



**BC Care
Providers**
ASSOCIATION



Filling the Gap:

Determining Appropriate Staffing & Care Levels
for Quality in Long Term Care

March 2019

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Executive Summary

Over the past decade, many health care experts, advocacy groups and media have raised concerns regarding staffing levels, skill mix, and staff-to-resident ratios in Canada's long term care sector. Currently in British Columbia, 86% of care homes are not funded to meet the Ministry of Health's target of 3.36 of hours of care per day.¹ Furthermore, despite caring for residents of similar acuity levels and care needs, non-government care homes in B.C. are funded to deliver care levels that are systematically lower than their government counterparts.² This raises concerns where seniors have equitable access to high-quality long term care services regardless of where they live.

In 2018 the B.C. Ministry of Health responded to concerns regarding staffing levels by announcing investments of \$240 million for the long term care sector—including funding to increase care hours up to an average of 3.36 hours per resident day (hprd) in each health authority region.³ BCCPA applauded the Ministry of Health's decision to invest in seniors' care, as these investments represent a significant increase in care.

Yet despite these investments, there has been limited discussion or clarity on whether the Ministry of Health's current staffing target is adequate to promote quality of care for residents. To address this gap, this report examines staffing levels in B.C. to determine if they are adequate to promote the health and well-being of seniors in care, or if there are alternative guidelines that are more appropriate. This report examines current practice in Canada and internationally, examines quality of care literature, and considers recommendations by health care experts.

Based on the available evidence, this report finds that fewer than 15% of care homes in B.C. are currently funded to meet the minimum staffing thresholds required to reduce health and safety risks. While it is possible that these deficiencies will be mitigated by establishing a health authority average of 3.36 care hours, this will depend on how care hours are allocated. In order to mitigate this risk, BCCPA recommends that the B.C. Ministry of Health implement a minimum of 3.36 hprd for each care home and fund these hours equitably. This will ensure that all residents have access to high-quality long-term care services, regardless of where they live.

Another challenge is the lack of quality staffing level data currently available in Canada. Despite the essential nature of seniors' care services, data collection in the health care sector is uneven, and currently no national organization collects data on staffing levels or care hours.⁴ Staffing level measures reported by provincial Ministries of Health are sporadic and inconsistent, making interprovincial comparisons challenging. Overall, evidence based decision making and provincial accountability with respect to seniors' care is undermined by lack of data.

This report also documents that while staffing levels in British Columbia are difficult to compare to other Canadian jurisdictions, they are consistently below those in the United States. The average care home in

¹ BC Office of the Seniors Advocate. 2018. British Columbia Long-Term Care Quick Facts Director-November 2018. Victoria: OSA.

² BC Care Providers Association. 2017. *The Case for Minimum Direct Care Hours Per Site*. Vancouver, February 28.

³ BC Ministry of Health. 2018. "B.C. seniors to get the hours of care they need as funding and staffing increased." New Westminster: Office of the Premier, September 25.

⁴ Andrew-Gee, Eric, and Tavia Grant. 2019. "In the dark: The cost of Canada's data deficit." Toronto : Globe and Mail, January 26. <https://www.theglobeandmail.com/canada/article-in-the-dark-the-cost-of-canadas-data-deficit/#feedback>.

the U.S. provides an average of 4.1 hours of care per day.⁵ Even U.S. staffing levels, however, are below the guidelines recommended by health care experts. Several in-depth studies from Australia, Canada and the U.S. have found that between four and four-and-a-half hours of care per day are necessary to promote the health and well-being of seniors in care.

Caution must be used, when applying findings from other jurisdictions to a Canadian context, as considerable differences between health care systems exist; for example, resident acuity levels, case mix, education levels, and overall organization of the national/regional health systems. Furthermore, most available research does not consider care hours provided by allied health workers, despite their significant contributions to quality of life for seniors in care.

The report offers three recommendations to address the issues identified above. These recommendations should be taken into consideration within the current health human resource landscape, specifically as it relates to recruitment and retention challenges.

Recommendations

➤ Recommendation #1

BCCPA recommends that CIHI and Statistics Canada work collaboratively with CALTC and other sector stakeholders to establish a consistent methodology by 2022 to measure and track staffing mix and hours in long term care homes across Canadian provinces and territories, and that this information be reported regularly.

➤ Recommendation #2

BCCPA recommends that the B.C. Ministry of Health fund all providers equitably and implement a minimum of 3.36 hours of care per resident day (hprd) in each care home by 2021 so as to ensure that all seniors have access to high-quality long term care services, regardless of their place of residence.

➤ Recommendation #3

BCCPA recommends that the B.C. Ministry of Health and regional health authorities in collaboration with BCCPA and sector stakeholders, undertake a study to be completed by 2021 that would determine what staffing mix and hours are appropriate for residents in long term care homes in B.C. given current resident acuity levels and mix. Along with determining what is an appropriate minimum level of care hours, any such study should examine skill mix, including nursing, personal care and allied health hours.

