Restoration Theory* and Ulrich's *Theory of Supportive Gardens* successfully delivers the highest level of care. This hypothesis is only slightly supported by the research. The analysis of the case studies found that a variety of factors pertaining to the garden, staff, and building could be combined and or integrated to meet the requirements of the theories. While this lends support to the concept of integration discussed in the previous model, it does not necessarily mean that the facility delivers the highest quality of care. This is due to the flexibility of the definitions of mechanisms such as "sense of control", "extent" and "being away". Each of these mechanisms can be achieved physically and or psychologically. For example, a "sense of control" can be physically and psychologically obtained by free access and autonomous use of the garden space, as is

the case at Charnley Fold. However, at Springwood a “sense of control” is mostly achieved psychologically through the good visual access provided from building windows and garden spaces to surrounding green space. Furthermore, as a theoretical construct it is not guaranteed that any particular garden, building, or staff element will meet the needs of a certain service user or resident with regard to a particular mechanism. Little is empirically known about the mental state of those with dementia, which further complicates the issue. However, it is reasonable to assume that a facility, which supports the theoretical mechanisms through a range of physical and psychological strategies, will provide the greatest opportunity for restoration from stress and directed attention fatigue. Therefore, while a facility may meet all of the required mechanisms of Ulrich and the Kaplan’s theories, it does not necessarily mean that the facility will provide the highest quality of care. Hence, even for sites that meet the entire requirements in some manner, there can be room for improvement.

Designing for theoretical resilience through the functional overlap of elements that promote both physical and psychological benefit is recommended to maximize the result of improved health and well-being. In conclusion, the theoretical analysis is beneficial for designers in two ways:

- 1) It provides a framework for evaluating site elements and design decisions;
- 2) It elucidates the importance of integrating the garden with the building, and staff/service in order to maximize the potential for functional overlap.

The discussion of theory in chapter 5 summarized in the matrices shown in figure 5.11 and 5.12 illustrates the importance of providing a range of factors that can

collaboratively meet the requirements of the mechanisms as a product of their integration. Therefore, Ulrich and the Kaplan's theories can be used, as a framework to guide designers and facility managers in making decisions that will improve integration of the garden and the delivery of quality care for persons with dementia, both comprehensively and specifically. To further understand how to specifically approach improving the quality of care, the next section will offer conclusions garnered from the analysis of existing design guidelines.

Integration of Guidelines

Analyzing and evaluating the two case study sites through the lens of existing design guidelines proved to be a very useful tool for identifying specific and comprehensive areas for improvement within the care environment. A recurring theme discovered in the process of this research has been a paradigm shift in the understanding of what constitutes the care environment. Prior to this research, a review of literature provided an understanding of the benefits that a garden can provide for persons with dementia and a prescriptive list of guidelines for achieving those benefits. The vast majority of the information related directly to the design of the garden as an individual element for delivering therapeutic care. Case studies at Charnley Fold and Springwood revealed the importance of the building as the other half of the physical environment, as well as, the importance of the staff and the service they provide in delivering therapeutic care. The design of the garden, while vitally important, has come to be understood as only one component in the greater care environment -- a

specialized setting where engagement, reminiscence, and meaningful activity can occur. Without the support of the staff and programming the intended benefits of the garden space cannot be fully maximized or expressed. Similarly, the use of the garden cannot be maximized without a unified relationship with the architecture and the use of the architecture cannot be maximized without the support of the staff. As discussed in the Ideal Integration Model (figure 6.1) and the Garden Integration Model (figure 6.2), all three components of the care environment must support one another in order to deliver the highest quality of care to the user. Thus, any discussion of guidelines for dementia care gardens must take into consideration the opportunities for support from the other components of the care environment. While this may seem out of the realm of typical garden design, therapeutic garden design is attempting to solve a complex social problem that extends across multiple disciplines and thus therapeutic garden designers must embrace an interdisciplinary approach to the solution.

This research found that overall the existing design guidelines did acknowledge the importance of the building and staff in delivering care. However there were several instances where the study revealed opportunities for new guidelines that could be enabled through better integration with the staff or building. Often combining several guidelines into one comprehensive guideline could provide an alternative solution. For example, Cooper Marcus and Sachs (2014) guideline suggesting that designers provide a single entry and exit door to the garden was challenged by observations at Charnley Fold where eight unlocked doors provided free access to the gardens at all times. However, for a multiple door scenario to function effectively the garden must provide a

series of paths connecting entrances; the building must have windows that provide visual access to all areas of the garden; and staff must know which services users are apt to use the garden independently so that they can monitor their activity from a distance. Another example is the guideline that excludes the use of plants that are toxic or that can cause injury from thorns or spines (Ibid.). The study found this guideline to sometimes be in direct conflict with a guideline suggesting that plants be included in the garden that have cultural significance (Ibid.) The study suggests that risk of exposure to sharp or toxic plants be managed through an integrated approach which locates the plant in a place where it cannot be easily accessed and educates staff of the potential risk associated with the plant so that they can manage the risk by watching users who are in the more sensory stage of dementia and have the tendency to put objects in their mouths. Furthermore, if a plant is both toxic and culturally significant to a user, staff can be made aware so that they can take users to view the plant and hopefully engage in reminiscent conversation. The study also suggested that the designer should work with staff to integrate indoor activities into the garden and integrate garden activities indoors. Making connections to the outdoors with nature related activities was suggested to strengthen the bond with the garden space and promote its use. While there are other examples to illustrate the importance of integrating staff and the building into the guidelines (for full guidelines analysis see chapter 5), these examples illustrate the opportunities and benefits that can be achieved through proper integration.

The analysis also provided important information regarding design process, which was only briefly covered by the existing guidelines. A collaborative approach that

adapts and develops the garden over time was suggested to maximize the unique knowledge and experience of users and staff that use the garden on a daily basis. This approach was shown to allow the garden to change and develop to meet the evolving needs of the current groups of users. It was also shown that designing and or renovating the garden at the same time as the building provided greater unity between the indoor and outdoor environments. Furthermore, the study has shown that in order to maximize the potential of a designed, therapeutic garden space, designers must expand their roles to include staff training and education. It is also suggested that the landscape designer become knowledgeable about the interior architecture of successful dementia care facilities so that they can make suggestions or consult on ways to best integrate the building and the garden.

Another interesting development from the study was the effectiveness of spatial archetypes as a concept for designing spaces that are culturally familiar, comfortable, and that communicate their use to the person with dementia. Observations at Charnley Fold showed that this concept was very successful in cueing behavior, particularly when supported by elements that communicate their use and enable the user to engage in some form of active or passive activity (Chalfont Interviews).

The study also revealed many other specific guidelines for elements and strategies improving the quality and effectiveness of the garden environment (for full analysis see chapter 5) such as recommendations for types of seating, shade structures, types of spaces, views, and pathways. Overall the analysis of the guidelines was a very useful approach for determining both comprehensive and specific ways to

improve the delivery of quality care to persons with dementia, through the integration of therapeutic garden space into the care environment.

Implications for Future Research

The evolving field of healthcare design as an area of practice for landscape architects and garden designers presents an abundance of opportunities for new research. This thesis was approached as a “pilot study” to determine the most current, comprehensive, and specific ways that designers and facility managers could approach improving the quality of care for persons with dementia, through the integration of a well designed garden. Using qualitative methods, the study was able to identify a Garden Integration Model, a theoretical framework, and specific design guidelines for improving care through the use of the garden. While valuable to those involved in the design and operation of dementia healthcare facilities, a combination of more qualitative and empirical scientific research is necessary to confirm the findings and promote the importance of therapeutic gardens to the larger medical community.

As previously discussed regarding the Garden Integration Model for Therapeutic Care Environments (figure 6.2), more research, testing, and development is needed to identify the thresholds and ratios at which the garden, building, or staff can support or compensate for the deficiencies or limitations of another element of the care environment. Research to determine standardized metrics is also vital. This research will be particularly useful for guiding designers and facility managers who are faced with

making decisions on how to maximize the quality of care within the existing limits and constraints of a given physical environment.

Furthermore, the variety of design guidelines pertaining to site elements such as seating, pathways, plantings, and various other features require controlled studies that isolate for the site element to prove their importance. A variety of scientific methodologies that test for biological indicators of health and well-being; psychological tests, and tests that evaluate the effects of stress through biological indicator such as salivary cortisol are necessary to validate the importance of the garden in improving health outcomes. Access studies that compare single access door scenarios to multiple access door scenarios would provide clarity to the guideline contradiction found through this study. Research that focuses on the benefits of active physical experiences in the garden such as horticultural therapy is also an area that requires further research and replication.

With regard to design concepts and process, cultural and qualitative research on the benefits of using spatial archetypes as a tool for designing successful dementia therapy gardens across a variety of facility types and cultures would be useful in supporting its validity and will be necessary in creating regionally appropriate solutions. Research is also needed to confirm the effects of a collaborative, adaptive, and or integrative design process on the success of the garden environment to provide specialized care; the integration of the indoor and outdoor environment; and the overall sustainability and resilience of the built environment. More studies are also needed to assess the economics of using day care facilities to maintain physical and cognitive

function, thus keeping people with dementia in their homes longer and out of more costly residential or nursing care facilities. There are also opportunities to research the use of the garden for staff and family as a therapeutic tool to address the health issues associated with the stress and burdens of caregiving. Lastly, as the numbers of people with dementia are predicted to exponentially rise in the coming decades, there is an immediate need for research on where to strategically locate care facilities and how to design public spaces to be more accommodating to those inflicted with this disease.

In conclusion, while the use of nature to ameliorate the effects of disease and sickness has been around for hundreds of years, the amount of research is relatively small regarding dementia care gardens. There is a need to replicate results and study the direct effects of the designed garden on the well being of user groups. More scientifically rigorous methodologies must be employed and combined with qualitative research to gain acceptance from the greater research community and to make the integration of gardens in dementia healthcare facilities an accepted and required element for the delivery of quality care.

Final Thoughts

This thesis has demonstrated the importance of properly integrating the garden into the care environment. In order for designers and facility managers to make decisions that can comprehensively and specifically improve the quality of care for persons with dementia, a holistic understanding of how care is delivered must be embraced. A paradigm shift away from the limitations of professional silos towards a model that understands the role of the garden in a dementia care facility as a complex,

transdisciplinary, and specialized setting is critical. Furthermore, it is critical to understand that this specialized garden setting must be activated and supported by the staff, programming, and the building in order to achieve maximum benefit for the person with dementia. The use of the Garden Integration Model (figure 6.2) was suggested preliminarily as a way to identify areas for improvement, regardless of existing limitations or constraints of the site and or facility. A theoretical framework was provided to guide the development of the garden and to increase the opportunities for restoration through theoretical resilience—a concept facilitated by the functional overlap of garden, staff, and building elements which meet both the physical and psychological requirements of the theoretical mechanisms. Lastly, design guidelines were analyzed and new guidelines were derived that can comprehensively and specifically improve the quality of the garden space through improved integration, visual access, physical access, operational policies, cultural familiarity, design process, and outdoor programming.

Furthermore, the role of the landscape architect or designer is suggested to expand to include staff training, education, and even architectural consultation. Key areas for future research are identified to improve the understanding of the effects of the garden on the physical and psychological well-being of people afflicted with dementia. Through utilizing the combination of these approaches garden designers and facility managers are equipped with the tools necessary to comprehensively and specifically improve the quality of therapeutic care for persons with dementia, through the integration of a well designed garden space.

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APPENDIX A

IRB RECRUITMENT SCRIPTS

Version 1 for Staff and Family:

Hello, My name is Andrew Bailey. I am a graduate student with the University of Georgia. I am doing a research study titled: Integrated Design Process for Dementia Care Gardens. I am interviewing and observing participants, staff, and family members about the garden. Would you be willing to participate today? If so, I need to go over some consent documents with you first.

Version 2 for Dementia Patients:

Hello, My name is Andrew Bailey. I am a graduate student with the University of Georgia. I am doing a research study about the garden space. I am interviewing and observing participants, staff, and family members about the garden. Would you be willing to participate today?

(In the version for Dementia patients, I am not mentioning the word dementia, as some of the patients may not be aware that they have dementia. Instead I am just focusing on the garden space.)

APPENDIX B

IRB VERBAL CONSENT SCRIPT

Hello, my name is Andrew Bailey. I am a Master's of Landscape Architecture student at the University of Georgia in the United States. I am asking you to take part in a research study about therapeutic gardens. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Your involvement is completely voluntary and we can stop at anytime. If you choose not to participate or to stop participating in the study, there will be no penalty or loss of benefits to which you are otherwise entitled.

The goal of this research is to provide valuable information about the design and implementation of therapeutic garden spaces. By taking part in this research you agree to be observed in the garden and interviewed about your experiences in the garden. This may take anywhere from 20 minutes to 2 hours. The interview will be audio recorded. Your information will be kept confidential. You will be identified in the research only by your age and gender. The audio recordings will only be kept as long as is necessary to write the report (Summer 2014).

There are no direct benefits to you as a participant in this study. However, your participation will greatly aid in furthering the body of research surrounding therapeutic gardens. In addition, there are no risks or discomforts expected from participating in the study. You can stop the interview at any time if you do not wish to continue.

If you have any questions about the research you may ask me anytime. I will also leave my contact information and the contact information for the UGA Institutional Review Board with you so that you can make contact at a later date.

Do you give your verbal consent to participate in this research?

APPENDIX C

INTERVIEW CONTENT CATEGORIES

Springwood Residential Care Home and Day Center

1. Benefits of the Garden

Feeling Free
Sense of Community (II)
Feeling Safe
Social Interaction (III)
Nature + Activity + Social Interaction = Improved Sense of Self, Well-being
Exercise – Increased mobility and Improved Mood (III)
Maintains daily living skills and independence (II)
Sunshine
Fresh air (III)
Activities in garden make residents feel useful
Privacy (II)
Feeling of having gone on a journey (being away)
Provides visual connection to world outside of care facility
Reminiscence (II)
Relaxation
Increased Appetite and thirst (II)
Makes residents feel tired, facilitating better rest (II)
Less need for sleeping medications (II)
Eases 'sundowning' symptoms
Pleasant place for families to visit
Aids in staff retention: access to fresh air, reduced stress, patients require less attention when happy
Improved Mood – Feeling Happy
Feeling revitalized
Culturally Familiar Place – makes users feel comfortable
Stimulates multiple senses
Visually pleasing to look at

2. Negative Effects of the Garden

Agitation
Sunburn – some residents take medications making them highly photosensitive (2)
Overheating
Risk of injury creates concern for staff
Maintenance burden (3)

3. Factors Limiting Garden Use

- Physical Access (1) (13)
 - Not enough access points from building

- Building design limits easy access (3)
- Accessibility from main patio to picnic area limited by greenhouse, not a smooth transition, not wheelchair accessible. (2)
- Slope limits access to upper area of garden (4)
- Segregating areas restricts flow and sense of community (2)
- Visual Access (1)
 - Limited visual access from staff areas into garden (1)
- Integration of Garden and Building (1)
 - Need better integration of building and garden (1)
- Weather (4)
 - British weather – frequent rain, cold and windy limits use (4)
- Staff/Service Integration (11)
 - Organizational Policy (2)
 - No required staff provisions for daily or weekly outdoor use
 - Requires residents with dementia to never be left unattended in the garden.
 - Frequent staff turnover at carer level
 - Time: majority of staff time is occupied by taking care of required daily chores and tasks (2)
 - Staff training: buy-in to importance of taking residents outside, design concept, and overall care philosophy (3)
 - Current lack of garden related activities (though these are being implemented, have not sustained in the past)
 - Greenhouse use is dependent on volunteers (so often goes unused)
 - Need more staff involvement with greenhouse to sustain its use
- Safety and Security (6)
 - Concern about users getting sunburned or overheated (3)
 - Concern over access stairs to boiler room (2)
 - General concern from staff about leaving residents unattended. Space not considered 100% safe by staff
- Garden Design (11)
 - Need for private space
 - Need for sensory garden area
 - Size of patio space (3)
 - Day-Center patio comfortable accommodates 8 users. Cramped with 10.
 - Main patio space could be slightly larger for chair aerobics
 - Square patios do not facilitate walking with reason
 - Placement of Greenhouse limits access and divides community (2)
 - No looping circulation paths for walking (3)
 - No paths to facilitate physically and mentally ‘being away’
- Variety of Ability levels and attention spans (4)
- Lower Budget / Limited Funding (1)

4. Factors Promoting / Supporting Garden Use

- Physical Access (3)
 - 3 doors to garden spaces are handicap accessible and have railings (2)
 - Flat surfaces facilitate good access within garden areas
- Visual Access (2)

- Good visual access to garden space and surrounding green-space from resident's windows and from common areas. (2)
- Entry-Exit Doors have windows so users know where they are going (observation)
- Staff/Service Integration (9)
 - Part-Time Activity Coordinator programs activities
 - Staff particularly but not limited to managing staff promote and encourage subordinates to take people outside and to do indoor activities outside (2)
 - Life-story work identifies activities which residents enjoy and prefer and staff programs to accommodate (2)
 - Flexible programming (4)
- Safety and Security (8)
- Garden Design (15)
 - Culturally familiar spaces
 - Safety and Security provided by fencing and walls
 - Flexibility of space provided by movable furniture
 - Sunny and shady areas (3)
 - Shade Umbrellas
 - Variety of sizes of spaces (3)
 - Active vs Passive Space (1)
 - Public vs Private (1)
 - Variety of seating options (2)
 - Chairs with handrails
 - Tables to have tea or lunch (2)
 - Break area for staff
 - Lawn area for grandchildren to play and residents to watch
- Garden Design Process (3)
 - Collaborative (3)
 - Feedback from staff
 - Feedback from service users
 - Designer integrates himself into daily activities (1)

Charnley Fold Enhanced Dementia Day Support

1. Benefits of the Garden (98 Total Responses)

- Maintains daily living skills, independence, and autonomy (11)
- Interventional Tool for unwanted behavior (9)
- Positively alters mood, feeling happy (7)
- Promotes engagement and curiosity (6)
- Reminiscence (6)
- Feeling Useful (6)
- Enjoyable setting for staff and family (6)
- Feeling of 'being away' or having gone on a journey (5)
- Freedom (5)
- Multi-sensory stimulation (3)
- Welcoming (3)
- Cost savings by keeping people in their own homes and out of costly residential care (3)
- Peaceful (2)

- Exercise – stamina and mobility (2)
- Relaxing (2)
- Fresh Air (2)
- Stress-Reducing (2)
- Socialization (2)
- Fascination
- Lose oneself in the moment
- Respite
- Concentration, planning, sequencing skills
- Setting for activities
- Sunshine – Vitamin D
- Improve quality of life and well-being
- Feeling in control
- Feeling safe
- Calming
- Anxiety- Reducing
- Promotes confidence
- Dignity – Respect as an adult
- Comfortable
- Sense of ownership
- Creativity

2. Negative Effects of the Garden (9 Total Responses)

- Maintenance burden (8)
- Activities can be frustrating

3. Factors Limiting / Challenging Garden Use (30 Total Responses)

- Poor Weather (4)
- Variety of Ability levels and attention spans; change over time (14)
- Some users do not prefer to go outdoors (2)
- Clients not remembering that they can go outside (3)
- Staff/Service Integration (7)
 - Some staff do not prefer to go outdoors (2)
 - Staff training and re-training (4)
 - Time to develop new programming and methods

4. Factors Promoting / Supporting Garden Use (361 Total Responses)

- Good Weather (3)
- Higher Budget, Funding (2)
- Physical Access (31)
 - Multiple access doors to garden (7)
 - Doors to garden are always unlocked (8)
 - Window and screens that open
 - Surfaces at same level (flat) (2)
 - 100% Wheelchair accessible entrances
 - Wheelchair accessible areas and paths (2)
 - Areas and paths accessible by those with greater mobility or those with staff assistance (2)

- No restricted garden areas (2)
- Hard paths that connect all of the main activity spaces
- Looping circulation paths (4)
- Foyer area by main garden door is wider with bench and coat racks
- Visual Access (13)
 - Good visual access to garden space and surrounding green-space (agricultural field) through windows from all interior spaces by residents and staff (9)
 - Good visual access to garden space and surrounding green-space (agricultural field) from within garden by residents and staff (3)
 - Clear Identifiable Entrances
- Integration of Garden and Building (40 Total)
 - Direct connection of indoor to outdoor spaces (11) (21 Total)
 - Connection of garden to activity rooms (4)
 - Kitchenettes for making tea to take outside and washing up
 - Window Boxes with removable liners –viewed through windows and can be brought inside for gardening (2)
 - Window with screens you can open
 - Balance of indoor and outdoor spaces
 - No feeling of restriction in building or garden
 - Culturally-familiar, domestic, home-like aesthetic indoors and out (9)
 - Conservatory space: Indoor-Outdoor Space (4)
 - Poly-tunnel : Indoor-Outdoor Space (5)
 - Garden is integral part of Charnley Fold’s identity (1)
- Staff/Service Integration (109 Total)
 - Organizational Policy and Care Approach (57)
 - Risk and Reward: Accept risk and manage it (8)
 - Promote being outdoors, and being active and engaged as the norm; activities and nature as therapy (6)
 - Person-Centered (12)
 - Life-story work identifies activities which residents enjoy and prefer and staff programs to accommodate (10)
 - Process is more important than end result (4)
 - Values education and staff training as most important (4)
 - Embraces change and adaptation (5)
 - Policy Values staff ideas and feedback (1)
 - Foster Sense of Community (4)
 - Promote whole-care environment : Building, Garden, People
 - Care planning based on skills and not deficits (2)
 - Activity based programming (2) (22)
 - Connect indoor activities to outdoors (7)
 - Men’s only and women’s only activities (2)
 - Garden Party (1)
 - Reminiscence (6)
 - Exercise groups (1)
 - Nature Groups (3)
 - Management and staff promote, encourage, and assist service users to go outside and to do indoor activities outside (5)
 - Staff Training (3)

- Flexible programming (9)
- Staff turn-over is low, high job satisfaction (3)
- Staff: Client Ratio (1:3) (1)
- Interventional Tool for unwanted behavior (9)
- Safety and Security (8)
 - Risk Management
 - Services users can be in garden unattended because they are being watched through windows, know users personally and know what to watch for (3)
 - Internal alarm on gate to parking lot (5)
- Garden Design (121)
 - Archetypal Spaces (14)
 - 7 Meaningful Spaces (3)
 - Cultural familiarity, cue behavior (4)
 - Domestic Aesthetic promotes ownership and thus engagement (3) (7)
 - Design doesn't look like a designer designed it (imperfections, not complete); reinforces domestic aesthetic (1)
 - Custom carpentry reinforces aesthetic (1) **(3)**
 - Picket Fencing (1)
 - Different sizes of benches (3 seater for park)
 - Enabling Spaces: elements/features that communicates use(8) (24)
 - Clotheslines
 - Raised Beds (7)
 - Antique Machinery promotes reminiscence
 - Window boxes (2)
 - Sheds
 - Props – tools left in garden to promote engagement
 - Poly-tunnel (3)
 - Variety of sizes of and types of spaces (1) (39)
 - Public vs Private; (3)
 - Open vs Closed (3)
 - Active Use Spaces (12)
 - Recreation Area (2)
 - Passive Use Spaces (13)
 - Wild vs Designed (3)
 - More spaces increases chances to connect with larger variety of users
 - Sunny and shady areas (1)
 - Variety of seating options (3) (6)
 - Swing-seats (2)
 - Custom furniture for the elderly (1)
 - Birdfeeders, Birdhouses, Bird Baths (2)
 - Bird Box with live feed camera to inside TV (1)
 - Open up views to beautiful adjacent property (agricultural field) (2)
 - Tables to have tea or lunch (3)
 - Trellises, Pergolas, and Archways (1)
 - Screen security fencing with trellis (1)
 - Chicken Area (2)
 - Circulation (18)
 - Walking paths (3)

- Formal paths (1)
- Informal Paths (i.e. woodland path) (8)
- Looping paths (4)
- Garden flows (2)
- Plantings (7)
 - Use plants that are culturally familiar or are requested by clients (1)
 - Multi-sensory plants (1)
 - Year Round interest from plantings (2)
 - Large variety of planting(ones and two's vs en masse)
 - Interesting plant combinations – flowers (1)
 - Vegetables

➤ **Garden Design Process (37 Total)**

- Adapt and develop over time (1) (5)
 - Structure in first then add to it
 - Develop garden in phases over time (1)
 - Adapt space if not working (2)
 - Wait until garden has been installed and used then hold workshops with users (1)
- Collaborative (1) (22)
 - Utilize feedback from staff (10)
 - Utilize feedback from service users (4)
 - Combine feedback with designer innovation (3)
 - Working relationship with contractors (1) (4)
 - Contractors take their time and engage users (3)
- Design Workshops as form of therapy and engagement (1)
- Evaluate dangers on a gradient (RISK vs.REWARD) (1)
- Staff Training and education by designer (3)
- Observation of users and space (2)
- Designer integrates himself into daily activities (1)
- Building and garden renovated at same time (1) (2)
 - One designer for garden and architecture (1)

APPENDIX D

INTERVIEW TRANSCRIPTS

SPRINGWOOD RESIDENTIAL CARE HOME AND DAY CENTER INTERVIEWS

Interview with Day-Care Clients 6/4/2013 –Springwood Residential Home, Sheffield, UK

Carer: So _____, when you come to Springwood, when you sit outside, what do you like about the space? What does it make you feel?

Client #1: **It makes me feel free**....its nice...its lovely

Carer: Cause have you got a garden at home Margaret?

Client #1: I used to have one (garden) at the side, one at the back and one at the front

Carer: But you've moved haven't ya?

Client #1: (continues on) and a greenhouse and a shed at the side

Carer: Andrew, _____ has recently moved into flats...and she has gone from having all the gardens to now all that she has is a balconyand everytime we go to pick Margaret up her door are open....she can't stand it....can you?....being closed in

Client #1: No No No I have to have the window and door open

Carer: So I think coming here she really enjoys because she gets to use the garden

Andrew: *Its nice to have this space then?*

Client #1: Doors are open all day, As soon as I wake up...in fact I have them open a bit at night as well. It tis a lovely day.....you can't buy it love!

Andrew: *What sort of things did you grow in your garden?*

Client #1: Well we'd grow everything....we'd grow grapes in the greenhouse.....and transplant them to get them to grow that much bigger

Andrew: *So you grew grapes and veg(atables) then?*

Client #1: Well not so much grapes but lots of veg

Andrew: *So you ate the vegetables?*

Client #1: (cant make it out in the recording) Something along the lines off sharing vegetables with her neighbors

Andrew: *You make a lot of friends when you have a vegetable garden don't you?*

Client #1: In those days love, it were all friendly, its not like it is now

Andrew: How so?

Client #1: Well like I said....I'm talking about olden days when I were younger.....neighbors were neighbors.....now a days you don't even know your neighbors. In those days everybody knew each other and say you wanted to make stew or something.....you could just say "I'll go next door, I'll go next door".....(the neighbor would say) ...ahh love, come on in, help yourself! Its not like that now though is it love?

