

# Best Practices in Dementia Care: A Review of the Grey Literature on Guidelines for Staffing and Physical Environment in Long-Term Care

Kishore Seetharaman,<sup>1</sup>  Habib Chaudhury,<sup>1</sup> Michael Kary,<sup>2</sup> Jennifer Stewart,<sup>3</sup> Barbara Lindsay,<sup>3</sup> and Mariana Hudson<sup>3</sup>

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## RÉSUMÉ

Dans le cadre de sa première stratégie nationale sur la démence, le gouvernement du Canada a souligné la nécessité d'améliorer la qualité des soins offerts aux personnes atteintes de démence. Cette stratégie met l'accent sur le recours aux meilleures pratiques et aux données probantes pour adapter la prestation des soins, ainsi que sur l'accès à la formation pour le personnel soignant. Il est également admis que la conception de l'environnement physique des centres de soins fait partie intégrante de l'expérience de soin des personnes atteintes de démence. Cette étude vise donc à identifier les meilleures pratiques nationales et internationales mises en œuvre dans les centres de soins pour personnes atteintes de démence, selon les dimensions suivantes : (1) la formation, la dotation en personnel et les pratiques de soins, et (2) le design de l'environnement et de l'infrastructure physique, par un examen de la littérature grise pertinente. Cet article met en évidence des recommandations clés visant à améliorer la qualité des soins prodigués aux résidents de centres de soins pour personnes atteintes de démence, telles que : (1) faciliter la mise en pratique des éléments acquis par la formation, (2) maintenir des niveaux de personnel adéquats, et (3) concevoir les centres de soins de manière à faciliter l'orientation, l'accessibilité, la sécurité, le confort, une stimulation sensorielle appropriée, la familiarité et le sentiment d'être chez soi. Les conclusions de cette recension contribueront à l'élaboration de lignes directrices pour un programme provincial de désignation de centres de soins adaptés aux personnes atteintes de démence et à divers efforts de sensibilisation visant l'atteinte des objectifs de la stratégie nationale sur la démence.

## ABSTRACT

In its first national strategy on dementia, the Government of Canada has highlighted the need to improve quality of care for individuals living with dementia, with emphasis on following best practices and evidence in care delivery and providing care staff access to education and training. It is also known that the design of the physical environment of care homes is integral to the care experience of individuals living with dementia. Therefore, this study aims to identify the best national and international practices implemented in care homes for people living with dementia in: (1) education, training, staffing, and care practices; and (2) environmental design and physical infrastructure, through the review of relevant grey literature. This article highlights key recommendations for improving the quality of care for residents living with dementia in care homes, such as: (1) facilitating translation of training into practice, (2) maintaining consistent staffing levels, and (3) designing care homes to facilitate wayfinding, accessibility, safety, comfort, appropriate sensory stimulation, familiarity, and homelikeness. The findings from this review are expected to inform the development of guidelines for a provincial dementia-friendly care home designation program and various advocacy efforts to help achieve the objectives of the national strategy on dementia.

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<sup>1</sup> Department of Gerontology, Simon Fraser University, Vancouver, British Columbia.

<sup>2</sup> BC Care Providers Association, Burnaby, British Columbia.

<sup>3</sup> Alzheimer Society of B.C., Vancouver, British Columbia.

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La correspondance et les demandes de tirés-à-part doivent être adressées à : / Correspondence and requests for offprints should be sent to:

Kishore Seetharaman, M.S., B.Arch  
 Simon Fraser University  
 Harbour Centre, Room 2800  
 515 West Hastings Street  
 Vancouver, BC V6B 5K3  
 Canada  
 (kseethar@sfu.ca)

## Introduction

According to the Alzheimer Society of Canada (2019), there are currently more than 564,000 Canadians living with dementia, which is approximately 7.1 per cent of all Canadian older adults (65 years of age or older) (Public Health Agency of Canada, 2017), and this number is expected to rise to 937,000 in the next 15 years. Canada's first national strategy on dementia is focused on improving the quality of life (QOL) of people living with dementia and their caregivers (Public Health Agency of Canada, 2019). This involves (1) providing holistic and culturally appropriate care to individuals living with dementia; (2) building the capacity of care providers to provide high-quality care by evaluating dementia care guidelines, best practices, and evidence; and (3) enabling care providers to access requisite resources and training for delivering high-quality care (Public Health Agency of Canada, 2019).

Providing targeted long-term care (LTC) services for older adults with dementia has also been earmarked as one of the strategic priorities in health care by the Government of British Columbia (British Columbia Ministry of Health, 2017). A 2018 report by the British Columbia Seniors Advocate revealed that 64 per cent of residents at British Columbia's care homes live with dementia (Seniors Advocate of British Columbia, 2018). Innovative care models (e.g., Green House Project <<https://www.thegreenhouseproject.org>>, Eden Alternative <<https://www.edenalt.org>>, Dementia Village <<https://hogeweyk.dementiavillage.com/en/>>, Butterfly Care Model <<https://www.dementiacarematters.com/pdf/BUTMODELOAHNNS.pdf>>) serve as examples of culture change in LTC through physical environmental interventions, more effective staffing models, and person-centred care (PCC) practices to improve resident and staff outcomes (BC Care Providers Association, 2017; SafeCare BC, 2015).

Research suggests that the physical environment of LTC can facilitate the achievement of several therapeutic goals (i.e., the desired relationship between the environment and residents living with dementia in LTC) which include (1) maximizing safety and security,

(2) maximizing awareness and orientation, (3) supporting functional abilities, (4) facilitating social contact, (5) providing privacy, (6) providing opportunities for personal control, and (7) regulating sensory stimulation (Chaudhury, Cooke, Cowie, & Razaghi, 2017). In addition to the features of the physical environment, staffing model, training, education, policies, and programs influence the quality of care (QOC) and residents' QOL. In Canada, there are several provincial education and training programs that are offered to care providers who work with residents living with dementia to better prepare them to deliver PCC for LTC residents and improve the quality of resident care and increase staff outcomes and safety (BC Care Providers Association, 2016; Canadian Institute for Health Information, 2018).

The aim of this research is to identify the best national and international practices implemented in care homes for people living with dementia in two key areas: (1) education, training, staffing, and care practices; and (2) environmental design and physical infrastructure. A review and synthesis of grey literature was conducted on these two topics to identify relevant policies and programs from various jurisdictions in Canada. Grey literature sources from the United States, the United Kingdom, and Australia were also reviewed as they have several national and regional policies and programs based on PCC.

The present study is part of the British Columbia Care Providers Association's (BCCPA) Strategic Plan Project and has been conducted in collaboration with the Department of Gerontology at Simon Fraser University and the Alzheimer Society of British Columbia. This study is aimed at assisting BCCPA in their work with relevant stakeholders, including: LTC providers, regional health authorities, and the Alzheimer Society of British Columbia, to advocate for a dementia-friendly care home program, in which a designation could be provided to care homes that have incorporated guidelines including, but not limited to, those referenced in this study, both in terms of the physical environment of the care setting, and staff training, education, and care practices. The study findings are also expected to

support BCCPA's advocacy efforts through the Canadian Association of Long-Term Care (CALTC) to inform the priorities outlined in the national strategy on dementia. The findings will address the strategy's goals and objectives by proposing recommendations and solutions to have meaningful impact and improve the QOL of residents living with dementia in LTC.

## Methods

The focus on grey literature in this review is consistent with the goal of the project; that is, to explore the national and international best practices in dementia care in LTC that can help steer change in the provision of care for people living with dementia in LTC in the province of British Columbia. Grey literature is an important and critical source of data from a policy and practice standpoint, as it offers insight on recommendations made by health care providers, ministries of health, and other decision-making bodies, which can help inform the dementia policy and practice landscape in Canadian municipalities. By considering grey literature as a primary data source, this article seeks to highlight areas that are being targeted by policy and practice as priorities for improving dementia care, as well as reflecting on the challenges of implementation of best practices that are involved. To identify grey literature sources pertinent to the two key domains of this synthesis (i.e., [1] staffing, education, and training; and [2] physical environment of long-term care homes), an initial search was conducted by the first author on platforms including Google Search and the Canadian Electronic Library using combinations of keywords that include: dementia, staffing, environment, care home, design, and best practices. Location-specific searches were also conducted using the aforementioned keywords, followed by USA, UK, Australia, Canada, Ontario, Alberta, and British Columbia. Selected professionals and administrators at the regional health authorities in Ontario, Alberta, and British Columbia, were also contacted to gain access to internal documents that were not available publicly. This process identified 156 items. An initial scan of all the documents was conducted to select items with sufficient emphasis on dementia-specific programs or policies relating to staffing, education, and training, and/or physical environment for resident care. Other inclusion criteria were followed to ensure that the items selected were: (1) grey literature sources (e.g., program/policy reports, Web sites), (2) written in the English language, and (3) published in Canada, the United States, the United Kingdom, or Australia (an exception was made for one publication from New Zealand, as this was one of the few grey literature sources found that focused solely on the design of the physical environment of care homes for dementia).

