

# Renovating the Built Environment for Dementia Care: Lessons Learned at the Lodge at Broadmead in Victoria, British Columbia

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## Abstract

Major renovations were carried out in occupied dementia care units at the Lodge at Broadmead, Victoria, British Columbia. A 32-bed lodge was divided into two, requiring the relocation of three sets of doors. Home-like kitchens and living and dining rooms were built and furnished in each unit. A silent resident call system was installed. Nursing stations were moved off the unit. Murals added atmosphere and camouflaged exit doors. The process, while challenging, was successful due to comprehensive planning, careful phasing, the contractor's daily presence, the education of construction workers about residents, constant communication among key people and co-operation of lodge staff. Preliminary results are positive.

the facility's residents are veterans eligible for priority access bed status. The majority (67%) of veteran residents have moderate to severe levels of dementia. All require supervision and care 24-7. Ambulatory veterans for whom dementia is a primary diagnosis are accommodated in three special lodges: Palm North, Palm South and Magnolia. These veterans are the primary beneficiaries of a multi-faceted Dementia Care Program funded by Veterans Affairs Canada since 2003 as part of its National Dementia Care Initiative. The Dementia Care Program at the Lodge has clinical, educational and environmental elements. This article focuses on the *environmental* component – the renovation of Palm and Magnolia Lodges – the process and related lessons learned.

## Purpose of the Renovations

The goal behind the renovations was to improve the quality of care and of life for veterans with dementia by renovating the existing dementia care lodges in ways that reflect a new awareness of the impact of the built environment on persons with dementia. For example, fewer people in one dwelling, reduced noise and a calm, home-like atmosphere are known to contribute to better functioning and quality of life for residents with dementia (Alzheimer's Australia 2004; Calkins 1988; Marshall 1998; Tilly and Reed 2005; Werezak and Morgan 2003).

**T**he Lodge at Broadmead is a 10-year-old, 225-bed, non-profit geriatric residential care facility (nursing home) owned and operated by the Tillicum and Veterans Care Society. It is located in a residential neighbourhood in Victoria, British Columbia. The facility receives base operational funding from the Vancouver Island Health Authority. More than half of

## Renovations

Major renovations involved separating one 32-bed lodge into two smaller lodges (one housing 14 residents, the other 16); relocating three sets of dual-egress smoke doors within the common corridor areas to delineate the two new living units; building a new home-like kitchen, living room and dining room in each renovated lodge; painting murals in the common areas of the lodges to enhance the residential atmosphere and to camouflage exit doors; completing the new lodges with non-institutional finishes and furnishings; installing a new, silent resident call system; and removing the former nursing stations and building instead a new team centre separate from the residents' living area. (For a detailed list of renovations carried out in Palm and Magnolia Lodges at the Lodge at Broadmead, or for copies of the plans, please contact Merv Dutchak, director of environmental services at the Lodge at Broadmead, at Merv.Dutchak@tvcs.ca or 250-658-0311. Also, refer to Stride Magazine 2006.)

## Renovation Process

Planning and preparing took approximately 11 months, and the renovations took another five months. The residents in the dementia care lodges were not relocated to other lodges or another facility during the planning and construction phases.

Five key people were instrumental in the renovation process: the director of care, clinical nurse specialist, project manager, project superintendent and head electrician. (The latter three were the key informants who provided most of the information that follows.)

The director of care fulfilled the following responsibilities:

- To share her extensive experience in building and renovating small-group dementia care environments by providing education on best practices in design for dementia care
- To arrange site visits for the project team
- To lead the project team to develop guiding principles, goals for renovation, the project plan and timelines
- To keep the overall project on time and on track
- To ensure communication about the renovation as it unfolded to board members, management team, staff and families.

The clinical nurse specialist, hired as the clinical lead for program development, was involved after the concept stage and had a primary role in ensuring the project renovations were a fit with the goals of the Dementia Care Program. Her main responsibilities prior and during construction were as follows:

- To communicate with lodge staff regarding the renovation process, initially and throughout the renovation process (*Lodge* is the term used at the Lodge at Broadmead to define what might be called a unit, ward, wing or floor in institutional facilities.)

- To identify, with care staff, residents who were at risk of infection, increased anxiety or altered behaviours due to construction, and to modify their care plans to decrease such risks while maintaining their quality of life. (*Altered behaviour* is the term used at the Lodge at Broadmead to refer to what might be called *agitated*, *aggressive* or *difficult behaviour* at other facilities.)
- To provide written updates for family members of residents living in the lodges during renovation
- To liaise weekly with the project manager and project superintendent to review the progress of renovations and their impact on residents
- To notify staff in advance about construction noise so that they could develop contingency plans to remove residents from the lodges (e.g., arrange for residents to go on bus trips, family visits and other outings)
- To provide daily support to staff during the renovation period, reassuring them that the outcome would be worth the inconvenience and disruption