⁵ Harrington, Charlene, Helen Carrillo, Rachel Garfield, and Ellen Squires. 2018. Nursing Facilities, Staffing, Residents and Facility Deficiencies, 2009 Through 2016. San Francisco: The Henry J. Kaiser Family Foundation.

About BCCPA

BC Care Providers Association (BCCPA) is the leading industry association for BC's continuing care sector. We have been serving non-government care providers for 40 years. Our growing membership includes over 350 long term care, assisted living, home support and commercial members across British Columbia. Over 23,000 vulnerable adults—primarily seniors—receive their care from our members each day.

Special Recognition

The BC Care Providers Association would like to acknowledge its Board of Directors and the Health Human Resources Committee, for agreeing to support the development of this report and dedicating the necessary resources to make it happen. The report's author is Lara Croll, Senior Health Human Resources Analyst.

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A Note on Language

Diverse terminology is used to discuss staffing levels in long term care homes. In order to improve the readability of this report, standardized language has been used as follows.

Activities of Daily Living	Activities of Daily Living (ADLs) refers to essential self-care tasks, such as bathing, dressing and going to the bathroom. Impairment in ADLs is measured on a seven-point scale, where a higher score indicates greater degrees of impairment.
Allied Health Care Staff	Unless otherwise specified, in this report Allied Health Care staff refers to both professional and non-professional workers, such as Physiotherapists (PT), Occupational Therapists (OT), Social Workers, Dietitians, Respiratory Therapists, Recreation Therapists, Music and Art Therapists, Recreation Aides, Activity Workers and Rehab Assistants, among others.
Case Mix Index	The Case Mix Index (CMI) is a standardized method for calculating the intensity of resources required to meet the needs of a resident, and reflects the clinical complexity of the resident population as a whole. A higher score indicates a greater intensity of resources are required to meet the needs of the resident population.
Cognitive Performance Scale	The Cognitive Performance Scale (CPS) is a seven-point scale that measures a person's cognitive status based on several indicators, including daily decision making and short-term memory. A higher score indicates greater impairment, which may be the result of dementia, an acquired brain injury or other conditions.
Direct Care Hours	Similar to hprd, Direct Care Hours (DCH) is a staffing measure used to define the hours of direct care that residents in long term care receive from health care professionals and workers. DCH has historically been used to track care hours in British Columbia, and includes care delivered by RNs, LPNs, HCAs, and Allied Health Care Staff. Historically DCH has lacked a consistent definition in B.C., which has been unified by the B.C. provincial government.
Health Care Assistant	Health Care Assistants (HCAs) are unregulated health care workers that work under the supervision of health care professionals such as Registered Nurses. They have many job titles in Canada and internationally, including Personal Support Worker (PSW), Certified Nursing Assistant (CNA), Community Health Worker (CHW), Resident Care Aides (RCAs), and Continuing Care Assistants (CCAs), among others.
Hours Per Resident Day	Hours per resident day (hprd) is a staffing measure used to define the hours of direct care that residents in long term care receive from health care professionals and workers. Unless otherwise specified, hours per

resident day (hprd) refers to *worked* care hours rather than *paid* hours.

Licensed Practical Nurse Licensed Practical Nurses (LPNs) are self-regulated health care professionals that work in collaboration with other members of the health care team. Their educational requirements include a diploma of nursing (usually around 2 years). Practical Nurses have several occupational titles in Canada and internationally, including Registered Practical Nurse (RPN), Licensed Vocational Nurse (LVN), and Enrolled Nurse (EN).

Long Term Care Long-term care services provide 24-hour professional supervision and care in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes or in an assisted living residence. Long Term Care is also referred to as nursing care, aged care, residential care, and complex care.

Staffing mix Staffing mix refers to the proportion of different categories (RN, LPN, HCA) of healthcare personnel involved in the provision of direct care to residents in long term care homes.

Total Nursing HPRD For the purposes of this report, total nursing hprd includes the hours of direct care provided to residents by HCA, LPNs and RNs. Unless otherwise specified it refers to *worked* care hours rather than *paid*.

1.0 Introduction

With Canada's aging population, there is an urgent need to ensure that the health care system can meet the needs of our frail and elderly citizens. Ensuring that the care hours and staffing levels in B.C.'s long term care sector are sufficient to promote the health and well-being of residents will be critical.

BCCPA has consistently raised concerns regarding the staffing levels and care hours that non-government care homes are funded to provide in B.C. In particular, BCCPA has documented that, despite caring for residents of similar acuity levels, non-government care providers are funded to deliver fewer direct care hours than their government owned-and-operated counterparts.⁶ Other stakeholders have also noted this challenge. For example, the B.C. Office of the Seniors Advocate has documented that up to 86% of long term care homes in B.C. are not meeting the Ministry of Health's recommended staffing guideline of 3.36 hours of direct care per day.⁷

In order to address concerns raised regarding staffing levels in care, the B.C. Ministry of Health announced \$240 million to enable the health authorities to reach an average of 3.36 hours per resident day (hprd) by 2021.⁸ BCCPA applauded the Ministry of Health announcement, as these investments represent a significant increase in care for seniors. However, despite significant investments, there has been little discussion regarding the appropriateness of current and future staffing levels for seniors in care. Specifically, there is no current consensus as to what care levels are required to promote quality of care, as well as health and well-being.