Andrew: *No longer that sense of community?*

Client #1: Never had a key, never had a locked door...there was never a need...but you do now though don't ya? Everybody were the same....nobody had got anything.....they've got nothing to pinch is what we used to say....and if somebody had got something and somebody hadn't...you shared it!

Carer: Is that why you like coming here...because it gives you that feeling of being together again?

Client #1: Aye

Andrew: *What if there was a small veg garden here...say raised beds....would you want to work in it?*

Client #1 and other ladies: yeah....oh yeah.....yeah

Carer: You miss getting your hand dirty?

Other ladies in background: yeah oh yeah

Andrew: *What about you _____?*

Client #1: Me, oh no ... I don't like getting my hands dirty....I've got my husband for that. He takes care of everything.....he has a drink ready for me when I get home

Interview goes on and the group starts talking about making daisy chains and with the staffs help they make the chains which is a really fine motor skill

NOTES: The women in this interview only come to Springwood a few days a week for socialization and so that their loved one can have some respite. In some cases they are all alone living in flats. Margaret is in the earlier stages of dementia, based on her ability to converse and participate in high motor function tasks, such as making daisy chains (I realize this is not a scientific assessment, but I was told by staff that they are in the early stages of dementia). It becomes apparent through this interview and conversation that Margaret senses disconnect from modern life. She remembers when everyone knew their neighbors and when people shared what they had. This age group, grew up during WWII, when England was on rations and many people relied on allotments and gardens for food. She reminisces about a time when you didn't lock your doors and when she lived in a large house with a large garden. She also talks about how much she loves and needs the fresh air. While Margaret, longs for her old garden, she doesn't actually care to work in a garden at Springwood, because her husband used to do all that work.

This kind of information is incredibly important to design process –because it gives insight into the lives of the person with dementia. This data can be used by the design team to create spaces that are comfortable and have a “sense of place”, which is fitted to the user group.

Interview with Chair Aerobics Instructor (CAI)– Springwood Residential Care Home

Andrew: *Please state your name and tell me what it is you do here at Springwood?*

CAI: My name is _____, I'm retired, I worked for council 27 years....when your retired you've got to find something to do so I went back to work with Council, working with Elderly, working in Day Centres....but I do Chair Activities as well as you call it Chair Aerobics.....we try to get the elderly, even dementia patients to get a bit of movement out of them....it doesn't always happen...but it might trigger something.....where we might sing.....if you can interact somehow, you can get a bit more out of them.

My aim is really to get them more active...the more active they are the less stiff they are going to be....and I've found out over the years I've been doing this....is when you go to a place regularly, you'd be surprised at how much improvement you've got.

Andrew: *How often do you come to this facility?*

CAI: I come every week...every Monday to this one

Andrew: *How long are your sessions?*

CAI: I work one hour

Andrew: And it's the same group every time?

CAI: No, they split it up, there are 3 floors. The top floor is heavy dementia. I do what I can with them. Everything is easy to start with.....and I say to them "you do what you can, and if you can't do it, don't do it". "if it hurts, don't do it".....they do what they want, what they can, but as long as we get them interacting...if we get them singing and tapping...we've done something

Like today they brought all three floors, they have the top floor which is all dementia, and the middle floor which is I guess just elderly....and they brought them together in the area there (main terrace).

Working with dementia.....its hard because some are in first stages, then you've got your second stage and then you've got your third stage, which they are 'gobbly gooks'...and they can't do anything....and then you've got your aggressive lot that's swearing at you all the time and throwing stuff.....dementia is such a wide range. But then I think when they get older...the longer they've gone on, they get more aggressive as well....but that's just one stage, the others just sleep all the time, don't they? You got your wide spectrum.

Passing Carer: Hows it gone on today?

CAI: its been smashing, its been great.....what we do is a 20 minute spell (bout of exercise) to get them warm, then we have a drink...another 20 minutes with face cards (?) each other and have a laugh really and then I have my memory cards and the program is that way

Andrew: *Explain the memory cards.*

CAI: In 1930's and 40's, all the lads went off at war...and you have the land girls...that had the old buses, the old cars, and old dresses on photo cards...and then you had these old movie stars...like Clarke Gable.

Andrew: *So they are old photographs?*

CAI:exactly.....and I've got some of old sewing machines and washers and cookers and telephones. Just to take them back....and they all had one of those....."oh and we used that".....they can go back and they remember them and if you put the memories back then you're helping aren't ya?

Dementia is hard...the lot, you never know what you are going to get out of them, sometimes its brilliant and sometimes its hard to work with them, that the trouble with dementia, isn't it?

Carer: It like Sally on the top floor...some weeks Sally will really participate and take part in the exercises and do it and then other weeks she is just not interested. And it's just catching her on a good day. It's like June who has been down this morning was having a really bad day yesterday but is in a good day today

CAI: that really the problem, isn't it. Like I said before I work with Day Care centers, dementia centers, care homes, residential home...I work with them all...and every one is different.

****CAI** Describes a client at another facility who he could always get to participate by singing Frank Sinatra's My Way. He goes on to talk about how over the years he forgot the words, then could sing and then was bed bound – all within 18 months. "He is just dying really now, waiting to die"

Andrew: *So besides some of the obstacles you have mentioned....what are some of the other more practical obstacles you face working with dementia patients? Do you have to sometimes guide them?*

CAI: No, everything (they do) they look at me....I don't touch....you don't touch. If they cant do it, they cant do it.

I always work from the feet and move right up through the body...and at the end we will always have a rest...and then we will do facial exercises....making funny faces....its having a laugh really...and I always finish them with some breathing and then we have a clap at the end and we are finished.

.....But its about being active and interacting with them...for them to have a banter with you.

Andrew: *and they seem to really enjoy that?*

CAI: yeah

Andrew: *It seems like it was such a fun thing going on over there...I could hear it....do you get a lot of positive feedback from the staff about general behavior and the way people feel for the rest of the day?*

CAI: Yeah..its mostly positive...some homes that I go to...some I go twice an week and the staff says they can see a difference in their residents.

****Roger** goes on to say how he gets varying levels of participation with each floor and their respective levels of dementia.

But you have got to have a laugh...and I think its your personality to interact with them because some ive watched....im old ok, im 70. I work with old ones, not only because im one of them but because I like them. But you get your young staff coming through and they don't play the old music that they like, they play new music that they (young staff) like. I play what they like.

All my records, cds, and cassettes...you've got to have a special kind...they have to run on and run on and run on...non stop. If you get one song that stops you lose it.

Andrew: *Ok so you have to keep the momentum?*

CAI: You've got to have the momentum, you've got to get that beat, and the beat has to roll on for 40-45 minutes...never stops...the beat rolls on and rolls on. Its no good if it goes on for a little bit and then stops, because you lose them....

Andrew: *In an ideal situation How many days a week could a population like this do chair Aerobics and still benefit?*

CAI: Im a footballer, you know you have to give your muscles a rest...just like one day ill do legs and

abs and another day I'll do shoulders and chest...you need the rest.....you see the older they get.....I think twice a week with two days in between for rest.

Andrew: *So 2-3x per week would be the maximum?*

CAI: Yes, though I would say even just twice a week and you'll find they will get some mobility back

Think about it...you sit at home...you watch TV, you get up and you're aching...well that's all they do...they sit in their rooms.... And they read and they watch tele. They stiffen up....nothing is getting used.

Andrew: *To that.. in the design of these spaces, how could gardens or these spaces be designed better with the goal of keeping people mobile?*

CAI: Walls that they can't climb out of.....a flat area.....have a bit of shade or sunshine if they want it...umbrellas, like they have here, which is good, though that space (main terrace) could do with being a bit larger...if you are going to have exercises there....some sort of covering would be good also

....at another nursing home they have a conservatory....close the windows if it's raining, wind the roof or windows back if it's raining

Andrew: *What kind of space does each person require to participate in chair aerobics?*

CAI: To be right you almost need an arms length to the sides and front. But if not you can adapt and stagger the chair.

Andrew: *What is the ideal group size to work with? Is there a group size that is too big?*

CAI: No not really I've worked in day centers with about 30 people in a group. As long as everyone has places to sit...you could work with five, you could work with 2 – people with bad dementias.....but you could work with 30, you could work with 40 provided the area is big enough.

Andrew: *Do you think that in the right sort of situation in a facility, that had the right space and a budget to have coming twice a week to work with clients...so you're increasing their mobility....if they had a flat walking path...do you think they could do that a couple of times per week? Would that make a huge difference?*

CAI: I think, they should have some sort of path...ideal one would be a flat one.....and have benches along the way they could sit down on

Andrew: *In your experience, what are some of the hardest movements for persons with dementia?*

CAI: the hardest movement is to get them to reach up....arms overhead. And hand on the back of the head.....I work on tricep movements.....

Andrew: *Im thinking about the types of movements that keep people more independent...you've got to be able to stand up and sit down...am I right?*

CAI: I'll show you what I do. Start with feet tapping...left only, right only...to get them thinking....then fromt hat to heels....heel toe, heel toe.....Charlie chaplin, a term they know...toes out, toes out.....one leg out, point your toe like a ballerina...up down, up down.....you see I think if they keep the mobility in their feet and ankles they don't fall down....ankles get stiff. If you can keep them working ankles they won't fall down.. so getting ankles mobile to start with it is a big thing for them.....(goes on to describe the rest of the routine, mentions that chairs need high back and sturdy arm rests)

The CAI ties in the movements to bits of history and movements they can identify with. Playing trombone, swimming, rowing boats etc.

Notes: The chair aerobics instructor's expertise and input is critical to a successful design. He notes that you need an arm's length of space on either side of the chair for the activity. He mentions that the main patio space at SW could be a little larger to facilitate the activity. He identifies mobility as a key issue for the elderly and suggests that aerobic activity be done 2-3x per week. He uses culturally familiar music and props to engage the residents with dementia.

Interview with Deputy Manager (DM) at Sheffcare Springwood Residential Care Home

Andrew: *If you could start by telling me what your name is and what you do here at Springwood.*

DM: My name is, _____, and I'm recently new to post, but I've worked here for 26 years, from a carer through to a team leader.

Andrew: *Tell me a little about your role as a deputy manager.*

DM: Its more overlooking what everybody else does.....maybe you're not as hands on as what you used to be....it can be telephone calls and making sure people get to appointments...a lot is staff monitoring...that they are up to their performances and appraisals and supervisions. Being on hand for when people come in to do projects like yourself...to support ya and anything that Anita wants me to do.

Andrew: *Regarding your outdoor garden spaces: How often would you say you try and use the spaces?*

DM: It depends a bit, to tell you the truth.....British weather hold us a bit, but that's not always an excuse.....people can put a coat on and go out.....I think its getting people to remember that it needs to be done and fitting it into your schedule.....so it might be myself or a team leader who says to a carer, whos running around doing daily tasks and chores and baths.....Are you gonna get somebody outside today and get them some fresh air? If somebody has been identified when they come into the unit as being maybe a walker all their life then that would be put into their care plan, but everybody might not make that statement so its just up to us to get it (the garden) used.....I mean sometimes I bet it doesn't even get used in a week.

Andrew: *So you just mentioned a "care statement". Is there an individualized plan for everyone who comes in?*

DM: Yes, everything is a person centered care approach. So with the dementia clients it might be the case that you might have to talk to families or you might try and do a life history...and they might have been a gardener, so then we might try to keep that upheld.....or someone that's always had a daily walk, we might try to keep that upheld.

Andrew: *How are you weekly activities planned and programmed?*

DM: We haven't always had an activity worker with 20 hours allotted, that only a recent thing, and (before) the activities were down to the staff who were on the corridor doing everything else....making the meals and getting everybody up.....to fit that in issort of like an afterthought. Activities are really like the last things done.....and if you think about it, it's important that they do something that they've always done. Then Sheffcare used to pay for someone to come and lead activities here a couple of days a week. They come with a bus and maybe take the clients out for a drive....so they get

out that way....inside because they'd only come for like a set day, they would try to do the activities on a larger scale.....so then if you've got 20 people and one person they can do that activity in a room, but once you take them outside of the secure unit, more people were needed to watch, so she didn't actually take people outside on her own, and then they decided that it was really working and that each home was going to be allocated 20 hours (for an Activities Manager).

So its not really planned. Anita will meet with me and I'll meet with Susan...she plans her day on a piece of paper for what she is doing tomorrow and then she'll write what she has achieved and who she has achieved it with and who's enjoyed it. So that's like a log for her.We've got set activities that go off on certain days....but pretty much if weather is like this (75d F and sunny) for a week its (the schedule) is just gone because you are just going to make the most of it. What we usually do inside we are not going to do, we are going to do it outside.

Andrew: *Lets talk about the garden spaces that are out there, we kind of have what I can identify as 3 or 4 spaces....maybe 5 if you include some of the more narrow pass through spaces. You have the main garden patio space where everyone comes out into; you have the greenhouse space, and the space with the with the low retaining wall....I believe you call it the "picnic area"; another narrow seating corridor (on the way to the day care side) and then there is the day center patio.*

Can you talk a little about how those spaces are being used? Is there enough space? Benefits and Challenges of using the spaces?

DM: The (main) patio is a lovely area because it's open, it's safe and I know if someone goes out there on their own it is pretty safe. Accessing the picnic area was a problem because if you have somebody with a wheelchair...we have the greenhouse to go around.....so we have to go back into the unit and around....rather than access that from the patio....we have to come back in a use the day center entrance which is a safer option.....but today I've seen that Garuth has cleared the greenhouse out and there is pretty much a clear run though now.....you can walk through there.....you wont get a wheelchair through though....and there are some ledges (entrance and exit to greenhouse), its not as smooth for mobility....so I think that is the main thing for the picnic area....but its not a problem, you can still go that way (through the facility and through the day center).

With the day center...there are only 10 clients.....and there is only really room for 8...so that is a little bit tight. But I think its nice and they have the doors open and its straight onto it.....even those people who don't want to go and sit outside, they can see the outside from the dining tables

Andrew: *Does that make it easier on you all as staff....with the door being right there and direct access to the patio?*

DM: Yes.....and then you've got the boiler house bit....the bit where you go from the day center to the picnic area, we've got the steep stairs (going down to the boiler room)...obviously that gate need to stay shut and made a little bit safer....but I think Garuth is going to have a look at some way to deal with that. So yeah that's a (potential) problem. It's a shame that we have all that grass around, but its just the banking (steep slope) itself.....for someone to physically get up.....i mean a few of the most spritely people would...to use the top of the green area. But that doesn't really get used except when we (staff) go back around to hang a bit of washing. That (sloped area) is a bit of a waste.

Andrew: *Well it is a nice green visual from the upstairs windows*

DM: Yeah

Andrew: *If money was not an issue.....and we could build some sort of an access. Would that be something the staff could utilize with the residents....or do you think any of your clients could use it on*

their own if there was a railing?

DM: Yeah there are people who would be able to use it.....but its people with dementia....the worry is: Is it safe once they are up there? As long as it was 100% safe....Im not sure if I would be a bit panicky if they were up there on their own to be honest.....but why shouldn't they....they have probably walked up hills all their livesso its not for me to say they cant walk up a hill.

I think staff would take them up.....I mean yeah if you had all the money in the world you could have taken it all up (cut back the grade and retained it) and made a massive courtyard.....but I think its nice how everywhere is private...because not everybody wants to sit together.....and somebody that might want to sit and read a book....doesnt want to sit on a courtyard where there are 30 people outside on.....so the little areas do work nice.....I think its getting staff and us to use them.....I don't think it's the area, is it? I think its using.

Andrew: Again, to touch on your expertise working with residents everyday...with their special needs....are there any design considerations....with either the garden or the building....that work well or that you would change to make your job easier.....or that make things easier for your residents?

DM: I think with the building...beating in mind that the building is old and rather institutionalized. With the building we are in traps...with long corridors...it would be nice to let that corridor flow out...and there could be some meaning to the walk....and they could set off on a walk into the garden but then loop back around to where they started....but safely and know that they've been there.....instead of just walking down up and down (the corridor).... that's when they start rattling the handle....because the want to get out....but if the building flowed....and I think the same with the garden. Right now its walled because we've had to....but if it was a walkway and everybody was safe and they were gonna lead back to where they started....they perhaps would walk round and lead round and be safe;

Andrew: So like a looping path or walkway?

DM: And if they can see different things along the way...they think that they've been somewhere....even if it just means coming in a different door.....rather than just straight up and down the corridor.....I mean they can walk round the patio, but its square.....its not walking with reason...because they are not walking anywhere far.

Andrew: *I have observed that the edges of the main patio do not get used as much. People tend to want to sit at the tables in the center. What are your thoughts on that?*

DM: I think that is probably more a staff issue. Because the client probably sits where the staff seats them.

Andrew: *I'm not sure why that is. Do you think it is too shady?*

DM: Well we don't get sun very often...but we are conscious that people burn easy and sometimes people that are on certain medications can have reactions to the sun. We've had ladies that have been sunburnt yet they've only been in the sun 5 minutes. So you want to place them in the sun but again it can get as hot as this and if they are in the shade and they are cold and want a cardigan on...that's how it is...they are old and sensitive...and they probably haven't been outside in a week.....they are not weathered..so to speak. But I think the carers probably sit them at a table there and we think that they are sturdy, the chairs are sturdy, so they've got two handles (armrests) to grab on to, to stand up if they do get up.....where as if they are on a bench...you know what I mean? (implying that on a bench there is only one armrest to grab a hold of to stand up and so they are more off balance) Also, then the tables are there if there are having a drink....because with the dementia.....the perceptions of things can sometimes go and they don't see edges....I use the benches if I am going to sit outside with

somebody and have a bit of 1 to 1 time.....

Andrew: *Do you feel as though after a resident has spent sometime outside and or in the garden, that their mood is better? Does it reduce the need for any medications?*

DM: I think can also agitate some. It really depends on the person. Sometimes bringing someone down, who feels that they need to be somewhere else.....when you take them out of their familiar surroundings....they can get a bit agitated. But overall, I would say 9 times out of 10, people benefit from it. And by going outside with a carer they get more quality 1 on 1 time.....conversely if they were to get sat down inside in the parlor, the carer might pop off to do a chore or something. And then there are the walks, we've got some pretty active people upstairs, and we have some ladies who have dementia that are quite young, and its not natural for a 60-70 year old woman to be sat in a chair all day. Because if she could manage to live at home she would be cleaning windows and doing things.

They prefer to come down if they think they are doing something. It might be coming down with a bit of washing to hang on a washing line, or someone might come out with a bowl and wash the patio chairs. I think if they think they are coming to do something, its even better.

Garuth tried to start a well-being program and every day we tried to organize walks with people that we identified as agitated or that have problems and challenging behaviors. And everyday we took these people for a walk and they were benefiting from it....but then it came down to staff or we would change over staff and it would not get done. But the person that I was walking around everyday, she was quite advanced in her dementia. We would do the same route for weeks and if I turned a different way, she would say "we usually go that way".....and I couldn't believe that she remembered. It's not natural to think that you might live fifteen years of your life and not have access to the outside and fresh air.

Andrew: *Do you ever use the front garden space?*

DM: Yeah we do occasionally use that space. But it does depend on the client.....if we bring someone out, a carer has to be with them because it is not a secure space with the main road right there. The day center sometimes has coffee out there. And we have a lady who will sit out in the car park on that bench. Quite a nosy spot to sit there, but that is her interest...she wants to know who is coming.

Andrew: *Have there been any other programs or activities over your time here that maybe didn't catch on or gain traction, that you thought worked well and that you would like to see tried again?*

DM: Well the greenhouse was used daily. We had a resident that had a friend and he used to visit every day and he would grow the tomatoes. It's really good that there is someone that is here doing it. Its like I'm a carer, not a gardener.

But it has to be beneficial (time spent in the garden). It doesn't matter if they come out for five minutes or if they have been out all day. I think it makes them feel tired and like they have done something. I think they might rest better in the evening and hopefully not have take the sleeping medication.

Andrew: *So it makes your job a bit easier in the afternoon?*

DM: Yeah, because that is a time where people with dementia are probably a bit more active and wanting to go home. To them, it's the end of their working day.....and they start thinking about their families. So if they are a bit more relaxed and have used a bit of their energy up, I suppose that feeling (need to go home to family) is not going to be there as much.

Andrew: *Do you think you will try to keep up with the work in the garden that we have started this*

week? What are the challenges to the implementation of the use of the garden in the day to day activities?

DM: Yes, it would be so lovely to see how everyone has enjoyed this week, be everyday. The most challenging this is getting staff to get on board and to think that they have a spare ten minutes in the day to take Mrs. _____ down because she likes a bit of fresh air and a walk. Anywhere you are working there are people who are dedicated and want to do it and then there are people who just come for a wage. You know I can prompt people but I don't have my eyes on 3 floors so I don't know if someone has got some spare time to take someone out. It would be nice to think you don't have to remind people. I suppose as managers and team leaders we can role that out into provisions. We have what we call team meetings so each corridor, each unit that lives together, that team meets up and that is a good area for sharing information and new ideas.

Andrew: *Do you think if you had funding to have someone like Garuth or myself or a horticulture therapist, come on a regular basis...would that would make it easier to keep things going?*

DM: I think yeah you've done it with the day center. I think that will run. I'm the manager for the day center and I've got good staff. I've got an enthusiastic 3, I'm really lucky and I know if they can do it they will try to. If I open the door and they haven't done it, there will be a reason, or something else has happened. You've got to listen to that reason....because it could be something major. So the day center will maintain.

Andrew: *You are in the process of expanding your day center to more dementia patients. Do you feel that your exterior facilities are adequate to handle that?*

DM: I think so because you have the bit under the window with the benches....and you have the seating area for those that want to sit in the shade. And the picnic area is also accessible and highly visible. I think it will work fine.

If you had asked 26 years ago, no one would have gone outside. You would have a big coach that would pull up and once a year everyone would go on a trip to the seaside and that was it. So once a year they would go outside. So that is how it was back then. Now we have progressed so much and I think its more focused on people's well-being and how they feel. Alright, you have to see to their personal hygiene side and things.....but I think it is time to look at how they FEEL. That is almost more important.

Interview with Registered Manager (RM) of Springwood Residential Care Home

Andrew: *If you would start by telling me your name and what your role is here at springwood?*

RM: Ok no problem my name is _____ and I'm the registered manager of Springwood which is part of Sheffcare Ltd, which is a NPO.

Andrew: *How long have you been with Sheffcare?*

RM: A very long time. We moved to Sheffcare in 1996. I was registered manager at a place called Real Wood. I moved here to Springwood in 1998 as manager. I used to work for the Sheffcare Local Authority and in 1996 the local authority was struggling financially and we were kind of sold off into a trust. There were 15 homes at that time and now we are down to 11 because we've had home closures. We have also had rebuilds – which is beneficial in some aspects, but sometimes the old design of a building is much better because it offers a lot more flexibility.

Andrew: *So here with this building, has there been Architectural changes? Elements that work better or not as well?*

RM: Things had already changed by the time I came here. This building was originally built in 1970 as a residential home but it operated as a sheltered housing facility...because people like to be quite independent. As years have gone along people have declined and the numbers changed from 51 down to 40 beds...because that was the regulations at that time...about 1995. So it became a 40 bed unit...so it had a lot of structural changes to the inside of the building, nothing on the outside, just on the inside where bedrooms were made into 1 from 2. So the home now offers some larger bedrooms, I think we have 8. And then we have the smaller bedrooms, which together reduce the number down to 40(beds).

Andrew: *How many of Springwood's clients have dementia or are exhibiting early signs of dementia?*

RM: We are actually registered for 24 people with dementia and 16 people that are "residential care". But even out of those 16 most of those people have some early onset dementia. So I would say out of 40 maybe 30 people have dementia.

Andrew: *In your experience what is the greatest challenge you face, working with people who have dementia?*

RM: The biggest challenge is not the residents, its not the clients at all. It's the staff. Changing the culture of care and working differently. A more person centered approach and a more dignified way. People have to have a good heart and need to be able to have more passion about their work. Working with people with dementia can be quite demanding because of the repetition of what people are saying and the demands of the job. But a smile from a person with dementia or a thank you goes a long way.

Andrew: *Earlier you spoke about "passion". How do you find that you are able to inspire in people. I think anyone can attest that it is hard to stay passionate about anything day in and day out. Are there tools that you use as a manager to inspire passion in your employees?*

RM: I think as manager, it is leading by example. I mean if you've got a manager that works beside staff and works developing staff...[the employee] they see the stand of work that you have and they try to mirror that. Some managers you may find work purely from the office and delegate everything out. I think being a hands-on manager goes a long way and people see the interaction...and people that want to develop will pick up very quickly on that and try to mirror what you are doing.

Andrew: *I'd like to talk a little bit more about the design of the spaces....when you first started here in 1998...what was the garden space like? Was there a garden?*

RM: The amount of space was as you see it today. But when I first arrived we had major work being done on the inside. The first thing that happened was that we wanted a secure space out on the back garden. So the main patio area that is the first change that happened. The steep banking came down into that space....so the banking was all dug into and the retaining wall was put into place and we just had the big square out there with the gates...so that we have a secure space.

So the patio was the main thing that happened initially and it was really nice because the 10 people on the ground floor with dementia were able to go outside and use that area...quite safely with the doors open bc the ramp was put in. Originally it had 2 steps down onto the patio, which was very difficult for residents to use. So the ramp was put in so that you would have a nice smooth access outside with the handrails that accompanied that. So that was there first of all and then the day center....the patio was made out there.....at the same time (as the other patio). So that was what happened initially. But then the garden space is just as it is. We planted some extra trees because it was all a grassed

area...just so that the people from the upper floors have got something pleasant to look at.

The front of the house is as just as it is right now. To the side there and part of the front around to the side it is all daffodil bulbs that have been planted and have been there for many years and its quite pleasant to look at from all angles. Garuth got involved with us around 2004 and then the council gave all care homes some grant money. Garuth then designed the front garden near the function room. So that was made and that was a nice area for people to go out. Some more money came along through grants and we were able to design and plant out the day center garden and the picnic area.

And staff...we have gardeners that come, but they are mainly here to cut the grass and tidy the edges. That is the summertime...they come every week. But they don't do anything else. But in the wintertime they might do a little pruning, but it's very limited. Because obviously it costs money and the contract for all the 11 homes to mow the lawn is roughly around 10,000 GBP a year. So then you are dependent on staff or family members helping out with the garden. I mean we are fortunate that Garuth will often come around voluntarily and tidy some of the beds up for us. But other than that it's just down to the goodwill of the staff and families.

Andrew: *Going back to the original work that was done in the garden...specifically with the brick retaining wall.....did you work with a designer?*

RM: The decisions had already been planned for that when I arrived....maybe the previous manager had some involvement...but I don't really know because the plans were already in place when I moved here. Obviously, I have been involved in the other spaces that have been designed, but that was with Garuth's input as well. The Iron gates...we didn't have those. We decided it was difficult for people because it was all open spaces and so it was felt that we should put the wrought iron gates along the side where the staff smoking area is. All along the back and on either side of the green house. That was quite costly as well. I think about 3 or 4 years ago working with the property service manager we thought that security needed looking at because out from where the car park is the kids from the school used to cut across the grass and you would get adults cutting across, because its quite extensive, the area we have and people would walk across. So we thought what would be good there...and I think Garuth suggested the Hawthorne hedge and so again that cost about 5,000 GBP. But now its quite nice because its filled out and there are no problems. The gardeners as part of the winter contract will prune them. And keep it to the height it is 5 or 6'...which is nice because it gives us some boundary and some security I guess. We had to keep a gap however for lawnmower access.