Through the process of screening, 113 items were eliminated and 43 grey literature sources were included for the final review. The final list of items includes national and provincial government policy documents, as well as organization-level reports on best practice guidelines. In addition to government agencies (e.g., [1] ministries of health and public health agencies; [2] housing agencies, such as Canada Mortgage Housing Corporation; and [3] safety and regulation bodies) and national/regional health authorities from the countries listed, some organizations that were represented in the final list of items include: non-profit organizations (e.g., Innovations in Dementia [UK], Alzheimer Society of Canada, Alzheimer's Association [USA], Dementia Australia, and Alzheimer's Society [UK]). Twenty-eight of these items focused on staffing, education, and training, while 15 emphasized the physical environment for dementia care. Fifteen out of the 43 items were national, provincial, and organization-level reports from Canada. This review did not include the empirical literature in this area. The grey literature sources were reviewed using the narrative synthesis approach (Popay et al., 2006); however, they were not assessed for quality, as this was not a systematic review.

## Findings

Of the 43 items identified, there were some salient sources that stood out in both domains (i.e., [1] staffing, education, and training; and [2] the physical environment) in terms of outlining both issues and challenges, as well as specific strategies and recommendations for improving dementia care, from a national and international perspective. These are listed in [Table 1](#): below along with the URLs to access these reports.

The following sections focus on the needs, challenges, and recommendations in relation to staff education and training, followed by staffing and care practices, and finally, the physical environment of the care setting.

## Education and Training

Knowing how to appropriately engage with people living with dementia is essential to providing PCC, which has six key principles: (1) holistic or whole-person care, (2) respect and value, (3) choice, (4) dignity, (5) self-determination, and (6) purposeful living and maintaining continuity of social roles (Kogan, Wilber, & Mosqueda, 2016). Looking beneath the surface of responsive behaviours and cultivating a nuanced understanding of the range of contributing factors requires LTC staff to be adequately trained in person-centred dementia care, with special emphasis on issues such as social engagement, pain management, and therapeutic fibbing (Alzheimer's Association, 2018). PCC training equips LTC staff with the requisite skills

**Table 1. Salient grey literature sources for (1) staffing, education, and training, and (2) the physical environment**

Name of publication, organization, and URL		
<i>Staffing, Education, and Training</i>		
Guidelines for Care: Person-Centred Care of People with Dementia Living in Care Homes	Alzheimer Society of Canada	<a href="http://alzheimer.ca/sites/default/files/files/national/culture-change/culture_change_framework_e.pdf">http://alzheimer.ca/sites/default/files/files/national/culture-change/culture_change_framework_e.pdf</a>
Provincial Guide to Dementia Care in British Columbia	British Columbia Ministry of Health	<a href="http://www.health.gov.bc.ca/library/publications/year/2016/bc-dementia-care-guide.pdf">http://www.health.gov.bc.ca/library/publications/year/2016/bc-dementia-care-guide.pdf</a>
Meeting the Needs of People Living with Dementia in Alberta's Residential Living Options: Ensuring Person-Centred Care	Alberta Health Services	<a href="http://brainxchange.ca/Public/Files/BSTU/Meeting-the-Needs-of-People-Living-with-Dementia-i-en.aspx">http://brainxchange.ca/Public/Files/BSTU/Meeting-the-Needs-of-People-Living-with-Dementia-i-en.aspx</a>
Cracks in the Pathway: People's Experiences of Dementia Care as they Move Between Care Homes and Hospitals	Care Quality Commission, UK	<a href="https://www.cqc.org.uk/sites/default/files/20141009_cracks_in_the_pathway_final_0.pdf">https://www.cqc.org.uk/sites/default/files/20141009_cracks_in_the_pathway_final_0.pdf</a>
Dementia Care: The Quality Chasm	Dementia Initiative, USA	<a href="https://www.nursinghometoolkit.com/additionalresources/DementiaCare-TheQualityChasm-AWhitePaper.pdf">https://www.nursinghometoolkit.com/additionalresources/DementiaCare-TheQualityChasm-AWhitePaper.pdf</a>
<i>Physical Environment</i>		
Research for Dementia and Home Design in Ireland looking at New Build and Retro-Fit Homes from a Universal Design Approach: Key Findings and Recommendations Report 2015	National Disability Authority, UK	<a href="http://universaldesign.ie/Web-Content-/Research-for-Dementia-and-Home-Design-in-Ireland.pdf">http://universaldesign.ie/Web-Content-/Research-for-Dementia-and-Home-Design-in-Ireland.pdf</a>
Excellence in Design: Optimal Living Space for People With Alzheimer's Disease and Related Dementias	Report by Perkins Eastman for Alzheimer's Foundation of America	<a href="http://www.perkinseastman.com/dynamic/document/week/asset/download/3421211/3421211.pdf">http://www.perkinseastman.com/dynamic/document/week/asset/download/3421211/3421211.pdf</a>
Health Building Note 08-02 Dementia-Friendly Health and Social Care Environments Health Building Note 00-01 General Design Guidance for Health-care Build	Department of Health & Social Care, UK	<a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416780/HBN_08-02.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416780/HBN_08-02.pdf</a>
Environmental Assessment Tool: Handbook	Dementia Training Australia	<a href="https://www.dta.com.au/wp-content/uploads/2017/02/EAT-handbook.pdf">https://www.dta.com.au/wp-content/uploads/2017/02/EAT-handbook.pdf</a>
Gardens that Care: Planning Outdoor Environments for People with Dementia	Dementia Australia	<a href="https://www.enablingenvironments.com.au/uploads/5/0/4/5/50459523/gardens_that_care_planning_outdoor_environments_for_people_with_dementia.pdf">https://www.enablingenvironments.com.au/uploads/5/0/4/5/50459523/gardens_that_care_planning_outdoor_environments_for_people_with_dementia.pdf</a>

to explore the meaning of certain behaviour from the person's standpoint, thereby facilitating better prevention, early intervention, and effective management of responsive behaviours (Alberta Health Services, 2014). By promoting a personalized care approach, PCC training could improve the overall quality of care (QOC) for residents with dementia in LTC. The following sections describe: (i) needs and challenges; (ii) outcomes; and (iii) recommendations for the training and education of LTC staff in dementia care.

#### *Needs and challenges associated with staff education and training*

*Understanding PCC.* The first and foremost step in providing PCC is facilitating adequate training to enable LTC staff to develop a comprehensive understanding of the meaning of PCC (Armstrong et al., 2019). Providing

PCC training to all LTC staff members, including those who are not in direct caregiving roles (e.g., housekeepers, cooks, drivers) would ensure that there is consistent understanding of the meaning of PCC across the LTC workforce, enabling all staff members to extend support to residents (Alzheimer Society of Canada, 2011; Armstrong et al., 2019; Bamford et al., 2009; Vancouver Coastal Health, 2017). Inconsistent understandings deter care staff from realizing the full potential for implementing person-centred values in dementia care (Bamford et al., 2009). Therefore, it is necessary to implement PCC training at the provincial level with adequate dedicated funding from government (Chappell, Bornstein, & Kean, 2014; Dementia Initiative, 2013; Ministry of Health and Long-Term Care, 2016).

*Contextualization of training.* It has been found that the best practices learned in training and education differ



significantly from care practices actually followed in LTC (Alzheimer Society of Canada, 2011). There is a need to bridge this gap and ensure that the content of training programs critically examines and corresponds to existing care practices in order for training to respond to the specific issues faced by LTC staff (Alzheimer's Society, 2007; Bamford et al., 2009). Understanding the issues that staff members perceive to be challenging in the delivery of care is necessary to provide contextually relevant training and education (Alzheimer's Society, 2007). Contextualizing PCC training includes responding to the need for cultural competency among LTC staff (Bamford et al., 2009; British Columbia Ministry of Health, 2016), including the needs of residents who are part of the LGBTQ2S+ community (Alzheimer's Society, 2007).

*Applying training to practice.* The success of staff training and education and positive outcomes are facilitated by a concurrent shift in organizational ethos and care practices. A shared ethos that supports and reflects the PCC approach is necessary for the successful translation of PCC training into practice (Bamford et al., 2009). Dedicating sufficient time is integral to successfully applying lessons learned through training into everyday practice in LTC. However, this contradicts the oft-favoured notion of maximizing the time spent on caring for residents, which results in training being delivered in shorter periods of time (Chappell et al., 2014).

Training offered as part of the induction program at care homes has been found to be not comprehensive as well as lacking in follow-up training sessions (Care Quality Commission, 2014). One-off training sessions usually result in staff returning to their usual practices soon after they have received training, which increases the need for multiple follow-up sessions (Alzheimer's Society, 2007). There is also a need for training outcomes to be duly evaluated to improve the impact of the training on care practice. At present, there is a lack of routine monitoring to assess the impact of dementia care training on the quality of care for residents living with dementia (Care Quality Commission, 2014). Supportive and effective leadership is also necessary to facilitate the successful implementation of training and its translation into practice (Alzheimer's Society, 2007).