Long term care providers continue to harbour reservations about the established care level target of 3.36 hprd. While the guideline was formally adopted by the B.C. Ministry of Health in 2017, its conception dates back to 2009, where it was used as a costing assumption by the Ministry of Health to enable the Health Authorities to develop three year plans.⁹ Within this context, it is not clear how this benchmark was established, or whether it is in fact an appropriate level of care for seniors. In fact, given the increasing acuity levels of seniors entering long term care, the 3.36 hprd guideline may be inadequate. Furthermore, committing to an average rather than a minimum represents a significant reduction in care standards, allowing for a diversity of care levels above and below the identified 3.36 guideline (see Figure 2 on page 12).

In response, this report examines whether staffing levels and care hours in B.C. are appropriate. The report is structured as follows: section 2 provides background information on current staffing levels in British Columbia, while section 3 reports on Canadian staffing levels. Section 4 examines the staffing thresholds that have been identified in the literature and by health care experts. Section 5 provides analysis and discussion, while section 6 concludes.

⁶ BC Care Providers Association. 2017. *The Case for Minimum Direct Care Hours Per Site*. Vancouver, February 28.

⁷ BC Office of the Seniors Advocate. 2018. *British Columbia Long-Term Care Quick Facts Director-November 2018*. Victoria: OSA.

⁸ BC Ministry of Health. 2018. "B.C. seniors to get the hours of care they need as funding and staffing increased." New Westminster: Office of the Premier, September 25.

⁹ BC Ombudsperson. 2012. *The Best of Care: Getting it Right for Seniors in British Columbia (Part 2)*. Public Report no. 47 to the Legislative Assembly of British Columbia, Victoria: Office of the Ombudsperson.

2.0 Background

No Legislative Requirements for Staffing Levels in B.C.

Currently there are no legislative requirements in British Columbia for the minimum number of staff persons that must be on duty at any given time in a long term care home, or for the number of care hours that must be provided to each resident per day. There are also no specific legislated requirements for the type of staff that must be on duty.¹⁰

Instead, there are several outcome-based staffing standards that are contained within the *Community Care and Assisted Living Act (CCALA)* and the *Residential Care Regulation* that accompanies it. For example, the section 42 of the *Regulation* requires operators to:

- ensure that, at all times, the employees on duty are sufficient in numbers, training and experience, and organized in an appropriate staffing pattern, to meet the needs of the persons in care;
- assist persons in care with activities of daily living, including eating, moving about, dressing and grooming, bathing and other forms of personal hygiene, in a manner consistent with the health, safety and dignity of persons in care;
- ensure that persons in care who require supervision when outside the care home are appropriately supervised; and
- ensure that, at all times, there are employees on duty who can communicate effectively with all of the persons in care.

While the *Act* and the *Regulations* are not in themselves prescriptive, the Ministry of Health and regional Health Authorities (HAs) do provide guidelines and oversight regarding staffing levels and composition. Each care home is funded to provide specific numbers of care hours, and the care home is then held accountable for these hours by the Health Authority.

Table 1 – Direct Care Hours by Health Authority Region, 2017/18

Health Authority	Average HPRD	% Below / Above Average	Range
Fraser Health	2.99	59% / 41%	2.73 - 4.05
Vancouver Coastal Health	3.08	89% / 11%	2.50 – 5.68
Interior Health	3.26	32% / 68%	3.15 - 4.24
Island Health	3.19	32% / 63%	2.73 - 4.74
Northern Health	3.50	58% / 42%	2.78 – 5.26
B.C.	3.16	28% / 47%	2.50 – 5.68