Andrew: *Can you talk about the design process working with Garuth?*

RM: Garuth is quite inspirational and has lots of ideas...working with older people in general. At the time that I first met Garuth my mother had recently had a stroke and I have grandchildren and its always been a family thing that I would take my grandchildren to my mothers house every Sunday and we'd play in the garden on the swing and do all the things that families do. When mom had the stroke it was devastating for us as a family and mom was in hospital for 6 or 7 months. SO my life became my work and going to visit my mum in hospital every day...to feed her tea and things like that. And then I would take the grandchildren to see mum in hospital and they would stand like soldiers around her bed and everything. Then in talking with Garuth about how children view residential homes and what to do in them. Together we came up withespecially for my building because I don't have the on-suite facilities....we designed the family kitchen areas to have interaction. Garuth did that as a small study about the benefits of these family kitchens and they were then rolled out through the entire company. So that people came and could engage with their family member.

Andrew: *How was this research funded?*

RM: This was just something that Garuth did and he would then promote the study findings at conferences....Because Garuth presents his work at conferences for dementia care.

Garuth took it on as an initiative...because he saw the benefits that the family had...because (before) the kids would come in and want to go home because they would just have to stand there. By introducing drawing and flower arranging and the Snoezelen that we have here the kids found it fascinating with the lights. So it made visiting a whole new experience for people. And then taking the ball outside and having the kids play on our secure lawn....the residents would look at the kids and watch them playing....which again was something nice for older people to look forward to doing.

When Garuth designed the garden out front, people were able to go and sit in a nice garden. They've got fragrance from the flowers and various other things that just made life much happier. So the home became known for engaging with people and it built our reputation even more. People like to know that they are putting their loved one in a care facility knowing that they are going to be looked after very well and I think that...that is what we do very well....we are recognized for it...and we have a very good reputation. You can speak to people throughout the city and they know that a manager has been there a long time...I think that is one of the struggles for the new homes today...Turnover of the managers. Where as Sheffcare tends to have the same managers for a long time....which is good for everybody.

We encourage the staff here to take people out....as new people come in, we find out about those people. What have they done in their younger days? And what have their hobbies been and what do they like to do. A number of our people have either been postmen or they have lived in the countryside or they have been rent collectors or things like that...and they have had jobs that have been outside...they may have been brick layers or gardeners or whatever they have been.....they are used to outdoors and I think it is very important for people to continue with the outdoor activity. There is this Ethos around that if you become old that you end up in a care home...you put your carpet slipper on and then that it!...waiting for god kind of thing. Which is horrible and I don't see that that is what residential care is about....its about still doing things and enjoying life. Yeah some people choose to sit and watch television....but they might enjoy being outside too. And with people with Dementia...yes they might be 80 or 90 years old but to them they are still quite young and refer to their mums and dads...so that sort of tells you sometimes that they are insecure in where they are in their memory or in their "diary"...I see dementia as like a diary and in the years that you are with. And so they are still quite young at heart and they like to do things that 30 and 40 year old people like to do. They are not old in their mind and so being outside and going or walks is so important and because of our climate as you may have seen....it varies so much day to day...we don't have a week of sun shine all the time. So you dress for the weather here. We encourage people to go out (regardless)....we have the umbrellas and the rain macks and things to use because people will still go out. And the jobs that these people did...they would have been working outdoors in all weathers....so they are used to that sort of thing and they dress for the weather.

Andrew: *I've noticed when people are out (on the patio)...there seems to be a real draw to activity. Once a few people are out, slowly more people start peeking around the corner and then you have 10 or 12 people out.*

So are you slowly implementing a master plan over time that was designed by Garuth ? or has it been more area specific?

RM: Area specific. He would design an area and he would consort with us and the residents about what kind of flowers to put in or what shrubs to plant.

Andrew: *Did he go around and speak with you each individually or was there a group meeting?*

RM: It was group work. Because of the project he was doing from the University.....he set up focus groups with relatives. And because he is such a friendly chap, it just became part and package of the whole thing...which is fortunate for us. He would talk with residents and be involved with them and join them for meals.....so it was a formal setting...very informal in the way he would speak to people with dementia to get their input. I have visited Harregut and various other places with Garuth and they have been a different clientele and it has been the same sort of procedure where he gets ideas from them about what they would like to see in gardens and with the design...where people like to sit in the garden...he would use the sun as a means of determining where to locate things...where is the sun? Where is the shade?...he considers lots of aspects which has been really good for us because he would say "this particular area is shady so we need to think about where the seating should go" and we follow his advice. People have been grateful for that.

Andrew: *In a standard design process we are always coming full circle to evaluation and then making changes as need be based on those evaluations. With any of the spaces, have you had to make adjustments over time? Specifically what works well, what doesn't work well, and what could be made better over time? Money being no object in this scenario.*

RM: If money were no object....people that were on the top floor....we are a 3 story building....and people have to be brought downstairs...and it is dementia care that is on the top floor. It would be nice to put a walkway from the upstairs out to join the top of the garden. If we could use the top space...and people could walk straight out instead of coming down in a lift...I think that would be a great addition.

Andrew: *Greater access outside from all levels?*

RM: Yeah greater access but that would be very costly I would think to do. Or to maybe have something like a stair lift so that we could get up to the top of the garden, because the incline is quite steep.

I think we have quite a good balance as we are...it would be nice to see a conservatory on the front. And to do something from that conservatory connecting to the front garden.

Andrew: *Are there any other little things that are not working as well as you would like?*

RM: I think from the day center point of view....we could do with a gardener onsite...that would tend to detail maintenance.

Andrew: *With our conversation earlier today about expanding the dementia day care service...do you think that the outdoor facilities can accommodate the expansion of the service?*

RM: We talked earlier about the gate that goes down to the maintenance room....looking at ways of improving the safety there. I would have like to have seen a typical English garden walkway around to the picnic area with some nice arched trellises with roses because that is familiar to England and especially to Yorkshire. Also to get a veg(atable) patch going so that people can work out there.

But again its having someone to maintain it...that's the saddest thing. The 3 staff that work in the day center are very good at what they do, and I think they are very inspired about new things and look forward to new challenges...and I think the garden area is going to be a bit of a challenge.

Andrew: *I'd like to talk about the programming now.....How are those things planned?*

RM: We have a mixture of everything...the weather dictates a lot over here. So on nice days it could be spontaneous....weve got a good day today...lets go out and picnic. If say we had booked transport for a picnic and the weather was poor we would have to change venues and go visit a museum or

something like that. We take advantage if the weather is nice. For the residents on a nice day or evening they will have tea or lunch outside on the patio.

Andrew: *How is that organized? Does that come directly from you or...?*

RM: We have ____ the Activity Manager who we just hired. Prior to her...we had activity workers employed by Sheffcare come in and do all the organized activities. We could be flexible.

There would be a program that could be adapted. Residents are asked what activities they like.... reminiscing, singing, playing bingo, etc. So we incorporate what people have suggested they like into that.

The people with dementia, we tend to organize things on daily living skills....so we may sit and have a sing/song....but we may be polishing brasses or dusting. Or putting different hats on..."where am I going today?".....they can then reminisce on what kind of hat am I wearing and what am I going to be doing in this hat....and conversations will just emerge.

I am hoping that the new Activity Manager will set up things like knitting groups, card games, and various things...so that there is something for people to do if they want to.

We are flexible in what we do. There is a program outlined of things that are available, but we can adjust to whatever.

Andrew: *Is there training available to staff pertaining to specific programming? Such as art or horticulture therapy?*

RM: Part of our recruitment process is to look at what people bring to the table.I want people who are nice and cheerful.....I need to gauge how their personality is going to mix with residents.....I need to have a variation of skill and ability.....I then invite them to spend some time with the residents so that I can observe how they interact.....

Andrew: *Can you point out any benefits or negatives that you observe after a client has spent time in the garden? Any benefits or negatives for staff?*

RM: I think when people have been outside.....people are happier.....if you're in this environment 24/7....its hot (and people are more susceptible to temperature), it's stuffy....and people need to have that fresh air...they need to feel breeze on their cheeks....they feel revitalized when they come in...they eat better, they sleep better....and I think that is a benefit for the staff as well. Now that we are doing a 12 hour shift pattern it is good for the staff to be outside in the fresh air....its refreshing. Especially from a residents appetite point of view and hydration.....you know they go out for drinks, and they come in refreshed and hungry.

SUMMARY: This interview is with the Registered Manager (RM) of Springwood Care Home. She talks about her working relationship with Garuth and how the building and the landscape have changed over time. She identifies that finding, training, and retaining good staff is one of the biggest challenges when working with people with dementia.

Interview with Activities Coordinator (AC) – Springwood Residential Care Home

AB: *Could you start by stating your job title and what your responsibilities are here at Springwood?*

AC: I am the Activities Coordinator, which mean that I keep the users entertained, the best that I can.

Which is easier sometimes than others as I am sure you can appreciate. You can come into this job with all these high fluting, fantastic ideas and they all crash and burn within five minutes because some residents have an hours attention span while others have 30 seconds. Which very much limits what you can do. We also have 1 or 2 residents here that do not want to mix or interact with anybody...they just want to stay in their own space....which is fine....with those I try to go in a and have an individual chat with them as often as I can....even then they don't seem bothered with whether you do or you don't. So, its quite a wide ____ [28:21]? Really, I try and do a bit of arts and craft with them and a bit of baking occasionally....we've got an ongoing project at the moment – the tree in the function room...which is all around friendship and dementia. I have written about 4 poems since the project started. I do pretty much everything else but care for them. I quite enjoy it....I'm not restrained by "this bed has got to be made or that bed has got to be made" (daily chores)...I'm pretty flexible. Particularly when the weather is good we can do more [activities] outside.

AB: *So when the weather is nice like it is today, you are outside as much as possible with the residents?*

AC: I am, but I also have to be conscious of the health and safety implications behind...we don't want them getting sunstroke or sunburnt, etc.

AB: *Given that you have a variety of clients with varying activity levels and varying levels of dementia....do you try to break them up into groups based on what they are able to do?*

AC: I try and integrate all levels together because I think...say the spectrum here is from 1-100...1 being the best and 100 being the worst... If you keep all the 100's together and all the 1's together separately you are never going to get any advancement...whereas if you integrate them then the ones who are better off will help the ones who aren't so good.

AB: *You are suggesting this benefit is a product of mirroring behavior?*

AC: Yes and the fact that the good ones will physically take care of the not so good ones. This makes them feel useful and it helps out the ones who have trouble coping.

AB: *How do you think the garden and the outdoor spaces are functioning?*

AC: I am coming at this from my own personal view point....I like a garden that flows....that every bit is accessible to everybody...where every bit is accessible to everybody....apart from safety and a gate at both entrances. The space in between should just flow – a bit like a river would be my analogy, because a river meanders and that is similar to their minds...they meander. I can see where Garuth is coming from when he talks about ownership of different areas...however because this is a community, I do not feel the same way...this a community as a whole...even the day center...so the garden should be there for everybody.

It would be nice to have part of the banking removed and have a proper sensory area made—that is accessible for wheelchairs. The accessibility for wheelchairs as the garden exists currently is a problem. We can get them in there now but it is not as easy.

AB: *Is part of the wheel chair accessibility due the building and existing architecture?*

AC: It could be....if you are coming out of the daycenter...you have to bring the wheelchairs down backwards.

AB: *Why is that?*

AC: I don't exactly know

AB: *Do you have clients that are able to go outside....for a walk on their own?*

AC: I think on the residential floor...which I would classify some of those residents as 1-5....would love to do that, but because of their physical disabilities, would find it difficult.

AC: At least, once a week I take 1-2 people on a walk around the block on the public street....it would be nice to have that sort of thing [walking loops] in here because it would be a safer environment....which would allow me to bring out more people at one time.

AB: *Getting to be outside with the residents has also probably a de-stressor for you.... i would imagine?*

AC: Oh yes.....I love being outside....but it is limited when it is only me.....as to how many residents I can have and what I can do....its fantastic when you and Garuth are here because we can handle a larger group.

AB: *What do you think about the horticulture therapy work we have been doing?*

AC: I think its great! I love gardening

****[20:20]** AC discusses growing tomatoes in the greenhouse and intensive that is. She mentions that if she gets them started and then leaves for her 2 week vacation in July that no one will be here to take care of them and that she doesn't think they have any other staff that would be willing to take that on. She says that she hates grass and that she prefers a wildflower garden...but she notes that it will require someone preparing the area and maintaining it, which she thinks it reluctant to occur.

AB: *What if you could get some of the residents to start doing some of the garden maintenance and tasks? – that in itself is a stimulating activity.*

AC: I'll give anything a go. I'll get them out and I'll say to them "look, do you think this needs weeding" or "do you want to give me a hand with that" or "shall we water these?". I'm quite happy to that.

AB: *Yeah I think you are the person that is pivotal in making that happen.*

AC: But if we are going to make the most out of that, I think the whole area needs looking at.

AB: *Re-design the area?*

AC: I don't think that will happen because I don't think the money is there for that to happen.

AB: *What if there was a vegetable bed out there, may dug back into the hill on the corner?*

AC: No problem.

AB: *Do you think residents would be interested in using it?*

AC: Yeah, I think if they could access it..then yeah.

AB: *You mentioned to me earlier some thoughts about the greenhouse...with users having trouble getting around it..would you share those again?*

AC: I think it is in the wrong place.

AB: *Where would you locate it?*

AC: I don't know, because I haven't really had a look around it...but I'm not sure it is in the right place. It restricts the flow...its segregating. It's "that's that area and you can go into that area if you want" and "that's the day center area"

AB: *It is 3 distinct spaces.*

AC: I don't think its using the space.

AB: You all aren't using the greenhouse currently, are you?

AC: What you've got to imagine is that whether its me or another carer....even with the people who have what would be considered good mobility...still compared to you or I is less than perfect. And yes, Garuth making a throughway through the greenhouse it great...but whoever walks through there, somebody has got to be with them and you wont get a wheelchair through there. Which cuts off a big section.

AB: *The large patio area seems to works very well, doesn't it?*

AC: Yeah, because they haven't had access to this other area they have concentrated on using that area.

AB: *Being able to move the tables around...makes the space very flexible for different uses.*

AC: Yeah.

AB: *Is there anything else you would like to comment on about the way the garden is used or the design of the garden, or anything else you would like to share?*

AC: The only thing I would like to see is an area that is designed for sensory. I'd love for the residents to be able to get up and be able to access the higher bits. So that we could even put out a picnic blanket and we could sit and have an old fashioned picnic..would be fabulous....which we could do on the top of the hill...but its getting them on the top of the hill.

AB: *So that's the design challenge?*

AC: Yeah, I mean I haven't even been up there. Even a set of broad steps, would allow some to get up there. Not everybody but certainly some.

AB: *So after residents have been outdoors in the garden moving around, does that make positive changes in their mood or behavior?*

AC: Yeah because even if they have only sat in the sun they are tired out, because they've had fresh air and sunshine on their face. Even cold or wet days Ive taken people walking around the block, just to get their blood flowing and fresh air because I think in here...its like any home, you have to have the heat on because a lot (of the residents) aren't moving so they feel cold very easily and its stale air. Gotta get out and breathe.

If we could really open it up and put lots of pathways in, so that I could bring people out every day, walking in a safe environment...that would be fantastic.

AB: Well thank you so much. I really enjoyed talking with you.

SUMMARY: This interview is with the activities coordinator at Springwood day center. She brings up the issues of health and safety regarding being outdoors – particularly sun burn, overheating, or getting cold. She also identifies the challenge in working with groups that have varying attention spans and abilities due to different stages of dementia. However, later in the interview she advocates for mixing the services users based on their level of dementia because she observes the more able helping the less able and she thinks that the less able strive to keep up with the more able users. She wishes there was better accessibility throughout the garden, walking trails, and that the garden would have a better

flow. She would like to have greater access through the garden instead of the current separated spaces – a concept which disagrees with the designers concept of having different spaces for residential and day care, promoting ownership of the space. She would like to have access to the top of the hill for activities. She believes that being outside in the sunshine and breathing fresh air has a positive effect on the mood of residents -- the sunshine makes them tired.

Interview with Careworker – Springwood Residential Care Home

AB: *Could you start by stating your job title and what your responsibilities are here at Springwood?*

CW: My name is _____, I have been working at Springwood Day Center for 2 years, but I've actually been with Springwood for 4 years. I used to work on the ground corridor for EMI Dementia.

AB: *So what is your role here?*

CW: My role today is to pick up clients from the community, bring them in....do activities....make sure they have a fun filled day really....and plenty to eat, drink...and I make sure we take them back home safely.

AB: *And it's always a different group coming in?*

CW: Yep we have over 40 clients in the Day Center. We have a couple of gentlemen and ladies that come a couple of days a week, but everyday is different...not one day is the same. So we try to plan around what they like to do and things like that.

AB: *So you choose the activities you are going to do based on getting to know your clients?*

CW: Yeah because we know them quite a lot. I have been here 2 years now so I know a lot about them and we try and do things that they'd like to do, but it doesn't always work we might set up in the morning and then they'll come in and they don't want to do that. So we will ask them what they want to do? And then we will rearrange it.

AB: *So do you try to get outside with your clients a lot?*

CW: We try to. But a lot of the times they don't want to. We find when we come back from being on the bus, if we can guide them towards the outside instead of into the lounge chairs, we have a lot more success.

AB: *So you go around the building?*

CW: If we come straight through [to the outside patio] and not into the lounge area. You see once they sit in those chairs they don't want to move. Its quite hard getting them up. You get a lot of inquiries from them, but they eventually get up.

AB: *What do you think about the outdoor spaces that you have here?*

CW: Its a lot of space...we could use it a lot more.

AB: *So you would like to be able to access....?*

CW: Yeah up top.

AB: *Which is hard because of the slope and you would need some sort of a ramp.*

CW: We are looking into having 2 days a week in the day center for just dementia care. So we are looking at environment where it is safe for them to come out....we have some stairs to the basement [potential safety hazard] ...we want some framework to go around it. So if they do want to go and wander outside we know they can't get out, but then they are out on their own if they want to.

AB: *It seems like the main patio space works pretty well for people. What about the space over towards the day center that is more of a narrow corridor. Does that space work well in your opinion?*

CW: Its alright as long as they are not left on their own....which if they have dementia they wouldn't be....there is always somebody there caring for them.

AB: *Have you done any garden based activities such as planting or weeding with the clients before?*

CW: Ive not done gardening before. When Garuth came last, he did Dementia by Green and it was study on a couple of residents off each floor. Even every five minutes out side [cant understand recording 3:08]....they were bringing the outside in and I took part in that study. That went really well.

AB: *And what were your observations and thoughts from that?*

CW: It did help. Even if it was just coming out for a cup of coffee outside or going for a walk....fetching flowers and talking about different color flowers....it did make a difference.

AB: *Were the people that were chosen to go out already fond of gardening?*

CW: No, just a lot with dementia. They were focused on people with dementia to see how their attitude and their behavior changed by doing that study over a 2-month period.

AB: *I know you are busy so we will wrap this up. IS there anything else that you can pass on about this outdoor space and how it functions? Is there anything else that you would like to see?*

CW: More time.....more time to be able to open eyes and spend it. That's what id say because you have so many elements of the day that you have to make sure that they get...and that they are looked after....it does shorten what time you can spend outside.

AB: *And those elements that you have to get in during a day.. that is part of the NHS or Council's requirements?*

CW: Yeah, to make sure that they are getting enough nutrients, and fluids and liquids....Being looked after properly.

AB: *So just getting those basic needs taken care of takes up a lot of time?*

CW: Yeah it takes up a big chunk of the time. Because in the Day Center we usually have an hour in the morning and an hour and a half in the afternoon.... and that's just activity time. So then you've got to organize it as well. I wish we could have more time.....more time....definitely.

AB: *Last question – Hypothetically, If we were going to redesign a portion of the garden would you be open to being involved in that process?*

CW: Yeah it would be nice because I know what they can do and what they are capable of doing and I could be able to put that input into how you vision it. So yeah...

And actually we had a group of students coming from the University of Sheffield and they were looking at dementia, looking at the buildings. And they actually got the day center clients to come in with them and they had all pictures of what you had to have in a building but also what things that you would like

to have in a building and near the building.....and built it themselves with the dementia clients input and help. So you could do something like that in the garden.

AB: *So they just used photos to get feedback from the clients with dementia?*

CW: Yeah, they [dementia clients] picked and choosed what it would go next to, so you could see from their vision.....so then you could take it from them themselves.....try that with cards or even writing and have a square sheet for the garden and they can put things where they think they belong.

AB: *That's a great idea. Thank you for taking the time to speak with me.*

SUMMARY: This interview is with a care worker on the day center side of Springwood Care Home. She is responsible for hands on care. She points out that you need to be flexible with regards to activity planning because often time clients will not want to do the planned activity. She mentions that often times, clients will not want to go outside even when prompted. She has more success when she leads them directly off the bus to the outdoors. When they sit down in comfortable chairs indoors it becomes quite difficult for staff to get them to get back up. While she points out that it is the intent to make the garden completely safe for people to walk out into alone, she points out that people with dementia at Springwood are never left unattended. In a perfect world, she wishes she had more time for activities and care. Her time is very limited because she also has to ensure that the basic health needs are met (this is a requirement from the government). She says that she would be interested in providing input in the design process, noting that she has specialized knowledge as a care worker. She also mentions an example of a student run, input and design session which utilized pictures and mapping exercises to involve people with dementia in the design process.

CHARNLEY FOLD ENHANCED DEMENTIA DAY SUPPORT INTERVIEWS

Interview with Garuth Chalfont (GC) – Garden Designer at Charnley Fold: Part 1

Andrew: *If you would, please talk about the Charnley Fold design process?*

Garuth: I was giving a public lecture at the University of Bradford on dementia care environments. Alex Walker came to the talk and he came up to me afterwards and he was interested in the nature connection. He is a strong proponent and advocate of people staying connected to nature.....we were on the same wavelength from the very beginning.

2 Years later he emailed me and said OK I'm ready to start this day center. I came up to meet him at Charnley Fold. This is a day center that the council owned and they closed it and they were going to renovate it and turn it into a resource center for older people....a combination of health and social care within the building itself. Alex was instrumental in organizing that this was going to happen because it had to be a collaboration, because he was with the PCT, he is with the NHS, he is the health side of things, but he had strong ties with the local council and with age concern. He is the type of guy who says "who are your allies?" and lets get together and do somethings. He is a real can do make it happen sort of person. So I met him there a couple times to look at the site and I took lots of pictures and I went away and thought through what he was trying to provide in terms of a service and what I wanted people to be able to do outside and the whole connection from indoors to outside. We had a unique opportunity because we were going to renovate. There were spaces internally where we could take down a wall or put up a wall, we could make some break out opportunities. So, when you get to the door, there is not just a corridor straight to the door, but there is an area that is wider right by the door. So there is a place to sit and there is a coat rack with hats, etc.....so that people see the boots and the hats and they think "ok we are going outside". So I worked up the design and then they started

renovating and they tore out all of the existing garden that was there because it was just sort of your typical council stuff.

Andrew: *So you did both the architectural and landscape architecture for this project?*

Garuth: Yeah....I was already into the PhD of Architecture at that point. All of my talks are all about building AND outdoors and how the two connect. I went around the building with Alex and we decided what we wanted to do structurally, and how we could make more of a direct connection between indoors and outdoors, so that the rooms that were going to become activity rooms, like you might have had 2 resident bedrooms when it was a care home and those were knocked together to create a larger room that could be an activity lounge. They have a little kitchenette at one end of it so you could carry on an activity at one end, but also make a drink, have a meal and stuff like that. We came up with the idea between us to do the building and the outdoors. Then I just kept drawing and kept modifying. I had to provide the drawings for the contractor to follow. He had done a building one way 25 years ago and that in his mind was how the building should be. He was very difficult to work with. He had some very old fashioned ideas and whenever you say dementia.....people automatically think high security, walls, locking people in.....they think managing, controlling, and containing.....and that is kind of the main thrust of where dementia care was. We were saying “no, no, no...it needs to be open, people need to be doing things” so I fought with the contractor all the way to put in these really heavy duty secure fences. They would have kept a car in let alone people. I was trying to do a domestic garden, something that people would see and think “Oh, that looks like my garden” and that they would think they could do something (gardening) there and that they would be allowed to. But if it’s a secure fence then you’re going to think “oh that is someone else’s space”, “I’m not supposed to go there”.....so the messages that spaces give off are very important. It wasn’t just Alex Walker who was in charge of what the building was going to become.....there was the NHS side and even though he is NHS.....he is a commissioner, he is not a GP, he is not a consultant psychiatrist who is going to be looking at dementia strictly from a medical model.....we were trying to look at dementia from a human perspective and not just something we need to treat with drugs.....because I think we treat with activities and nature. So Alex and I have just always been very in sync with our philosophy. There were some things that we didn’t see eye to eye with in terms of what we wanted to do on the day center side and the health side.....they wanted to keep certain doors locked because “they didn’t want your people over here”.....we don’t want your service users running around when we are trying to be professional medical.....so there was a bit of this is our space and this is your space.....the internal garden touches the whole building so it’s a bit their space and it’s a bit our space, but its supposed to be used for everyone. It ended up that because there is a walkway through the middle of it...there is one section of the garden that is completely enclosed and it is not used very much, because people have to go through 2 locked doors to get to it. I also wanted to have...they were replacing the windows on this breezeway...it was really the most popular part of the home for the people living there.....because it was a walkway from one side of the building across to the other.....it had screens and windows you could open.....people would enjoy sitting out there with the windows open enjoying the breeze with a roof over their heads....the history of the care home for the council is that they used to be sheltered accommodation for the elderly....people had their own flat and they were really quite able....and then they became care homes for people who were less able, and then they were renovated to become something else. Another thing that we fought against and lost was that all NHS facilities have this great big white board out in front that says the name of the facility and it has the NHS logos on it...its so clinical. We wanted this to feel very neighborhood-like, that you could drop in and have a chat, have a cup of tea...find out about your heating allowance, memory assessment...we wanted it to be really friendly and open for people. But there are certain rules that the NHS has and the sign is one of them. So when you drive up to the place you will see this large white board that identifies it right off the bat as

something medical.