#### *Recommendations for staff education and training*

*Tailoring training to match job roles.* Dementia care training may be more effective when it is customized to the job role of the care staff (Care Inspectorate, 2017). Covering general content on PCC with an approach targeted towards key staff groups would likely improve the implementation of PCC within the scope of different job roles (Bamford et al., 2009). This includes (1) offering

accessible education to direct care workers, and (2) an enhanced dementia curriculum for health care providers, managers, and emerging professionals preparing to start practice (Ministry of Health and Long-Term Care, 2016). Additionally, providing dementia education in institutions of higher learning is expected to increase dementia care competency among future health care professionals (British Columbia Ministry of Health, 2016).

*Translating training into practice.* Providing staff training as an ongoing process through periodic refresher/follow-up sessions is recommended for successful application of training in practice (Alzheimer Society of Canada, 2011; Alzheimer's Society, 2007; Armstrong et al., 2019; Chappell et al., 2014; McAiney, 2005). Identifying a care worker as the on-site PCC training facilitator to provide training support on a day-to-day, as-needed basis could potentially ensure that training is ongoing and a part of the daily care routine in care homes (Vancouver Coastal Health, 2017). Other recommended practice innovations to integrate training into the therapeutic milieu include training-in-practice, supervised practical work, and group debriefing (Bamford et al., 2009). Regular monitoring and performance evaluation are recommended to track the care staff's application of PCC training (Alzheimer's Society, 2007; Chappell et al., 2014). Evaluation results should then be used to make improvements to the QOC. It is recommended that care homes' leadership groups offer their support and commitment to improving QOC by integrating training and evaluation into care practice (Care Quality Commission, 2014). People in leadership positions at care homes should foster a training and learning environment that offers opportunities for "informal coaching and modelling of effective practices" (Dementia Initiative, 2013, p. 30; Ministry of Health and Long-Term Care, 2016).

#### *Staffing and Care Practices*

This section describes the needs and challenges, as well as recommendations made in the grey literature regarding staffing models and best care practices for residents living with dementia in LTC.

#### *Needs and challenges associated with staffing and care practices*

*Culture change.* Culture change initiatives that (1) prioritize outcome-focused rather than task-focused care; as well as (2) foster a "can do" approach, involved leadership, open communication, and empowerment of direct care staff, are essential to delivering high-quality PCC with improved resident outcomes (Age UK Gloucestershire, 2015; Alberta Health Services,

2014; Armstrong et al., 2019; Beynon & Wood, 2017; Care Inspectorate, 2017). Facilitating culture change also involves reconsidering traditional approaches to care and challenging conventional notions of caregiving (e.g., reconsidering organizational perceptions and attitudes related to risk and augmenting resident autonomy to boost activity and participation) (Armstrong et al., 2019). The lack of resources and organizational support have been cited as barriers to the implementation of best practices in dementia care and culture change within care homes (Bamford et al., 2009; Care Quality Commission, 2014). Furthermore, there is a scarcity of evidence on (1) the impacts of these culture change initiatives on resident's QOL and health-related outcomes, and (2) which specific interventions have the biggest impact on resident and staff outcomes, thus challenging the ability to draw clear conclusions from various culture change approaches (Armstrong et al., 2019).

*Staffing level and consistency* Inadequate staffing levels tend to limit the scope of care delivery to risk management, thus posing a barrier to the delivery of PCC (Alzheimer's Society, 2007; Bamford et al., 2009). High staff turnover and the shortage of care workers are major barriers, as they tend to disrupt the continuity of care and relationships built by staff with residents (Age UK Gloucestershire, 2015; Alzheimer's Society, 2007). Consistent assignment of direct care staff to residents is necessary to understanding residents' preferences and needs, building trust and relationships, and thereby, ensuring the continuity of care (Bamford et al., 2009). It is imperative for staff working on different shifts to engage in clear and open communication at the time of handover for an enhanced understanding of residents' responses, which is particularly important for staff members who are not familiar with a resident (Alberta Health Services, 2014).

Frequent changes in staff's assignment to residents can result in confusion, which is detrimental to the staff's ability to deliver high-quality care (Care Quality Commission, 2014). Maintaining the stability of staff-resident relationships, which is key to delivering PCC, is also challenged by frequent absenteeism, turnover, and recruitment of untrained care staff (Chappell et al., 2014). Training staff members in multiple skills (e.g., to be care aides as well as activity aides) (Canada Mortgage and Housing Corporation, 2015) is expected to increase overall staff capacity to implement PCC and ensure the meaningful engagement of residents in activities and interactions that may go beyond tasks associated with traditional job roles.

*Staff and resident autonomy.* Providing individualized care is also determined by the direct care staff's capacity

to make decisions, and whether they feel empowered in doing so. Involvement of direct care staff in care planning and decision making helps improve resident outcomes (Alzheimer's Society, 2007). Good leadership is necessary to enable direct care staff to feel empowered to make the best decisions for residents (College of Licensed Practical Nurses of Alberta, 2015). A strictly top-down hierarchical structure is detrimental to the decision-making capacity of LTC staff (Eden Alternative, 2012). It is also important to respect the autonomy of residents and family members and empower them to be actively involved in making decisions related to the care routine (Alberta Health Services, 2014; Dr. Robert Bree Collaborative, 2017; Eden Alternative, 2012, p. 6).

### *Recommendations for staffing and care practices*

*Increased resources and staffing levels.* Previous research indicates the need to raise current staffing levels in order to maintain QOC and further raise levels to improve the QOC (Armstrong et al., 2019). Staff stability and continuity are recommended for the viability of PCC, thereby necessitating the elimination of factors that contribute to high staff turnover and redressal of operational and management issues (Alberta Health Services, 2014; Armstrong et al., 2019). It is recommended that direct care staff be provided with adequate time for caregiving and commensurate equitable wages in order to maximize the impact of PCC on the QOL of residents living with dementia (Alzheimer's Society, 2007; Armstrong et al., 2019; Beynon & Wood, 2017).

LTC staff should have access to specialized dementia care staff (e.g., dementia champions, dementia care specialists, mental health behavioural support consultants, case managers) who can provide expertise and skills training as needed on a day-to-day basis (Alberta Health Services, 2014; Care Quality Commission, 2014; Healthwatch Norfolk, 2018; Vancouver Coastal Health, 2017). These staff members will be tasked with coordinating ongoing in-practice training, prioritizing topics for training (or refreshers) in the future, and recommending social and environmental strategies to manage responsive behaviours (Alberta Health Services, 2014; Healthwatch Norfolk, 2018; Vancouver Coastal Health, 2017). In addition to providing on-site support, telehealth support is recommended for care homes in rural or remote locations (Alberta Health Services, 2014; Vancouver Coastal Health, 2017).

Staffing levels should be increased with a higher staff-to-resident ratio to achieve the best outcomes of PCC (Alberta Health Services, 2014; Alzheimer's Society, 2007). Adopting innovative staffing models to improve staff autonomy is linked to the successful adoption of PCC and enhanced resident outcomes. The Green

House project (2019) is an example of how decentralizing and reducing staff hierarchy without increasing overall staffing can facilitate the formation of separate self-managed teams of direct care and nursing staff who can consult with each other on an as-needed basis, thereby significantly improving staff autonomy. Relationship building between LTC staff and residents can be promoted by hiring multi-skilled workers who can combine personal care with other activities (e.g., meal planning, recreation, housekeeping) in order to spend more “unscheduled” time with residents (Alberta Health Services, 2014).

*Consistent staffing.* It is recommended that care staff be assigned to the same residents in order to maintain consistent care practices that are tailored to suit the needs and preferences of individual residents (Chappell et al., 2014). No more than eight personal care assistants should be assigned to a given resident within a 1-month period (Chappell et al., 2014). Identifying certain staff members as the primary caregivers for a household/unit can further improve staffing consistency (Alberta Health Services, 2014).

*Staff collaboration.* Interdisciplinary care team meetings, staff case conferences, and unit huddles that involve leadership, as well as front-line staff (e.g., direct care staff, licensed practical nurses [LPNs], registered nurses [RNs]) are recommended to enable mutual learning, information sharing, collaborative problem solving, and brainstorming solutions that are tailored to residents’ needs (Alberta Health Services, 2014; Bamford et al., 2009; Chappell et al., 2014; Vancouver Coastal Health, 2017). This recommendation stems from the need to promote flexibility, teamwork, and greater autonomy for front-line staff in decisions on caregiving (Armstrong et al., 2019). Interdisciplinary meetings are best supported by optimal staffing levels, a good mix of skills among team members, and the practice of inclusive communication (Alberta Health Services, 2014; Ministry of Health and Long-Term Care, 2016). Collaboration and information sharing among care homes have also been recommended in order to promote learning and to exchange effective practices and approaches from similar and different care settings (Armstrong et al., 2019).