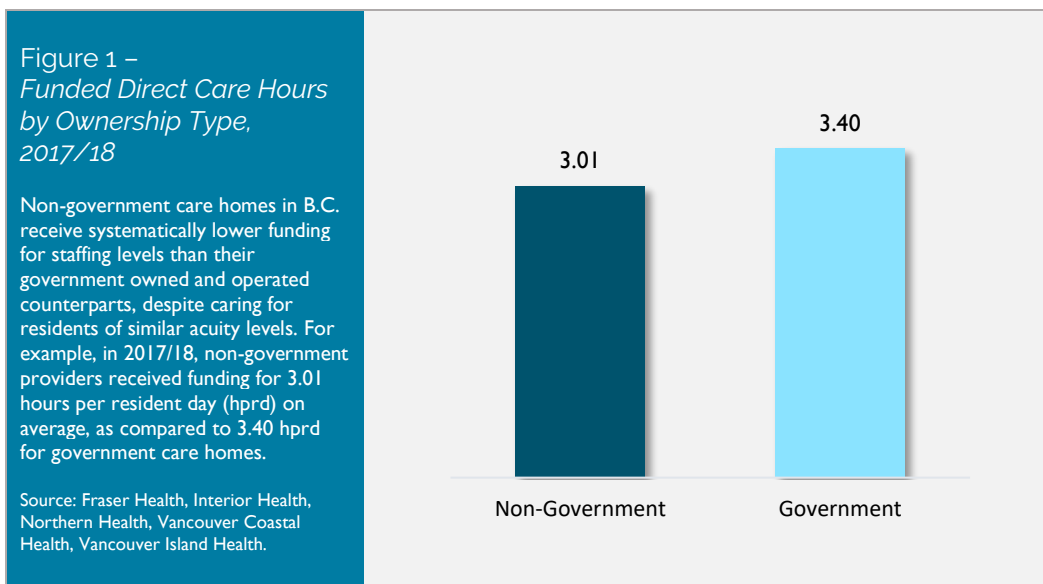
Source: Fraser Health, Interior Health, Northern Health, Vancouver Coastal Health, Vancouver Island Health.

¹⁰ BC Ombudsperson. 2012. *The Best of Care: Getting it Right for Seniors in British Columbia (Part 2)*. Public Report no. 47 to the Legislative Assembly of British Columbia, Victoria: Office of the Ombudsperson.

Disparities in Funded Care Hours Persist in Long Term Care

BCCPA has noted that there are significant variations in the level of care hours that care homes are funded to deliver. While care homes in B.C. are funded to deliver 3.16 hours of care per day on average, some health authorities provide higher levels of funding than others. For example, Northern Health provides an average of 3.50 hprd; in contrast, Fraser Health provides only 2.99 hprd. Even greater variation exists within these regional averages; nearly 30% of care homes are funded below 3.16 hprd, with outliers funded as low as 2.50 hprd and as high as 5.68 hprd (see Table 1). This variation means that seniors may receive significantly different levels of care depending on where they live.

BCCPA has also documented that non-government care homes are funded at systematically lower levels than their government counterparts. Despite caring for seniors of similar acuity levels,¹¹ the average non-government care home in B.C. is funded to deliver only 3.01 hours of care per day on average (see Figure 1). In contrast, their government counterparts are funded to deliver 3.40 hours of care on average, or approximately 23 more minutes of care per day on average. While that may not seem significant, this means that a typical senior in a non-government care home receives *142 fewer hours of care per year*.¹²



These disparities have also been confirmed by the B.C. Office of the Seniors Advocate, who reports on staffing levels by ownership in the *British Columbia Long Term Care Facilities Quick Facts Directory*. The Seniors Advocate reports that 86% of care homes in B.C. are funded below the 3.36 hprd guideline, and that just 3% of non-government care homes are funded to meet the guideline.¹³

¹¹ See Table 3 on page 12.

¹² Assuming 23.5 minutes less care per day, for 365.25 days a year.

¹³ BC Office of the Seniors Advocate. 2018. British Columbia Long-Term Care Quick Facts Director-November 2018. Victoria: OSA. Vancouver.

B.C. Government Commits to an Average of 3.36 hprd

Responding to public calls for investments in staffing levels, the Ministry of Health committed to increasing funding in long term care in 2017. As outlined in the *2017 Residential Care Staffing Review*, the government committed to ensuring that staffing levels provide for a health authority average of 3.36 hours per resident day (hprd), including 3.00 hprd for direct nursing care and 0.36 hprd for allied health.¹⁴ This shift is anticipated to be completed by 2021, as it will require significant investments in funding, as well as a comprehensive health human resource strategy to recruit an additional 1,500 full time equivalents (FTEs).¹⁵

Along with investing in staffing levels, the B.C. Government also committed to standardizing the definition of care hours in the province. Previously, staffing levels in B.C. have been reported as ‘*Direct Care Hours*’, which are a measure of the number of nursing, personal care, and allied health care hours each resident receives each day in long term care. However, this term has historically lacked consistency, with each health authority administering its own definition.¹⁶

Recognizing the challenge of reporting on staffing levels without a consistent definition, the B.C. Ministry of Health committed to create a unified, province-wide definition of a worked care hour per resident day (hprd) in 2017. Like direct care hours, *worked hprd* is a measure of the hours of direct hands on care that residents receive each day from health care staff. As per the Ministry of Health definition, hprd is composed of (i) nursing care; (ii) professional allied care; and (iii) non-professional allied care—see Table 2 below. This definition was outlined in the Ministry of Health’s *Action Plan to Strengthen Home and Community Care for Seniors*, and was adopted by all regional health authorities in 2018.¹⁷

Table 2 - Definition - Worked Hours Per Resident Day (HPRD)

Nursing and Personal Care	Allied Professional	Allied Non-Professional
Registered Nurses (RNs)	Physiotherapists (PT)	Recreation Therapists
Registered Psychiatric Nurses (RPNs)	Occupational Therapists (OT)	Recreation Coordinator
Licensed Practical Nurses (LPNs)	Social Workers	Rehab Assistant
Health Care Assistants (HCAs)	Dietitians	Activity Worker
	Speech Language Therapists	Respiratory Therapist
		Music / Art Therapists

Note: for some care homes the hours of spiritual care providers and volunteer coordinators have been grandfathered in, in recognition of their contributions to quality of life.