Andrew: *What site elements would you like to have seen installed and why?*

Garuth: Trellises and pergolas and archways....some verticality in the place. The NHS was dead-set against that because they identify that as a potential place for ligatures and potential for patients to hang themselves. So there was an old-school approach to a lot of dementia design. With peoples history being with secure hospitals wards where people had not just dementia, but also psychotic illness...in this situation you need to make sure that the environment is “risk free”, but this is a space where people are going to be out there with staff and they are going to be doing things, because that’s secure...that’s the care that we want to provide....is people being active and enabling people to do things and not curtailing there activity by keeping them indoors, sat down, with a cup of tea.....staring out the window maybe. The NHS medical side of the facility picked all their own furniture and floor and wall covering, the completely dictated the way they wanted it to be decorated...we did the same thing with Charnley Fold and it was day and night...(goes on to describe NHS side as very clinical and hospital-like). We wanted a place that was person centered and comfortable...same with the furniture; we have colorful and comfortable stuff. In a sense, there are some positive things that have happened, the project combined both health and social in one building. For instance if someone comes in and they are a bit “off” or not feeling like themselves and a family member thinks something may be wrong...they can go right over to the medical side and be evaluated. This is excellent because in the community you might wait six weeks for someone to come or to have an appointment. There are things that have worked really well, but it has had its pros and cons. It has been open for 4 years. Age Concern bid for the contract and won...and has been operating Charnley Fold Enhanced Dementia Day Care, which is the social side of the building.....people come in and are very receptive to the place. We have statistics that show that the people come to this service when they are at “carer breakdown”, which means that if they cant get into Charnley Fold they are going to have to go into residential care 24/7, because their spouse cant cope anymore. There have been services users who come 3days a week for 2-3years, which is saving the NHS money, and even though this is a high-end and expensive day care in comparison to other day care centers, the NHS still saves money by not paying for the more expensive 24/7 residential care where they don’t need to be...they need to be living at home and coming to a place like this. Charnley Fold is able to achieve excellence with persons with dementia because of their higher budget.

(goes on to discuss the difference between management that is for profit versus a charitable NPO.)

I had designed sections of the garden as we moved through. We got a lot of structure in for the opening...all the pavement and most of the woodwork. And then people used it and I was constantly evaluating and visiting the place....talking to people and asking how it was working.

Andrew: *Can you talk about the unique relationship you have with your joiners (carpenters) and how that influenced the project?*

Garuth: When we were first putting the garden in I did the design and then we went to a few contractors to price out the wooden structures; fences, trellis, greenhouse, arches, sheds. Johns came in at the lowest bid and it turns out that in his workshop he runs a social enterprise...where people come who have emotional issues....and he teaches them how to work with wood as part of their therapy. I taught him about the special needs of people with dementia and then we came together to design and build the structures. I want to design projects based on how it will be used. Since this job, we have worked together many times and have developed a great working relationship.

When I was renovating a garden somewhere else where we were putting in fence, I got John involved.

Since he is used to working with people that have special needs it works well. I have always been a strong believer that if you are working for a facility, that provides care to people with dementia, take your time with projects -- you should talk with people, engage people, let them into the process of what you are doing....it can only enrich the final product. We can learn from people with dementia...(in a sense) it is people with dementia that are the experts at these designs...we are just the interpreters, carrying it out, facilitating...Usually there is not much happening at care homes and so it is an opportunity for users to engage and have a different day. It is great to work with custom carpenters, because you get a custom look and feel and in our case the job can constantly change and iterate onsite in order to accommodate user needs.

I have been pushing for a long time for a position to be created where the responsibilities are half hands on carer and half taking care of the home. Someone who is a handyman, a gardener, and a careworker...often time in care homes responsibilities are very separated and there is little crossover in roles and responsibilities.

Interview with Garuth Chalfont (GC) – Garden Designer at Charnley Fold: Part 2

This interview is Garuth explaining how he included the service users in the design process

GC: I did a workshop for the service users....I came up and spent the day and I brought lots of photographs of other gardens I had done and seats and lawns and all sorts of bits and pieces for them to comment on. We had some big sheets that we put up on the wall for people to see. We also had smaller versions of the sheet and staff were doing one on one work with the service users to get them to comment on these different things on the sheets and then to write down what there comments were. This was specific to the recreation side....the latest design aspect that we have done....and the elements that were gonna go out there was an recreation area that was a bit of a lawn for bowling, skittles, or throwing the ball across....because we needed a space that was nice grass that you could cut low and that was level. So we picked the area that seemed to work the best and the carpenter leveled it and re-sodded it....put down some nice turf and people will be out there using it. When I was getting feedback from service users, there was one guy that was really adamant that you cant do a bowling green and you cant call it a bowling green because that takes a lot of maintenance, it has to be the right type of grass and it has to be cut to a certain height ---because he was a bowler and he knew the effort that bowling clubs have to go through to keep their lawns nice...So we are calling it a pitch or a lawn for bowling....but he doesn't want it to be called a bowling green, because there is no way it can be maintained to that level.

Then there were other things that we wanted to put in. We designed -- 3 different raised beds and one of the raised beds is going to be a round raised bed...its higher at the back and lower at the front, so that you can see it from out the window of the conservatory. So when you are sitting inside and look out, you can actually see the flowers. See with a raised bed usually the top is level...well what they do here [UK] as you will see sometimes on the roundabouts on the motorway...there will be these beds and they will put them in at an angle so that you can actually see the flowers as you go around....

(Conversation continues to 3:19)

That idea [slanted raised beds] all sort of came into the need to do this one bed that you can see from the window and that they could plant flowering bedding plants in that were colorful....that you could see at a distance.....maybe they'll even spell out CF for Charnley Fold or something, I don't know what they'll want to do with it. But that was something that came from the discussions as well...not just putting in a bed, but where it would go and how we would be able to see itwho could see it and the

shape and size. We get lots of comments about what sorts of plants people like and what plants they remember or used to grow up with or like the fragrance of and so we often get a list of different sorts of plants which really does inform the planting palette. ...What we are going to put in....but then a lot of the plants that you are going to see at Charnley Fold are plants that the service users have put in anyway...staff will buy what they want and then they will put them in...but that's more like annuals. I focus on the perennials and the shrubs so that there is something there happening year round. Anytime a person goes out, staff can take them to something that is happening....we try to have a year round garden but some of it is based upon the feedback that we get from service users when we are initially designing the space. Another feedback that we got was that we like to go out and sit outside the conservatory but it is not quite big enough for everybody. So we figured out the optimal space would be 2 pavers wider than what was out there...so what you are going to see is an original patio and then 2 more rows of pavers...which makes it more of a square patio and everyone can fit on it. Another thing that staff talked about wanting to have is a path that was a little less formal...that was kind of like going off into the country side...but it had to have some kind of a topping on it so that it didn't become mud and so that it wasn't slippery.....[5:55] so there is a path that has gone in that I call the woodland path which is an informal path that leaves one area of the patio and goes all the way around the outskirts of this greenspace and comes back into the other end over near the poly-tunnel—round the back of the building....and it's a meandering path so if the service user is a little agitated or bothered or not really settling then staff have an option to go outside and not just walk on the hard paths that connect all the main activity spaces...but to get a bit off that path and to provide a different sort of experience that is a little more like c'mon lets get away from folks a minute and just have a little chat ourselves. People need that sense of "being away" and at the same time they are not leaving the site...but they are having an experience in the landscape that feel like you are off the beaten path. I was really keen to have these different levels of spaces...something's very close, something's very formalized....a lot of hard paving because we've got people in wheelchairs....we've got people on frames. The whole space doesn't have to be wheelchair accessible...but there can be some spaces that are very used by people who are physically able...not necessarily wheelchairs but that offer an opportunity for residents who need that kind of opportunity for getting away...because I don't think we should make everything totally accessible for everyone. You have to have accessibility in the entrances to the building, you have to be able to get in and out of the building...100% of the service users have to be able to do that very easily....and they do! There are tons of easy ways to walk in and out of the building. But I think that the garden shouldn't be all at that same level. I think you need to have a bit of wild....and because of where this path goes...it actually wind through a few trees and what we wanted to do was have a wildlife area....where service users could go out and they could fill up the bird feeder or check on the bird box.....do stuff that is relating to the wildlife because there is an awful lot.....you see the site backs up to a big field and there is a farmer next door and then there is a lot of green behind it....so we do have a fair amount of bird life and squirrels coming. So those are the types of things that came out of the workshop.

AB: *So this is actually later on in the design process for the garden...you are revisiting an area and adding on to it. Did you use the same workshop process in the beginning with this group?*

GC: Not with this group specifically because they didn't exist then...you know it was an empty building and they didn't have a service at all. But....because Age Concern and Alzheimer's Society has been connected to Charnley Fold from the very beginning.....so when I first visited the site, we had some carers and some people with dementia come over.....

(Garuth tells story about man with dementia who tried to eat his tie)

So this is very important in terms of not putting poisonous plant in the garden but then again I think we

shouldn't take this to the extreme and not have anything in the garden because sometimes a plant will be called poisonous but you would have to eat 12 tree sized plants to get a tummy ache. You have to balance it off with what toxicity really is....and I think that things like roses....the ladies always say "oh I love roses, I would love to have roses!". But roses are against the rules because they've got thorns, but if you've got a space where you can plant a rose where people can see it and maybe get a waft of it without actually cutting themselves on it then I think you should plant roses. You know you've just got to be sensible...you've got to think about your clientele....

AB: *I'd like to revisit the initial meeting that you had onsite, where the man who had dementia was there with his wife. Can you talk more about that?*

GC: We met up with some groups....like a group of volunteers who came to Age Concern...I think I remember meeting at their office which is in Preston.

AB: *And these were all separate meetings?*

GC: Yeah, so any chance I get to talk to people who either have a person that they are caring for who is interested in coming to this sort of service. Also because of the experience that I had with working in designing buildings for other places that did dementia care....I already had kind of a tool-kit of 'Do's & Don'ts'.....and what works well for people. But you have to take into the consideration the locale and what people in different areas...we are all the same yet we are not...we are very different! Sometimes that can play out...like if there is a superstition or there is a historical meaning to something that you get because you're in Lancashire and everyone knows about the Red & the White because there was some historical significance.....continues to [12:18]. So through Alex's connections and the fact that Age Concern was on board with wanting to do the tender...and that Alzheimer's society runs the front house where the information area is...where people can come in...and there is always a volunteer sitting at the front desk. So I met up with these various groups and talked through with them and showed them pictures of what I had done...and I got them to show me what they were interested in...and Ideas just started to gel and come together. You have to remember that Charnley Fold had never been done before...it was a real pioneer at a time where you only had a bit of a day center at a care home or a bit of a day center in town, but it wasn't activity based. So sometimes you can have people tell you what they want and all they have to draw upon is what they have experienced in the past.... they don't necessarily think out the box, especially if you're 80...and that's a generalization and I apologize for that....but I have found that there is a certain amount that you can take from focus groups and engaging with people. Then there is also a certain amount that you have to bring in as a designer because you have to innovate.... and we wanted this to be a real innovation!

SUMMARY: This interview is with Dr. Garuth Chalfont, the designer for Charnley Fold. He describes the process by which he included service users [people with dementia coming to CF] into the design process via focus groups. By utilizing printed visuals and staff assistance he gathered responses from the very services users that would use the space. It is interesting that this very activity becomes a therapeutic activity for the service users. This is a trend that I noticed through working with Garuth. He is always looking for ways to incorporate therapy and engagement into his process and work at care facilities. This information in combination with staff observations and requests; as well as Garuth's professional expertise shaped the final design. He notes that you cannot fully rely on focus groups for the information needed to create innovative spaces. He says this is mainly because in the field of dementia therapeutic garden design there is not a lot of good precedence or innovative work from which the layperson can draw from. His approach seems to be, to obtain as much information regarding the site, staff, and users as possible and combine that with the creativity and expertise of the designer.

Interview with Garuth Chalfont (GC) – Garden Designer at Charnley Fold: Part 3

Garuth is describing how he used the notion of 'archetype' when he designed Charnley Fold.

GC: The concept is that if people see a space that they can relate to, that doesn't look like they are in the hospital, and doesn't look like they are in a service....because if you go to the dentist's office, you're not going to touch the garden in front of the dentist's office because it's not yours.....and we've got to get away from the hospitalization/medical model of facilities that look like part of the NHS or the doctors establishment because what that does is it disempowers the person from doing anything in the garden. So this is why I don't like the big white sign in front of the building.....there is a lot about the NHS side of things that makes it look like a hospital and clinical. So we want to avoid the clinical, if we want people to engage in the garden....because there are a lot of subliminal messages about landscape.....who does it?; who takes care of it? ; who owns it? ; and who can fiddle around in it?. So if you go to stay in a hotel or any of these places that the landscape is maintained and its taken care of....and its nothing to do with you and youre not going to go out and do a bit of weeding in the garden because you'll get in trouble. What we are fighting against is that whole thing about public space, private space, domestic space...and the gardens I put in need to look like something that a person would recognize. Scale is an important thing too because landscape tend to be on a larger scale.....its about plants as well because if you are planting a landscape you are going to buy 100 of one kind of plant and if you are planting in a garden you are going to buy 1 of 100 different kind of plants. Because it's the experience of the one plant....a person who has their own budget who goes out and buys things for their garden, that they actually use....if they do the gardening, they are not going to have a fortune to spend on plants, so they are going to get as many different kinds as they can and try to have the bloom and interest happen throughout the year....so that's an issue.....thats one of the design criteria is to make it look interesting. It can be 'hickety-pickety', it doesn't have to be perfect, it doesn't have to be completely done and it certainly shouldn't look like its designed by a designer....it should look like its designed by the guy or the woman that lives there. So each of these spaces in Charnley Fold....we are fortunate because there are a variety of different spaces that you can see out windows, and that you can go out and be in. What I tried to do was come up with spaces that actually represented a certain sort of a space that a person would have access to in a normal life. So there is the PARK, and if you look at the area that is right outside the café, there are 2 benches against the wall with an apple tree in the middle and a lavender that we are going to replace underneath it.....and the path is wide there and people can take their drink or whatever...sandwich from the café and go out and sit in the park. A lot of these ideas I came up with by traveling around and looking in the areas where Charnley Fold. I mean I lived in Lancashire years ago with my aunt, for a while....I even remember going to school in Lancashire. So its not completely alien to me, but England is diverse, small but diverse....so it does help to go and have a look at peoples gardens. So id drive around looking to see what people are actually doing in their gardens....and also looking at the type of public spaces people have access to also...there is a lot of green space and parks in England. If you go to a doctors appointment at Charnley Fold, you are going to go see a specialist.....but it helps to have a little space where you feel you can go out and have a conversation. So people will come to Charnley and use it for different things...a lot of them come because you are going to see a consultant or you are having a memory assessment, or a variety of things like that. You will be dealing with a community mental health team...or you just are coming in for information....4:53 People who are in the enhanced day support, are using the garden and are getting out and doing things in the garden is part of the therapy and part of the healing environment that we are creating there. So its very important that when people step out of the building and into the garden they see it as a place where they can do stuff. There was one area...its changed now, its where the new swing seat is, but that used to have the greenhouse in that area and that was called the back garden. It had the

greenhouse....ground level beds with paeonies and the picket fence around it. I am really big on the idea of the picket fence because that tells you this is domestic....you know you don't see picket fences in public parks and things like that. Using various landscape elements help give people the idea as to what kind of space it is as well. It's a combination of planting design, the elements that we put in, and the fact that we do have individual different kinds of spaces. You can develop around different characteristics...the size of the bench in the public park area is a little bit bigger...comfortable for 3 people to sit....whereas further around you might have a bench that's a smaller bench and the whole scale of the space might be a little bit smaller. This pathway that goes around the back of that building there....the dining room....that's the STROLL. The idea is "lets go for a stroll! Down the path. There is also the country side...because we are blessed here...we've got a field behind us and there used to be a long horned steer there....and people named it and looked for it...there is even a photo of it on the wall inside. Then there are areas.....which is your woodland walk, where you can go through the trees and check on the birds feeders....an away place...kind of get away and look at the building....so we don't want everything feeling and looking the same. It's developing these nooks and crannies because a person will come and there might be only one out of a hundred different things that we have on offer that resonates with them...but its important to have that one in a hundred bit.....that they can do something with. [For example,] like when that guy, who used to be the grave digger...he was coming out working with me on these beds...this is a great spot for people who are still relatively independent....I didn't have a worry when I was working with him that if I turned around for a minute that he would be up on the main street trying to catch the bus. So you've got this sort of outdoor space that is not enclosed and its part of the regular world, but its still part of Charnley...so its not really part of the regular world. So having these gradations of public – private and gradations of managed vs. free and open. The nook is that first bench that we had that we put the trellis and roof over....so that was the first arbored bench that we did. That was important because you can sit on it and look away into the trees and have a private conversation, not feeling like you are being overheard. Often times it is important for staff to be able to take a service user outside, go for a walk...have a sit and a chat and you can draw their attention to something outside and then all of the sudden whatever it was that was bothering them is resolved to the point where they can come back in and participate or at least their agitation wont increase. If you get people outside, nature does a lot of the work for you...just having it, as you well know...tons of research that says getting people outside is a benefit in many ways. So we've got various doors that open out and each of these spaces has been designed. Another areas that we did was called the "yard". And the yard was where we would hang the clothesline and where we have the raised beds. The garden had the greenhouse and that was more of a ...a place for growing and tending plants. But if you are more of a farmer type or you've only grown veg and you are really sort of practical... That worked beautifully and that was the domestic part. There was also a mangle over there in the corner...there are a lot of pieces of outdoor older stuff [historic machinery, etc] that people will recognize and have a conversation about. Over the period of time, the greenhouse....it wasn't a very expensive one and the winds up here took it away...so that's gone. But what we did the next time around...we thought what do we need to do to have people outside doing garden stuff, that was engaging in a way...because peoples attention spans were becoming less, becoming shorter, and it was harder to engage the group of people, so staff would need to work with maybe 2 or 3 people, but we wanted to have outdoor space where people could go to along the lines of the garden, but it wasn't as distracting as being in the greenhouse because wasn't very big and you can see out around everything...so as soon as another person steps out, you've lost that attention and the person is out finding out what's going on. We talked to everyone and this evolved over a period of time...I did a couple of workshops...design workshops and we came up with the idea of the poly-tunnel. There was a volunteer at the time who had done one at home and knew where to get one and the people who would build it, etc. It was through her and the work of everyone that we envisioned....the polytunnel. We are going to have it outside that fence in the countryside area....you can walk to it very easily, but still you

go out and you have a walk to the polytunnel. In the polytunnel..because of the plastic...when you are in there you are focused...you are doing that thing. It also extends the season by at least 6 weeks either side. Here we have an awful lot of rain....the polytunnel can work year round and it can be warm inside when it is cool and drizzly outside. Its been brilliant...2 years now...since we put it in. Recently they added a series of bars...that attached inside...its like a scaffolding attached to the frame itself and they can hang all of their hanging baskets. So once they have things planted up they can take them off the table and hang them on the bar....it's a brilliant use of space and something we would never have thought of when we were building it.....so things are constantly in flux and moving forward.....thinking "how can we best use what we've got and in places that don't work so well, how can we transform them and move them?". But always thinking in terms of an archetypal space, which says something...if you walk in to a church and you walk into a chippy [fish and chip shop]...how do you know they are 2 different places? And how do you know what you do in those places? Because space say to you on a sensory level.... physiologically....you walk in and there are smells, sounds, and things that you see that tell you –where you are and what you do in that space. Whenever you walk into a bit of the garden here at CF....the idea is that the garden itself tells you.....This is a place to sit and look at the birds... This is a raised bed where you can actually dig...this is where you hang the clothes....this is where you pick the berries...this is where you do whatever it is that you are doing. The more that the space tells people : you are invited and encouraged to come and participate with me....then that enables people to do it independently. I was thrilled to come back here to find out that the service users look at this path [woodland walk] and walk on it simply because they look at it and the path says "come and go for a walk with me". That was the whole idea but you never know until you actually get it in, how its going to work.

AB: *Well the material choice is spot on because it lights up the whole dark space back there that might not seem inviting.*

GC: It meanders too...its flows over the topography...so you have a sense of going on a little bit of a journey

SUMMARY: This interview is with the landscape designer for Charnley Fold. He talks about his concept of using spatial archetypes in the garden to reinforce familiarity and to suggest use. In order to understand the cultural expressions of public and private space, he drives and walks around the areas in close proximity to the site. He then recreates bits and pieces of these landscapes with in the dementia garden. He also advocates a movement away from care facilities that look "clinical" or hospital-like. Instead he says that gardens should feel like someone's back garden, so that they will feel free to work and play in it. He also identifies a trend, which indicates that service users are further along in the progression of their disease when entering day care facilities. This trend is identified in several other interviews.

Interview with Assistant Manager (AM) at Charnley Fold

Andrew: *Can you start out by describing your job title and responsibilities?*

AM: I am deputy manager of the day center. I am responsible for carrying out assessments, going out reviewing people, making sure they are eligible to attend here....Liasing with doctors and social workers...the day to day organization of the day center. I oversee the therapeutic side of things, I do the planning of the groups and aid the staff if they need support with any particular type of activity.

Andrew: *Because you are in charge of patient assessments, can you talk about whether you see any improvements or decline through the use of the garden?*

AM: Almost everyone is referred by social services at the moment. I would visit someone in their home environment and that would be my first point of call. Finding the right days for the individual is important....the right day for their families, right day for enhanced day support. So I can see from the beginning who they get along with, what groups they participate well in, what they are doing at home?....are they outside in the garden at home or are they inside? Do they like to go for walks? Where they previously an engineer? So I gather all that information in, and then I decide what day is suitable and whether they need a trial day? Sometimes it is important to get the person with dementia away from their families – because their loved ones get used to answering questions for them. We try to get as much life and medical history in place before the people start attending. So after I gain this information, I can try to gear them into the activity program that is already in place...which can be quite difficult. On their first few days attending I try and make the decision of what activity groups they should join into and after that it is up to the judgment of the staff.

Andrew: *Do you have daily meetings with staff regarding the progress of the service users?*

AM: Constantly I think.....we communicate through out the day....."we are going to try this and if that doesn't work we will try that". So we are very spontaneous. There is constant feed-back between the management and the staff. I also have a big role in recruiting the staff....and I pay attention to what hours and days they can work....so there is some consistency for the users. If you come in with some one in the morning, it is very likely they will say goodbye to you at the end of the day. The same person will pick you up every day. We have as much consistency as we can.

Andrew: *If you would, talk about the use of the garden and the outdoor space and what that does for Charnley Fold.*

AM: Being a manager, I tend to see a wider view of everything. If we are going to do reminiscence group and we know its going to be a nice day then I suggest we go outside. If I see people who are having a bad day or are troubled....we can redirect and reassure them....and very often this involves the garden.....whether its just walking out one door and coming back in another. Ideally here you can go out of the door at the top of the building, walk all the way around the garden and come in at a different place. You've got that freedom here....and for us we don't need to follow somebody outside, we can just observe from a distance through the windows.....in all the rooms you can see out to the gardens.....when you've been here a length of time you know which patients are apt to go out on their own and you know what window in what room to observe them from depending on where they exited. I think that because we are all from care backgrounds, institutionalized...the fact that someone has gone outside on their own is "oh my god they are outside!".....so we had to learn to get use that. And we have measures in place...we know if they have opened the gate to the car park...we manage the high-risk areas.

ANDREW: *Can you tell me how the garden has evolved over time?*

AM: Yes a classic example of that is right here in the back garden. As you came out the fencing stopped right in front of you, so you could not carry on and you had to go left or right. Some of the people with dementia can't make that decision (left or right), so they turn around and come back in. We wanted something that would draw people out into the center of the garden, where they would be more able to make decisions about where to go. And you can see that people do choose paths in the garden and some people do not even seem to mind if there is no path there at all. Following the path or not following the path is irrelevant...if you can see where you are going then that is where you are going. Coming out into the garden and being able to see is important for the user. For the years that we have been here we noticed that in the front garden several service users would walk around the edge of the property...so we adapted and gave them a pathway to walk on along that route. We also screened

commercial fence and the view to the car park with wooden trellis...its no longer a distraction...you can hardly see it...it has become a garden!...it has made a huge difference for the space. We also added an extra area on the patio...so now people can move around...and we can accommodate more people.

ANDREW: *Are there any areas of the garden that are underutilized?*

AM: Yes the area behind the poly-tunnel and the small courtyard on the medical side.

I sit back and observe how the garden is used and what is not used. Can we use this area more? Lets try it. Lets do it.

ANDREW: *How do you see the garden evolving in the future?*

AM: I think it will continue to evolve as it has done from the beginning. More and more we will be talking with the landscape designer, the joiners, and the service users to see what we can do. We will come up with new ideas constantly, but it will depend on budget, what we install....bit by bit. It's only little things now....

Its my job to encourage the staff to have as many activities out in the garden as possible.

SUMMARY: This interview is with the deputy manager of CF. She is responsible for patient assessments and she describes the flexible way in which the staff plans and operates. She describes how the garden has evolved over time.

Interview Deputy Chief Executive (DCE) at Charnley Fold

Andrew: *If you could start off by telling me your name and your position and what your role is here at Charnley Fold?*

DCE: Well, I'm _____ and I'm the Deputy Chief Executive at Age Concern Central Lancashire My role within the organization, we're a registered charity support in the delivery of services across the organization we have 3 main strains of service delivery that's working with all age adults who are vulnerable. So working with the community to get people engaged and back into society.

We work with older adults to promote independent living , supporting people who are coming out of hospital and then we have this big stream of work in terms of supporting people and their carers who are living with dementia

My key role here is .. working up potential services that would support people with dementia of which this enhanced support space here at Charnley Fold is one of them, one of our key deliveries in terms of day support um, but one part of a range of services that is provided with carers who are living with people with dementia.

My role was to look strategically at what we needed to deliver and identify how that service would look and identify where the funding would come from and so I have a specific responsibility for contract negotiation for completing tender applications to the county councils because one this service down here is delivered through the local authority through Lancashire County Council Adult and Social Care Provision we have a 5 year contract here to deliver on behalf of the county council.

This is the second phase we've just completed the first 5-year contract and we were re-awarded a second contract.

My role really is in the strategic delivery of services and supporting them with staff to deliver. I suppose

its critical that I have some sort of vision in terms of what likely services would benefit people.

I was fortunate, 5 years ago, to be part of a team of people who had a similar vision, really. An individual from the primary care trust who was commissioning of the times and health side, his name was Alex Walker

The senior commissioner with Lancashire County Council who was also was driven to want to do things better and myself and then through that team, through the core of the three of us, we identified people like Garuth who came on board with his vision as well to be able to develop the idea and implement the training. Its pretty key for all of us as individuals to actually try and get all the people on board who have similar ideas to actually be able to move those ideas on. You need to have people in commissioning who are prepared to take a chance (3:50)_____ somebody who is prepared to put some oil, to oil those wheels, to get things started, to get things moving, somebody who is prepared to take a bit of a chance, in piloting something small to see how it works and then using that success in terms of raising the profile of what we believe is good practice. In the first 5 years of delivery here of services being described as exemplar by the care quality commission here in Lancashire. And we've been asked many many times now to promote what we do to other people, to share the practice, because we've proved that what we do here down here at Charnley Fold actually works. So I guess its important to keep refreshing and looking at what you are doing not to just keep doing the same old thing to constantly question how you are doing it why you are doing it, is there a better way that things could be done. The gardens have been changed since we first set up the garden. We looked at having chickens as an activity as well as people which

AB: *Just one chicken now?*

DCE: We'll be perhaps getting another once that one goes to the great chicken in the sky we will perhaps be getting some

But when we first designed the gardens Garuth threw his hands up in the air " oh a chicken will damage and ruin a garden" So we fenced it off and kept it as discrete. Its been a really an activity that service users have enjoyed collecting the eggs, Using the eggs for baking, feeding the birds, brushing the path, its all part of life and what we want to do here. We don't want to describe everything as a therapeutic activity, its more about... how can I describe it? Its maybe about carrying out acts of daily life that provide enjoyment because if you are in the garden, it might have a therapeutic effect, but its more natural to say lets go spend some time in the garden.