*Physical Environment.* This section consists of design recommendations for the physical environment of care homes. These recommendations are organized by various spatial levels of the LTC environment and correspond to different therapeutic goals in the environmental design of care homes (Cohen & Weisman, 1991). These goals highlight the relationship between the residents living with dementia and the LTC environment, as well as serving as guiding principles for the design of a

therapeutic physical environment. The therapeutic goals discussed here include: (1) domestic scale; (2) orientation and wayfinding; (3) privacy and visual accessibility; (4) physical accessibility, safety, and comfort; (5) appropriate sensory stimulation and minimizing perceptual distortion; and (6) familiarity and homelikeness.

*Domestic scale.* Care homes should have a homelike scale (i.e., in terms of number of residents per household and the size of common spaces) to convey a familiar/domestic character, which in turn facilitates participation by residents, whereas larger scales are associated with high levels of agitation and confusion (Fleming & Bennett, 2017; Government of Alberta, 2014). Clusters of resident units or households should be small so as to maximize residents’ sense of control (Alzheimer’s Australia, 2004; Ministry of Health, 2016). Households with 8 to 12 residents can preserve a domestic feel; therefore, household size should not exceed 15 residents (Alzheimer’s Australia, 2004; Fleming & Bennett, 2017; Housing21, n.d.).

#### *Orientation and wayfinding*

The floor plan should be based on a simple layout that is intuitive, can be easily remembered by the residents, and involves a minimal number of wayfinding choices (Alzheimer’s Australia, 2004; Chmielewski, 2014; Fraser Health, 2018; Housing21, n.d.). Identical or mirrored floor plans should be avoided, as they are likely to confuse and mislead residents (Chmielewski, 2014). Circular, clutter-free hallways are more conducive for wayfinding than long, narrow corridors (Centre for Excellence in Universal Design, 2015; Chappell et al., 2014). Additionally, corridor lengths should be minimal so that residents do not have to travel long distances to access common spaces in the care home (Fraser Health, 2018). These paths must (1) be without dead ends, (2) end in destinations, (3) be away from residents’ rooms, and (4) pass alongside activity/social spaces, thus enabling residents to preview and/or join the activity (Canada Mortgage and Housing Corporation, 2015; Chmielewski, 2014; Fraser Health, 2018; Housing21, n.d.; Ideas Institute, 2010). Circular or looped paths should be supplemented with stop-off points to sit and rest, opportunities for social interaction, and stimulating features that promote activity and engagement (Fleming & Bennett, 2017; Housing21, n.d.; Ideas Institute, 2010). These paths should also offer uninterrupted visual access to important areas and entrances in the care home to promote wayfinding between spaces (Centre for Excellence in Universal Design, 2015; Chmielewski, 2014).

Cues that support orientation and wayfinding include: (1) familiar and meaningful landmarks at decision



points (e.g., change in direction or level, artwork that triggers memories, tapestries, sculptures, seating); and (2) changes in the colour/texture of surfaces (Alberta Health Services, 2014; Chmielewski, 2014; Department of Health, 2015; Fraser Health, 2018; Housing21, n.d.; Nova Scotia Department of Health, 2007; Study, n.d.). Familiar cues that highlight the meaning or function of a space should be provided to help residents with different cognitive abilities recognize an area. For example, to help residents recognize their bedrooms, cues should be incorporated through furniture, wall colour, and signs (Centre for Excellence in Universal Design, 2015; Department of Health, 2015; Fleming & Bennett, 2017, p. 21; Housing21, n.d.). The number of cues should be minimized so as to avoid visual clutter (Fleming & Bennett, 2017). Memory boxes at the bedroom door containing meaningful objects (e.g., personal souvenirs, photos of loved ones, cherished mementos) could serve as wayfinding cues and help residents identify their respective rooms (Canada Mortgage and Housing Corporation, 2015; Centre for Excellence in Universal Design, 2015; Chmielewski, 2014; Fleming & Bennett, 2017; Fraser Health, 2018; Government of Alberta, 2014; Study, n.d.). In addition to providing memory boxes outside private spaces, function-specific memory stations (e.g., gardening or sports memorabilia and antique elements) at the entrance to common areas or group activity spaces could evoke familiarity and prompt recognition (Study, n.d.).

Signs should be placed at an appropriate height from the floor and closer to the floor to support residents whose line of vision is at a low-level (Department of Health, 2015; Fleming & Bennett, 2017; Hodges, Bridge, & Chaudhary, 2007). Signage should use a combination of words and images of an appropriate size that are linked to the function/activity in the space (Alzheimer's Australia, 2004; Chmielewski, 2014; Department of Health, 2015; Fraser Health, 2018; Nova Scotia Department of Health, 2007). Signs should have non-reflective surfaces with high contrast against the background at different lighting levels (Centre for Excellence in Universal Design, 2015; Department of Health, 2015). The amount of information on the sign should be optimal to avoid cognitive overload (Department of Health, 2015).

Outdoor spaces and gardens should also be designed with orientation and wayfinding cues to afford residents a sense of control and confidence (Alzheimer's Australia, 2010; Canada Mortgage and Housing Corporation, 2015; Housing Learning & Improvement Network, 2013; McAdam & Williams, 2017). Providing a single point of entry to the outdoor area that is recognizable serves as a landmark for residents to use in finding their way back inside (Fleming & Bennett, 2017; Ministry of Health, 2016). The paving of outdoor paths should be even and have consistent colour

without patterns and dark lines, as well as a raised edge rendered in a contrasting colour to help residents differentiate paving from green space and support wayfinding (Alzheimer's Australia, 2010; Fraser Health, 2018; McAdam & Williams, 2017). Outdoor paths should be designed in continuous loops lined with destination points, and have no dead ends (to avoid confusion), and multiple intersecting paths with varying lengths to promote variety and choice (Chmielewski, 2014; Housing Learning & Improvement Network, 2013; McAdam & Williams, 2017).

### *Privacy and visual accessibility*

The LTC environment should offer residents varying degrees of privacy to support different functions, ranging from public (e.g., living room, dining room, kitchen) to private (e.g., bedroom) (Chmielewski, 2014; Fleming & Bennett, 2017; Housing21, n.d.). To provide adequate privacy, bedrooms should be single occupancy with private en suite bathrooms, and be equipped to accommodate a spouse or a visiting family member, if needed (Alzheimer's Australia, 2004; Chmielewski, 2014; Department of Health, 2015; Fleming & Bennett, 2017; Ministry of Health, 2016). Providing private kitchen and dining space (in addition to a common kitchen and dining area) within residents' rooms could afford more flexibility for the timing and choice of meals (Canada Mortgage and Housing Corporation, 2015). To promote acoustic privacy, rest, and relaxation, the bedrooms should be sound-insulated to prevent sound from travelling into neighbouring rooms (Canada Mortgage and Housing Corporation, 2015; Fraser Health, 2018). Reducing ceiling heights helps improve the acoustic quality of spaces, but also noise transference between spaces may be reduced by using vinyl flooring, acoustic linoleum, or carpets for floor surfaces (Department of Health, 2015).

Common spaces (e.g., kitchen, dining, and activity areas) must be in close proximity and clearly visible from hallways to increase opportunities for accessibility, social interaction, and participation (Chmielewski, 2014; Department of Health, 2015; Fleming & Bennett, 2017). Bathrooms should be proximate and visually accessible from common spaces so that residents may be prompted to use them when in need (Centre for Excellence in Universal Design, 2015; Fraser Health, 2018). Innovative design solutions should be employed to modulate the accessibility of certain areas, such as using double doors to enhance visual access to kitchens, while limiting physical access because of sanitary regulations (Chmielewski, 2014).

Providing sufficient unobtrusive storage space in rooms can help minimize clutter by enabling residents to store their belongings in an organized manner and effectively manage their personal space (Alzheimer's Australia,



2004). Personal wardrobes should have glazed doors to offer residents clear visual access to their belongings (Housing21, n.d.). Having storage in shared spaces with clear visual access to safe objects can support residents' engagement in household activities, such as open shelving or cabinets with glass doors in the kitchen that offer visual access to safe cooking equipment and ingredients, as well as facilitating participation in meal preparation or serving (Alzheimer's Australia, 2004; Centre for Excellence in Universal Design, 2015; Greasley-Adams, Bowes, Dawson, & McCabe, n.d.; Housing21, n.d.).

Private and common spaces should afford views of the outdoors so as to enable residents to orient themselves to the time of day or season and to encourage them to access the outdoors (Alzheimer's Australia, 2010; Centre for Excellence in Universal Design, 2015; Chmielewski, 2014; Fleming & Bennett, 2017; Housing Learning & Improvement Network, 2013; Housing21, n.d.; Ministry of Health, 2016). However, unrestricted outdoor access could be moderated during poor weather conditions (e.g., when it is too hot or cold, raining, or snowing) by screening windows to hide views of outdoor paths from plain sight, thus potentially lowering the chances of residents wanting to access the outdoors when it may not be suitable to walk outside (Chmielewski, 2014).