While BCCPA commends the government for improving transparency regarding staffing levels and for investing in care hours, care providers remain concerned about the government’s decision to commit to an average of 3.36 hprd rather than a minimum for each care home. By committing to an average, the B.C. Government may have enabled a continuation of the status quo, where many non-government care homes are funded well below their government owned counterparts (see Figure 2). Establishing a

¹⁴ BC Ministry of Health. 2017. *Residential Care Staffing Review*. Victoria: BC Government.

¹⁵ Including 900 HCAs, 300 LPNs, 165 RNs, 50 Allied Health Professionals, and 100 non-professional Allied Health Workers.

¹⁶ BC Care Providers Association. 2016. *Op-Ed: Direct Care Hours*. Vancouver: BCCPA, May 2.

¹⁷ BC Ministry of Health. 2017. *An Action Plan to Strengthen Home and Community Care for Seniors*. Victoria : Government of BC.

minimum of 3.36 care hours at each care home would help promote health equity between seniors, as it would ensure that all seniors have access to high-quality long term care services, regardless of their place of residence.

It is also unknown as to whether staffing levels will be adequate even after the shift to 3.36 hrpd. Residents living in long term care in B.C. are medically complex, and acuity levels are expected to increase over time. Currently 65% of residents in long term care live with dementia, and 30% require extensive support to care out basic self-care tasks such as bathing, dressing and eating (see Table 3). Given the high acuity level of residents in care, the 3.36 guideline may already be inadequate, as explored further in Section 4 and 5 of this report.

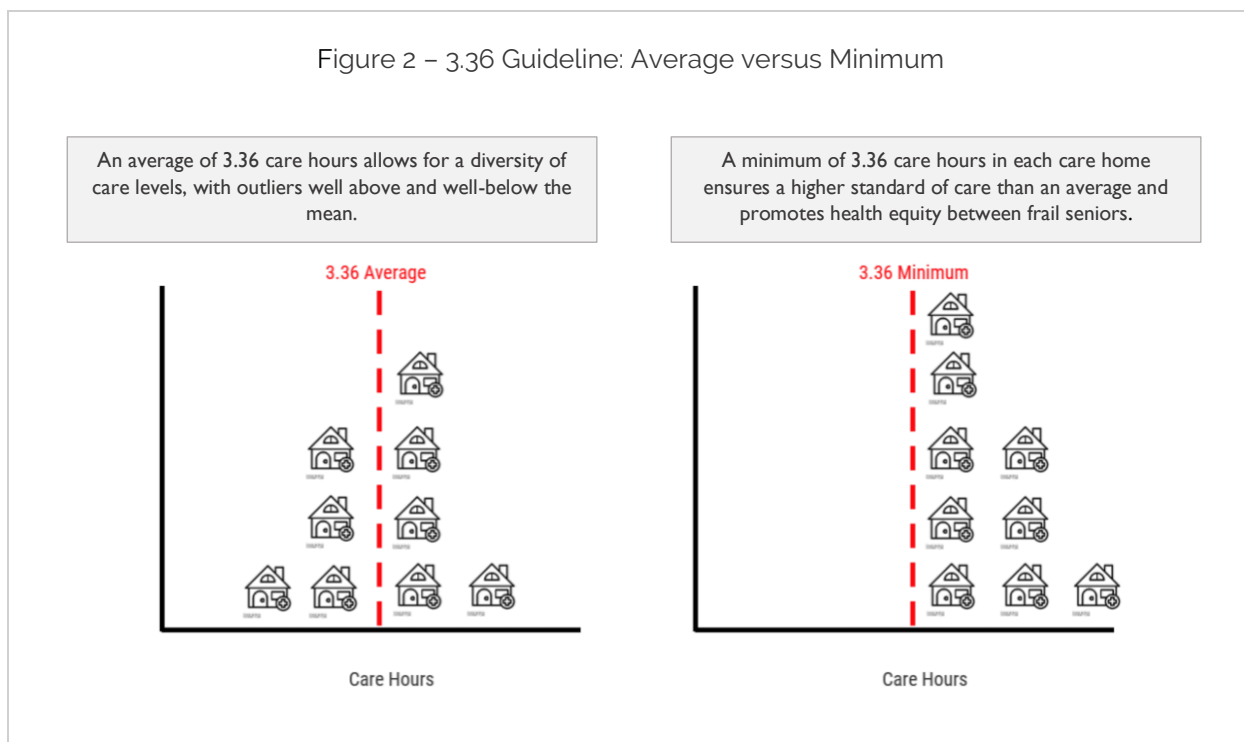


Table 3 – Five Measures of Acuity in Long Term Care, by Ownership Type in B.C.