AB: *Change the way you talk and think about it?*

DCE: Absolutely. If you and I are at home, we don't say that if we go out in the garden that we are going to do therapeutic gardening. We go and we deadhead flower and we....(6:43).

We bake with people because people enjoy baking and it's a natural thing to do. So its about just because people have dementia doesn't mean to say that they can't contribute, doesn't mean they can't get enjoyment out of doing things, they may need some support and they may forget what they've done 10 minutes after they's done it but whilst they are engaged in that activity it can be very pleasant and enjoyable and make a difference to people's lives and it also makes a difference to the lives of the carers because they can get involved and understand in which we are working as well. By carers I mean informal carers, not paid, well both too....

AB: *Family members...*

DCE: Yes, family members. But also cared staff as well. I think that's been our biggest challenge, working with staff perhaps who have come from backgrounds of working in residential settings where

things are very task oriented. So its about getting people up, getting them dressed, getting them fed, and our philosophy is about spending time with that person. Just because you are sitting talking with somebody that's just as valuable as actually trying to produce something at the end of the day. Most residential setting still want to seen as this is what our residents have done.

Whereas our work is ____ about, we brushed the path today, we've been out in the garden and we've planted some seeds maybe... Its a different philosophy, its looking at things, I think, in a different way. You still have the tasks you need to do, you still have to have their lunch time, help supported with personal care needs, but its very much about peoples' experience of being here, and their feelings of self-worth, and focusing on what nature can provide. I don't know about you, but when I go out to the garden and it's a pleasant sunny day, you just feel different don't you. Hear the birds singing, we can see birds in their nest there, its just part and parcel of life's wondrous things that go on all around us. We can just enjoy and feel that we can still contribute.

I guess we've been really lucky because we've had commissioners on site who have worked with us and allowed us to try things. Things haven't always worked and you have to recognize that sometimes they're more important when things don't work then when things worked ____ away. (10:00) You learn something from your mistakes.

I think what we've found is you don't have to have vast amount of resources. You don't need to spend thousands of pounds to get your gardens right. It's the small things sometimes that sometimes and getting the people and staff involved in it that's more important. As an organization concentrated on putting our resources in terms of staff training, working with people like Garuth, who really understand what we are trying to do and who can work with our staff to look at how they are interacting with people. We've done a fair bit of evaluation of the activities so that helps. It provide some evidence to commissioners that what you are doing can work and we've been able to show cost savings in terms of, because we've been able to keep people in the community living in their own homes by coming here and working them, we've been able to manage their illness and their presentation.

AB: *Are you quantifying that data?*

DCE: Yes. What we've done is We take baseline in terms of how people are when they come and then using the 6 week program we have a look at what they are engaged in and what they are doing now. We look at how their illness is progressing and we sort of have to take at some point in time on that timeline a view, If this person wasn't coming here If they aren't coming here to Charnley Fold and getting the support they're getting what would their alternative be? And in most cases its admission to a residential setting.

AB: *But there's not really a control in the situations if you are setting that experiment, you have to compare it to what it might have been?*

That's right. That's right. So we sort of take the view, along with the other professionals involved in that individuals care, so it might be somebody from the mental health team that has known that individual or somebody that has known that individual from the health and social care county council social worker. You can take a view that if someone is here for maybe two years, been receiving the service for two years and we've been able to maintain them, without that service they might have to go to residential setting after 12 months. So if you look at the cost of residential care and take that as a week by week, what we do is we look at that cost and give a figure in terms of what actually made a saving of several hundred thousand pounds. And we've found here that the total cost, annual cost, with this contract with county to pay us to deliver it, we only need to keep people here another 12 weeks, on average, to cover the cost of that annual contract.

So say, for example, we have 25 places a day multiply that by 5 days a week that we are open times the individuals at 12 weeks then that covers the cost of the service here.

When you look at the average kind of people who are coming here, even though their health is deteriorating, their mental health may be deteriorating we are able to help maintain _____14:00

For the people who like statistics and number crunch its its pretty stark evidence actually if you invest, there is an invest to save option.

AB: *Do you have that information in some sort of report that I could have access to?*

DCE: Yes we could give you that.

AB: *That's great stuff.*

DCE: We produce that as a part of our secondary reports.

NOISE IN THE BACKGROUND

Closing door.

DCE: What other things would you like to know?

AB: I have a lot of questions. So far this has been great. Start from the beginning...This is somewhat of a pilot program, are day care centers in general standard in the UK?

DCE: No, I think there are a number of local authority day care centers and I'm probably being very general now, there are a some, certainly in Lancashire, in this district who are very much, old style, not just, I'm not talking about sitting people around walls but they will say they do life story work and its very structured and its meaningless really because they aren't really using anything that they are gathering to work really with that individual. And they may have gardens but they are never used. They don't see them as valuable. For example in Preston, which is not very far from where we are here____[16:00].

There is a fairly new built, local authority, it's a part residential home that has a very big provision for day support. Its been built probably about 15 years now, big gardens, quite a number of people, probably about 40 maybe 50 people there a day, but there is no evidence that they ever use any of the gardens. There is an overgrown pond area, there's a greenhouse that has never been used and certain staff don't engage. We're at the moment delivering a short term, what I believe is an individual project around arts. I don't know if Garuth has talked to you about the program about the arts?

AB: *I've heard a little bit about that and that's Alex walker's son?*

DCE: Yes. We've got....I'll tell you about that____17:28. So we've a number of county council run day services in Lanchasire that are pretty standard, not much innovation going on. Staff trying to do their best, but generally its cost driven and is not a lot of innovation.

AB: *So you would say that Charnley Fold is person centered programmed activities. How would you describe the difference?*

DCE: For us, its people first. And its about using all the skill we have here, you know, things that I've talked about in terms of working with staff in a different way, not being task driven, looking at things as therapeutic so having a program, being able to review that program very much working with life story work That's one of the first things that we do when we get a new service user. We capture their life story on film. We have a dvd, which everyone can take home, you'll see while you are here, the process of that. That's put together with staff, carers, and family, the individual so that in itself is a therapeutic

activity because it's the whole process of gather that, choosing the music you put on the your DVD, choosing what photographs you're going to talk about, the information that you bring in.

For example we've got, I think we've got a couple, but we've got one ex-professional football player ____FC [19:16], you know one of the biggest clubs around here. He played for them when they were very very successful, in the 1970s. His life story was absolutely fascinating, because he had huge number of press clippings,... really fascinating to do, but we've also got other service user who like me and you who may just a few handfuls of family photographs and memories that they can draw together, and its about how do you make sure that you capture that individual their story as well as the person who has a very high profile, because for us, everybody has a whole lifetime experience to capture. You can't live your life 70, 80, 90 years without having a story to tell. Its about being able to find that and to get down to what that individual is about not how they look today...what makes that person today. And you need to spend time with people to do that.

AB: *How long does that process take...a couple weeks that you are sitting down doing that?*

DCE: I think its and ongoing process. It can take 6, 8, 12 weeks for some people. It depends on if some people come more that one day a week. So if you are doing a bit of life story work each day you might have that captured, but then its not done and dusted, because 12 months later, something else may come. Its never finished really is it? Its part of people's story.

I think that's what makes us different. We look at things differently. We're prepared to take risk. We're definitely not risk averse. When we opened here, we wanted people to be able to walk freely in and out, 'round the gardens. We didn't want locked doors where people are confined. That really does effect how people behave. If you lock them in their rooms, and its key padded and locked, then people will bang on doors. We do have secure areas at the front there, but generally speaking, as you'll see when you are down here you can walk around the garden, in and out and it's about us not smothering people. To give them time to wander if they want to. To help support the people to make the breakfast when they come, not do for people. So we support them to make a cup of tea. And some places people will throw their hands up and say "You let people boil kettles? You don't lock people in? " And when some somebody is referred to us, we work with the family to say "This is how we work" And yes occasionally people do get off site and we've had a very occasional time when we have got people in the car park, but we manage that and bring people back. But we would prefer to work with people and run that risk than to just have people live their life constantly locked.

AB: *...afraid that something is going to happen.*

DCE: Because life is a risk isn't it?

AB: *Sure is.*

DCE: I think that is what makes us different here. And it isn't perhaps for everybody doesn't feel comfortable about having the risks that we take but in truth in the 5 years that we've done it. I think we've only lost one person...we did find him again. He got out at that front there.

AB: *That's a pretty good track record.*

DCE: Yea, I don't think that's bad. Nobody has been injured anymore than you would say if you got someone who would have a fall anyway and breaks a hip.

AB: *Just to clarify, I'm not sure I understand, I spoke with someone yesterday who said you have to get a doctor or social care works prescriptions or recommendation to come here for a certain about of days? Is that subsidized? Fully funded?*

DCE: What happens is we have a contract from Lancashire county council and they have facts banding and they will pay for people if they have an assessed need. So if they have an assessment by the memory health team here and that they have dementia, that their illness presents such that they need the very specialized support that ____ [24:50] provides here. The county council then will do a financial assessment on the individual does fall within the bound, which I think is about 26,000 pounds now or something. The county council will pay for all. Then they don't have to pay anything other than their meal. If they are over and above that financial limit, they pay something towards their care through the county council.

We are contracted by the county council to provide 25 places a day for, we have a quite a specific service level agreement with them, that people have to have, the social work assessment and the memory assessment team so that they are deemed appropriate to receive this service. So its based on need. You can't just walk in off the street and say my dad has dementia and I would like to pay for him to come here. We could take up to 5 people a day on a private basis, but again we would still want an assessment of need because it is a very specialized service.

AB: *So, you would refer them to have that assessment if someone came in?*

DCE: Yes, yes.

And it may be that if they are not as far down the dementia pathway as others if they are in the early stage, it may be that some of our other serviced that the age concern provides would be more appropriate. We have the services called Dementia community links. Which is about working with the individual who has memory concerns at the early stages, while they are still living in their own home, to support them to continue with their interest and hobbies before they have a need for this very amount of time of specialized service. So along the pathway there are a number of services that age concern can provide to people. When you are getting in the enhanced need here you generally in the later stages of dementia or perhaps have very complex needs that the illness affecting you with that you need that extra support. It might be behavioral, might be choosing medication. So it is very specialist. That's why you have to have that [assessment] to be paid for and funded through the county council.

AB: *Could you comment on your past experience with nursing care and those sort of homes?*

DCE: With age concern we haven't delivered and residential services. Some of the staff will be bale to talk to you because they've got experience having worked in it.

All my experience has been in social care.

AB: *I am curious if this sort of situation could work well within residential care?*

DCE: I don't see any reason why not. We have been keen to encourage residential homes, and bursing homes, to actually embrace it. I think in some homes they would like to, but I think that is probably comes down to cost. Because they are funded by the local authority and because costs have been cut to the bone I think that the homes are finding it hard just to make sure that they are covering their staff costs. They're at the bare minimum to make sure that people will be safe. Where as our staff that are working here are on a 1-3. ____ 29:00 which some of the residential homes said they couldn't afford at all. So I think some of that staffing, certainly for the smaller homes, well I don't see any reason why they couldn't be doing more than they are.

AB: *It seems to me that you could make the same financial argument. I think that is where Garuth's interests are. Now you are keeping people out of nursing care, if you are keeping them in residential care. That can save money, can't it?*

DCE: Yes, with homes and the homeowners, it's all down to budget. You've really got to get them on board to say look, this can work. And we are starting with Garuth's training pack that he's produced. Some of the homes I've been talking to, some of the work we've been doing with the arts and ____ in terms of his experience of working in residential and nursing homes and being able to really get to understand and being able to have this break through with individuals and get to understand what makes them tick. Using music and words and the whole experience that you have in the way in where the homes are structured. _____ [30:30]. There is still lots to be done. Which is why it makes it interesting for me...why I keep going.

AB: *Is your goal here to increase the numbers? Would you like to see twice the amount of people here?*

DCE: No. I think the size of the building... to me, I suppose small is beautiful, because if you have a very large unit, we've got 25 places a day here, I think 30 would be the top number and there is plenty of room for people to move. I think if we start seeing 60 people a day it becomes very institutionalized. I think when you've got large numbers you begin to see behavioral issues, the way that people are reacting to one another. I think it just becomes too big. It's the same with residential homes. I hate to see 120-bedded homes. I think small units like this, small clusters of units. If I had a magic wand what I'd love to have here is 3 or 4 beds, residential beds, to be able to offer respite to people, so that you know that if a carer needs to go to the hospital or needs a break we could carry on that work over night. I desperately want to run a carer's hotel. Because I want to have, I'd love to have, and we will get it one day, but I'd love to have a hotel where people can go and have a normal hotel experience, a bit like our 'Come down with me', it's a restaurant type experience, where you could with the person with dementia and be supported in a very subtle way so that you would have adjoining rooms maybe. If someone was getting up frequently up in the night, there would be staff in the hotel that could manage that individual getting up at night and you could have a good night sleep. There would be nice spas where the carer could go. But that is not about parking that person with dementia or the carer having to go on holiday on their own, but about having that joint experience but not being embarrassed when the person with you may be doing something that's odd or unusual.

AB: I think you are onto something there. I think that idea has a lot of potential.

DCE: I'd love it, I'd love it! You know people would be able to ring up and say 'I'd like a week in the hotel, please'.

AB: So many carers become so selfless and devoted to their spouses. They would do anything and so they stop caring of themselves.

DCE: And what happens you've got somebody that you are looking after that's got dementia is that you start to lose your friends, because they don't come around anymore because they don't quite know what to say, you stop going out because people behave a bit odd in the restaurant, you don't go on holiday, because of all those things.

So as a carer, as a family member looking after that person, you become just totally insular, you lose all your own contacts, your own networks, your life just spirals.

I suppose I want to normalize things for people. And what's more normal than ringing up and booking a week in a hotel? It doesn't even have to be somewhere particularly glamorous. Somewhere where the staff understands. And that's why we have the Come Down With Me evenings here every couple of months, we have a restaurant type experience, where people can come have a glass of wine, have a nice meal, being surrounded by music...just a night out where you can go out to a restaurant for a meal.

I'd love to do it. I'd LOVE to do it.

AB: *I think this is a great idea, you'll have to keep me informed. I might have to invest.*

Do you have plans to set up more day centers like Charnley Fold?

DCE: We have a small unit in Preston, where we have another contract day center, which is very different. Which, while you're here if you get the chance I'd like to go and see it because it's almost one room, well it is one room. It looks like a...a shed, been there for nearly 30 years now. But I guess, it's the other end of the challenge you can see what can still be done even though you haven't got a beautiful building like we have here, with lots of different rooms. The bathrooms aren't very fancy in fact they are very outdated, we have a very small kitchen, which we can't do very much. We do have a quite a nice garden area and basically one main room. And what the staff are doing there is incredible because, they are taking our ethos, and our whole way of working with people in a room that isn't much bigger than the room we sat in here. Now I think that's amazing. That you can still have that outcome using very little. But just using, for example, they go across to an allotment, because they do a bit of the gardening around, but such into digging and planting, so they go across to the allotment which isn't very far to take people across there, the guys on the allotment who have their own allotments get involved and you are still a part of the community then aren't you?

I would like to have more, the charity is constrained, as everybody else in terms of resources, top of the list would be the carer's hotel, I'd like to try and do that. At some point I would like age concern to be looking at maybe providing, running a domiciliary agency in terms of some home care for people with dementia because I think there are too many domiciliary agencies out there that are just contracted to do 10-15 minutes... get somebody up, get them dressed, ready to go out. I don't think that helps people at all with dementia if you've got staff coming in. But that's all that's out there and people don't have much of a choice. So in some cases, my ambitions and my models are more expensive than the____ [38:10].

But I think if you look at the longevity of what you could be providing, the outcome at the most costly end, which is residential and nursing care, is delayed and those savings are made there. If you have a bit of a vision for the future, instead of just dealing with what you have now. Does that make sense?

AB: *Yes it does. So back to the garden; You guys have made a conscious decision to make the garden and at least access to the outdoors lets say, a central element to the care facility... the day care, working with Garuth, what was the that process of working with him? You talked about doing maybe one thing at a time and then seeing if it worked? Do you have any specific examples of what did work well and what didn't?*

DCE: I suppose I'm a very simple soul really. And I think for us, when we were first looking at Charnley Fold I was fed up of going into day centers or nursing homes and you've got this constant whiff of cooked cabbage and stuffy atmosphere and people not going out, and I guess for me, I always try and think of walking in someone else's shoes, For me, I was thinking if I had dementia, to be confined and I know how it feels to even be at home if you're off sick for a week and you can't get out and your whole being. So I suppose for us it was about finding somebody like Garuth and Alex who also have that feeling that day support, shouldn't just be about a building and what goes on inside that building, its about what goes on outside that building and being about to just go outside. Because that's what's really important because you can sit them down in front a television and be ____ [40:52].

So from the outset we wanted to have area where people wanted to go out in so that there was a purpose to go out there, a reason to go out in the garden. It wasn't just something that was beautiful that you look through the window at, it was something that you... Maybe I'm a bit ____ [41:20]. That

people could go out and feel and touch, and be involved.

I supposed from that, we then, Garuth did this wonderful design for us, seven meaningful spaces... in terms of the yard area, place where you sat, and the place where you maybe got engaged. Some of the challenges first of all we had, with some of the health care professionals, were silly because there were things like the fountains and water features... 'you can't but water features in people will get legionnaires' ____[42:00]. Why??? How many people are going to sit and drink this water? So silly things like that. And the moment we said we were going to have chickens they said 'they'll get bird flu'. ____[42:16]

You have these really silly challenges like we want a list of the plants you are putting in, because there might be some toxic plants there. Okay? Well, we will look what we're planting you know. People sometimes just want to put barriers in as to why you can't go out and be doing things in the garden. One of the other things is the men and shared workspace. Why can't men still be using lathes and what have you, if they're supervised and they've used a lathe all their lives then they're not likely to do something silly with it. Because what we've found your learned experiences are still there. As long as you're supervised and the whole thing is done carefully then people can still chop wood, brush the path, water the plants. I wouldn't give them a chainsaw. Some of the things we've tried from a staffing perspective, some of the staff didn't want to get engaged. That was a bit of an uphill struggle. Some staff naturally took to it like ducks to water---they loved it. Others were very resistant; they still wanted that product at the end of the day because that was what they were comfortable with. Actually learning the skill of just sitting down starting a conversation with somebody, it's not easy is it? For everybody. That listening skill, cause you need to be able to listen to people and to pick up. We did find that some staff that came to us didn't stay, because it wasn't for them and those that did stay stayed for a long long time. The turn over I quite low, because they enjoy what they do and we find that people aren't clock watching, they are prepared to stay a bit longer and we get more job satisfaction and not off sick as much and general morale is very good.

What things didn't work? We've had some activities that we've tried to introduce that didn't work --we had a pool table once and that wasn't that successful.

AB: *A little bit too fine of a motor skill?*

DCE: I don't know, the staff will probably tell you why it didn't work. We bought one. It sat there for a while and it didn't do anything.

It's hard trying to find something that didn't work because we generally try and make things work, I mean, we've redesigned the garden, we have a little greenhouse in the center there that was part of the original design, got blown down in one of our stormy winds. So the poly tunnel seems to work better, it's a bit bigger and people can get into it.

AB: *So that wind event, did that cause you to rethink how you would rebuild it?*

DCE: Well it flattened the greenhouse and all the glass came out. And we thought maybe this isn't the best space for what we wanted. We wanted a bigger space anyway because I keep coming back to the Men in Sheds.

Have you heard that phrase? I'm not sure if it's the same in the State, but here in this county Men love to be in their shed. The contents of a man's shed is like the contents of the handbag for a woman—it contains all he ever needs in life and for many of our older husbands, they love to just spend just puttering about, just fiddling about in the shed. I haven't quite ever understood if it's the timber or just to get away from the wife, some people have very luxurious sheds where they spend hours in where they

can get messy if they want, they can leave stuff around. In this county, to have a shed, or an allotment, if you haven't got a garden, is one of life's luxuries where it used to be working class Brit who used to go down to the allotment and ____ [47:20] More and more people have sheds in their gardens where they spend time.

So we wanted to have a shed-type activity, because if you look at nursing home and some of the day centers, lots of activities that they run, are knitting, sewing, baking ____ [47:52]. But where do the men get their hands dirty?

We have a guy here who fiddles with a bicycle. He takes it apart, and puts it back together, doesn't necessarily get it quite right. But he'll spend all day, because he was an engineer, getting his hands dirty. It's the same with the soil getting out there.

AB: *You guys uncovered that in the life story? Its good to find that sort of things out?*

DCE: Yeah. You aren't going to find many men who are where just going to sit and be a part of a knit and natter group, whereas, ladies might sit in there with their embroidery or their knitting and pick and knit and knit again, we wanted to have a look at what do men like to do so, the Men in Sheds has been really important to us, and it wasn't something we particularly had planned although we have got small shed out there, that were basically to store gardening equipment and things so they weren't actually for people to work in.

AB: *And the few sheds that are out there people let you use as far as...*

DCE: No they mostly use the poly tunnel because its light and tends to be quite warm and light out there so I think that they poly tunnel is where it is more. That is why we wanted to develop the Bowling Green area and the ____ [49:29] to get people to....

AB: *Play some games and things?*

DCE: Yeah.

AB: *So this new area that you are working on developing, has it been used a lot in the past or are you trying to encourage....?*

DCE: No, not really. The big parts of the gardens...the staff are probably the best to talk to about which parts are most used, but the big parts of the garden that have been underused and other parts...its about trying to encourage people to use all of them. Yeah, so I think that while you are here the staff will talk to you about which bits carers work very hard with us ____ in terms of looking at the things like ____ [50:20].

Over the years, we just try new things, things like the bird box and lets just have a look what goes on inside the bird box and yes we have a television there but it's not on. Its not on unless for something specific. That's one of my pet peeves—people being taken into a dining room, television blaring out all the time whether you want to watch it or you don't.

AB: *I'm trying to think if there is anything else that I can think of. Obviously working with someone like Garuth, who's done so much research and spent so much time and then someone like yourself, who's got so much experience, and then, from what I understand, Alex, having met him, he's a similar minded person, with you all getting together, how did that process work? Were you able to all sit down together? Or was it more communicating....*

DCE: No, I think how it worked...I think it was a bit of serendipity. This building that we're in was a former county council residential home that had been empty for some time, there was an opportunity

from the strategic health and the county council to bid for some capital money to change the use of this building. The commissioners knew there was need for enhanced day support. And so we were brought together thought that process to look at what potentially could happen here. We were brought together whilst the bid was going in for the money to talk about what could be done down there, who could we involve, who are the people who are interested, who had we been delivering _____[52:40].

And we're getting and have had glowing reports about what we were doing down there so what could Age concern do, what could they bring in terms of their experience____[53:05].

We had carers involved, we had a big group of people talking about ... If you all had a vision, what could be done? I suppose we were drawn together at planning stage when the bid was successful and building work started, that's when Alex drew Garuth on board in terms of okay, let's involve the use of the gardens as well. And we were then fortunate that we bid for and then won tender to deliver enhanced service here so that's when I was working with Garuth to look at training of staff, because we recruited the whole staff new. We had the perfect opportunity. Blank sheet of paper, perfect opportunity to recruit staff we thought had the skills and same mindset to want to do things differently. I suppose we had an advantage that we weren't trying to turn around an existing service but to start a new one with some new ideas that's one we could put in process that this is how we are going to do it, this is how its going to be, let's try this out a bit.

We had the commissioner along side us who was happy to say that I've found a small pot of money to do, he found another 20,000 a year that he could throw at us so that I could so I could keep Garuth engaged, paid, to have that expertise drawn in to keep retraining, keep working with the staff, looking at what else we could bid for.

AB: *Did the garden go in as part of the building renovation?*

DCE: Yes.

AB: *So he was part of that contract. Garuth made some suggestions or designs for how the doors work too, is that correct?*

DCE: Yes, originally this conservatory was not on the plan. And the _____ and I bid for an opportunity for bid for little bits of money. And we bid for this little bit of money and bought it to put there while the building work was still going on. It's a lovely room. I suppose its about, to make it work, you've got to have people to keep who can keep an eye on where are the bits of money could go, to keep things moving. What we could have done I suppose, we could have said 'well there's the money we've done that and that's its now, but what's made the difference is that Garuth has remained with us over the 5 years, now and again come back to retraining the staff, brought some new ideas, looked at the grand redesign what's working in the gardens what's not working. That's where it's important. Almost like the life story work its not just there you are, done and dusted, there you are, delivered. Its, okay, that's now, what are we going to do next year what else can we do. How can you keep improving, keep improving. That's why these curtains aren't very nice. But they aren't important to us. Some places you go and the furniture is pristine, but the care is not there is it? What is important to us is making sure that people are happy and getting something out of their day here.

AB: *Thank you so much, I really appreciate it. This has really been great.*

Interview with Support Worker (SW) #1 at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Springwood?*

SW: I have worked here for 5.5 year, since we opened, as a support worker. I work full time...looking after service users, I do a bit of the gardening with them – planting it. I do a bit of cooking and baking...I do the _____[00.37] nights that we do every 3 months. I do a lot of activities; I prefer to do hands on activities to [as opposed to] reminiscence...that's just my preference. I enjoy getting outside and doing building activities...

AB: *What was your background before you started working here?*

SW: I have always worked in the care industry...I was 20 when I started doing this. I have worked in hospitals and peoples homes. I got fed up with the way that they wanted you to go in and do the job quickly and go to the next service user...it wasn't about looking after and helping, it was about getting the job done quickly. When this job came up, I was excited because I quite like the idea of hands on, teaching skills, and enabling people to do stuff on their own at home a lot longer. It is quite relaxed here. I mean we have structure with the different room and things but if someone want to go and do thing you can do it...it I want to go out in the garden with the service users tomorrow..we will go out tomorrow...its not set in stone what we do?

AB: *It seems like there is a lot of flexibility?*

SW: If I want to nip to Barrys to get some bits...its not a problem, they are very accommodating.

AB: *Charnley Fold seems to be centered on this outdoor experience and the garden. Can you tell me about working with service users in the garden. Benefits?*

SW: One of the benefits is that you can get some piece and quite, if you want it. It helps with keeping up skills...especially with the chaps (males)...we had one chap....who was a grave digger...and he loved digging. Things have changed a lot over the years with the service users that are coming through....they aren't able to do as much bending down and gardening. So its good that the garden has changed to meet, the change in service user.

So now we have a lot more raised bed to work in the garden.....and you sort of see what things are better. The raised beds are easy because somebody can sit and still do a little bit of potting. And sometimes not everybody want to go outside...so sometimes you have got to bring it inside. The garden is nice, especially when the weather is nice...you can have a walk 'round.....there are plenty of different areas to look at....there is the swing chair there...I was sitting on that the other day with a lady and she was quite happy...its good.