Design features, such as windows or wall openings that offer visual access between spaces may be used to support unobtrusive monitoring of residents by staff members (Chmielewski, 2014). Staff's visual access may also be enhanced by locating staff workstations near circulation paths, thus enabling them to not only monitor residents but also to engage in informal interaction and participate in everyday activities (Chmielewski, 2014; Fraser Health, 2018).

Environmental strategies to curtail residents' exit-seeking behaviour include concealing exit doors behind artwork or colour-matching protection panels that match the finish of the surrounding walls, and camouflaging door handles (Alzheimer's Australia, 2004; Centre for Excellence in Universal Design, 2015; Chmielewski, 2014; Department of Health, 2015; Fleming & Bennett, 2017; Fraser Health, 2018; Hodges et al., 2007). Exit doors should open into administrative areas where concerned staff members can guide residents who have exited the living environment back inside (Chmielewski, 2014).

#### *Physical accessibility, safety, and comfort*

Bedrooms should have ceiling lifts and beds set low to the floor with headboards facing the bathroom to provide residents easy access to the bathroom, which can be helpful especially at night (Canada Mortgage and Housing Corporation, 2015; Fraser Health, 2018). Bathrooms should also allow for the operation of ceiling lifts

and be provided with unobtrusive supports, such as grab bars, and be spacious enough to accommodate care staff for bathing or toileting (Alzheimer's Australia, 2004; Fraser Health, 2018). The bathing space should be designed to provide a sense of calm and peace and to reduce anxiety (Fraser Health, 2018). Common restrooms/toilets should be provided in close proximity to activity spaces and circulation paths with unobtrusive entry and maximum privacy (Alzheimer's Australia, 2004). Bathroom fixtures should be safe to use, conveniently located, and easily controlled by residents (Alzheimer's Australia, 2004). Vanity mirrors should have shutter doors that can be closed, as need be, to avoid confusion or distress when residents do not recognize or are not comfortable with their reflection (Centre for Excellence in Universal Design, 2015; Chmielewski, 2014; Government of Alberta, 2014). Using heated mirrors is recommended to avoid blurring of reflection (Centre for Excellence in Universal Design, 2015).

Residents living with dementia facing mobility challenges should be provided with corridor handrails rendered in bright colours, preferably red or yellow hues and not blue or green hues, for maximum perception (Centre for Excellence in Universal Design, 2015; Department of Health, 2015; Fraser Health, 2018). It is recommended to have doors that are self-closing, as those that are not may pose as a hazard when left fully or partially open (Centre for Excellence in Universal Design, 2015). There should not be threshold strips or border details at the doorway, as they pose barriers to residents' movement (Department of Health, 2015). Edges of doors should be highlighted using contrasting colours, to improve visibility and lower the risk of accidents (Centre for Excellence in Universal Design, 2015). Contrasting colours should be used to enable discernment of door handles, so as to improve their identifiability and usability (Government of Alberta, 2014).

Furniture should be easy to handle and move, to promote flexibility of arrangement for different functions and activities (Chmielewski, 2014; Department of Health, 2015). Furniture should also be stable and not tip over, and should allow residents to easily sit and stand without obstruction (Department of Health, 2015). Natural and artificial glare-free lighting of optimal intensity should be evenly distributed, especially in transition areas, entrances, stairways, and outdoor spaces, to ensure maximum safety (Chmielewski, 2014; Dementia Initiative, 2013; Government of Alberta, 2014; Greasley-Adams et al., n.d.). Unrestricted access to a safe outdoor spaces, such as secure courtyards with a screened porch or a sheltered garden on the same level as residents' rooms should be provided, to promote physical exercise and exposure to sunlight, which in turn helps regulate residents' sleep cycles (Canada Mortgage and Housing Corporation, 2015; Chmielewski, 2014; Dementia Initiative,

2013, p. 30). Seats should be provided at regular intervals along outdoor paths to allow for rest and to promote social interaction (Alzheimer's Australia, 2010; Housing Learning & Improvement Network, 2013; McAdam & Williams, 2017). Raised beds should be provided along these paths to enable residents who are unable to bend down to be able to touch and feel plants (Housing Learning & Improvement Network, 2013). The outdoor area should be secured by a fence that is at least six feet high and camouflaged by landscape design so as to not look institutional and foreboding (Chmielewski, 2014; Fleming & Bennett, 2017).

#### *Appropriate sensory stimulation and minimizing perceptual distortion*

Providing a wide range of common spaces that can accommodate different group sizes offers differing levels of visual and auditory stimulation that suit residents with different cognitive capacities and preferences. For example, a smaller dining room/nook flanking the main dining room can benefit residents who prefer to dine in a quiet space or those who may become overwhelmed by crowds or noise in a large dining area (Caringkind, 2017; Chmielewski, 2014; Fleming & Bennett, 2017). Providing appropriate levels of stimulation (e.g., noise level) minimizes agitation and confusion among residents (British Columbia Ministry of Health, 2016). The spaces within the care home should be laid out such that spaces prone to higher noise levels are located away from quiet spaces (Department of Health, 2015).

Wallpaper with pictures of real-life objects, such as patterns with flowers, should be avoided, as it may lead to confusion and upset residents living with dementia, prompting them to want to pluck the objects off the wall, which can result in frustration (Centre for Excellence in Universal Design, 2015). The use of colour to highlight equipment is recommended to improve perception and distinguishability; for example, toilet seats rendered in a bright and contrasting colour will be more easily identified by residents with dementia (Alzheimer's Australia, 2004; Government of Alberta, 2014; Greasley-Adams *et al.*, n.d.). Using high-contrast coloured skirting is useful for residents with dementia to distinguish between walls and the floor (Centre for Excellence in Universal Design, 2015; Department of Health, 2015; Government of Alberta, 2014). Variations in floor finishes between adjacent activity spaces should be used in moderation and carefully designed so that the contrast between the finishes is not sharp, as it may be perceived as a step and lead to panic, causing residents to avoid spaces with confusing floor finishes (Centre for Excellence in Universal Design, 2015; Department of Health, 2015; Fleming & Bennett, 2017;

Government of Alberta, 2014; McAdam & Williams, 2017). Floor finishes should be matte, not shiny or reflective, to avoid glare that may be perceived as water, which can disrupt residents' mobility (Centre for Excellence in Universal Design, 2015). Similarly, outdoor furniture with polished surfaces should be avoided, to prevent glare from sunlight that may be mistaken for slippery surfaces (Housing Learning & Improvement Network, 2013). Lighting must be accordingly designed to prevent shadows from falling on horizontal and creating bright or dark patches that may be misconstrued as barriers, such as holes or steps, which may lead to fear, loss of balance, and falls (Chmielewski, 2014).

#### *Familiarity and homelikeness*

Having dedicated activity spaces that are well defined and enclosed with clearly assigned functions to satisfy different sized groups, varied interests, and different levels of stimulation and comfort can promote recognition and familiarity (Alzheimer's Australia, 2004; Centre for Excellence in Universal Design, 2015; Chmielewski, 2014; Department of Health, 2015; Housing21, n.d.). Multi-purpose spaces should be avoided, as they are likely to cause residents to become confused with changes in function in the space, thereby affecting their sense of familiarity with the environment (Chmielewski, 2014). Furniture, appliances, and fittings should be easily identifiable using familiar designs that correspond to the activity in a given space, as well as having colours and shapes that improve their contrast with the floor (Alzheimer's Australia, 2014; Department of Health, 2015; Fleming & Bennett, 2017; Fraser Health, 2018; Greasley-Adams *et al.*, n.d.; Housing21, n.d.). Using warm colour schemes and material finishes (e.g., carpeting, wood, upholstery) that are durable and easy to maintain is recommended to create home-like interiors (Chmielewski, 2014). Using a neutral colour palette in residents' bedrooms can encourage residents to personalize their space through the display of personal items (e.g., photos of family and friends), decorations, and furnishings (Chmielewski, 2014; Fleming & Bennett, 2017; Fraser Health, 2018). The exterior façade of the care home should match the exterior of a house in the local community, using a familiar scale, detailing, and materials and finishes on the façade (Chmielewski, 2014).

## **Discussion**

**Table 2:** summarizes the key recommendations made in the grey literature reviewed in this study under the two domains: (1) staffing, education, and training; and (2) the physical environment.