Acuity Measure	B.C.	Ownership Type	
		Government	Non-Government
ADL 5+	29.5%	32.5%	27.8%
CPS 4+	29.6%	30.6%	29.1%
Dementia	64.8%	61.3%	66.8%
Physically Abusive Behaviour	8.3%	7.4%	8.9%
Case Mix Index	0.58	0.59	0.57

Source: B.C. Office of the Seniors Advocate (2018). *British Columbia Residential Care Facilities Quick Facts Directory, 2018 Summary*. Vancouver.

3.0 Canadian Staffing Levels in Long Term care

Canada lacks Consistent National Data on Staffing Levels

Part of the challenge in examining the adequacy of long term care staffing levels in B.C. is the lack of standardized data available at the national level. The most recent national data on staffing levels is from Statistics Canada's Long Term Care Facilities survey, which was conducted for just two years starting in 2012. The data included paid staffing hours for health care professionals and was published as part of the Canadian Institute for Health Information's (CIHI) 'Long Term Care Financial Data Tables.' The data reports that in 2013, B.C. had one of the lowest staffing levels in all of Canada, well below the Canadian average (see Figure 3 below).

The CIHI data suggests that as recently as 2013, care levels in British Columbia were lower than most other Canadian jurisdictions, while the highest staffing levels were provided in the Atlantic provinces. The disparities between provinces are concerning, given that "residential care services provided in B.C. are fairly similar to services provided in other jurisdictions in Canada... [and the] clients who live in [care homes] have similar needs across the country."¹⁸ It follows that residents with similar care needs receiving similar services would require comparable staffing levels; yet this does not appear to be the case according to Statistics Canada.

However, the data may not be the most reliable or relevant for examining staffing levels in long term care. CIHI outlines that the data collected under the Long Term Care Facilities Survey includes health care professionals, including Registered Nurses, Licensed Practical Nurses, Physiotherapists/Occupational Therapists, Activity and Recreation Staff, as well as other health care professionals. CIHI reports that the data does not include non-professional health care staff, such as Health Care Assistants or Personal Support Workers. If this is the case, we can only conclude that the data is not reflective of actual care levels, as non-professional care staff provide up to 80% of direct care to seniors.¹⁹

Furthermore, the Long Term Care Facilities Survey reports on *paid* hours per resident day. While useful for costing purposes, paid care hours are a less relevant measure for tracking direct hands-on care than *worked* hours. Paid care hours include a variety of factors including: direct care time; indirect care time (training, meetings and administrative duties); and time paid but not worked (breaks and sick leave).²⁰ Research has shown that paid care hours can potentially obscure chronic staffing issues such as absenteeism, sick leave and overtime. While it is difficult to measure what the exact difference would be, one study of long-term care homes in British Columbia found that paid hours were 15-30% higher than actual hours worked.²¹ Collectively, these issues cast doubt on whether the data collected by Statistics Canada can be used in any meaningful way to compare staffing levels in care homes across the country.

Considering the challenges presented by CIHI's data, it is of interest to examine staffing levels self-reported by provinces. However, this is again somewhat challenging because Canadian provinces do not

¹⁸ BC Ministry of Health. 2017. *Residential Care Staffing Review*. Victoria: BC Government.

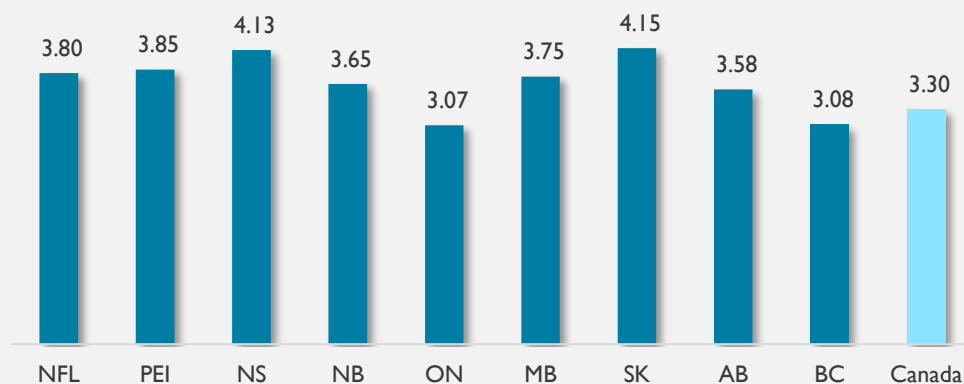
¹⁹ Berta, Whitney, Audrey Laporte, Raisa Deber, Andrea Baumann, and Brenda Gamble. 2013. "The evolving role of health care aides in the long-termcare and home and community care sectors in Canada." *Human Resources for Health* 11 (25): 1-6.

