



## **Nursing Home Garden Design/Dementia Care**

*It has only been in the last 25 years that the importance of the physical environment in the care of people with dementia has received the attention it warrants. This is especially the case with nursing home gardens and the use of outdoor space. In the following presentation, the author discusses a number of aspects of garden space in LTC and how the outdoor environment can be a secure, invigorating and therapeutic experience for residents with dementia.*

**By Bill Benbow, M.S.W.**

# **Maximizing the use of outdoor gardens in dementia care facilities**

**O**ne of the early researchers of dementia facility designs, Uriel Cohen, a professor of architecture and director of the Institute on Aging and Environment at the University of Wisconsin, in a review of environments for people with dementia, lamented that the use of outdoor parks, gardens, patios, and courtyards was found to be relatively neglected in environments for people with dementia. "Few facilities," he said, "considered the outdoors an extension of the indoors or a major activity area integral to the facility program" (Cohen and Day, 1994).

A broad national review of 320 U.S. facilities in 1999 found that 62% of them reported that the outdoor area was not used as much as it could be. Reasons given were inclement weather, accessibility problems, design considerations, supervision, and lack of familiarity (Cohen-Mansfield, 1999).

### **Neglected resource**

Cutler and Kane (2005) analysed outdoor use in 40 nursing homes with a view to improving usage of this neglected resource. They found that in their sample of 1,988 residents, almost 50% were never included in outdoor programming, and of those interviewed, close to 40% felt that they did not get outside as much as they wanted. A third do so less than once a month.

A post-occupancy evaluation of a B.C. facility, The Lodge at Broadmead, found that many respondents believed the gardens were not used enough. Comments suggested that this was because not enough staff or volunteers were available to take

residents into the gardens (Heath and Gifford, 2001).

Fleming and colleagues (2008) in their literature review of the design of physical environments for people with dementia concluded that "... the lack of access to outside areas when they (residents with dementia) are present is usually associated with staff practices."

Connell, et al. (2007) had already come to the same conclusion in their structured activity study. They point out that planned outdoor spaces for residents with dementia were initially expected to be staffing-neutral. However, in their research they found that few residents frequented outdoor space. They further noted that self-initiated use of outdoor space by residents with dementia is quite limited.

### **Benefits of outdoor activities**

Dementia residents have problems in planning and carrying out activities; that is, they need to decide to go outdoors, get the appropriate clothes on for weather

conditions, find their way to the outdoor space without getting lost or distracted, and then if they wish to engage in an activity, find the appropriate tools or props and then stay engaged in the activity.

In their 2007 study, Connell and associates showed that beneficial sleep and behaviour results with the use of a structured activity approach. They concluded that outdoor activity is far more likely to occur if structured activities programming is provided and staff are available to assist residents to get outdoors and to stay engaged (Connell, et al., 2007).

### **Types of resident outdoor use**

Charlotte Grant, who was part of Connell's early studies, based her Ph.D. thesis on finding a way to increase use of available outdoor space by dementia residents. She studied five sites in order to understand the relationship between organizational/programming policies and physical attributes of outdoor spaces.

An especially insightful part of Grant's





*This aluminum patio table (left) fell over, thanks to its umbrella and a nasty breeze. The glass top was smashed. The designer wanted to block residents from wandering into the garden, so placed the table - with a planter inside - in this nook. It is seen as the handsomest of the planters and is tall enough to have residents take in the scent of the plants. Remember, "when life ('or the wind') gives you lemons - make lemonade."*



analysis is the division of residents' outdoor use into four types:

1. **self-initiated or independent**
2. **enabled**
3. **staff-initiated, and**
4. **programmed.**

'Self-initiated' involves residents' being self-motivated with no influence by others.

'Enabled' category is when residents initiate the move to enter the outdoor space and are aided by another person, for example, helping with a heavy door.

'Staff-initiated' includes residents who are physically or verbally influenced by staff to go outdoors.