**Table 2. Summary of recommendations**

Concept	Recommendation
<b>Staffing, Education, and Training</b>	
1. Understanding person-centred care	<ul style="list-style-type: none"> <li>All staff groups should have comprehensive understanding of importance and application of person-centred care (PCC).</li> <li>PCC education should be provided to family members.</li> </ul>
2. Evidence-based training	<ul style="list-style-type: none"> <li>PCC training should be evidence based and supported by expert knowledge or data on resident outcomes.</li> </ul>
3. Contextualization of training	<ul style="list-style-type: none"> <li>PCC training should be customized to staff members' job roles.</li> <li>PCC training should be responsive to the issues and challenges faced by different staff groups.</li> <li>Training should focus on family involvement and cultural competency.</li> </ul>
4. Applying training to practice	<ul style="list-style-type: none"> <li>Staff need sufficient time and support from leadership to implement training into practice.</li> <li>A PCC facilitator should be appointed to provide ongoing and follow-up training-in-practice.</li> <li>Regular monitoring and performance evaluation should be enforced.</li> </ul>
5. Staffing levels and supports	<ul style="list-style-type: none"> <li>Higher staff-to-resident ratio and adequate staffing levels should be maintained</li> <li>Multi-skilled workers should be hired to combine personal care and other activities and spend unscheduled time with residents.</li> <li>Direct care workers should be given adequate time to deliver PCC and commensurate wages.</li> <li>Leadership should empower care staff to make/be involved in decisions regarding residents' care.</li> <li>Direct care workers should have access to specialized dementia care staff who can provide expertise and skills training-in-practice.</li> </ul>
6. Consistent staffing	<ul style="list-style-type: none"> <li>Direct care workers should be consistently assigned to the same residents.</li> <li>No more than eight direct care workers should be assigned to a resident in a given month</li> </ul>
7. Staff collaboration	<ul style="list-style-type: none"> <li>Open and effective communication among staff members should be maintained for better information sharing about resident needs and issues.</li> <li>Interdisciplinary care meetings should be conducted with all staff groups to foster collaborative problem solving.</li> </ul>
<b>Physical Environment</b>	
1. Familiarity and homelikeness	<ul style="list-style-type: none"> <li>Care homes should have small, self-contained households with separate dining and activity spaces to create a familiar, domestic character.</li> <li>Well-defined activity spaces with clearly assigned, stable functions should be provided.</li> <li>Furniture should have familiar, identifiable designs.</li> <li>Warm colour and material schemes should be applied.</li> <li>Bedrooms should have neutral colour palettes to support personalization.</li> <li>The exterior of the care home should be designed to resemble a home in the community.</li> </ul>
2. Physical accessibility, safety, and comfort	<ul style="list-style-type: none"> <li>Bedrooms should have ceiling lifts and beds with headboards facing the toilet.</li> <li>Bathrooms should be provided with unobtrusive grab bars and be spacious enough to accommodate care staff.</li> <li>Vanity mirrors should have shutters to avoid confusion when residents do not recognize their reflection.</li> <li>Brightly coloured handrails should be provided along hallways to support residents with mobility challenges.</li> <li>Doors should be self-closing while door frames should be rendered in a contrasting colour.</li> <li>Chairs should be easy to move and should promote flexible arrangement.</li> <li>All spaces should have optimal natural/artificial lighting.</li> <li>Outdoor spaces should be flanked by a high fence camouflaged with landscaping.</li> <li>Seating should be provided at appropriate intervals along the outdoor path.</li> </ul>
3. Orientation and wayfinding	<ul style="list-style-type: none"> <li>The unit's floor layout should be legible.</li> <li>Hallways should be looped and free of clutter or dead ends.</li> <li>Familiar landmarks should be provided at decision points.</li> <li>There should be memory boxes or personalization outside residents' rooms and activity spaces.</li> <li>Doors, signs, and walls should be consistently coloured.</li> <li>Signs should have visual and textual information and be placed at suitable heights.</li> <li>Outdoor areas should have a single entrance/exit door.</li> <li>Outdoor paths should have a coloured raised edge.</li> </ul>
4. Privacy and visual accessibility	<ul style="list-style-type: none"> <li>Bedrooms should be single occupancy and sound insulated with private bathrooms.</li> <li>Common activity spaces and common bathrooms should be visible from the hallway.</li> <li>All spaces should have clear views of the outdoors.</li> <li>Storage cabinets should provide residents clear visual access to personal belongings or objects that are safe to handle.</li> <li>Staff workstations should be near common spaces.</li> <li>Exit doors should be concealed behind artwork.</li> </ul>

Continued

Table 2. Continued

Concept	Recommendation
5. Appropriate sensory stimulation	<ul style="list-style-type: none"> <li>• A range of common spaces should be provided with varying levels of acoustic and visual stimulation.</li> <li>• High-noise spaces should be away from quiet ones.</li> <li>• Wall art should not contain real-life objects.</li> <li>• Floor-finishes should be non-reflective without sharp colour or material differences.</li> <li>• Lighting should be designed to avoid hard shadows.</li> </ul>

A gap in the grey literature reviewed here was the lack of mention of tailoring training and education programs for staff with less English language proficiency. Toolkits and guides need to be developed to offer direction on how care homes can provide targeted training for staff with varying linguistic and cultural needs and preferences, thereby acknowledging the cultural and linguistic diversity in the care workforce.

In relation to the generalizability of the best practice recommendations made in this study, it is important to note that their application would likely vary across different contexts and would, therefore, need to be assessed for contextual responsiveness in relation to local policy and practice. This necessitates the consideration of contextual challenges and barriers to the implementation of best practices. There were several challenges and barriers indicated in the literature to the adoption of best practices in PCC and implementing culture change, including: (1) the lack of resources and funding from ministries of health and health authorities; (2) organizational support (i.e., especially from the leadership); (3) inadequate staffing resulting from high staff turnover (i.e., of care staff, as well as leadership), frequent absenteeism, and recruitment of untrained care aides; (4) the lack of consistent understanding of person-centred approaches in the care workforce and higher up in the organization; (5) the lack of mechanisms for evaluation of education and training initiatives and routinely monitoring the implementation of PCC; and (6) rigid organizational structure (e.g., strictly top-down hierarchy). In relation to adopting best practices in staffing, education, and training, the lack of dedicated funding and under-staffing in care homes limits the potential to compensate staff members who may have to work overtime to make up for the work hours dedicated to PCC training and to assign other care workers to cover their missed shifts. In relation to the physical environment, limitations imposed by safety and regulatory bodies could challenge the adoption and implementation of the aforementioned physical environmental guidelines and innovations in the care home. Therefore, the inconsistencies between practices stemming from a person-centred approach and those stipulated by regulatory bodies would also likely permeate the design and maintenance of the physical environment of the care home.

These findings are consistent with previous empirical findings that suggest similar barriers to culture change, including: (1) absence of strong and supportive leadership, competing priorities, and resource limitations (Tappen *et al.*, 2017); and (2) over-emphasis on regulatory compliance and high administrative and caregiving staff turnover (Scalzi, Evans, Barstow, & Hostvedt, 2006). Moreover, care homes have been found to emphasize QOC and promotion of positive health outcomes rather than focusing more on the needs, preferences, and QOL of residents (Capitman, Leutz, Bishop, & Casler, 2005). This was mirrored by the lack of publications that focused on QOL compared with the number of items on QOC in LTC. Thus, the dominant and largely biomedical discourse in LTC of accountability (i.e., prioritizes error minimization and task centredness over a focus on people and their needs), protection, risk aversion, and compliance to regulation, makes it difficult to: (1) further initiatives that promote resident and staff autonomy and QOL; and more broadly, (2) support innovation and culture change (Capitman *et al.*, 2005). Consistent with the study findings, previous research has found that the adoption of culture change would likely be ineffective in improving the QOC and QOL in LTC unless significant systemic changes are made to improve staffing levels and increase funding to better support care homes in making the shift to a more person-centred approach of care and prioritizing the QOL of residents in care homes (Capitman *et al.*, 2005; Lopez, 2006).

Although most sources reviewed here focus primarily on the adoption of a person-centred approach, previous research suggests that PCC does not fully take into account the relational aspects of care, which necessitate the consideration of models of relational and family-centred care. Relational care shifts the focus from the person living with dementia to the interactions between those people and their caregivers (i.e., both professional and family), thereby offering a more dynamic and multidimensional perspective on the caregiving relationship (i.e., taking into account issues of social positioning, marginalization, power relations, reciprocity, and equal participation in decision making) (Morhardt & Spira, 2013). This model is known to empower people living with dementia and their caregivers in LTC to have a level of influence over the



caregiving process that is commensurate with their capacities (Morhardt & Spira, 2013). Therefore, it is important for practitioners to consider the adoption of these alternative approaches to support the personhood and QOL and well-being of people living with dementia in LTC, while being cognizant of the relational aspects of caregiving.

## Conclusion

The recommendations identified in the review are expected to improve the QOC practices and residents' QOL, while improving staff outcomes, such as competency, satisfaction, and health, as well as positive outcomes for family caregivers. This study demonstrates that for these positive outcomes to be achieved it is important to ensure that (1) staff are well trained and educated in dementia care practices, (2) PCC values are applied to everyday care practices, and (3) the physical environment is familiar, homelike, accessible, safe, comfortable, and navigable. However, it is also acknowledged that there are significant barriers that curtail the ability of care homes to implement these best practices, primarily in relation to the lack of funding and adequate staffing levels to support culture change in LTC. It is hoped that the federal and provincial governments will also provide adequate support to provincial Ministries of Health and regional health authorities to support care homes to implement the necessary changes to ensure that the residents living with dementia have optimal QOL and care experiences. Supporting the adoption of the person-centred approach to care is consistent with the emphasis on optimization of QOL (in addition to QOC) of people living with dementia, as well as caregivers, as part of Canada's national dementia strategy.