(Talks about the chickens in the garden to 6:24)

The poly tunnel was another fundraising idea. Its great going in thereive been in there when its been raining and its lovely. Again, you're separated a bit more and you can get a few people in there and it is nice.

AB: *So keeping the spaces large enough for 4 or 5 people is adequate?*

SW: Yeah.

AB: *I know the garden has been installed over time? You mentioned the poly-tunnel and the raised beds...have there been any other important additions or changes?*

SW: The path is quite a big deal...all around to the other side of the building. We needed a path to take them out to fill the bird feeders...that's another activity.....but not many of them would go around on the grass because it was always muddy.....and we thought if there was a path where we could hang the bird feeders on the different trees and then they will use that part of the garden. So that has been

great!

A few of the service users just went out and walked on it [path] and followed it round....and its nice you don't have to follow them....you just know because some people just want to walk...if they are sat down at home all the time, they might just want to walk round here.

AB: *Is the path wheelchair accessible?*

SW: No, it is that accessible with a wheelchair but there are quite a number of other areas that can be accessed by wheel chair....and to be honest not many of them go out that far.....they tend to stop at the concrete patio....but they can follow the concrete path [against the building] around.....the paths all meet up somewhere.

Its nice to have areas where someone can just walk and use that space that previously never got used. It never did, it just sort of sat there and it's a shame...its nice to use the gardens.

AB: What kind of role do you think that ACCESS has in the morale and health of your users?

SW: Well, it must help them....because they can just go out....all the doors are open....we don't really ever stop them...as long as we know where they are...and the gates are alarmed...so if they do go through the main gate which leads to the other side of the building.....which has happened in the past....we are aware of it and we can go around and meet them. But you don't want to stop them from walking...some of them just like to walk. I think it helps to have it free...to come and go as they please and not force them to sit down all the time.

AB: *I think its great, this is the first time I have seen that at a care facility.*

SW: We have lot of different rooms as well. We had the French doors put into the garden room, which I tend to use quite a lot for doing activities....its been brilliant because it has just opened the room up. It never got used before really and when it did you had to walk around to get outside....now you can just open the door and go in and out [into the garden] and it just makes it more useable.

(unrelated conversation to 5:10)

SW: the window boxes are new as well around the conservatory. We used to have the wire baskets that where hung up so high that you couldn't really see them or reach them easily. These ones [planterboxes] have the liners that you can easily lift out, they are brilliant because you can take them inside and work on them.

(unrelated conversation to 4:24)

AB: *So back to the garden-- In your everyday use of the garden is there anything that you notice that could be improved or added?*

SW: The weeds! You know we see so much that needs doing and you try to incorporate it into your group activities, but not many can kneel down now, so they aren't weeding or they don't understand how to do it at all....and that is the frustrating thing. We don't have anyone who tidies up, unless Garuth comes by or one of us does it. Its things like that I would like to change.

(unrelated conversation to 14:00)

AB: *What is the biggest challenge while working with people with dementia in an outdoor space?*

SW: Its keeping them there and doing the activity. A lot of the outdoor space work is 1 to 1 [ratio] or even 1:3...because you cant really leave them unattended...you might tell them to water that plant and

then you turn around and they are doing something completely different. You that's because we know them, we all know these service users.....we know if we need to watch them doing this or doing that...we aren't overtaking the job, we are letting them do it...its about letting them try to keep doing it.

Summary: This interview is with a support worker who works directly with the service users leading activities. Her particular interests are working in the garden. She mentions that Charnley Fold (CF) emphasizes a person-centered approach and that she is given lot of freedom to adapt her schedule to meet the needs of service users. Their open door / open access to the outdoors design allows service users to go out and walk whenever they like. She describes how they manage the risk by knowing their service users very personally. In other words, the staff knows who tends to go outside and walk and thus they are able to pay attention to the user by observing them through the many windows of the building and there is no real need to follow them out. There are also alarms at the high-risk areas, such as the gate to the parking lot, to avoid potentially more serious accidents. She describes how long after the initial phase of the garden was completed, there was a need for a path along the perimeter of the property for walking and activities. They then worked with Garuth Chalfont to plan and design this addition- form following function. She also mentioned that the service users, which currently attend, are further along in the disease than the typical service user five years ago. Due to this, CF has adapted the outdoor space adding raised beds for gardening. She advocates a 1:1 minimum and 1:3 maximum staff to client ratio for activities that involve gardening. In as much, she advocates the need for both larger gathering areas as well as smaller areas for more intimate staff to user interaction. She also points out that she wishes there was more time to spend maintaining the garden and pulling weeds and that with out staff and the occasional outside help from Garuth the garden would become a mess.

Interview with Assistant Manager (AM) at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

AM: I am the assistant manager at Charnley Fold and I am responsible for the therapeutic activity. I work closely with the service users and the staff.... basically it is about producing, every 12 weeks, a new activity program. So looking at the morning and afternoon sessions, it is not just daily. We are looking to have an activity program that the service users will get the very best out of their day, every day. Its not just reviewing it every 6 or 12 weeks, we actually talk every day and we will download it somewhere. ...and if the service user has not had a good day then we will discuss why and look at the reasons why...it could be the fact that they are just having an off day or it s a new service user who has just started and they don't like another service user or they don't feel comfortable that day...or it might be the activity or something about the activity that is bothering them. So we look at the reasons why things don't work....people can show ill-being sometimes -----1:30?. We look at the well-being, the engagement, the social activity, the mobility, and the general well being and health really....because that can be a massive thing...if they have a small cold or something like that, it can really knock them off their feet. So we are looking at a varied program....we've got 30 programs throughout the week, so that's 3 in the morning and 3 in the afternoon, 5 day per week....and that changes like I said....pretty much with the seasons....in January- April ; April – July ; July September and through to Christmas. This one [summer] being the busiest one because we have the Garden Party, and the service users are very much a part of that because they all visit...they all come on the day anyway....and they will remember chopping up beet root for the jar or making the poster for the store.....so they are very much responsible for making the things happen....we facilitated and that is really all. We look at constantly trying to improve the sessions as well, we look at the risk, and there is a lot of risk here....and we manage the risk. ...and that's about it really.

AB: *What is the overall goal(s) of your activities?*

AM: The goals are individual...we have currently about 18 sets of goals and individual service user will have their own goals...we have come up with lists of goals that you could possibly try to achieve in a reading group or a gardening group or a baking group...and then you look at the service users. [For example] _____ would love to sit in a baking group, she would absolutely love to sit in a flower group, but she loves reminiscence groups also...and she likes sitting outside....so you get to know the client first. You notice what they still can do and where they need the assistance....and then we place them into varying activities through out the week....not many people are coming 4 days per week....but a lot of people are coming 1, 2, and 3 days per week....but its important to make sure that this person has varying activity throughout the week. Occasionally you will get people that are further along in their dementia, where they would require more stimulation in a sensory.....so the groups then will be based very much around sensory themesa lot of music, visual images, and maybe a little bit of pampering in there. So the groups may become more same-y? 4:28 [similar?] because that is the only way they will become more stimulated.

AB: *What is the overall intent for the activities? Are figuring that out on a person-to-person basis?*

AM: Yeah, it can be anything really....[for example] we've got a couple of footballers that come in and they still love doing physical types of things. The goals that we've set...each one...say a gardening group will have a number of goals on it...and why they would be in that group...and the sort of things they could achieve in that group and this list doesn't mean that you can only pick one of those because if you can identify through working with a service user like "she so loved that activity this morning!" and it is something that you have done that wasn't planned....then you would actually put that as one of their goals.....and then we write the goals on the individual service users sheets.....remind me afterwards and ill show you...its quite complex actually what we do. So we've got the goals and then we've got the aims and that is for the group-what you can achieve in that group....and that is every growing and ever-changing, the goals and the aims. Then you've have your individual aims and that would appear in the care file for that particular service user.

AB: *Could you give me an example of what an individuals goals or aims might be?*

AM: It could be for social inclusion or managing an inappropriate behavior.....it could be anything. You've got to find out what makes that person FLOW.

Have you ever heard of FLOW?

AB: *No*

AM: Its about when someone reaches a moment of flow....i just read a couple of books on it and it is dead interesting. [For example] for me personally if I sit on the computer an amount of time....just surfing the web....time can go by fast...you are so totally engrossed in what you are doing....you are thinking only about this thing that you are doing. You are in a moment of flow and time just goes by....you are not worried about anything, just that. If you can actually reach that point with the service users that have dementia, they will stop worrying about where they are, what they have lost, or what they are looking for.....what are they looking for? Well they don't remember and so it's frustrating. But if you can get them to that point they reach a moment where they are at piece with themselves.

(Continues on to describe a particular service user reaching what she describes as a state of flow)
[8:33]

[8:33]...its finding those spaces or those moments where they just get a little bit of respite...they aren't worried about it anymore...and it gives them a bit of peace.

AB: *What kind of role do you think that ACCESS to the outdoors has in the morale and health of your users?*

AM: A lot of these people [with dementia] won't realize that it is dangerous to just cross the road, they won't have that sense anymore, they don't think about it, they just know that they need to go somewhere. So that's why there are all these locked door policies...and it is dangerous when you have the car parks...it wasn't meant to be built like this, but we have managed that by leaving the door [to the car park] open and if the alarm goes off, then we go out and support and suggest that we need to go back because it is a busy car park. So anything can be managed. The other issue obviously is the café door, it used to be a push button, but if you have one service user walking into the café, they can get right out to the main road and that was a massive thing....so we did change that door....but there are always distraction techniques you can use.....

AB: *How do you feel about the design of the garden and how is it used or how can service users and staff potentially use it?*

AM: It's amazing! Without the windows, the lighting...the environment is the whole picture...the environment and what you are going to do within that environment....that is your whole circle. There is a lot of research that went into the building....when you are looking at carpets and people with dementia....you don't want busy carpets...it can make people walk around in circles.....and there is loads of stuff like that.....the color schemes are done for a reason.....

Also location and signage is important.....

(Conservation continues to 16:06)

AB: *Do you see a noticeable change in baseline behavior from service users when they have been in the program?*

AM: Oh yeah, I can show you that later on the sheets.

(Conservation continues to 17:21)

AB: *How long have you been working at Charnley Fold?*

AM: Since it opened.....March 2008

AB: *So you remember working with Garuth in the beginning on the garden?*

AM: Yeah, but I didn't actually work with him then...I must have been on holiday...Garuth came and did some training about access to nature and things like that....but I missed that....must've been on holiday. But he did loads of training with the staff when he first came. But there are some staff who don't necessarily like gardens or outdoorsy...and there are some that do...and I think they like it because when you are outside you feel different, don't you? It is a perk.

When Alex Walker designed the placehe wanted a place with no locked doors, where people weren't banging on doors trying to get out....because they want to get out because they are looking for something and then they get outside and then they feel like they are locked in anymore.....

In this memory room, Andrew, we have reminiscence. At the point of that is so there will be something in that room that you will look at and will think and it will bring up a memory. Well how much reminiscence have you got here [outside in garden]everything around you and then you walk and you sit somewhere else.....and that's maybe a new memory.

AB: *So all the seating options and all the different levels of interests help to bring back memories of a home garden or landscape?*

AM: Oh yeah....and the smells also bring back memories

(AM describes how the garden helps her reminisce 20:06)

AM: [21:04] But all these things we talk to Garuth and the service users about...and we think about where you grew up, who you are, what you used to do and where you used to sit...happy memories.....all this design is coming from the service users because we listen to what they say.....

(Conservation continues to 23:36)

AB: *Do you think that the majority of the service users know that they can freely go outside or do you have to remind them?*

AM: They know they can, but the prompting is still needed for a lot of them....and for some of them it might be mobility.....but yeah you do need to remind them.....

SUMMARY: This interview is with the assistant manager at CF who is responsible for therapeutic activity. She is responsible for creating a 12-week activity program and for placing service users into the groups. She is also responsible for evaluating their progress. They create goals for each group and specific aims for each service user. She emphasizes a flexible approach to management and operation of activity groups. She is also an advocate for the open door policy at CF and talks about how the staff manages risk. She believes the garden provides endless opportunities for the service users to reminisce. She also notes that seating is an important place for this activity to take place in the garden. Lastly she mentions that while residents do know they can go outside at CF, they always almost need prompting by staff.

Interview with Wife of a Service-User at Charnley Fold

AB: *Could you start by stating your connection to Charnley Fold?*

WS: My name is _____, my husband is _____, who has had Alzheimer's since 2004. He has been coming here for 2 years now, to Charnley Fold.....he came one day a week at first and now he comes 2 days per week. So that gives me respite from....I drop him off at 10:00 and I pick him up again at 3:00...so I have that time to myself to do what I want to do as opposed to actually having to placate what he wants to do....because he never really knows what he wants to do. You can say "what would you like to do?" but with Alzheimer's you can't really ask them questions because they don't really understand what it is you are wanting them to say. But we have a large garden at home, which Steven used to help me with a lot, unfortunately now he can't really. He can't really follow instruction.... I'd say, "would you sweep this path?".... he might brush for a couple of minutes with one hand and then that's it. You know....he tries to do what he can.....but he gets very quickly fed up with it because he is not really contributing. It's heartbreak because we have a big garden! You know we were thinking in our retirement this is what we were going to be doing on holiday...but unfortunately it has not worked out that way so we just have to grin and bear it.

AB: *Is this the first day center that your husband has been to?*

WS: Yes it is. We came on a POPS course....a preliminary course that tells the carers what to expect, what is out there for them, all the help that is there for them,.....all the organizations that are there to help you and give you information if you need it. I find with Charnley Fold, it is like having a big

family...because they are there if I have any questions...they are there...they are just like family and my husband seems to enjoy coming. When I first brought him I was thinking he wouldn't like....but once he got into it, I would go home and I would just relax. I've been gardening today, I've been cutting grasses and sweeping paths that he tried to do the other day. I've been reading a book as well....which I like to do...I kept thinking I need to go out on a bike and sit down with me book. I have to make a decision now because I only have so much time to allocate to each thing...and then I've been trying to sort out his taxes...(cant make out conversation to 3:02). But luckily I'm capable of doing it at the moment; you know...I do enjoy my life as much as I can with all that is going on really. But I mean I love it here...I might love to come here myself really (laughs)...sit in the garden and what have you.

AB: *So do you ever come and spend some time with your husband in the garden?*

WS: No...occasionally....I've just missed a carers meeting.....and I remember once at a carers meeting we had been out in the garden...that's when we get all the carers together and moan about what they are doing or what they are not doing (laughs). But its good, it therapeutic really to get it off your chest sometimes...you know you are just talking and you're thinking "I'm not the only one!", they are worse off than I am.....they have terrible time with some of them....people wandering off and they have to lock doors and things like that....my husband doesn't do that, so I think I'm pretty lucky really.

AB: *Does your husband ever come home and talk about the activities he does here?*

WS: Usually when I come, I can usually tell what he has been doing....he has always loved music.....music and singing is the thing that he likes to do and a bit of dancing.....but by the time he has got home mainly he has forgotten, unfortunately.....so if I ask him he doesn't really know what he's done.....but the girls [CF staff] usually tell me....I have a little notebook that they write what he's been up to, how's he doing and what he's had for his dinner.

AB: *Does he seem to enjoy the garden or the outdoors?*

WS: He went into the garden on an odd occasion when he first came but the weather has not been all that wonderful up until these last few weeks...he hasn't said anything about being in the garden...the other day I know they were out on the other side of the conservatory and they were singing outside...the conservatory is lovely, its so light and airy....you don't feel as though you are confined

AB: *It is a really nice space.*

WS: you can tell when I ask [my husband] "Are you going to Charnley Fold today?" he answers "Oh, is it today!?" So its never "oh not again" or anything like that or "I don't want to go"....so I know then he must be contented or else he wouldn't want to come.....and funny enough....his memory is pretty hopeless really....but when I am coming up the road [to Charnley Fold] and I we get to the corner he says "oh, we are here now!"...all the sudden he knows where Charnley Fold is!

AB: *Do you think that his decline has slowed since he has been coming to Charnley Fold?*

WS: He is fairly stable really.... most of the time...

(conversation to 8:34)

But the garden....he will sit in the garden...but he is one of these....he always thinks he should be working....and he cant really do anything now.....and then he'll say but I've got no money I have to go to work! Cause we've no money...and ill say "we've retired, we don't have to go to work anymore". But he calms down again after a bit...but he is fairly rational about what I tell him.....he comes to terms with it. I wish he could do more in the garden though....even push the mower...but he wouldn't know what

buttons to push. We have a lot of tools and such in the shed and I noticed the other day he was in their moving the tools from one place to another...he's happy. He is still taking notice of what there is there.

I love my garden, id love to be able to just do a bit and then sit in it but he tends to want to go for a walk...he does like walking as well and we can walk about 3 miles, so....we used to walk a lot.

AB: *What do you think makes Charnley Fold so successful?*

WS: The staff...and flexibility.....flexibility.....when he first came he used to come on a Wednesday and after a few weeks they said to me...."he is not doing too well with this group...I think there is too much discussion".....so they moved him to a different day and then he was fine....they take notice of what the person requires.....they take note of what they like and what they don't like and who they get on with.....

SUMMARY: This interview is with the spouse of one of the service users. This interview really demonstrates the need for enhanced dementia day care. It not only provides a therapeutic space for the service user but also provides much needed respite for the carer. She cannot point to whether or not her husband's attendance has any direct correlation to a slowing of the disease; however, she describes him as "fairly stable". She also notes that he must enjoy it because he never objects to coming and she thinks that he would object if he did not enjoy it. His enjoyment of the service is apparently corroborated by the reports from the staff. She points out that her husband always want to be helping especially in the garden, but gets frustrated when he cannot help. I think this is an important trend to note for several reasons; 1) background of the service user can determine how they will behave and what activities they are inclined towards 2) feeling useful is very important and the therapeutic garden should be a space where service users can be helpful, even if its really not. Lastly, she attributed the success of CF to the staff and their flexibility and adaptability in scheduling as well as their person centered approach.

Interview with Occupational Therapist (OT) at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

OT: I'm an Occupational Therapist. I have been employed in mental health services for over 24 years and most of that work has been working with people with dementia. Obviously over that time I have seen a lot of stuff change in dementia care and adult psychiatry. I first got involved with Charnley fold back in 2008. At that time, I met Garuth...and some of the commissioners who were looking at something that was going to be truly unique and very very different. At the same time, the day hospitals that were very health based were actually closing. So it was a good opportunity for me to take some of my learning from that day hospital situation and bring it here to CF. Because I was an Occupational Therapist, I really look at therapeutic intervention and I look at meaningful occupation...occupation that is going to keep that individual as active, both physically and mentally as possible. So I was in a very fortunate position in being able to work with the very new staff that were coming into this facility and ensuring that it wasn't going to be a 'run of the mill' day service....that it was going to be something very very different and that is why we've got the therapeutic program that you see now.

AB: *Could you talk about how the garden is utilized for the purpose of Occupational Therapy?*

OT: The gardens here can be utilized in many many different ways and what we try to offer is a 'person-centered approach so it depends on the people that you are working with at that time. We've seen different sets of service users come through day services and whereas some service users are very happy to go and use the gardens in a very structured manner...garden activities where we can be

promoting concentration, planning, sequencing skills...there are other service users that don't like the outside space at all. So we've got to be very much aware of that. As an OT you are always using different mediums to facilitate functional ability and with the garden space its really great because what you are doing is looking at both cognitive skills and physical skills. People have got to have the stamina to be able to move around and walk around....people are using there limbs so that they are exercising and they are getting the sunshine...so its that Vitamin D. It covers so much really. It depends on what you are doing as an activity...how you will set your goals up for that particular group or that individual. So it's very hard to just pick a group and say those are the goals for that particular group because each person in that group will have a different goal. You can use gardening group to introduce socialization and promote good conversation....such as using the garden space for some sort of reminiscence work...and that was the idea why Garuth arranged the garden in the '7 meaningful spaces'...because wherever you sit you should be able to pick something that you can talk about and that you can form some reminiscence conversation about. Such as, perhaps sitting in the backyard where you've got your vegetables growing. You could sit their with a client and say "Did you ever grow vegetables when you where younger?", "Did your Father grow vegetables?". Then it's just that one question that can prompt these images...visual images within the brain...that that person can actually engage with and have some sort of meaningful conversation.

AB: *Do the spaces work well for your goals as an occupational therapist?*

OT: I think the spaces can work well, unfortunately I am not here enough to be able to see it.

AB: *How many days per week are you here?*

OT: I am usually here only 1 day per week, I should be here 2...but I work at another facility. Sometimes there is a lot of pressure in my other role...so that I don't get here 2 days per week.

Sometimes I think we need to go back to learning needs of staff and really ensure that staff are using the garden perhaps as it was set up to be used. Because its very easy just to drift into something that is very easy to do rather than having to think about things and thinking about the individuals in your group at that given time. I think the way the garden is set up is really fantastic....I really like it because as I said....there is so much that you can reminisce about. Its open to people being able to engage in active conversation...but we need to make sure that the staff know how to use it as a therapeutic tool.

AB: *So are you involved in any kind of staff training?*

OT: I have done training and once we get the new members of staff in post...because we are short at the moment, then hopefully we will be doing further training.

AB: *So the other centers that you work at ...do they utilize the garden like this?*

OT: So I work at an intermediate care facility, which is for, people with a diagnosis of dementia who have recently had a physical ill health problem. So they have recently been admitted to a hospital...such as a chest infection, urinary tract infection, maybe a fracture, hip fracture....sometimes it can be a cardiovascular problem....you name it. These are people who invariably live alone, who have spent six weeks or more in hospital...whose skills have been depleted because they have been doing nothing while they have been in hospital. Not making a cup of tea, not even getting dressed, or washing themselves, they have been totally reliant on the nursing staff. So we have six-week facility where people can come to us and start regaining that confidence in everyday living. Part of the approach that we use in this facility is the utilization of the garden space. This is not easy because there is not a lot of staff...but there are raised bed, vegetables growing, a lovely rhubarb patch....we've got raw beans, dwarf French beans, lettuce, tomatoes, and flower beds. We've got strawberries and

things that are there to provide that sensory stimulation to clients. But what we do there, which I hope they do here....I think they do on occasion...but what we try to do at Broadfield is on a Thursday we always have what we call a lunch preparation group. So all the clients will engage in making lunch together. We utilize anything that we have grown in the garden at that time.

AB: *That's great! I hope that is happening here as well.*

OT: Maybe we're making a rhubarb crumble or perhaps we'll go out and pick herbs and put fresh herbs into the fishcakes. When the potatoes are ready we will use them as new potatoes or mash them or whatever.

AB: *Sounds nice.*

OT: And I think the stay do that here but sometimes the difference is these clients that we see here [CF] apart from the Wednesday men,...they are a lot further along down that dementia pathway. So they are in the latter stages of the illness...so their ability to engage and actually do is much more difficult for them...they need a lot more assistance and help....and very much the right approach from members of staff.

AB: *So what is the answer? Better-educated staff? More staff?*

OT: The thing is... I think the staff here are brilliant. I think it is about maintaining their education and keeping things updated and not allowing people to get lackadaisical about what they are doing, and always going for the easy option....because it is too easy sometimes to think 'I'll put the television on' or 'I'll put a DVD on'. You don't really have to do any planning for that really because the more physical, creative, and functional activities the harder they are to plan. Because you have got to be aware of any dangers with using tools...whether it be a spade or a fork or a pair of scissors.

AB: *It seems very specialized as opposed to 'babysitting'?*

OT: So there is a lot to think about. I do think that the staff that are here...really on the whole do excellent work.

AB: *That is the impression that I get.*

Also from the Occupational Therapist viewpoint...you spoke to this already, but I was wondering if you could go into more specifics....Does it depend on the person as to what type of environment you should work with them in? Do you prefer to work outside or indoors?

OT: Its based on the person...the individual. I think sometimes we have got to have a planned program of activity and since we set up...I have stepped back from organizing the program and I have passed that over to _____ now who really takes more of the lead on that program planning. But I do think it's important that you get that a balance between outdoor and indoor activities. It's important that we get that balance of sensory and creative activities. But whether you are talking about sensory or creative activities, those activities can be done outside as well. Sometimes it's dependent on the member of staff. Some staff don't like going outdoors. But it really shouldn't come down to that....it should come down to what the clients want at that given time. And there is no reason why you can sit outside and do a poetry group outside...or have your breakfast outside in the morning when you come in...or make a cup of tea and carry it out on the patio. Its just making sure that staff know it is important to use all the spaces and think about the individuals needs at given time.

AB: *So do you think about the work that you do with dementia patients as more preventative? What is the overall goal of the therapy?*

OT: It's not preventative. The goal of it here is to maintain functional ability because people are not going to improve. Although saying that, when we do have new services users coming in to the day service...what we do find is, because they really lack some sort of social stimulation within their own home environment and they have become quite isolated...so for that first period, first 12 weeks, you usually see a gradual improvement. But then you get that improvement and then all you are aiming at really is to maintain that functional ability.

AB: *So at 12 weeks you really understand what your baseline is?*

OT: Yeah and then it's about maintaining that function. We are talking about a deteriorating condition anyway. But if you can allow people to have that quality of life and still have that feeling that they are important and that they are in charge of what is happening to them, then that is really important.

AB: *I also wanted to talk about exercise. Obviously, working in the garden is a form of exercise? Do you ever do any group exercise?*

OT: They do exercise groups here. Like dancing sessions...we have a physio who will do Tai Chi with people with dementia. She does it on a 1:1 basis, so that a person will just mirror the movements that she is doing. Which again is a form of exercise that is lovely to do outside in the open air. There are still a lot of areas where we can take this farther. You have got to have a leading force; you've got to have somebody there who can donate that time to actually push things along. Unfortunately, I am not here enough to be able to do that.

AB: *I get the feeling from speaking with staff that everyone is committed to pushing the service forward. For larger objectives, I guess having that leadership is critical.*

OT: There is always some improvement that you can make...always.

AB: *What about mobility and depth perception issues for people with dementia?*

OT: They do get a lot of problems with depth perception...a lot of perceptual problems. For example if you are watching somebody [person with dementia] with a paint brush they will miss the paint part and not be able hit the paper...or they'll miss it and go on to paint the table or paint their hands [on accident]. You've got people who will pick the paintbrush up, but they won't be able to tell what is the paintbrush because they have problems with figure ground discrimination. Some people with _____ who really can't see a kettle as a kettle or a cup as a cup...

AB: *Thank you so much for talking with me it has been very helpful.*

SUMMARY: This interview is with the Occupational Therapist for Charnley Fold, who has been involved with the facility since it opened. Her role is decreased significantly now as she has trained another staff manager to handle the programming and day-to-day evaluation work. As an OT she focuses on therapeutic interventions and meaningful occupation, which is going to keep the person with dementia as mentally and physically active as long as possible. She advocates using the garden as you would use any other room in the facility for therapeutic activities. She repeatedly mentions how staff commitment, training, and involvement is the most important thing dictating the use of the garden space. She warns of how easy it is for staff to become complacent or get caught up in daily activities, so that they are no longer as focused 100% on the needs of the patient. She advocates the 'Person centered approach'. She also points out that while each patient has individual goals, the overall goal of the service is to maintain functional ability. She says that being a degenerative disease, people with dementia do not improve. However, she does note an improvement that is seen in their first 12 weeks in the day center, which is thought to be a result of increased socialization. However, at the 12 week point they really determine the baseline of function that they aim to maintain through the service. She

also notes that the service users they are working with now are much further along in the disease than they were five years before – this is a recurring trend.