'Programmed' denotes outdoor use as planned, or scheduled group activities.

Grant concluded that the policies of management, the attitudes of staff, and training affect the use of outdoor space as much as garden design. However, a management-operating philosophy supportive of garden use, by itself, will not guarantee high utilization. Realizing this, Grant developed a particularly helpful "*Garden-Use Model for Increasing the Use of Outdoor Space*." In this model, each of five factors must be realized:

1. organizational policy
  2. staff attitudes
  3. visual access
  4. physical access, and
  5. garden design (layout and amenities)
- (Grant, 2003; Grant and Wineman, 2007)

Mary Jane Lovering, a Canadian landscape architect and physiotherapist, has developed eight dementia garden design principles to optimize use:

1. motivating elements
2. comfort features
3. barrier free design
4. safety qualities
5. ease of supervision
6. calm environment
7. private and social opportunities, and
8. maintenance (Lovering, 2002)

These design principles, and a number of other 'outdoor environment studies,' provide guidance and understanding for determining the most desirable design features for such gardens and the supports needed to maximize their uses.

The attached checklist (page 11) can serve

as a review and reminder of these elements, both in planning new outdoor spaces and in reviewing existing ones.

### **The Checklist has two sections:**

- (1) Support Elements, and
- (2) Design Elements

## **SUPPORT ELEMENTS**

### **Management support (policies)**

Organizational policy is determined by the facility mission statement, available literature and brochures, the director's own attitude, the education and training of staff, and programming philosophy. All these elements should serve to encourage the use of outdoor space at a facility by:

- promoting residents' independence
- maintaining residents' optimal abilities
- encompassing a positive belief in the value of the outdoors for residents, and
- reflecting, through programming, an active effort to promote outdoor use.

Grant found that, although all five of the facilities she studied incorporated supportive policy for the use of the garden, not all followed through with actual encouragement of independent use or through active programmed use (Grant, 2003).

Troxel (2005) recommends that program leaders give staff clear directions to encourage residents to be outdoors and lead by example, for example, by holding staff meetings on a patio.

### **Attitude, training, involvement**

Staff attitudes involve the overall staff mindset regarding the benefits of outdoor space for residents. They (attitudes) are an important element in encouraging and assisting residents to go outside and allowing them a degree of independence and risk taking (Grant, et al., 2007).

Detweiler and associates (2009) studied

resident behaviour over a 12 month period after a garden was added to a facility. They found that the majority of staff spent less than 15 minutes a day with residents outdoors. During the study there was a reduction in recreational staff so that for the most part staff went into the garden to bring a resident in from the rain, to pick up a resident who had fallen, or to get a wheel chair-bound resident back onto the garden path. Detweiler reasoned that this interference with their nursing work schedule invoked a negative attitude and a strong incentive to restrict garden use.

Wood and colleagues (2005) studied residents in a Special Care Unit which included an outdoor patio and gardens with a well-demarcated wandering path.

It was found that, despite a rich home-like, accessible and attractive environment, residents remained unengaged unless staff intervened and managed activities that continually supported their involvement.

Lovering's findings (2002) highlighted the crucial role of staff in the success of the garden she studied. She added staff commitment and support to her list of essential elements, and strongly recommends staff training and provision of a manual that documents appropriate activities for use of the garden.

Chapman and colleagues (2007) developed a training program for staff to increase their knowledge of possible activities related to horticulture and how residents can be involved in outdoor gardens. They tested their program on 20 facilities and enjoyed notable success in effecting activity programming in the participating facilities.

Troxel (2005) suggests staff brainstorm on things to do outdoors, pick five to implement, and follow up at the next meeting.