## References

- Age UK Gloucestershire. (2015). Care home whispers: Listening to the voices of older people living in Gloucestershire care homes. Retrieved 10 December 2018 from [http://www.innovationsindementia.org.uk/wp-content/uploads/2018/03/care\\_home\\_whispers\\_project7c62.pdf](http://www.innovationsindementia.org.uk/wp-content/uploads/2018/03/care_home_whispers_project7c62.pdf).
- Alberta Health Services. (2014). Meeting the needs of people living with dementia in Alberta's residential living options: Ensuring person-centred care. Retrieved 9 December 2018 from <http://brainxchange.ca/Public/Files/BSTU/Meeting-the-Needs-of-People-Living-with-Dementia-i-en.aspx>
- Alzheimer Society of Canada. (2011). Guidelines for care: Person-centred care of people with dementia living in care homes. Retrieved 9 December 2018 from [http://alzheimer.ca/sites/default/files/files/national/culture-change/culture\\_change\\_framework\\_e.pdf](http://alzheimer.ca/sites/default/files/files/national/culture-change/culture_change_framework_e.pdf).
- Alzheimer Society of Canada. (2019). Dementia numbers in Canada. Retrieved 27 March 2019 from <https://alzheimer.ca/en/Home/About-dementia/What-is-dementia/Dementia-numbers>.
- Alzheimer's Association. (2018). A guide to quality care from the perspectives of people living with dementia. Retrieved 9 December 2018 from <https://www.alz.org/getmedia/a6b80947-18cb-4daf-91e4-7f4c52d598fd/quality-care-person-living-with-dementia>.
- Alzheimer's Australia. (2004). Dementia care and the built environment. Retrieved 9 December 2018 from [https://www.dementia.org.au/files/20040600\\_Nat\\_NP\\_3DemCareBuiltEnv.pdf](https://www.dementia.org.au/files/20040600_Nat_NP_3DemCareBuiltEnv.pdf).
- Alzheimer's Australia. (2010). Gardens that care: Planning outdoor environments for people with dementia. Retrieved 10 December 2018 from [https://www.enablingenvironments.com.au/uploads/5/0/4/5/50459523/gardens\\_that\\_care\\_planning\\_outdoor\\_environments\\_for\\_people\\_with\\_dementia.pdf](https://www.enablingenvironments.com.au/uploads/5/0/4/5/50459523/gardens_that_care_planning_outdoor_environments_for_people_with_dementia.pdf).
- Alzheimer's Australia. (2014). Living with dementia in the community: Challenges & opportunities : A report of national survey findings. Retrieved 10 December 2018 from [https://www.dementia.org.au/sites/default/files/DementiaFriendlySurvey\\_Final\\_web.pdf](https://www.dementia.org.au/sites/default/files/DementiaFriendlySurvey_Final_web.pdf).
- Alzheimer's Society. (2007). Home from home: A report highlighting opportunities for improving standards of dementia care in care homes. Retrieved 9 December 2018 from [https://www.alzheimers.org.uk/sites/default/files/migrate/downloads/home\\_from\\_home\\_full\\_report.pdf](https://www.alzheimers.org.uk/sites/default/files/migrate/downloads/home_from_home_full_report.pdf).
- Armstrong, P., Banerjee, A., Armstrong, H., Braedley, S., Choiniere, J., Lowndes, R., *et al.* (2019). Models for long-term residential care: A summary of the consultants' report to long-term care homes and services, city of Toronto. Retrieved 13 August 2019 from <https://www.toronto.ca/legdocs/mmis/2019/ec/bgrd/backgroundfile-130891.pdf>.
- Bamford, C., Arksey, H., Poole, M., Kirkley, C., Hughes, J., Corner, L., *et al.* (2009). Person- and carer-centred respite care for people with dementia: Developing methods of evaluating the effectiveness of different models. Retrieved 9 December 2018 from [http://www.netssc.ac.uk/hedr/files/project/SDO\\_FR\\_08-1511-113\\_V01.pdf](http://www.netssc.ac.uk/hedr/files/project/SDO_FR_08-1511-113_V01.pdf).
- BC Care Providers Association. (2016). SafeCare BC and Alzheimer Society of B.C. expand agreement to offer dementia education. Retrieved 27 March 2019 from <https://bccare.ca/2016/06/safecare-bc-alzheimer-society-b-c-expand-agreement-offer-dementia-education/>.
- BC Care Providers Association. (2017). The butterfly effect: Changing dementia care in British Columbia. Retrieved 27

- March 2019 from <https://bccare.ca/2017/10/the-butterfly-effect-changing-dementia-care-in-british-columbia/>.
- Beynon, C., & Wood, S. (2017). Cardiff and Vale dementia health needs assessment. Retrieved 9 December 2018 from <http://www.cvihsc.co.uk/wp-content/uploads/2017/02/DHNA-Cardiff-and-Vale-Final.pdf>.
- British Columbia Ministry of Health. (2016). Provincial guide to dementia care in British Columbia. Retrieved 9 December 2018 from <http://www.health.gov.bc.ca/library/publications/year/2016/bc-dementia-care-guide.pdf>.
- British Columbia Ministry of Health. (2017). Residential care staffing review. Retrieved 27 March 2019 from <http://www.health.gov.bc.ca/library/publications/year/2017/residential-care-staffing-review.pdf>.
- Canada Mortgage and Housing Corporation. (2015). Housing options for people living with dementia. Retrieved 27 March 2019 from <https://www.cmhc-schl.gc.ca/en/data-and-research/publications-and-reports/housing-options-for-people-living-with-dementia-volume-3>.
- Canadian Institute for Health Information. (2018). Dementia in long-term care. Retrieved 27 March 2019 from <https://www.cihi.ca/en/dementia-in-canada/dementia-across-the-health-system/dementia-in-long-term-care>.
- Capitman, J., Leutz, W., Bishop, C., & Casler, R. (2005). Long-term care quality: Historical overview and current initiatives Retrieved 3 March 2019 from [https://www.researchgate.net/publication/238690683\\_Long-Term\\_Care\\_Quality\\_Historical\\_Overview\\_and\\_Current\\_Initiatives](https://www.researchgate.net/publication/238690683_Long-Term_Care_Quality_Historical_Overview_and_Current_Initiatives).
- Care Inspectorate. (2017). My life, my care home: The experiences of people living with dementia in care homes in Scotland. Retrieved 9 December 2018 from <http://hub.careinspectorate.com/media/620011/dementia-ifa-final.pdf>.
- Care Quality Commission. (2014). Cracks in the pathway. Retrieved 9 December 2018 from [https://www.cqc.org.uk/sites/default/files/20141009\\_cracks\\_in\\_the\\_pathway\\_final\\_0.pdf](https://www.cqc.org.uk/sites/default/files/20141009_cracks_in_the_pathway_final_0.pdf).
- Caringkind. (2017). Palliative care for people with dementia: Why comfort matters in long-term care. Retrieved 25 January 2019 from [https://media.capc.org/filer\\_public/02/d4/02d426e6-db3d-41b1-bee6-0d491e5b295d/caringkind-palliativecareguidelines\\_july\\_2016.pdf](https://media.capc.org/filer_public/02/d4/02d426e6-db3d-41b1-bee6-0d491e5b295d/caringkind-palliativecareguidelines_july_2016.pdf).
- Centre for Excellence in Universal Design. (2015). Research for dementia and home design in Ireland looking at new build and retro-fit homes from a universal design approach: Key findings and recommendations report 2015. Retrieved 10 December 2018 from <http://universaldesign.ie/Web-Content-/Research-for-Dementia-and-Home-Design-in-Ireland.pdf>.
- Chappell, N., Bornstein, S., & Kean, R. (2014). Agitation and aggression in long-term care residents with dementia in newfoundland and labrador. Retrieved 9 December 2018 from [https://www.nlcahr.mun.ca/CHRSP/CHRSP\\_Dementia\\_LTC\\_2014.pdf](https://www.nlcahr.mun.ca/CHRSP/CHRSP_Dementia_LTC_2014.pdf).
- Chaudhury, H., Cooke, H. A., Cowie, H., & Razaghi, L. (2017). The influence of the physical environment on residents with dementia in long-term care settings: A review of the empirical literature. *The Gerontologist*, 58(5), e325–e337.
- Chmielewski, E. (2014). Excellence in design: Optimal living space for people with Alzheimer's disease and related dementias. Retrieved 9 December 2018 from <http://www.perkinseastman.com/dynamic/document/week/asset/download/3421211/3421211.pdf>.
- Cohen, U., & Weisman, G. D. (1991).  *Holding on to home: Designing environments for people with dementia*. Baltimore: Johns Hopkins University Press.
- College of Licensed Practical Nurses of Alberta. (2015). Dementia innovator sees key role for LPNs. Retrieved 7 February 2019 from <http://www.dementiacarematters.com/pdf/DSCLPNACanada.pdf>.
- Dementia Initiative. (2013). Dementia care: The quality chasm. Retrieved 9 December 2018 from <https://www.nursinghometoolkit.com/additionalresources/DementiaCare-TheQualityChasm-AWhitePaper.pdf>.
- Department of Health. (2015). Health building note 08-02 dementia-friendly health and social care environments health building note 00-01 general design guidance for healthcare build. Retrieved 10 December 2018 from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/416780/HBN\\_08-02.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416780/HBN_08-02.pdf).
- Dr. Robert Bree Collaborative. (2017). Alzheimer's disease and other dementias report and recommendations. Retrieved 5 February 2019 from <http://www.breecollaborative.org/wp-content/uploads/Alzheimers-Dementia-Recommendations-Final-2017.pdf>.
- Eden Alternative. (2012). The Eden alternative domains of well-being. Retrieved 4 February 2019 from <http://www.edenalt.org/wordpress/wp-content/uploads/2016/02/EdenAltWellBeingWhitePaperv5.pdf>.
- Fleming, R., & Bennett, K. (2017). Environmental assessment tool: Handbook. Retrieved 17 January 2019 from <https://www.dta.com.au/wp-content/uploads/2017/02/EAT-handbook.pdf>.
- Fraser Health. (2018). Residential complex care building requirements. Retrieved 17 January 2019 from <http://wabenbow.com/wp-content/uploads/2011/06/FH-Residential-Complex-Care-Building-Requirements-New-Building-2011.pdf>.
- Government of Alberta. (2014). Continuing care health service standards. Retrieved 8 August 2019 from <https://open.alberta.ca/dataset/c3e8d212-d348-42e0-b29c-5a264c8cb568/resource/8c9af77e-ca21-4f73-b3ee>