Interview with Support Worker (SW) #2 at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

SW: I work full-time here in day-support.. I'm a support worker looking after the needs of the people coming to day support. I work 36 hours on like a full time post...I do enjoy the work here, its probably the best place I've ever worked actually. I think one of the reasons is that all the staff that work here really want to be here. It's not just a job. Quite often when you work in care it's like..... in homes where I have worked before its so busy you don't have the right amount of staff, you don't get that chance to get to know the person. They are a number really. I used to work in a home before I came here.

AB: It was residential?

SW: It was residential, yes. And when I started there it was about 24 beds and then they extended it and it virtually doubled...and its just so busy, you really didn't know anything about any person there because you are just so busy, you haven't a chance to sit down and talk to that person. Then when I came here it was completely different...we've got more staff...you get the chance to talk to the service users...because we do a lot of life story work, which I love doing...because that enables you to get to know that person and then obviously you know what their needs are so you can look after that person and you've got more of an understanding of that person too. It the sort of thing they might be talking about when you've done a life story...you can understand maybe where they are coming from, why they do certain things as well. There might be something a certain time of the day that they might do or it could have been something to do with a job, you know? Like I said the staff here do it because they enjoy doing it really...its not just a job you come and do and sort of forget. I think everybody is here because they want to be really...which is a good thing really.

AB: *I've heard a little bit about the life story work, is that something that you are heavily involved with here?*

SW: Oh right!, yeah everybody will tell you here I am absolutely useless on a computer, I've no idea at all. But at the minute I am working with _____. We have a life story group on a Thursday afternoon and we have been making up some different boxes to help the staff when they do the groups. The people we have in the group at the moment are quite a sensory group of people....so it is quite hard to sit and ask questions because they are not always able to answer you....but we are try and take things in that have something to do with whatever topic we are talking about....like the other week we were asking about their favorite music so we took different CD's in....so we put some music on and they might be able to tell you that way. Everybody that comes hopefully will have a life story, whether it be a book or we've got some boxes that we've done

(Conversation to 4:56)

It depends on the person really. If we think a box is more suitable for them to sit and have a look through...then we will do a box....but we have a booklet that we do as well for people to sit and have a look at. We've also got some big boards as well....sometimes if people have come here and their days here have ended and they are going to residential....a board with different pictures of their life....and things like hobbies and favorite car. When they go hopefully it is a talking point for the staff [at the residential home] so that they can go in and look at these things and have something to talk about. If somebody goes into residential that staff probably won't know a great deal about that person...so that gives them a bit more of a clue really as to the background of the person. So life story is very important.

Hopefully everyone that comes here at some stage will have a book or a box to take.

The POP program is a six week program....I help with the craft part of the group in the afternoon. Like different hobby tasters....but the people that come on that come as a couple.....so it will be a person who has been fairly recently diagnosed and their carer.....they are asked to fetch photographs...and we have a student who makes a DVD for them of their life story. It is just pictures....So then sometime after that [6 week program] they actually come here to day support and then we have that little bit of information already....

AB: *That is really a great starting point.*

SW: The more you know about a person the better you can care for their needs. I think I love to find out about people and their back ground and what they've done....its really interesting you know, it gives you something to talk about.

AB: *It is interesting. You have to do a bit of detective work.*

SW: Yeah that's right.....we do send the booklet home and the carer can help with filling it out as well.

AB: *I want to talk about the design of the building and use of the garden. Can you describe how you use the space?*

CW: I think its nice that the service users have plenty of doors that they can go out of into the garden. It is a safe environment for them really. We have got a coupled of doors that are alarmed because of the [location] dangerous areas like the car park....There are so many doors that lead out into the garden and its nice to see people just have a walk out there where you know they are in a safe place. The new sort of path [woodland path], that's nice....

AB: *Have you seen it get used yet?*

SW: Yeah that's right...I think it sort of catches people eyes and then they think "well I'll follow it".... "where does it lead to?". As I was telling Garuth yesterday, last week I was out there with two ladies after lunch, I had one on either arm...walking along that bit over there....and as we got to the end where the dining room window is I said "right, now which way are we going?" and they both pointed in opposite direction and I wasn't sure which way to go!....but we followed the path round in the end. Especially at this time of year as well, when it's quite warm and people like to go out there after lunch. It's a nice space.

After lunch people will just like to sit down, just like you would do at home....sit down for a bit and let your lunch go down...but there are some people who like to take a walk. They like to just have a walk around in the garden. I think that's a good thing about here. Although we have a program, in the morning in the afternoon...different groups....if someone is not settled....you are not making them sit down all the time....if they are quite happy walking about and that's what they want to do then obviously we try and get as many people involved in a group as possible....but if its not what they want to do then they are quite free to walk about or go into the garden. It's a nice area so they don't feel sort of trapped....its quite an open space. A lot of the people like to go over to the side where the chicken is....there is only one chicken now unfortunately....(conversation continues to 13:06)

I have noticed as well the swing seats...we've got the one around there that has been up for a few weeks....a few of the service users really seem to like them....when you get something new whether its going to get used or not...so it was nice that somebody noticed it and sat there.

AB: *I know the garden has been adapted and changed over time based on the staff's observations and*

feedback. Can you tell me anything about that process? How things have evolved?

SW: I think it sort of depends on what service users we've got as well, because some of the services users that we've got now...and that we've had for quite a while...maybe when they first started, they really enjoyed the gardening, but now they find it quite difficult. So there are probably not as many service users that will actually do a lot of gardening, whereas when we first started people were able to do more. But that doesn't stop them actually enjoying the garden. So [as a result] I think its back to being not as maintained...it tends to be staff that have to do it. But people still enjoy having a walk around...I think the change of the path is going to be quite good. I think we're going to have bowling out there as well.

AB: *Does the integration of the garden and the building help with the therapeutic goal for the service users? Any changes in behavior?*

SW: I would say yes it does...I think because the garden is quite a calming and relaxing place...if people just wanting to go for a walk or just sit and have some thoughts.....spend some time listening to the birds and nature outside can change somebody from being.....I'm not saying that they feel trapped or anything but maybe they just want to get out.....we don't have a lot of service users that get aggressive. Though there are probably one or two that can get that way from time to time. So having a walk out there, and having the fresh air and the relaxation, I think it helps,.....Because quite often in residential homes or nursing home, you always seem to find the people with dementia on the top floor there....where they probably never get outside, which to me is wrong...because they should be downstairs and be free to go out. I think it does make a difference being able to just go out there if you want to.

AB: *Do you think that your service users know that they can go outside whenever they want?*

SW: Yes, I think quite a lot of them do because...I mean certainly at the moment we have the doors wide open but they are always unlocked anyway. People tend to sort of walk through here....about 80% or so know they can push on the door and go out....but of course the doors along the corridor, people do just open the door and go out...so yeah I think they do know. If they want to out they can go out....and we do encourage people to take people out.....or if anybody has mobility problems, we will take them out a go for a walk around the garden. If they are getting a little bit stressed or anxious we will take them out..

AB: *So you use it as an interventional tool?*

SW: That's right! We do. I mean just a little walk around the garden and back in sometimes is just enough and it can change somebody's mood

AB: *So what about all the windows and the visual access here? Does that make people interested or curious?*

SW: Yeah, there is one gentlemen in particular...sometimes he will participate in a group, but he does like to walk up and down [the hall], but from time to time he will look through the windows and say "look at that, look at that"....its could be a bird, a fly, or a flower, or anything....but he always notices something. Especially at lunch time....the service users will be looking out into the garden.....we've got a few wood peckers and squirrels, and people that sit on that side of the dining room, we'll see one and they will be interested.

AB: *Do you think that sweeping, planting, weeding, and garden skills help services users maintain skills?*

SW: I do think it's a good idea and we do leave a few brushes laying around the garden....that way if someone is out for a walk and sees a brush, quite often they will start sweeping up. They do remember what it is for. (conversation continues to 21:43) They do remember doing those sort of things even if they don't do it now or at home, when you get someone new and you are trying to find out what their interests and hobbies are....people will say "oh, I love gardening, but I cant do it anymore"if you take them outside even if its just potting up a few plants.....sometimes they still can do it....the just think they cant...you know and if they see someone doing it, they'll have a go.....its quite good for keeping up the skills....because that's what we are all about really..at the end of the day.

AB: *Do any of the spaces not work well in your opinion....can anything be improved?*

SW: I don't think there is really.....though I can say that that back area is better now with the path, whereas before it is quite dark over on the side there....I think its lightened it up over there. People didn't used to go over there very much, but they do walk along the path.

But for most of the rest of the garden, people are quite happy. (conversation continues to 23:40)

AB: *Last question: what do you think is the most important aspect of caring for people with dementia?*

CW: I think the most important thing is the staff. They need to be very understanding and patient. Aslo time I think is important...that we've got the time to sit and listen to that person...because I do think it is important to try and listen to what somebody has to say....its not always straight forward, we do have people here that really struggle communication-wise (conversation continues to 25:40)

AB: *Thank you for talking with me, I really enjoyed it.*

SUMMARY: This interview was with a full-time Care Worker at Charnley Fold. Coming from a residential care home background she explains how the approach at Charnley Fold is much different. She points to staff commitment and enthusiasm, as well as "the person centered approach", as key elements that set them apart from other facilities. She recalls her work experience at another residential care home, where they doubled their number of beds, and being understaffed never had the time to get to know any of the residents. She strongly advocates the importance of getting to know the person you are caring for. She says that by understanding the person more fully, you are able to care for their needs more appropriately. As a tool to gain this understanding, she assists along with the persons carer, in compiling what is called a "Life Story", for the service user. This may be a booklet, poster, DVD, or a box of items (for more sensory level persons with dementia), that tell the life story of the service user. Compiling the life story is a process that allows the staff to get to know the service user, giving them unique knowledge into their past, and information that might explain current behaviors, etc. This is also an opportunity for a therapeutic activity referred to as a "reminiscence", where the service user uses sensory media to remember something about their past. Lastly, the 'Life Story' is intended to go with the service users when they transition from Day care to residential care. This is intended to be a starting point of understanding and communication between new staff that most likely will not have the time to get to know the person in the manner that is practiced at CF. This I think demonstrates the devotion of the staff at CF to the people with dementia which they care for. They are still concerned with the well-being of the person even after they have left the service. She also emphasizes how well the garden and the building work for the service. She advocates for the open door access in the garden; places to sit; the multiple paths for walking; and visual access to nature from indoors. She describes using the garden as a successful intervention tool when services users are unsettled or angry. She also posits that staff and time are the most important factors in caring for people with dementia.

Interview with Support Worker (SW) #3 at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

SW: I am a Support Worker; I've been here 5 years.

AB: *And what does a support worker do here?*

SW: We're enabling...enabling people to stay in their homes longer than what they would normally be able to do. By enabling them to make their drinks, do their own toast...bringing back skills that they think they have lost, but they have still got. And we try and find out what those skills are.

AB: *What are ways in which you do that?*

SW: Working with them and they'll tell you what they are interested in when they first start coming. So you put them into groups for that...but then you will soon find out if they are able to do that, whether it frustrates them or not....if its frustrating them you find another group that has something they might never have been interested in and simply start doing it. We've had people here that have said they always enjoyed gardening and then we get them in the garden and they say "I'm not doing that, I've done it all my life". Then you'll get people who have never done gardening and then all of the sudden they love it. So it's ways and means of finding out by trying them in groups and listening to them....if they tell you they don't like something, then we find them something else that they do want to do.

AB: *Does the group aspect help in peaking the interest of service users?*

SW: Yeah it does...if they see them outside....like on Friday I have a small gardening group and my friend has a nature group....but at the moment we have started joining them, because the nature group sees what ours [group] is doing and want to start doing it.....same with other groups, if you get someone who doesn't like a group inside.....and they pass your room and see you doing something different, they will just want to come and join you.....to see whether it is for them or not which is fine.

AB: *How often do you use the garden space for activities, etc?*

SW: More so in the summer. I mean when we first opened, we had quite a lot of service users that wanted to come in the garden, and were able to come into the garden, and were willing to help in the garden...and then the last two year, we've struggled. We have not had a lot of people come through that have been interested in it....so we have struggled....so we when you do get somebody, you've got to do gardening as soon as you can, so you can get as much done as you can. So that's great on a Friday because it's a bigger group now. We get a lot more done in such a short time.

AB: *The garden stays pretty well maintained from my observation.*

SW: I try.....I mean it's really like you were saying when you were on about the planning of your garden and bringing service users in....its great to get their opinions...but I don't think you can rely on having them in to help you all the time...because depending on their dementia...they are outside and its how long they can keep up...that ability and that skill. They will probably still want to come and walk 'round the garden but the ability to bend down and weed is not the same anymore. And this is why we brought higher planters [constructed wooden raised beds] so that people who really want to garden are working at a higher level...they are not having to go down on the ground, so that is really, really good. The poly tunnel has been amazing...because even in winter, if we have had someone in who wants to garden, they can go in there.

AB: *I took part in a group where we planted up some of the lavenders inside.*

SW: Yeah...if the group is not necessarily a group that wants to work outside....they are quite happy to do it inside, sat at a table planting. They might pull their face at first and say "I'm not getting dirty" but once they see others doing it...they join in. And if they still don't want to they are quite happy to sit and watch and talk about smells of it....you know...you can talk about smells or how something looks...so you can do it that way inside. But if they will come out with us....and now that we have these French doors put on there its ideal because we've got the garden room that comes out to the garden...that's brilliant...if they will do that with us its even better.

AB: *How does the design of the garden work for you and the people you care for?*

SW: I think because of all the different areas....there is something different for them to look at all the time, so its not a boring grassed flat space. And as I said if we come out in a group and the time or the weather is not wonderful, or we've not a lot of people who want to do much, we can just pick one area to work on each time.....and then after they've done that piece of garden they can actually see the end result which is great for them. We do have some people who are so motivated they want to see the end result now....and if they cant see it now it can be really frustrating....so we just pick one area at a time.....we can say "no, its alright. We can do that next week". You know it's not a problem we can come back to it next week...so I think the outdoor area is pretty good. I think we have struggled when the services users...changed and the next lot came in and didn't want to do [gardening]....and then again you've got winter as well land so we could just see it getting neglected. We've managed to get back on top of it lately.and if they want to just come over to an area an have a sit.....there are areas all over with places to sit...so its really good.

AB: *So what is the policy with the doors....they are always unlocked?*

SW: Oh yeah, all the doors that can be unlocked are unlocked as long as its safe. The only locked doors are out into the carpark, so we've got to be careful anyway....and that's only a lock that they could open anyway...but we have alarms on it....so we are always aware if somebody gets on the carpark side of it....but I think anywhere in the garden they've got access all the time...so if they want to come out they can come out.

AB: *In your experience....how does the access to the outdoors and the activities in the garden affect your service users?*

SW: It's a means to an escape....that if they are that way inclined...they might come in that morning and want to go home...they see a door. I suppose its great because they go out and sometimes they walk off some of their anger and their stress. At that point it is really, really good. Other times its great to know "Can I go out there?" and it's "well of course you can!" and they can just take themselves out...so that's great.....they can, they can do what they want.....to them that is their freedom, because to be told "No you cant go out"...they don't want to hear that as an adult....you don't want to hear that as a child, do you? But as an adult you don't want to be told no.....so they've got freedom, its great! If its raining they are going to get wet but they will come back in...you know? That's what they've always done....and all their life its been their choice. I think to have a locked garden and not be able to come out...I think that would be really bad.

AB: *I agree,*

SW: As for the greenery...we've got all that land behind us [open agricultural field] that isn't ours...but even that makes you think you are in the countryside somewhere. It's so peaceful (Conversation continues to 7:45)....and the wildlife now, you know, they will stop in the middle of whatever they are doing and shout about a bird or a butterfly that has landed....so really, really good. We have encouraged a lot more birds back by them doing the bird feeders and feeding them.

AB: *So that is a regular activity then?*

SW: Yes that is a regular activity. Bird feeders...we fill them up, we hang them up, the make the bird fatballs...yes that is another activity...so it's always something. So when the birds come in...that's because you've fed them you know....its great.

AB: *What other types of activities do you do in the garden that doesn't necessarily involve planting and pulling weeds?*

SW: You can do other groups in the garden....there was a group the other week that sat over near the chicken at the big table and they did a reminiscence group. They can do what they want out here...and like I said if the weather is great you get them out and do an activity outside.

(conversation to 10:50)

AB: *So it seems as though there is a lot of staff 'buy-in' into this space.....it seems that space is fairly well kept....so that is mainly done by staff?*

SW: Yeah, when _____ comes back tonight, she is one of the girls who will garden tonight.....though its surprising how much work service users have done these past few Fridays.....the plantings in these raised beds...we had them doing them....because again they are raised beds...they are able to stand and do it and its been brilliant. But as for weeding....we don't have anyone [service users] that can get down to weed...so that is sort of our job. But if they can maintain the watering of the beds, that is brilliant.

AB: *So do you think the garden provides a therapeutic experience for yourself?*

SW: Oh yeah definitely....

AB: *So it's a bit of a 'perk' of the job?*

SW: Oh yeah! Because where else can you work and get out in the gardenand when you see it coming together, like we have done...its really been a bonus....I think at one time it was getting us down because we weren't able to get out and do it....but now you can see a difference. An when they [service users] are out with you it's a bonus....you're getting help doing it...they are enjoying it...and we are enjoying...so yeah, great stuff.

AB: *I'd like to talk about the design of the garden from the beginning...and when Garuth originally came here, which was...?*

SW: about five years ago..

AB: *So at that time he was working with Alex Walker and some of the other staff?*

SW: In the beginning, No. When Garuth came he had already done the design for the garden...we started and then found out he got the design done...and then he showed us the pictures and we saw it come together then...we didn't have a say in that design at the time. Which isn't a bad thing because we wouldn't have known where to start anywhere...you know what I mean?

AB: *Sure. Garuth mentioned that he spent some time talking with the service users for their input. He also said that the garden has evolved over time partly based on the staff's feedback. Can you talk a little about this?*

SW: I think basically, we have been out there working in the garden and over years we have found out what actually works for us with them [service users] and what didn't work. Anything that did not work,

we looked around and eventually it all came together...those changes are working. Every year there has been a change happen to suit us...and how we can use the garden and make it work better. Which is pretty simple because when we opened 5 years ago we wouldn't have thought about changing the garden cause we wouldn't have known we needed anything different. The doors....we always knew we wanted French doors because that room was such a waste...so we eventually got that done and then after that we realized we need beds and that on that side of it. So that has evolved. With the chicken we moved the shed from over here to there...so the chicken shed is now nearer the chickens. So again its all the time working the garden realizing what is working and what is not and then seeing if we can make it work properly.

AB: *So its really just been shifting a few things around?*

SW: Planning as well what we've needed...I mean we realized we needed the raised beds because we found they were struggling to work on the floor. And the poly tunnel...why cant we have a poly tunnel?...if we have a poly tunnel we could work out in winter. So they are all ideas and then we do the fundraising. We do garden parties and if we need something major we will ask "can we put that money towards that?". So its been brilliant.....but I think you've got to have an idea in you head when you first start it but you've got to expect that it is going to change over a couple of years....they are going to want them changes doing....and usually it is for the better.

AB: *Excellent. Would you say everything works really well as it is presently?*

SW: I think at the moment it does and I think it is getting even better now.....I don't know a lot more changes we could ask for. I mean outside what they are doing now...that's just brilliant, because that grass land was just wasted...you wanted to walk on it but it was always muddy. But now we've got the [woodland] path and it comes all the way around. You can see things working a lot better. But again we wouldn't know we needed that 5 years ago....we had enough 5 years ago....but now at this stage we have needed more. Its never anything major but they are like tweaks, if you will.....they are working and they make a big difference.

AB: *Is there anything that is not working perfectly for you right now?*

SW: I think now it's the weeding and the bedding plants that are in the ground...that is the hardest thing. But it another 6 months we might have a group of service users come through that are more able to get down on the ground and garden...so I don't think you get rid of that [ground level beds] I still think you have to have something down on the ground to dig and stuff but that has been one of the hardest maintenance points...keeping the lower ground things maintained. Simply because we've not had people [service users] come through that can do it, whereas we did [with past groups].

AB: *What about the flow through the space and the access to doors? It looks like there is a pretty good flow through here. Is that the case?*

SW: Its better now that we have those doors [new French doors at garden room]...but before when we used it as a garden room, but to come into the garden, you had to come back out the door [into the hall] and out this door or that one down there...and you are traipsing mud everywhere...that's access straight out and straight in...you don't have to use the side doors....but you can if you want. There are enough doors that lead out to the garden as well which is great!

AB: *What would you say is the biggest benefit of the garden and what would you say is the biggest challenge of the garden working with people with dementia?*

SW: I think the biggest challenge is keeping it maintained...letting them enjoy it...you know you don't push anybody to do it...you cant. But you try those that want to do it. It can be frustrating if they really

want to do it and they cant. We are solving some of that by getting raised beds...so they can do it, rather than just coming to sit and watch...if they want to get involved they can.

AB: *What is the best thing that the garden provides here at CF?*

SW: It's an outdoor space! They are not stuck in looking at four walls walking up and down a corridor with no where to go....here we have people who walk up and down the corridor but if they reach a door they can go out into the garden...its totally different and it can change a mood just like that...it doesn't matter what the weather is like...ya know?....They can look out and discuss the weather...if they want to come out they can come out....they get wet or they get sunburnt...you know what I mean? Its an outdoor space....there are so many buildings now that don't have it and we are really, really lucky. People don't expect it either...when you come in from the front you don't expect all of this in the back.

AB: *Yeah and it really feels like it is such an integral part of the care environment here.*

SW: I think we have to have it...I think If we didn't have it, we wouldn't be Charnley Fold...I really don't think it would be what it is now. It's such a bonus.

SUMMARY: This interview is with a support worker at Charnley Fold, who describes her job as enabling people to maintain the skills necessary to stay in their own homes longer. She describes how groups of service users change over time. Since the day service always has a mix of service users with different levels of dementia, she advocates for the 'person-centered approach' as well as a flexible operating framework. She see's the outdoor space as integral to the identity of the care environment. She talks about the benefit of access to the garden for the service users as well as the staff. She also describes how the staff are able to observe what works and what does not in the space and then how Garuth has used that information to adjust and improve the space. She says that the easy access from the building gives the service users a sense of freedom and responsibility. She also mentions how the garden can be used as an interventional tool to redirect and easy stress and aggressive or angry behaviors.

Interview with Dementia Services Manager (DSM) at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

DSM: I am Dementia Services Manager employed by Age Concern Central Lancashire. I have been here just two years. I oversee the services here at Charnley Fold with in the day center. I oversee another day center, Woody Trees, which is in Fullwood, about 7 miles away from here. I oversee the community links service which works with people with dementia within the community....and also the Caring Café, which is the information service which works both in house and in the community.

AB: *Wow! How do you juggle all of that!?*

DSM: (laughs) With a lot of difficulty sometimes! But I am very lucky because the teams are wonderful, they are all the staff, they are all 'person-centered', and I know that they are working in the best interests of the clients...so that's half the battle to be honest....I have found with the team here...that they are all very dedicated to their jobs and they are always looking to develop and build upon what they are already doing so...they are not reluctant to change...which I find very unusual, particularly in sort of my past life, if you will...different areas I've worked at, my background has been in advocacy and mental health nursing. So it's nice to see that and for people to embrace change and work within it...which I think is quite unusual.

AB: *What do you think about the design of Charnley Fold as an integrated care environment? What makes it work so well?*

DSM: I think...it used to be a care home many years ago...I don't remember that...but they have used the exterior of the building and made it into the Charnley Fold that it is today. The thing I find...and the first thing I ever noticed when I came for my interview was how light and bright it was...you don't feel restricted in any area of the building...and there are windows all the way around and more importantly...most of them overlook gardens. So you kind of get that inside outside feeling all the way through. I find that when carers come and visitor....the first thing they comment on is how light and welcoming the building is. The building even though it is an old building...I think the way it has been painted and decorated lends itself to the environment that we have created today. I think the wonderful thing for people within the day support is that they can look out into the gardens. You can wander out...there's doors all the way around...the majority aren't locked...some are for security because they lead on to car parks....but probably out of the 10 doors that we have 8 are accessible for anybody at anytime. So they can wander round the garden, take a break, and then wander in through another door.

AB: *Do you think that the majority of your services users are aware that they can go outside if they want to?*

DSM: I don't know if they can remember because of the memory concerns....that they could come into this building and then go out into the garden. But I think they realize why they are here that "if I open that door, its open and I can go out into the garden, somebody may join me, I might have a friend and have a cup of tea...and when I've had enough I can come back in". So I think that helps people settle, you know, there are friends around, and that there is nothing wrong in just walking into that garden....they see it as **their garden**. Which I think is good, we can all share it...professionals, service users, and visitors alike. There is no restriction on who can access it.

AB: *From a manager's point of view, can you provide any unique insight into how the programming in combination with the environment affects the well being of the service users?*

DSM: I tend to come in quite a lot within day support...I do have a separate office, which is on the other side of the building...and I have another office at the head offices as well. But I think what makes my job worthwhile, because I do get lots of paper work and I'm meeting with commissioners and other people that actually fund the service. I'm meeting with other professionals in other areas. I'm out and about but I think...I'm allowed to just come in here as I want...and I'm not seen as the big boss...I hope people see me as _____, they can speak to me and respect me for my position, but know that I am here to support the staff, the carers, the people who attend the day center. I feel that I am very lucky in that I am able to do that, I am able to speak to the staff, put suggestions forward...we have team meetings. You know "what ideas have they got?". I love to get their ideas and help them to build on it so that they don't think that something is said and then it is dismissed. So I like them to feel that they can bring forward some ideas and build on that....and I think that shows in the 12 week program.....which is ever-changing...we have the 12 week program...we then evaluate...you know how its worked and how its not worked...what new ideas can we bring in...what's worked well that we can build on. Also with the carers...I like to be in contact...we have carers meetings...and we also let them know who their loved one is working with during the day and what activities they are engaged in. So I like to see the whole picture and I like to be a part of that...I'm probably not a manager who is going to be stuck in an office with paperwork, day in and day out...I like to get in there (laughs)...to see what's going on...But also to join in! I think that is the only way that I can see how its working or not and how we can develop certain areas.

AB: *Excellent. What are the challenges with building a facility like this in terms of funding and policy?*

Why are there not more places like Charnley Fold?