### **Meaningful engagement/activities**

'Motivation' is Mary Jane Lovering's first design principle. She reports in her 1983 survey of Canadian nursing homes that

#### **Author notes:**

A caregiver comments on resident involvement: "The courtyard gardens at Ayre Manor (Sooke, Vancouver Island) have the potential to contribute significantly to the quality of life of the residents, their friends and families. Since the bulbs in the courtyards have begun to bloom, the residents have been venturing out more often. This has filled a lot of their days with 'gardening, watering, weeding and collecting rocks in the garden! This activity has given a noticeable amount of pleasure, even amongst patients unable to communicate verbally."



even with favourable weather conditions, resident and staff motivation were the most important factors in determining usage of outdoor spaces, and that the greatest motivating factors were the opportunities to observe activity.

Lovering argues that outdoor spaces need to be designed as a milieu for numerous casual and organized activities (Lovering, 1990; Lovering, et al., 2002).

Elizabeth Brawley holds that gardens fail primarily because they lack the design features that promote activity. "Why go outdoors if there is nothing going on?"

She emphasizes the importance of integrating everyday activities into staff-led activity programs which will encourage residents to participate, e.g., raising vegetables and flowers, filling bird feeders and birdbaths, cutting flowers for indoors, sweeping the walk. She advocates building a strong outdoor activity program before the garden is designed and involving the staff in the design process (Brawley, 2007).

A study, comparing a quiet garden and one that is more activity-oriented, found that dementia residents were more likely to use the garden where activities were featured (Guaita, et al., 2011).

The researchers also found that the number of residents with Alzheimer's using the gardens increases when other people are present (Guaita, et al., 2011).

## Maintenance (plants and structures)

'Maintenance' is one of Mary Jane Lovering's eight design principles for dementia gardens. In her three year follow-up study of a garden that she had designed, she found serious deterioration, soil settling and uneven surfaces on the paths, all due to poor maintenance.

Staff reported the issue of poor maintenance as a major barrier to the optimum use of the garden. "The garden should be viewed as a tool that needs to be appropriately maintained - just like any other piece

of equipment" (Lovering, 2002).

Rodiek found that maintaining litter free walkways increased outdoor time three-fold (Rodiek, 2009).

Properly maintaining walkways in order for them to remain free of irregularities such as cracks, potholes or uneven spots will help support good balance and co-ordination and assist in the prevention of falls in seniors who are prone to osteoporosis (Brawley, 2007).

The *Toronto Accessibility Design Guideline* provides a good example of a maintenance policy: "All active pedestrian routes should be well maintained to permit safe circulation by seniors, persons who have visual limitations and persons using various mobility aids" (City of Toronto, 2004).

## DESIGN ELEMENTS

### Location! Location! Location!

Location determines the indoor-outdoor connection and is critical to a number of factors influencing use - particularly independent wayfinding.

Respondents to a survey by Cohen-Mansfield noted that residence buildings were often too far from the outdoor area (Cohen-Mansfield, 1999).

Cutler and Kane concluded that outdoor amenities were not used by residents mainly because of the location of the outdoor space: 56% of the 131 units they studied did not have direct access from their unit to an outdoor environment. Many beautiful outdoor areas went unused because they were too far from resident rooms for independent use, and too staff-intensive for assisted use because of the time required staff to escort residents to the space (Cutler and Kane, 2005).

### Visible and accessible

To encourage use, outdoor areas need to be visible and easily accessible from each care unit (Benbow, 1994).

There is general agreement among researchers that outdoor gardens should be located immediately adjacent to each household unit's common areas (dining, lounge, activity). This facilitates "self-initiated" or independent use and gives both residents and staff a sense of security (Bengtsson and Carlsson, 2006).

Outdoor areas, ideally, should be at grade; for multi-story buildings, this is accomplished with a balcony, deck or sunroom.

### Entryway

Physical access is one of Grant's five factors critical to Garden use (page 00). A single access point helps dementia residents to easily locate the outdoor area and reduce confusion.

Grant recommends that the garden entry be legible, i.e., easily recognizable and a highly visible landmark from both indoors and outdoors. Attention should be paid to easing the transition for elderly eyes by providing extra light indoors and sun shading outdoors.