²⁰ Manitoba Nurses Union. 2018. *The Future of Long-Term Care is Now: Addressing nursing care needs in Manitoba's Personal Care Homes*. Winnipeg: Manitoba Nurses Union.

²¹ Campanella, David. 2016. *Losing Ground: Alberta's Residential Elder Care Crisis*. Edmonton : Parkland Institute.

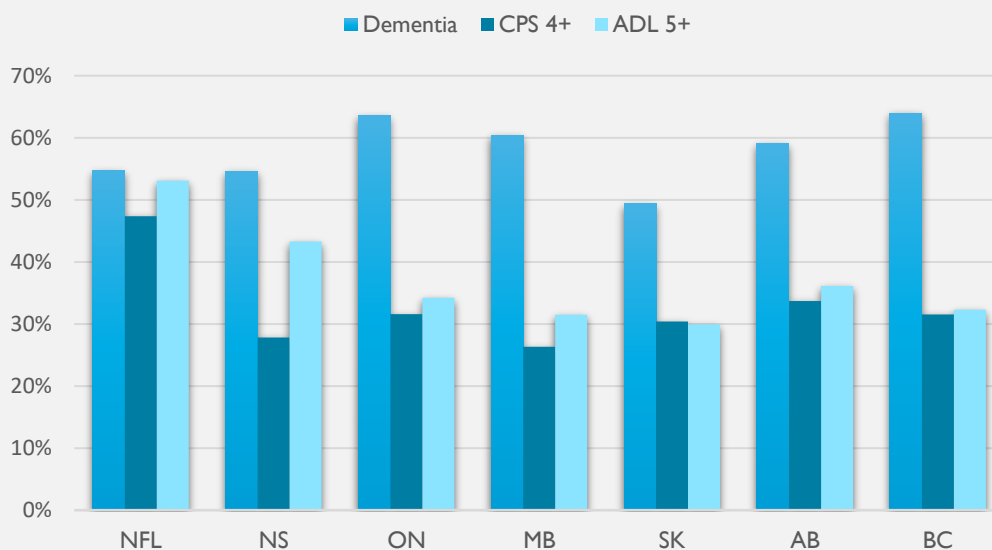
uniformly report staffing requirements and care hours; some provinces report on paid care hours, some report on worked care hours and others do not publicly report on staffing levels at all (see Table).

Figure 3 – Total Direct Care Hours (HPRD), 2013-14



Adapted from: Canadian Institute for Health Information (CIHI), Residential Long-Term Care Financial Data Tables, 2013
 Note: the Canadian Institute for Health Information (CIHI) reports on the total annual paid hours for professional health care workers and the number of long term care beds in each province using this data set. This allows for an average HPRD for health care workers to be calculated at the provincial level.

Figure 4 - Acuity Levels in Long Term Care in Canada



Source: CIHI, CCRS 2016-17

Available Provincial Data is Inconsistent

Only four provinces—British Columbia, Alberta, Ontario and New Brunswick—report publicly on worked care hours. As noted previously in this report, the average care home in B.C. is funded to provide 3.16 worked care hours, while the provincial target has been set at 3.36 hprd. New Brunswick funds its care

homes to deliver an average of 3.1 care hours,²² though recently the previous New Brunswick Liberal government made a commitment to increase care hours up to 3.5 hprd if re-elected.²³ While Ontario largely focuses on paid care hours, a recent report outlines that the province is delivery an average of 2.71 worked care hours for nursing and personal care.²⁴ In contrast, Alberta is one of the few provinces with prescriptive staffing levels outlined within its regulations as care homes are required to provide at least 1.9 hours of nursing and personal care per day. In addition, Alberta Health has set requirements for direct care hours to be at least 2.97 per weighted client day, which is equivalent to 3.6 paid hours.²⁵ However, this represents a minimum threshold, and the province has set a target of 3.8 hprd.²⁶

Ontario, Manitoba and Nova Scotia all report on paid care hours. Ontario’s Ministry of Health and Long Term Care reports that as of 2018, care homes are funded to provide an average of 3.5 paid hprd. However, in 2017, the Ontario government released a provincial action plan focused on seniors, which included a commitment to establish a provincial average of 4.0 paid hprd. It is estimated that this will require 15 million additional hours of nursing, personal support and therapeutic care.

Table 4 – Staffing Levels by Canadian Jurisdiction, Worked and Paid HPRD

	Worked HPRD	Paid HPRD
British Columbia	3.14	?
	3.36†	?
Alberta	2.97*	3.6*
Saskatchewan	?	?
Manitoba	?	3.6
Ontario	2.71	3.5
	?	4.0†
Quebec	?	?
New Brunswick	3.10	?
Nova Scotia	?	3.45 / 4.0
Prince Edward Island	?	?
Newfoundland & Labrador	?	?
†target		
*minimum		

²² Ontario Ministry of Health and Long Term Care. 2008. *People Caring for People: Impacting the Quality of Life and Care of Residents of Long-Term Care Homes*. Toronto: Ontario Ministry of Health and Long Term Care.