The director of environmental services, an employee of the Lodge at Broadmead, was the project manager. His involvement started at the concept stage and included the following tasks:

- Concept planning
- Budget preparation and compliance
- Participation in the steering committee that was responsible for developing the functional plan, project goals and objectives, and construction plan
- Selection of the design team and company to carry out the work
- Communication of the functional plan to the design team
- Development of a project phasing plan and co-ordination of the scheduling of renovation work (i.e., managing the renovation process)
- Ensuring compliance with infection control standards pertaining to renovations in healthcare facilities

The project superintendent from the company that won the bid to do the renovation work was responsible for the following:

- Overseeing all on-site work and workers
- The set-up, co-ordination and scheduling of workers (in collaboration with the project manager)
- Ensuring that orientation to the dementia care facility (conducted by the clinical nurse specialist and other senior nursing staff) was done with each on-site worker
- Overseeing "hazard containment," that is, ensuring project safety for construction workers, on-site staff and residents
- Contributing to a weekly progress and planning meeting

the project manager and other senior staff, which would address, for example, which days during the following week the construction work would be exceptionally noisy, so that staff could plan the residents' days accordingly

- Day-to-day contact with the project manager

The head electrician, a contractor who had become very familiar with the Lodge, its staff and residents over 10 years of contract work on site, was responsible for overseeing and doing the electrical work during renovations. His knowledge of the structure of the entire building, his comfort working in this type of environment (based on 15 years' experience in long-term care facilities) and his familiarity with residents and staff members all contributed to reducing the stress associated with the renovations in the dementia care lodges.

### Challenges in the Process

The major challenge during renovations was phasing and co-ordinating the work to be carried out in an occupied environment. Residents were not moved to a different residential care facility during renovations due to a lack of available funding and space. The project had to be phased so that residents could stay in their own familiar environment and their daily routines would be interrupted as little as possible. For example, both dining rooms were renovated at one time because doing so caused fewer days of disruption to both residents and staff than if the two dining rooms had been renovated in sequence. While the new dining rooms were being constructed, temporary areas had to be used as dining rooms, at a considerable distance from residents' rooms. This situation required hiring extra front-line staff as porters to accompany residents to and from the temporary dining rooms.

Another challenge related to co-ordination of work was the electrical system in the building, which is integrated. This means a change in one area can affect other areas. For instance, when removing two resident rooms, which was done to acquire space for a living room, arrangements had to be made so that the power for the connecting residents' rooms was not left off overnight.

Strict standards for renovating healthcare facilities (*CSA standard Z317.13 – Infection Control during Construction or Renovation of Health Care Facilities*), which require dust barriers, containment areas, effective air filtering, ventilation and a negative air pressure differential between the renovation area and living areas during construction, had to be respected. This required (1) modifying the phasing plan to minimize potential conflicts, (2) setting realistic expectations and doing periodic reviews, (3) ensuring that all sub-trades as well as housekeeping

and care staff were adequately informed and reminded of these standards, (4) maintaining proper air balance throughout the renovation process and (5) providing supplementary equipment and services where appropriate. Respecting the spirit of these standards consumed considerable time and money.

Workers also had to be educated about dementia and dementia care. They were coached by the clinical nurse specialist about what to do when approached, how to protect the residents and how and why certain stimuli (such as radio noise) have a negative impact on residents with dementia.

Maintaining construction productivity in this environment was also a major challenge. Since it is well known that excessive or noxious noise can cause people with dementia to become highly agitated, work was scheduled so that residents' mealtimes were always "quiet time." Because residents with dementia are curious, their ability to assess risk is impaired and they have a tendency to wander, it was necessary to construct temporary barriers so that residents would not get into dangerous (unfinished) areas or wet paint. To prevent residents from taking or hurting themselves with workers' tools or equipment, which would happen if these items were left unattended, workers had to learn to keep all their tools and equipment with them every minute of the day. One informant said, "It was full-time [work] watching your stuff."

To assuage family members' concerns about the upset caused by renovations, the clinical nurse specialist, project manager and project superintendent kept them informed about the progress of renovations on an ad hoc basis and by posting regular updates, including scale drawings, on a bulletin board outside the entrance to the dementia care unit. Also, it was necessary each day to ensure that family members visiting their loved ones had safe access to and egress from the dementia care units.

From the perspective of those directly involved in the renovation process, satisfaction came from "seeing a vision become a reality" ... and knowing that they "took the commercial character out of the building and made a home environment ... it feels like home."

Staff members were concerned with residents' quality of life and their own quality of work life during the renovation process. Their concerns were addressed primarily by the project superintendent, who gave them daily progress reports. Staff persons were also taken on tours of completed or almost-completed areas before residents used them.