An unlocked door is preferable and a propped open door increased "self-initiated use" two-fold (Grant, 2003).

Namazi and Johnson (1992) found that agitated behaviours dropped significantly if the door was unlocked during the day. An automatic opener is suggested by some, though others caution that this can be confusing for residents with dementia.

### Safety

Residents tend to avoid gardens if they do not feel safe. Another of Lovering's design principles is a safe environment that accommodates the physical changes of aging and dementia, including diminished vision, physical mobility, and strength and endurance - as well as cognitive deficits (Lovering, 1990; 2002).

Lovering reported that fear of falling was rated by residents and staff as the greatest deterrent to the use of outdoor spaces (Lovering, 1990; 2002). Yet, according to Detweiler et al., (2009), with garden use (and proper safety measures), falls can actually be reduced by 30% in a facility.

Safety is also a major factor in self-directed use of a garden. In one of her surveys, Cohen-Mansfield found that almost 70% of facilities relied on residents being accompanied by staff to ensure their safety. Staff will not leave doors unlocked and encourage independent use unless they are 100 % secure (Zeisel, 2007).

Namazi and Johnson point out the need to develop policy and practices for the safety of residents enjoying the outdoors, i.e., ensuring they are properly dressed for the weather and do not stay outside for ex-

#### Author notes:

"Some facilities have had good success with a volunteer garden maintenance group who ensure the safety, health and variety of plants and structures."

(Ayre Manor, Sooke, B.C.).





*The railings, made of sturdy aluminum, connect the wooden planters and benches so that residents no longer fall or step into the gardens. The railings have prevented residents from doing a balancing act along the cement curbing and falling into the gardens - although they can be a challenge to the gardeners. The railings are about 42 inches high. Note convenient height of raised planters.*



*The tall (security) fence was seen as a possible challenge to residents with dementia.*

*Several types of vines now create a distraction in front of the barrier:*

- \* Clematis (cool & damp at root of plant with "head" in the sun);*
- \* Honeysuckle (full sun);*
- \* Climbing Hydrangea (shade);*
- \* Edible Pod Peas (full sun and popular in the Summer for residents - and staff - to pick and eat);*
- \* West Coast Concord Grape Vine; and \* Dwarf and Semi-Dwarf Fruit Trees.*

*Note the purple dot of colour in the mid-bottom of the photo; it is one of the rocks that a resident has painted to identify the names of the plants.*



tended periods (Namazi and Johnson, 1992).

## Walkways

Walkways need to be smooth, level, non-slip, free of sharp turns, and litter free. They should be tinted so as to be non-glare and have well defined edges and hand rails. (See additional details under 'Accessibility').

## Lighting

Lighting needs to be enhanced, particularly in the evening, with overhead lighting, bollard type lights for the walkways and perimeter lighting (City of Toronto, 2004).

## Plants

Plants must be non-poisonous, non-allergic and without thorns.

## Visibility

Visual access for both staff and residents is included in the five factors of Grant's *Garden Use Model* and Lovering's eight *Dementia Garden Design Principles*. Visual access encompasses views of the legible garden entry and of the garden from the interior of the household.

The entry door itself should have good contrast with the frame or wall. Residents should be able to preview the outdoors from the entryway area, i.e., through glass in the door and/or large adjacent windows.

Once outdoors, residents should be able to see the complete garden layout, and also back into the common areas of the household. Members of staff are more comfortable in allowing residents to use the outdoor area independently if they can easily monitor them from indoors.

For larger gardens, outdoor call boxes and video monitoring could be considered (Bennow, 1994; Grant, 2003; Lovering, 2002)

Rodiek concluded that use of gardens can be increased three-fold if they are viewable from indoors, and seven-fold if they are visually linked to indoors, i.e., the door-way to outdoors is highly visible and

prominent from indoors (Rodiek, 2009).

