

## Chapter 8: Study Conclusions

The major assumption of this study was that there is a gap between existing knowledge regarding treatment therapies for ADRD care-recipients and its availability to and application by landscape architects. It is imperative that landscape designers thoroughly understand the implications of ADRD and the demands that the environment places on people with this disease. This study is significant to the fields of landscape architecture and gerontology because relatively, little research has been conducted on the relationship between the outdoor environment and older persons with ADRD. Due to an increase in life expectancy among older adults, it is an area that is becoming increasingly important. In the absence of a clear understanding of the environmental needs of persons with ADRD, it is unlikely that designers will be able to create successful therapeutic outdoor spaces.

### *8.1 Assumptions*

I began this study by proposing to address the gaps between the knowledge base regarding ADRD that is available from social science research, and its application by landscape design professionals. I assumed that improved landscape design would enhance and compliment other modes of therapy during the various stages of the disease. Through the literature review, I expected to find empirical evidence that supported the proposal that landscape design should target emotion-oriented treatments. I also assumed that by creating a set of preliminary design guidelines and testing them through interviews, surveys, and case studies, their efficacy for therapeutic outdoor spaces for persons with dementia could be evaluated.

## 8.2 Evaluation of the Process

This study utilized many different methods, such as a literature review, phone interviews, surveys, and site observations. The following are my thoughts on the methods selected.

*Literature Review.* The literature review provides valuable information on landscape architecture and gerontology, and supports the assumption that therapeutic outdoor environments have positive benefits on the physical and mental well-being and quality of life of older adults with dementia. However, it also identifies a need for empirical research to further test these benefits. It appears that landscape designers do not have a full understanding of the therapeutic benefits of outdoor environments for persons with dementia.

The literature review indicated that there is a deficit of peer-reviewed empirical research on design of gardens for the use of persons with ADRD in the landscape architectural literature. However, the literature does provide basic functional and minimal therapeutic criteria for gardens for persons with dementia.

*Telephone Interviews and Surveys.* The telephone interviews were an efficient method for testing the design guidelines. The participant responses were compared to the evaluations of the case studies, and significant conclusions were drawn regarding the importance of the design criteria in therapeutic outdoor spaces for persons with dementia. Questions raised as a result of the interviews are: whether design professionals fully understand the benefits of incorporating therapeutic elements in wander gardens for dementia-care recipients; whether criteria are lacking in the facilities and were ranked as only somewhat essential by the interviewees, should be included in the design guidelines;

and whether the design guidelines should be reorganized according to functional and therapeutic features of design. A larger sample of participants is necessary to determine the validity of these inquiries, but the consistency in participant responses and case study rankings provide a strong foundation for future research.

Survey research was a critical component of this study; it allowed me to gather information in response to questions raised in the literature review. The responses of the participants support the literature review and current research indicating that appropriately designed therapeutic outdoor environments have potential to increase quality of life and decrease agitation for dementia-care recipients. Additional quantitative research is needed to support the positive behavior changes of dementia-care recipients in outdoor environments and elucidate the need for therapeutic outdoor spaces.

The results of the surveys indicate that there is still a gap between existing knowledge of ADRD and its availability to and application by landscape architects. Landscape architects, in general, appear to have limited sources of knowledge with regard to persons with dementia and their interactions with outdoor environments. This raises the question: Is access to literature a barrier to landscape designers in understanding the functional and therapeutic needs of persons with dementia in outdoor environments or is a deficit of empirical research regarding health-care design in landscape architecture the barrier to landscape designers?

Gaining the perspectives of participants by telephone interviews and surveys has shown consistencies among results of the literature review, case studies, and design guidelines. The participants offered valuable information regarding their personal experiences; the gaps they identify between landscape architecture and gerontology; the

type of research that is actually being conducted by landscape designers prior to the creation of outdoor therapeutic environments; residents' changes in behavior either during or after experiencing therapeutic outdoor spaces; features of outdoor spaces that are most important in affecting the residents quality of life; benefits they have observed in persons with dementia in outdoor spaces; and how the design guidelines can be applied to outdoor therapeutic environments.

*Site Observations.* Incorporating the case studies of four outdoor spaces at health-care facilities permits evaluation of the guidelines in existing wander gardens. The design guidelines were tested through this process, and in combination with the responses of the phone interviews, conclusions were drawn regarding the validity of the design guidelines. The design guidelines are appropriate to the research; however, questions were raised regarding whether some of the criteria are actually essential to the quality of life of persons with dementia. In future study, additional sites should be chosen to gain a broader perspective on current standards of design in wander gardens.

This study demonstrates that landscape designers create safe, functional spaces in gardens for older adults with dementia, but the gardens lack therapeutic design features. This finding coincides with the results of the telephone interviews: landscape architects are not introducing therapeutic elements into outdoor environments that are meant to specifically improve the physical and mental well-being and overall quality of life of persons with dementia.

### *8.3 Recommendations for Further Study*

This study serves as a foundation for future research. A main conclusion of the literature review is that there is not sufficient peer-reviewed, empirical landscape

architectural literature on health-care design. This raises the question whether, if more empirical literature were available, would designers have greater success in creating therapeutic landscapes for persons with dementia? More quantitative data that confirms the benefits and success of wander gardens for dementia-care recipients needs to be conducted in order to establish the importance of designing appropriate therapeutic environments for these users.

Additional interviews need to be conducted and more existing wander garden designs need to be evaluated as a means of further testing the design guidelines. The design guidelines serve as a reference for landscape designers who are faced with the challenges of understanding the needs of adults with dementia in outdoor environments. They were derived from the landscape architecture literature and from my personal experience. They provide a foundation for future research; however, criteria may need to be added or excluded and further research may identify gaps.

The number of interviewees and case study sites should be larger in future studies. The interviews and the wander garden sites were helpful in testing the design guidelines, but larger sample sizes will provide more accurate results. The interviews and the case studies raised questions regarding the relevance of some of the design guidelines. Therefore, further study should only strengthen the design guidelines.

#### *8.4 Conclusions*

The overall conclusion of this study is that many of the current therapeutic outdoor spaces designed for persons with dementia tend to be designed to meet the needs of the elderly, rather than of those persons with dementia. The spaces are designed with consideration of functional and safety issues for older adults but they do not fulfill

therapeutic potentials for persons with dementia. This problem may be due to a lack of knowledge on the part of landscape architectural and gerontological professionals, and to a shortage of available empirical research in landscape architectural literature regarding potential therapeutic benefits of landscape settings for people with ADRD. I suggest that educational programs on health-care design, professional seminars, and health-care design certificate programs for design professionals, would be useful tools to address this deficiency.

In addition to inaccessible literature, the results of the interviews and surveys indicate that staff in health-care facilities lack awareness regarding the potential of wander gardens to meet the therapeutic needs of persons with dementia. This may present a further obstacle to designers. Programs and seminars may be useful for staff to learn the benefits and importance of taking the time to provide residents with opportunities to experience therapeutic outdoor environments.

The design guidelines represent an initial step in informing the design of wander gardens. Testing them further should reveal errors or gaps as well as confirm that they are a useful tool for addressing the needs of persons with dementia in outdoor environments.