DSM: Well I think that the dream with the commissioners, maybe 5 years ago...that there would be a Charnley Folds here in South Ruble, which there is and they would have liked another 2 similar Charnley Folds...one further down in Lancashire and one higher up in Lancashire...but sadly funding that was made available from the government and from our primary care trust wasn't available....so we only got our one Charnley Fold. The problem I have as a manager, I suppose, is last year..if you had been here you wouldn't have seen as much of me because we were going through a tendering process. So every 3-5 years, even though we are commissioned by the service....we go through a tendering process and I have to retender for the service. I takes a long time...it started last September and we heard end of January, that we had actually got through...there were 4 stages. That's why I have to fill in applications, and lots and lots of writing...gathering of evidence....quantity and quality data....and sell the service really on paper. Fortunately we got the tender, we got the contract and we've been awarded it for another 3 years and hopefully 2 additional years on top of that if we continue to provide the quality of care we are providing now. So that was a difficult time...it was difficult for me as a manager because there was the worry of not getting the tender, staff losing their jobs, and being employed elsewhere. ...it was a very stressful time, but we did it! So that was the positive. We have now got a big change in how we are commission...when I mentioned before the primary care trust...they have now been dissolved and we have what we call the CCG Clinical Commissioning Groups. That's a new area for funding and the CCG's are made up of local GP practices and within each area and in this area of central Lancashire we have 3 CCG's. SO I have to be accountable to these bodies...if you will, to show them how we are spending their money...because they now hold the purse strings so that is strange because it is a new way of funding, it is new to the GP's.

AB: *So when you go to re-apply for tender you will work with the GCP's?*

DSM: Yes, so it's a different field. We also work with Lancashire County Council.

AB: *Will it continue to be this tedious of a process?*

DSM: I think so, because I think they need to show 'Joe Public' how they spend the money. So its now me getting to go to local meetings...getting to meet people and the CCG's, who is the lead....introducing myself and getting them to feel that they can drop in at Charnley Fold at anytime. SO that whole aspect of change has new challenges and pressures I suppose. And for the CCG's its new for them...a new way of funding services, so it's a two way process really. Its good though because they look to us for having the expertise and then its just how we sell that expertise back to them. It's a different ballgame then it was 12 months ago.

AB: *Just trying to keep you on your toes I guess!?*

DSM: (laughs) Never get bored, never get bored Andrew.

AB: *Have you been involved with Garuth and his work here? If so could you talk about that relationship?*

DSM: When I came here 2 years ago, obviously, the gardens have been developed by Garuth ...originally. So that was quite interesting to work with somebody who was specialized in working in particularly external environments for people with dementia...which is something that I had never come across in my career. So that was quite exciting...it was different. Fortunately Garuth and I get on OK and we love to discuss certain thing....you know "what can we develop?" and "what else can we do?". The staff spent time talking with me and spent time talking with Garuth. He involves the service users, he involves the carers...so you know we do give him some suggestions that we know we cant possibly

do.....we've asked for a swimming pool and a bar and things like that. But the new development that are taking place...the new swing seat, its simple things like the window boxes where we can take out the liner...and take it inside so we can work in all weathers....so its an inside outside working environment. We also have the new developments outside our conservatory...we have a new path [woodland path] into the woodland area and we are hopefully attracting wildlife and birds....and I think that is working well. I noticed that a lot of our service users have been going out and actually following the path. It opens itself and lends itself really well and we weren't sure if it was going to work at all. But I think it works well and Garuth he's more relaxed with us he sits, as you have Andrew, and has lunch with the service users...he joins in some of the groups. Its really nice because we are all working from the same ____?....we know what we want for our service users and we are going to get there.

AB: *Common goals.*

DSM: Yes, yes, very much so. I think that's wonderful...everyone works together, its not I do this and you do that, its what can we do together to achieve the environment...one that we have achieved to some degree, but one that we are always building on. I think the day that we all become static is the day that I start to worry.

AB: *So what does the future hold for Charnley Fold?*

DSM: There is always something you can improve on. The program, which is ever-evolving....over the 12 weeks its good to evaluate how the service users are working within that program...if its not working, why? And how can we do that better in the next program? and what can we add on?...we work closely with the carers and I think that's good. We look to do think in the evenings as well for the carers....we have the service users coming back but in a different environment...we do our 'Come Dine Evenings', where we at the front of house create a restaurant type atmosphere...its quite amazing...the carer can come with their loved one and they all get dressed up and they have a wonderful 3 course meal and the staff serve and wait on them....and that's really nice..and that's something completely different from what you'd expect. I mean I'd love to see more Charnley Folds and I'd like to see...I know it will never happen, but respite beds..we could have a couple of rooms where the carer could stop or they could have that break while their loved one was here....and we could have that continuity of 24 hour care with staff that the service users recognize. So there is a lot that we could do and it is also about sharing good practice...we have people coming in from other areas of Lancashire or outside Lancashire and looking at what we do and how they could create the same. At first that was really good like "this is really good, why should I share it?" but you get past that and you realize that if you can enhance other peoples lives then that is worth doing. I have worked very closely with Preston City Council..who are looking at building with in the city of Preston....how we can make dementia friendly communities and weve discussed simple things that could be done out there in the community. For example...like the swimming baths....carers have said to me and to the staff...I would love to go swimming with John or whoever, but he wanders off in the changing room and that's not good....especially if they've got undressed or something...So now they have created family changing rooms...so they can book that room in advance....and obviously they are there[and can help]. So its just little changes but they are looking at how they can promote dementia friendly communities. That seems to be working well. We've a long way to go, but the government is certainly pushing that as a new initiative....so I can see us working more with in communities....some new challenges

(conversation continues to 18:10)

Even though a person has dementia there is still so much that individual can still do...and I think its about breaking down to people that ...Dementia, yes it's a very sad illness and it does change the person and the personality, but we can still work with that person, we can still support them, we can still

engage them in activities. And its getting people to know more about dementia...it's a bit of a taboo word still in the big wide world and we need to break that down....once ago, people never spoke about Cancer...it was always the big 'C'...and that seems to have gone or its going....and I think with dementia its about bringing it back out into the forefront.....you know if someone has dementia...yes it's a tragic illness but there are a number of things that we can still do...its about breaking down those barrier and how can we help in that wider world...it shouldn't be that somebody that has dementia can only feel that they are a person again....or that a carer can only feel supported in a place like Charnley Fold. Its good we've got them and we need more...but we need people out there to accept 'that person has dementia' and 'how can we help?'. They should have an understanding and awareness about dementia. So we have a lot of education to do and a lot of training to do....and I think that is the way forward but it is going to take many, many years.

(conversation continues to 22:55)

SUMMARY: This interview is with the Dementia Services Manager, who oversees the services at Charnley Fold. She emphasizes the importance of her staff and the 'person-centered approach'. While juggling many roles and responsibilities she uses a hands on management style, participating and observing activity groups in order to evaluate efficacy, etc. She discusses the challenges of re-applying for the contract to run CF. She also discusses the channels through which she obtains funding etc. She has unique insight into the working relationship with Garuth, and how the garden and the building have adapted over time. She advocates for the open door / open access to the garden policies and she believes that the garden works very successfully as a tool for behavioral intervention. Lastly, she also talks about CF's broader aspirations in working to normalize dementia by educating the public and by creating communities that are dementia friendly.

Interview with Joiners / Carpenters (C) at Charnley Fold

AB: *Could you start by stating your job title and what your responsibilities are here at Charnley Fold?*

C: My name is _____, im 65, Ive been working with timber all my working life....I've designed various types of projects from agricultural buildings....that is designing and fitting....from 150 foot square buildings, timber framed and up to the last 20 years, I'm designing furniture for outside...and this last 7 years we've been designing and working within the care sector making furniture for various ability levels of people....for disabled people weve adapted chairs...dining chairs as well for younger people as they are growing up. People who have had hip replacements and require either a lower or higher outside bench or chair or whatever. Everything that we make is _____?, because we make it exactly for the needs of the individual...and we also do work with templates...because we have people who come into our workshop that are disabled in one way or another...weve got people with mental illness and we've got people with learning difficulties and brain damage...that come into our workshop. My role is I'm the owner of the business..... prior I've done 25 years teaching within the adult education system, so I've worked with young and old people.

(conversation unrelated to study continues to 3:43)

AB: *So you were involved with the design of site elements and outdoor furniture for care facilities before you met Garuth?*

C: Yes we were, but with disabled people mainly...not care facilities as much. We've done quite a lot of work for social services and quite a lot of work for schools and housing associations and the general public...sometimes for older people within their own homes.

AB: *When you are designing a piece of furniture for someone with a disability, how do you approach the process?*

C: We put quite a lot of thought into it...discussions. But again we look at what we're making....we do quite a lot of work on designing.....our clients are always happy with what we've done.

AB: *Do you feel you need to spend time with that particular user?*

C: No, we haven't done that. The user usually has family there to....

AB: Explain to you what they need?

C: Yeah, like if someone has a hip replacement or something like that, we can build or furniture to suit that....

AB: Could you talk about your working relationship with Garuth?

C:(6:15) Here we were asked to put in a tender for the work. We put forth a portfolio. We actually had an interview with Garuth and Alex Walker onsite and they discussed what they wanted....we had a whole range of photos of the types of things that we did....our work must've been to their liking and we got the job. From then forward, we've done several project with Garuth where he does the design of the gardens and we tendered for the work....and its continued for five years....(subject names several projects that he's worked on with Garuth)

And sometimes its just little projects here and there...

C2: Like if something needs adjusting...

C: Its work that we enjoy doing and we see the benefits of what we are doing as well.

AB: *You mentioned adjusting things? Are there examples of that here and how does that process work?*

C: We offer our point of view....Garuth listens to us and we listen to Garuth.....as a team we seem to be able to work exceptionally well together. Garuth will give us general ideas of what he wants and then we will design for his needs. Like the swing seat – making sure there are no trapping areas...so they cant trap their finger. They are quite safe for people to sit on...they don't feel frightened when they are sitting on them...

AB: *the short chain length helps that? Makes it more stable*

C: yeah

C2: yeah its not like a child's swing....

AB: So Garuth provides you with the overall concept of what he wants and you guys figure out how it's built?

C2: He usually gives us a drawing of roughly what he wants and then we suggest things...suggestion then go back and forth

C: It's very much a team effort...(goes on to say that he has managed the installation of several jobs for Garuth, and that he has a pretty good idea of what Garuth wants and expects from a job)...and we also do talk to the staff as well....the users ask "what are you doing?" they ask if they can help with what we are doing..

We don't really feel like we are a contractor here...we feel like we are more 'part and parcel' by coming in here as often as we have....they make you feel very welcome here as well

C2: It's nice being allowed in and being able to watch the users, use it as well and seeing how they react to it

C: Most contractors on a job like this will come in and get the job done and they won't speak to anyone...but we know an awful lot of staff here, they make us feel very welcome, and we do enjoy the work we do here as well.

We see the benefits of what we do as well...when the service users and staff have been outside and I see how much they are enjoying being outside.....(11:55) we so enjoy watching them, seeing them enjoy it...makes us feel like we are helping people.

AB: *You aren't in any kind of a rush to get through each job as fast as possible?*

C: We have a time limit, we aren't a charity, we have to make money....and as time goes on everything gets more and more expensive....we haven't done anything like this before...our work is manufacturing and design...a lot of time is put into design.....and we can't really pass that time onto the customer.....we hope that as time goes on these design will begin to pay for themselves based on the amount we make

C2: This particular type of project...you can't really rush it because it's for a very specific sector and type of person...it can't just be a generic style...it's very thought out for the people using it...with the users in mind. There can't be any big ledges or things like that...we have to gently make things slope with the landscapes...it just took time to think out what was right for the people.

AB: *You obviously have incredible craftsmanship? All the smooth corners...*

C: We do enjoy a challenge. It's very rare we can't solve a problem....especially with timber...it's so versatile....(goes on to talk about using local timber and local materials)

AB: (15:26) *You had mentioned to me about involving some of the service users, letting them act like they are supervising and stuff like that...*

C2: We like them to be involved in it because at the end of the day it is for them...

AB: *Are there specific examples of how they are involved?*

C: Being involved in actually making and helping...they come outside with us quite often....the downside is that anybody who is disabled is on benefits and.....being able to employ them.....we can't pay them a wage...maximum of what they can earn is 10 pounds a week because of their benefits....so it doesn't give them any motivation.....

C2: We always ask them if this is what they want...or if they like it...or if they have any suggestion?

C: We don't actually work with any dementia patients.....

(17:33) I see this place here as a beacon for showing how to care for people...and seeing them enjoy working with people with dementia

.....it's about normalization (of dementia)

(subject continues to talk about his history working with other special user groups – severe learning difficulties)

(conversation unrelated to study continues to 23:43)

(Subject talks about process of copyrighting their designs)

Summary: *This interview is with the joiners (carpenters) who have built all the wooden structures at Charnley Fold. They also have installed some of the flat work – pathways, pavers. They have a collaborative working relationship with the designer—taking basic drawings of what the designer wants and working with him to make it a reality. They design for the special needs of the elderly and for people with dementia and take satisfaction in watching people use their work. They often elicit feedback from the staff and users and report that CF is a very welcoming environment and an exemplary facility for how to work with people who have dementia.*

APPENDIX E

ABILITY LEVEL REFERENCE GUIDE FROM CHARNLEY FOLD

Planned Activity Level

At a planned activity level the person can work towards completing activities but may not be able to solve any problems that arise while in the process. He or she will be able to look in obvious places for equipment needed but may not be able to search beyond the usual places. A care giver assisting someone at this level will need to keep his or her sentences short and avoid using words like 'and' or 'but' which tend to be used to link two sentences together into a more complex one. Care givers will also need to stand by to help solve any problems should they arise. People functioning at a planned level are able to carry out activities that achieve a tangible result.

Exploratory Activity Level

At an exploratory activity level the person can carry out very familiar activities in familiar surroundings. However, at this level people are more concerned with the effects of carrying out the activity rather than the consequence and may not have an end result in mind. Therefore a creative and spontaneous approach by care giver to activities is helpful. If an activity involves more than two or three activities, a person at this level will need help in breaking the activity into manageable chunks. Directions need to be made very simple and the use of memory aids such as activities lists, calendars and labelling of frequently used items can be very helpful.

Sensory Activity Level

At a sensory activity level the person may not have many thoughts or ideas about carrying out an activity; he or she is mainly concerned with sensations and with moving his or her body in response to those sensations. People at this level can be guided to carry out single-step activities such as sweeping or winding wool. More complex activities can only be carried out when directed one step at a time. Therefore care givers need to ensure that the person at this activity level has the opportunity to experience a wide variety of sensations and to carry out one-step activities. Directions to maximise this opportunity need to be kept very simple and to be reinforced by demonstrating the action required.

Reflex Activity Level

A person at a reflex activity level may not be aware of the surrounding environment or even of his or her own body. He or she is living in a subliminal or subconscious state where movement is a reflex response to a stimulus. Therefore people wishing to enter into this person's consciousness need to use direct sensory stimulation. By using direct stimulation the person's self-awareness can be raised. A person at this level may have difficulty in organising more than one sensation which is being experienced at the same time. Excessive or multiple stimuli can cause distress; therefore crowds, loud noises and background clamour should be avoided. Activities at this level should focus on introducing a single sensation to the person. A care giver interacting with a person at a reflex level needs to use all his or her communication skills to enter into the world of a person at this level. Language skills tend to play only a minor role at this level and expression of a warm and reassuring tone and appropriate volume can be vital in establishing a communication channel.

APPENDIX F

SUGGESTED DESIGN GUIDELINES: QUICK REFERENCE

Design Process:

1. Where possible, adapt and develop the garden over time in phases. Install the basic structure of the garden first, let staff and service users use the space, and then elicit feedback that can guide the direction of the garden.
2. When performing site inventory/analysis, design evaluation, or eliciting feedback, the designer must take the time to integrate his/her self into the daily activities of the residents and staff. Dementia care is all about people and thus in order to design for people effectively, the designer must spend time with them.
3. When designing a therapeutic garden for persons with dementia, evaluate potential dangers or risks on a gradient. To be truly innovative, do not eliminate a risk at the expense of a benefit. Instead work with staff to manage risk.
4. Integrate the philosophy of care into the design philosophy. The philosophy of care should be embedded in all aspects of the service and physical environment.
5. When possible renovate the garden and the building at the same time to ensure that the inside and outside environment are well integrated.
6. Consider providing staff training and education as a service for your clients. If possible the designer should include this in the design package. Therapeutic landscapes are highly specialized and thus require specialized training to maximize their use and benefit.
7. When eliciting feedback from people with dementia in a workshop or focus group setting, utilize a lot of imagery, drawing, and maps with cut out trees and site elements that the user can arrange on the sheet. Be sure to get staff involved to assist with the process and so that they can help the client remember if their design suggestion becomes a reality in the future.
8. When designing, do not rely solely on feedback from staff and service users. While this is valuable information, be sure to bring your innovation and knowledge to the table. Healthcare facilities can be very resistant to change and this can be reflected in the attitudes and comments of staff inadvertently.

Visual Access:

9. Facilitate visual access by coordinating with the architect to ensure that the placement and number of windows is adequate. For existing buildings, first make suggestions regarding locations where renovations for new windows and doors can improve access. If renovations are not possible, work within the constraints of the existing windows to make sure that the requisite for visual access is met.

Integrating Space and Culture:

10. Sensitively address the culture of a particular area by designing using the concept of spatial archetypes.

11. Provide garden features and elements that will evoke memories and enable users to participate in activities in the garden, whether they are directly related to the care of the garden or not. The size, scale, material, and location of features should reinforce a domestic aesthetic as well as culturally familiar archetypal spaces.

12. Spaces should clearly communicate to the users what they are and what activities are done there. Use fixed elements such as greenhouses, garden sheds, and raised beds, as well as, garden props such as brooms, trowels, small watering cans, and balls for sport to promote reminiscence and engagement.

Sun and Shade:

13. Consider using umbrellas and or retractable awnings to provide the flexibility of sun or shade throughout the day.

14. Consider providing a place directly outside of an entrance to hang coats and cardigans. This could be a movable coat rack or hooks mounted to the façade of the building. Older residents in general are sensitive to variances in temperature and so it is important to consider their thermal comfort in shade areas.

15. With further regards to thermal comfort for persons with dementia, provide adequate screening from predominant winds.

Boundaries and Enclosure:

16. If a facility is fortunate to be located adjacent to a piece of property that offers a tranquil view of a natural area, consider leaving the view open by using only a low fence with low plants for screening. Views out to a borrowed landscape can be a source of enjoyment for those using the area and can help to reinforce a spatial archetype.

17. In residential care settings, consider providing a destination place separate from the rest of the garden that has unscreened or selected views to the outside world. Connection to the outside world can be important for those with dementia who have reduced contact with the outside world and it can support the Kaplan's mechanism of "extent".

18. In situations where there is an existing metal security fence or where metal security fencing is required by code, consider screening the fence with trellis and plantings to reinforce the aesthetic of a domestic garden space.

Spaces:

19. Passive Mixing vs. Active Mixing -- For activities where users are physically active, designers should consider providing separate spaces for those in separate stages of the disease or with similar ability levels. However, mixing ability levels during more passive activities, with no specific objectives, may provide opportunities for those functioning at higher levels to assist those with lower abilities. This is an excellent opportunity to work on socialization skills for both groups and can provide the high-functioning resident with a sense of purpose, responsibility, and usefulness.

Physical Access:

20. Consider using multiple access doors aided by pathways, building design, and staff oversight to encourage free and autonomous use of the garden space.

Seating:

21. When locating benches or any seating along a path consider creating an alcove or small pad off of the main path so that it does not hinder circulation for others passing by.

22. Consider placing a bench directly outside and inside main entry doors, so that users can gradually work their way into the garden.

23. Larger open spaces are better suited for seating with tables to promote social interaction.

24. For facilities with limited space, that requires the flexibility in the use of one large open space for multiple activities, utilize movable furniture so that tables and chairs can be moved to the sides for group activities.

25. Chair aerobics, a popular exercise activity for older people and people with dementia, requires individual chairs with armrests and an arms length distance between other users.

- 26.** Chairs with armrests on either side allow users to brace themselves as they stand up. Sitting on the end of a bench with armrests only provides one handrail to brace against standing up, which can be difficult for some. Thus, when using benches consider including handrails that divide the length of the bench into individual sitting areas.
- 27.** Provide of variety of tables so that users can have a drink or a meal in the garden. Round tables are preferred because they do not have sharp corners and because they promote socialization and equality. Round tables are also much easier to pull an extra chair up to if needed. Round picnic tables work well when there are separations between the benches.
- 28.** Consider utilizing umbrellas and retractable awnings to provide flexibility through the option of shade in sunny areas, Make sure they umbrellas are securely anchored.
- 29.** Provide accessible seating areas for those in wheelchairs. This may include additional areas of paved surface along a path, similar to where one would locate a bench. Round tables with movable chairs work well. See ADA guidelines for further information about table heights, leg clearances, etc.
- 30.** Consider using custom built furniture throughout the garden that is designed to the specific needs of older people – rounded edges, elevated seating height. Custom timber can promote a domestic aesthetic.
- 31.** Provide seating options that are protected from the elements, by some sort of covering overhead and on the sides.
- 32.** Considered installing a “Swing Seat” – designed in collaboration by Chalfont and his carpenters, the swing seat is a custom designed seat for persons with dementia and older persons. The structure encloses a two person-swinging bench with a roof and lattice sides. Plexi-glass is used on the sides to block the wind but allow light to penetrate. A short chain allows a gentle swing but is still stable enough to allow those with limited mobility to easily stand.
- 33.** Consider locating a bench or seating in a far corner of the garden that is visible from the building as a destination point. Make sure it accessible by a path.
- 34.** Locate seating to optimize views of the garden and surrounding areas.
- 35.** Consider keeping several foldable chairs with armrests in activity areas that require standing in case someone gets tired and wants to sit down or if someone wants to be with the group but not actively participate.

Pathways:

- 36.** At facilities that utilize multiple access doors to the garden, provide a system of circulation pathways that are easily navigable, tightly integrated to activity spaces, and that loop back to an entrance door.
- 37.** Keep materials consistent throughout to aid in way finding and spatial orientation (for example, one material for main pathways and one material for secondary routes)
- 38.** At facilities where a looping pathway is not possible or is not yet provided, work with managing staff to create weekly provisions for supervised walks in the neighborhood.
- 39.** With regard to the importance of including interesting elements along a pathway to aid in spatial orientation, the following guidelines are suggested:
- a.** Provide a range of site elements at different heights and scales.
 - b.** Developing sub-areas around the edges of the space and leaving more open space in the middle supports spatial orientation.
 - c.** Pergolas, trellises, and archways are useful landmarks for entryways.
 - d.** Bright colored flowers are useful for marking areas.
 - e.** Use a combination of upright evergreens and deciduous specimen trees to mark corners and delineate space.
 - f.** Low picket fences are useful at delineating space and guiding users along a path.
 - g.** Placing artwork in the garden made by service users is a great opportunity for therapeutic activity and can aid in way-finding.
 - h.** The greater the variety of interesting site elements = greater chances of connecting to the memories of a broader group of users
 - i.** In smaller spaces, site elements are still very important to reinforce the location of elements such as tools and water spigots.
 - j.** Having a consistent name for spaces and site elements also reinforces spatial orientation (for example, the “countryside” or the “picnic area”).
 - k.** Engaging users in the spaces regularly increases the chances that they will recall specifics about the space.

Plantings:

40. Pay careful attention to plant toxicity and danger from thorns when selecting plants for gardens used by those in the later stages of dementia due to their tendency to put plants in their mouths. Become familiar with the different species of toxic plants and their characteristics in order to evaluate them along a gradient of risk. Avoid highly toxic plants altogether. If a plant with medium to low toxicity provides a benefit such as reminiscence, manage the risk to the user by locating the plant away from paths and out of reach where it can be still be visibly enjoyed. Further manage this risk by educating staff about the location and toxicity or dangers of the plant so that they can actively manage the risk and actively engage users with it for its benefits.

41. It is recommended that designers provide a variety of flowering plants to ensure interest throughout the season and to reinforce the aesthetic of a home garden, promoting user engagement.

Maintenance:

42. The garden should be designed for ease of maintenance but not at the expense of providing an interesting plant palette. In order to find a balance:

- a.** Consider creating a position whose responsibilities are split between being a care worker and a gardener/handyman.
- b.** Create a maintenance schedule with rotating responsibilities to ensure that there is not a gap in the maintenance of the garden.
- c.** Foster relationships with outside volunteer organizations, schools, and family members who would be willing to help maintain the garden or do “clean up” days.
- d.** Research and implement best horticultural maintenance practices for your given area
- e.** Fill up ground level beds with plants to outcompete weeds in perennial beds.

43. The degree to which a space is maintained doesn’t have to be perfect; some level of “messy” and incomplete is perfectly acceptable because it provides opportunities for users to engage. Thus the garden should strive to be attractive but not necessarily perfect.

Miscellaneous:

- 44.** When providing a play area for visiting grandchildren, locate the play area where residents who enjoy watching children at play, can view it.
- 45.** Create and foster relationships with professionals and universities to perform studies and provide training that will benefit the facility.
- 46.** Work with facility managers to ensure that the organizational policy and philosophy of care acknowledges the importance of providing connection to nature for residents and service users; supports the integration of the garden as fundamental to the delivery of care; and that it does not conflict with the intended goals for the outdoor space.
- 47.** With specific regard to organizational policy, ensure that the policy towards risk looks to manage risk and not avoid it. Eliminating a risk altogether at the expense of a potential benefit should be avoided. Instead, focus on the potential benefits associated with a risk and work with staff to manage any potential negative consequences.
- 48.** When culturally appropriate, consider having an area for chickens preferably fenced in with a decorative coop that can be opened up for used to view inside. Be sure to consult the local planning department for regulations on having chickens in a given area.
- 49.** Provide indoor-outdoor space. These can be areas such as conservatories, covered pavilions, and poly-tunnels that provide the feeling of being outside while offering some protection from the elements.
- 50.** Consider installing a plastic covered poly-tunnel (greenhouse) instead of a glass greenhouse for horticultural activities. They are inexpensive to construct even at fairly large sizes and the opaque plastic covering keeps users attention focused inside as opposed to glass where they can see out and get distracted. Locate the entrance to the poly-tunnel close to a building entry.
- 51.** Work with staff to find ways to integrate nature into as much of the programming as possible. Even the most seemingly unrelated activities could be done in an outdoor setting on a nice day.
- 52.** Provide as much of a variety of sizes and types of spaces as your site will allow. This should include: active spaces and passive spaces; public spaces and private spaces; sunny areas and shady areas; noisy areas and quiet areas; open spaces and closed spaces. Providing choice and opportunity is important for engaging with a broad user group.

53. Keep lightweight pots, hand tools, soil caddy's, and pushcarts on hand to facilitate gardening activities indoors.

54. Provide small watering can for residents so that they can easily lift them and carry them around the garden. Water weighs just over eight pounds per gallon and so large watering cans can become unmanageable for residents very quickly.

55. If space allows, create a path that leads to an area of the garden that is physically away from everything else to provide users with a sense of "being away".

56. Provide a break area for staff in the garden that is separate from areas accessed by the residents. Caring for people with dementia can be physically and emotionally taxing, so it is important to provide an area for staff to "be away" and evoke the restorative properties of nature.

57. With regards to becoming a successful designer in the field of therapeutic gardens for person with dementia, understanding the importance of staff and people in the deliverance of therapeutic care cannot be overstated. While very important, designs merely provide spaces where things can happen. For people with dementia the support of staff is essential and it is through their hard work that designers can ensure that the right things do happen in the designed spaces provided.