## Security

To prevent elopement and reassure staff, outdoor areas must be adequately enclosed, either as a courtyard or with fencing which should be 1800-2400 mm (6 to 8 feet) in height and difficult to climb.

Zeisel recommends 2.2 metres (7 feet) to ensure safety - even if a chair is moved to the fence (B.C., 2007; Grant, 2003; Zeisel, 2007). Zeisel also maintains that the most effective exit control system is one that is relatively unobtrusive.

Studies have shown that a walled enclosure can be comforting if confinement is minimized; thus, some camouflaging may be in order, both for the fencing and for any exit gate or maintenance access (Beckwith and Gilster, 1997; Brawley, 2007).

## Accessibility (barrier-free)

Also to be found in Lovering's *Dementia Garden Design Principles* is a barrier-free environment that allows participants to be as independent and comfortable as possible (Lovering, 2002).

In Cohen-Mansfield's national survey, this author reported that 25% of respondents cited an accessibility issue such as heavy doors, while 23% named design problems such as no walkways or inappropriate rest stops (Cohen-Mansfield, 1999).

In Rodiek's study of fourteen facilities that examined resident perceptions of features that influence outdoor usage, she found that the two main criticisms were lack of comfort and lack of accessibility (Rodiek, 2005).

## Doors

For many residents, the greatest barrier to going outdoors is the process of going through the door. In Detweiler's 24 month study (2012), heavy doors are described as the most notable problem for residents trying to access a garden independently; and, as Murphy points out, this is particularly

problematic for wheelchair and walker users (Murphy, et al., 2010).

Disability guidelines based on the *National Building Code* call for an exterior door to have a maximum opening pressure of 8.5 pounds. The door should be a minimum 36 inches wide with a lever handset.

For wheel-chair users, both sides of the door should have a level landing with a minimum 18 to 24 inch (45 to 60 cm) space at the latch side of the door.

The threshold (door sill) should ideally be no more than ¼ inch, although a maximum bevelled ½ inch is acceptable (B.C. Building Access Handbook, 2007; City of Toronto, 2004). An easy to cross threshold can increase Garden use three-fold (Rodiek, 2009).

## Walkways

In Susan Rodiek's study, 42% of accessibility issues were problems with walkways. She calculates that smooth level paving can increase outdoor use by 50% (Rodiek, 2005 & 2009).

Accessible walkways need to allow for two persons using mobility devices to pass, i.e., a minimum of 1830mm (6 feet) wide and should be level, slip-resistant and glare-free (Cooper-Marcus, 2007).

Murphy mentions residents would regularly refuse going to the garden for activities due to the glare from the walkways. She also notes the difficulty of residents trying to negotiate sharp turns or angles on the walkway resulting in falls off the path particularly for those using mobility aids.

Paths need to have gentle curves with clearly marked edges, curbs, and hand rails. There should be good contrast between the paths, edges, and surroundings. Murphy suggests walkways could be heated to melt snow and ice to facilitate some outdoor winter walks (Murphy, et al., 2010).

## Comfort/weather conditions

A Swedish study found a main theme of "being comfortable in the outdoor environment." Sensitivity to cold, wind, rain, and glaring sunlight severely reduce garden use by seniors (Bengtsson and Carlsson, 2006). In an Alberta study, garden use was limited to the three summer months. Residents had no outdoor access in the winter due to cold and snow (Mather, 1997). Similarly in his 24 month study, Detweiler found ice, snow, and subfreezing weather

### Author notes:

"The courtyard setting is ideal for the residents - especially those living in the restricted wing of Ayre Manor. Gardens give a sense of freedom while still keeping our residents safely within its boundaries. Many residents at risk of "eloping" find that the courtyard focus takes away from their feeling of restrictions on their movement and encourages them to focus on the growing garden."



from mid-October to mid-March mostly excluded garden use (Murphy, et al., 2010).