Most of the challenges experienced during the renovation process were overcome by the following steps:

- Articulating clearly in the specifications and communication with the design team that the work process would have to be adapted to, and respectful of, an occupied dementia care environment
- Ensuring that the design team, construction company and workers had past experience and/or comfort working in a residential care facility
- Ensuring daily problem solving and communication between the project manager and project superintendent
- Ensuring a familiarity with the building, on the part of the project manager and electrician, in particular
- Repeatedly reminding all construction workers not to leave their tools out
- Encouraging a flexibility of most staff members, whose attitude and “mood could set the tone for the renovation workers for a whole day,” as one informant said

Another overriding challenge was meeting the renovation budget. It was necessary to spend an estimated 25% more time per task than would be spent renovating an environment that was not occupied by frail, cognitively impaired, elderly people.

## Results

The most satisfying aspects of the project were said to be “the meticulous process” and “the finished product.” From the perspective of those directly involved in the renovation process, satisfaction came from (1) “seeing a vision become a reality,” (2) “great co-operation from front-line and management staff,” (3) knowing that staff members understood the objectives of the renovations, (4) noting that all the stakeholders put the residents’ welfare first, (5) “smooth co-ordination throughout the project,” (6) having “an opportunity where everybody can walk out with a smile,” (7) seeing “happy users” and (8) knowing that they “took the commercial character out of the building and made a home environment ... it feels like home.”

Staff members, families and volunteers were surveyed for their observations and opinions after renovations were complete. All three groups remarked that the lodges are now more home-like, pleasant, calm, quiet, relaxing and welcoming. Residents are “really more at peace” and are engaging in more “normal” behaviour, such as curling up on a couch by a fireplace or participating in making tea with a family member in the kitchen. Volunteers said that their on-site experience is more pleasant due to less noxious noise and shorter walking distances. They also notice that other visitors seem to be more comfortable and are spending more time with the residents. Ratings of residents’ quality of life increased according to all three groups. Staff members’ quality of work life, generally rated as “good,” was the same before and after renovations.

## Conclusion and Recommendations

Major renovations can be carried out in occupied dementia care units if the process is comprehensively planned and phased, if extra time and a budget are allocated so that residents’ characteristics and daily patterns can be respected and if there is good and constant communication among all key personnel. The project manager, project superintendent and head electrician at the Lodge at Broadmead have offered considerable practical advice to others in Canada who are considering changes to their dementia care environments and who may have to do so without moving their residents during the renovations. Their recommendations are outlined below.

Design team members should all be aware of the nature of dementia and the goals of the renovation from both operational and quality-of-life perspectives. More specifically, they should be aware of general characteristics of residents with dementia – the extent to which noise can agitate them, the fact that most lack the judgment to adequately assess risk and the constant wandering and attempts at elopement. Design team members should also give consideration to lighting as a means of attracting residents to preferred living areas.

The contractor should have experience working in an occupied long-term care environment and should expect the work to cost 25% more than it would if the same renovations were carried out in an unoccupied area.

The project superintendent, from the company doing the construction, must be calm, flexible, a good problem solver and a communicator but not a “driver” (i.e., not motivated solely by deadlines and bottom lines). This project superintendent should be on site every day.

There must be a project manager who is familiar with the facility and its operations; the nature, goals and process of construction; and the characteristics and needs of residents, family members and staff. Likewise, this person should be a problem solver, able to quickly address evolving issues that could have serious consequences for residents’ quality of life and staff members’ productivity and able to create an effective phasing plan to limit the degree of interaction between the contractors and the residents and staff. Ideally, the project manager is also “multilingual,” that is, someone who can communicate effectively with professionals in architecture, interior design, construction, cabinetry, nursing, health administration and finance. The project manager should also be on site every day.

There should be daily communication between the project manager and the project superintendent, and work schedules and periods of interruption (e.g., quiet times) should be confirmed.

Staff from all disciplines should be engaged in the process. They should be reminded why the renovations are being done, told the progress to date and introduced to the contractors.

The help of families and friends should be solicited during times when residents' daily patterns are most affected. Families and friends can help by calming and accompanying residents to meals, for example.

Ideally, tradespeople who have experience working in long-term care facilities should be hired. Education and an orientation on the characteristics of the residents with dementia and the routine of the unit should be provided before they start work at the facility.

Ideally, care staff who are patient, understanding, engaging, quiet and good teachers have been selected to work in the dementia care units. These characteristics will smooth the road to the completion of renovations.

It should be accepted that the route to completion of the project must be flexible, given the nature of the environment and its occupants. The sequencing of tasks cannot always follow a typical construction schedule. There will likely be daily obstacles that will impact the work schedule. The deadline of the project must be somewhat flexible. (The project at The Lodge at Broadmead went over its six-month time frame by three weeks, or 12%.) Plan for added time, and do not try to do the job too fast. Review costs weekly.

The senior administration, board members, unit staff members and family members at the facility and the CEO of the construction company should all be kept informed about progress and taken on occasional tours.

And, regarding residents, the end users, "Remember, they are real people." HQ

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