- a63c6b980073/download/continuing-care-health-service-standards-2018.pdf.
- Greasley-Adams, C., Bowes, A., Dawson, A., & McCabe, L. (n.d.). Good practice in the design of homes and living spaces for people with dementia and sight loss. Retrieved 11 December 2018 from [http://dementia.stir.ac.uk/system/files/filedepot/12/good\\_practice\\_in\\_the\\_design\\_of\\_homes\\_and\\_living\\_spaces\\_for\\_people\\_living\\_with\\_dementia\\_and\\_sight\\_loss\\_final.pdf](http://dementia.stir.ac.uk/system/files/filedepot/12/good_practice_in_the_design_of_homes_and_living_spaces_for_people_living_with_dementia_and_sight_loss_final.pdf).
- The Green House Project. (2019). The green house project. Retrieved 19 March 2019 from <https://www.thegreenhouseproject.org>.
- Healthwatch Norfolk. (2018). Examples of good practice in dementia care in Norfolk care homes. Retrieved 5 February 2019 from <https://www.healthwatchnorfolk.co.uk/wp-content/uploads/2015/11/15-04-Examples-of-Good-Practice-in-Dementia-Care-in-Residential-Homes.pdf>.
- Hodges, L., Bridge, C., & Chaudhary, K. (2007). Dementia design guidelines: Home and community care capital works program. Retrieved 11 December 2018 from <http://www.homemods.info/Download.ashx?File=894bdf238247c6f45eb0c66f3e9b5854>.
- Housing Learning & Improvement Network. (2013). Landscape design for dementia care. Retrieved 25 January 2019 from [https://www.housinglin.org.uk/\\_assets/Resources/Housing/Support\\_materials/Factsheets/HLIN\\_Factsheet35\\_Landscape.pdf](https://www.housinglin.org.uk/_assets/Resources/Housing/Support_materials/Factsheets/HLIN_Factsheet35_Landscape.pdf).
- Housing21. (n.d.). Creating better living environments for people with dementia. Retrieved 8 February 2019 from [https://www.housingandcare21.co.uk/files/3514/1674/2360/Dementia\\_design\\_guide.pdf](https://www.housingandcare21.co.uk/files/3514/1674/2360/Dementia_design_guide.pdf).
- Ideas Institute. (2010). The building as a therapeutic intervention. Retrieved 25 January 2019 from [http://ideasinstitute.org/building\\_therapeutic.asp](http://ideasinstitute.org/building_therapeutic.asp).
- Kogan, A. C., Wilber, K., & Mosqueda, L. (2016). Person-centered care for older adults with chronic conditions and functional impairment: A systematic literature review. *Journal of the American Geriatrics Society*, 64(1), e1–e7, <https://doi.org/10.1111/jgs.13873>.
- Lopez, S. H. (2006). Culture change management in long-term care: A shop-floor view. *Politics & Society*, 34(1), 55–80, <https://doi.org/10.1177/0032329205284756>.
- McAdam, K., & Williams, S. (2017). Dementia friendly design features for walking paths: A focused practice question. Retrieved 17 January 2019 from <https://www.peelregion.ca/health/library/pdf/dementia-friendly-design-walking-paths.pdf>.
- McAiney, C. (2005). Evaluation of the community “Putting the P.I.E.C.E.S. Together” learning initiative report #1. Retrieved 1 February 2019 from <http://brainxchange.ca/Public/Files/Ontario-Strategy/Init-1-Evaluation-of-the-Community-PIECES-Progra.aspx>.
- Ministry of Health. (2016). Secure dementia care home design information resource: A person-centred perspective. Retrieved 1 February 2019 from <https://www.health.govt.nz/system/files/documents/publications/secure-dementia-care-home-design-information-resource.pdf>.
- Ministry of Health and Long-Term Care. (2016). Developing Ontario’s dementia strategy: A discussion paper. Retrieved 8 February 2019 from [https://files.ontario.ca/developing\\_ontarios\\_dementia\\_strategy\\_-\\_a\\_discussion\\_paper\\_2016-09-21.pdf](https://files.ontario.ca/developing_ontarios_dementia_strategy_-_a_discussion_paper_2016-09-21.pdf).
- Morhardt, D., & Spira, M. (2013). From person-centered care to relational-centered care—ProQuest. *Generations*, 37(3), 37–44, <https://search-proquest-com.ezproxy.library.ubc.ca/docview/1491202474?accountid=14656&pq-origsite=summon>.
- Nova Scotia Department of Health. (2007). Long Term Care Facility Space and Design Requirements. Retrieved 8 February 2019 from <https://novascotia.ca/dhw/ccs/policies/Long-Term-Care-Facility-Requirements-Space-and-Design.pdf>.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., et al. (2006). Guidance on the conduct of narrative synthesis in systematic reviews (p. 92). Retrieved 2 March 2020 from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.178.3100&rep=rep1&type=pdf>.
- Public Health Agency of Canada. (2017). Dementia in Canada, including Alzheimer’s disease: Highlights from the Canadian chronic disease surveillance system. Retrieved 27 March 2019 from <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/dementia-highlights-canadian-chronic-disease-surveillance/dementia-highlights-canadian-chronic-disease-surveillance.pdf>.
- Public Health Agency of Canada. (2019). A dementia strategy for Canada. Retrieved 4 March 2020 from [https://www.canada.ca/content/dam/phac-aspc/images/services/publications/diseases-conditions/dementia-strategy/National%20Dementia%20Strategy\\_ENG.pdf](https://www.canada.ca/content/dam/phac-aspc/images/services/publications/diseases-conditions/dementia-strategy/National%20Dementia%20Strategy_ENG.pdf).
- Safecare BC. (2015). OP-ED: Exploring dementia villages and other care models in Canada. Retrieved 27 March 2019 from <https://www.safecarebc.ca/2015/10/08/op-ed-exploring-dementia-villages-and-other-care-models-in-canada/>.
- Scalzi, C. C., Evans, L. K., Barstow, A., & Hostvedt, K. (2006). Barriers and enablers to changing organizational culture in nursing homes. *Nursing Administration Quarterly*, 30, 368–372.
- Seniors Advocate of British Columbia. (2018). Seniors at home & in long-term care: A 2017/18 snapshot. Retrieved 27 March 2019 from <http://www.seniorsadvocatebc.ca/app/uploads/sites/4/2018/09/SeniorsatHomeandinLTC-rpt.pdf>.

Study, E. (n.d.). 3 must-haves in designing for dementia care. Retrieved 28 January 2019 from <http://innovation.seniorhousingnews.com/3-must-haves-in-designing-for-dementia-care/>.

Tappen, R. M., Wolf, D. G., Rahemi, Z., Engstrom, G., Rojido, C., Shutes, J. M., *et al.* (2017). Barriers and facilitators to

implementing a change initiative in long-term care utilizing the INTERACT™ quality improvement program. *The Health Care Manager*, 36(3), 219–230, <https://doi.org/10.1097/HCM.0000000000000168>.

Vancouver Coastal Health. (2017). *Evaluation of the dementia CARE initiative*. Vancouver Coastal Health.