Cohen-Mansfield (1999) found that 30% of respondents linked non-use of gardens to weather. This was the same in Grant's study where staff named a lack of shelter from harsher weather conditions as the highest reason for residents not using gardens (Grant, 2003). Shade and shelter are essential to maximize garden use.

Some facilities mitigate weather issues with enclosed perimeter paths and solariums. Lovering found support in her follow-up study for a variety of microclimates within the garden to allow for shade in summer as well as warm sunny spots to extend the use of the garden in the spring and fall (Lovering, 2002).

### Shelter

Entryway patios should be covered and sheltered to protect from wind, rain, sun and provide visual adjustment from outdoor glare. It should be large enough to accommodate wheelchairs, seating and tables. Outdoor heaters could extend its seasonal usage.

For those able to venture deeper into the garden, destination shelters, such as gazebos and shady nooks, should be provided. According to Grant, the entrance patio area is the heaviest used, with shady

*Flowers: a delight to the eye at any level, but raised flower beds engender vertical interest in any landscape where one has control of plants at an observable and manageable level.*



chairs the next most used (Grant, 2003).

### Shade

Heath found that the most frequently requested addition was for more shade, followed by a roof over the garden for rain. Rodiek calculates that walkways that have shade will nearly double garden use (Heath and Gifford, 2001; Rodiek, 2009).

One facility, as described by Cutler and Kane (2005) hung sun hats for every resident by the entry to the garden. Consider, as well, a screening option for areas with a significant bug problem.

### Outdoor furniture/fixtures

Outdoor furniture should accommodate wheelchairs: tables should have a minimum height under the top of 685mm (27 in.) to allow wheelchairs to partially slide under; and a manoeuvring space of 915 mm (36 in.) surrounding the useable portion of the table.

If drinking fountains are provided, there should be a minimum clear knee space below of 700 mm (27 in.) and the spout should be a maximum 915 mm (36 inches) and easily operable with one hand.

### Garden beds

Raised garden beds or containers at a height of 460 - 600 mm (18 in. - 24 in.) are suitable for wheelchair users; they should be able to put their knees underneath. For standing use, raised garden beds should be approximately 1 metre high and about 50cm wide with 230mm (9 in.) high toe allowance (City of Toronto, 2004; Grove, 2012).

### Layout

Clare Cooper-Marcus provides an excellent case study of a Michigan garden in which she reiterates five elements we use to organize finding our way:

1. paths
2. places
3. landmarks
4. nodes, and
5. edges

The main orienting element is the path

which connects the other elements. She holds that residents are more likely to use outdoor spaces if they can see where they are going at a glance. This requires a simple layout such as a looped walkway with destinations and landmarks visible going and returning (Cooper-Marcus, 2007).

Round-trip walkways appear to increase use nine-fold (Rodiek, 2009). If space is limited, an outdoor/indoor loop could be used using a two-door layout. For this to work, doorways need to be easily recognized landmarks from inside and out. Frequent rest stops are essential (Lovering, 1990).

### Amenities/convenience features

Consider convenience features such as easy access to a washroom, a drinking fountain and a coffee and snack cart. A garden Shed is handy for tools and supplies. Lovering found that the lack of convenient proximity to washrooms was a major deterrent to use of the garden (Lovering, 2002).

### Seating

Seniors need a variety of seating options to enjoy both sun and shade, to provide opportunities for privacy and social interaction, and for rest stops along the walkway (Lovering, 2002).

Rodiek discovered that stable secure seating, seating with good views, and choices of places to sit, each nearly doubled the minutes spent outdoors (Rodiek, 2009).

Benches or seats should be located to one side of walkways, mounted on a firm and level base, with suitable back supports and arms to allow for easy transfers, with a seat height between 405 - 460 mm [16 in. - 19 in.] (City of Toronto, 2004).

Poorly balanced or poorly constructed furniture is unsafe and oversized seating is uncomfortable and difficult to get up and out of safely. Many finishes are too rough for fragile skin (Brawley, 2007).

### Plants and natural features

Rodiek found natural features were the magnets that increased the interest of residents in going outdoors, particularly greenery, fresh air, flowers, and birds. In her

#### Author Notes:

"Many garden objects - wind chimes, water features, gazebos, even old clotheslines - evoke memories of happy times." Ayre Manor Garden



# **Dementia Care & Nursing Homes - Outdoor Garden Use - Checklist** (Benbow, 2014)

Facility: \_\_\_\_\_ Unit: \_\_\_\_\_ Date: \_\_\_\_\_

Rater: \_\_\_\_\_ Contact: \_\_\_\_\_ E-mail \_\_\_\_\_

Intervention		Minimal	Average	Superior	Score	Notes
<b>SUPPORT ELEMENTS</b>	<i>Assign score of 1, 3, 5, or 0 for each item based on a rating of Minimal, Average or Superior.</i>	<b>A</b> 1	<b>B</b> 2	<b>C</b> 3		<i>Support for scoring is available from: &lt;billbenbow@shaw.ca&gt;</i>
Management Support	1. Organizational philosophy, policy, procedures, programming, promote outdoor use.					Facility literature, brochures; training and programs to support outdoor activities.
Staff Involvement	2. Staff attitudes and practices that support outdoor use.					Staff training manual; staff meetings held outdoors; activities led by staff held outdoors.
Meaningful Activities	3. Motivation provided residents with meaningful outdoor activities.					Staff regularly brainstorm for out-door activity ideas and review resident participation.
Maintenance: (Hard/Soft)	4. Maintenance of hard and soft landscape elements.					Facility organizes volunteer program to assist in outdoor garden maintenance.
<b>DESIGN ELEMENTS</b>						
Location	5. Easy physical access.					Prefer direct access from each Household common area (dining, lounge, activity).
Entryway	6. Single, legible access point.					Highly visible landmark from inside and outside. Regularly easy to open unlocked door. Transitional lighting inside and shading outside.
Safety	7. Design for physical safety.					Protect against falls, poisons, injury.
Visibility	8. Visible garden for residents and staff.					Visibility and easy monitoring provides confidence for staff and residents.
Security	9. Enclosure.					Unobtrusive but safe enclosure.
Accessibility: (Door)	10. Accessible Door.					Easy to pass through doorway.
Accessibility: (Walkway)	11. Accessible Walkway.					Wide enough for wheelchairs to pass and negotiate turns.
Accessibility: (Furniture and fixtures)	12. Accessible furniture.					Tables; raised garden beds; drinking water.
Comfort: (Shelter)	13. Shelter from inclement weather.					Protection from wind and rain. Entry to patio large enough for tables, seating and wheelchairs.
Comfort: (Screening and shade)	14. Shelter from sun.					Protection from sun (avoid dark shadows); screening option.
Layout	15. Simple pathway.					Large entry patio with visible looped pathway, destinations, and rest stops.
Convenience	16. Amenities.					Washroom and hydration.
Seating	17. Seating features.					Well constructed seating in various locations.
Plants	18. Natural features.					Variety of greenery.
Features	19. Supportive features.					Birds, butterflies, squirrels add interest.
Views	20. Motivating views.					Views that provide motivation to go outside.
<b>Total Score:</b>						



later study she concluded that a variety of plant materials would increase outdoor minutes three fold (Rodiek, 2005; 2009).

In a Swedish study of three nursing homes, staff described the significance of contact between residents and natural elements in terms of smelling, tasting and feeling fruits and flowers. They remarked that plants and outdoor elements can be part of an inspiring design which stimulates the mind and helps residents recall their own gardens, connect with seasonal changes, and socialize (Bengtsson and Carlsson, 2006).

Brawley sees the garden as much more than plants. "They can be a symphony of color, fragrances, sights and sounds, including birds and small animals, bird houses and feeders, garden ornaments, weather vanes, and flag poles" (Brawley, 2007).

A water feature can provide interesting sounds and attract birds. However, ponds can be unsafe for people with dementia. Low depth trickling or bubbling and self-contained fountains are safer.

Structures such as pergolas, arches, gazebos and arbours add height and interest to the garden and can be used as a frame for climbing plants as well as offering a place to sit sheltered from the glare and intensity of the sun (Grove, 2012).

However, caution must be used to avoid shaded stripes on walkways, as their effect can be misinterpreted by persons with certain dementias.

### Views that stimulate

Cohen-Mansfield in her broad survey of U.S. facilities found that 41% of the respondents reported that the main view from their outdoor space is a fence. Only a minority reported having scenery, buildings, or other surroundings that may be of interest to the residents. A lack of appropriate view or activity (i.e., "nothing to see") was one of the problems cited. She concluded that a stimulating view involving activity is probably the most desirable, especially one where residents can view daily life - as they might have done while sitting on the porch at home (Cohen-Mansfield, 1999).

Rodiek found that views were important in order to increase outdoor use, with good views from a seated position increasing use 50%, walkways with good views and views of vehicular activity having a three-fold

### Author Notes:

In a Swedish study of three nursing homes, staff described the significance of contact between residents and natural elements in terms of smelling, tasting and feeling fruits and flowers. Staff concluded that plants and outdoor elements can be part of an inspiring design that has the capacity to stimulate the mind and help residents recall their own gardens, connect with seasonal changes, and socialize.

(Outdoor Environments at Three Nursing Homes, *Journal of Housing for the Elderly*; Bengtsson and Carlsson; 2006).

effect, and views of birds or wildlife raising usage nine times the baseline (Rodiek, 2009). However, some authors express concern with views to areas beyond the garden as they may stimulate exit behaviours (Cutler and Kane, 2005; Zeisel, 2007).

### Conclusion

Simply building gardens does not guarantee they will be used, or that facility administrators and staff know how to take full advantage of what the outdoor environment can offer residents. However, a strong relationship between management operating philosophy, staff attitudes and outdoor activity programming, garden design and visual and physical access will maximize garden use. ■

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#### Author Notes:

A garden is a place where a person with dementia can stay familiar with memorable activities such as planting and digging, growing flowers or vegetables, cutting flowers to bring indoors, hanging out the washing, walking around the garden or sitting, relaxing and enjoying the natural sounds the garden makes (Clare Cooper-Marcus, 2007).

Research shows us that natural elements: plants (including flowers), sunshine, water, birds or animals, and fragrance can make us feel better by reducing stress, controlling blood pressure and helping us to achieve an overall sense of well-being (Ulrich, 1999). It therefore follows that gardens are places of great therapeutic value.

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#### Links to other Garden Checklists

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- \* Rodiek, Susan, Outdoor Evaluation Tool (Version 0.1), 2009; Center for Health Systems & Design, Texas A&M University, College Station, Texas <<http://www.healinggarden.it/Outdoor%20Evaluation%20Tool.pdf>>.
- \* Rodiek, Susan, 2013; Seniors' Outdoor Survey: Staff Version (SOS-1). <[www.accessstonature.org/SOS\\_Staff.pdf](http://www.accessstonature.org/SOS_Staff.pdf)>.

#### About the author

Bill Benbow is a Health Planner and Consultant on seniors health care and housing projects. He assists in co-ordinating with health authorities to ensure quality, value, efficiency, and compliance with regulations and guidelines. Recently he was the Development Consultant for a combined complex care and assisted living facility on Vancouver Island.

Bill has extensive experience as a Project Manager of Capital Projects and as a Capital Treasury Board Analyst with the B.C. Government; he also chaired the Multilevel Care Design Guidelines Review Committee in B.C.

Mr. Benbow is particularly interested in the development and implementation of functional design guidelines in the fields of seniors' housing and long-term care facilities.