²³ Jones, Robert. 2018. "Liberals recycle nursing home campaign pledge they made and broke a decade ago." Fredericton: CBC News, August 28.

²⁴ Ontario Health Coalition. 2019. "Situation Critical: Planning, Access, Levels of Care and Violence in Ontario's Long-Term Care." Toronto. <http://www.ontariohealthcoalition.ca/wp-content/uploads/FINAL-LTC-REPORT.pdf>.

²⁵ Alberta Health Services. 2015. *Patient/ Care-Based Funding Long-Term Care*. Edmonton: Government of Alberta

²⁶ Ibid.

Similarly, Manitoba's staffing guidelines require that long term care homes provide enough staff to provide 3.6 paid hours of care per resident per day (hprd), including 24/7 RN coverage.²⁷ Nova Scotia's Department of Health and Wellness indicates that the province provides funding for an average of 4.0 paid nursing hprd, including 1.0 hprd for licensed nurses (RN and LPN) and 3.0 hprd for HCAs.²⁸ However, the Nova Scotia Nurses Union claims that actual staffing levels are closer to 3.45 paid hprd,²⁹ and advocacy groups have raised concerns regarding staffing levels in the province.³⁰

Overall, it is challenging to compare B.C.'s staffing levels to other Canadian provinces and territories due to the inconsistent nature of the measures being reported. While it may be possible to estimate paid care hours based on worked care hours—one study of long term care homes in British Columbia found that paid hours were 15-30% higher than actual hours worked—the margin of error is too large for any comparison to be meaningful.³¹

²⁷ Manitoba Nurses Union. 2018. *The Future of Long-Term Care is Now: Addressing nursing care needs in Manitoba's Personal Care Homes*. Winnipeg: Manitoba Nurses Union.

²⁸ Nova Scotia Nurses Union . 2015. *Broken Homes: Nurses speak out on the state of long-term care in Nova Scotia and chart a course for a sustainable future*. Dartmouth : Nova Scotia Nurses' Union.

²⁹ CBC News. 2018. "152 severe bedsores reported at Nova Scotia long-term care facilities." CBC, June 21.

³⁰ Henderson, Jennifer. 2018. "McNeil not ready to improve staffing at Nova Scotia nursing homes." Halifax: Herald News, May 18.

³¹ Campanella, David. 2016. *Losing Ground: Alberta's Residential Elder Care Crisis*. Edmonton : Parkland Institute.

4.0 Literature Review

Staffing is Linked to Quality of Care

Over the past 25 years, studies have documented a strong positive relationship between direct care levels and care processes and outcome measures. Staffing levels have been found to be predictors of care quality and increased staffing levels have been found to improve care, resulting in better resident outcomes and decreased health risks for seniors.³² Staff vacancy, turnover and retention rates have also been found to affect the quality of care delivered in care homes, a particularly important outcome in the current health human resource crisis affecting seniors' care.^{33,34}

The strongest positive relationships have been found between Registered Nurses (RNs) and quality. This association is stronger than the relationship between Licensed Practical Nurses (LPNs) and quality. Total direct care staffing levels are also related to quality.³⁵

A broad range of quality of care and quality of life improvements has been attributed to increased staffing levels in long term care homes.³⁶ Quality of care indicators that have been linked to staffing levels include weight loss, dehydration, incidence of pressure ulcers, deterioration in activities of daily living (ADLs) and catheterization, unnecessary or avoidable hospitalizations, and use of physical restraints, among others. Quality of life outcome indicators that have been linked to staffing levels include frequency and/or quality of social engagement, exercise, and opportunities for choice, among others.

Quick Facts - Quality Indicators Linked to Staffing Levels	
Quality of Care	Quality of Life
✓ Weight Loss	✓ Quality of Social Engagement
✓ Dehydration	✓ Frequency of Exercise
✓ Pressure Ulcers	✓ Opportunities for Choice
✓ Catheterization	✓ Rate of Satisfaction with Care
✓ Frequency of falls	✓ Frequency of Purposeful and Meaningful Activities
✓ Use of Physical Restraints	
Source: Murphy et al, 2006.	

The impact of staffing on care outcomes has also been found in studies exploring what care is missed or delayed in care homes due to staffing shortages. Studies in Canada, Australia, and Switzerland have found that when short staffed, long term care staff will give priority to activities of daily living (e.g. eating, drinking, elimination and mobilization) over documentation and rehabilitation, as well as overlooking the

³² BC Ministry of Health. 2017. *Residential Care Staffing Review*. Victoria: BC Government.

³³ Allan, Stephen, and Florin Vadean. 2017. *The impact of workforce composition and characteristics on English care home quality*. Discussion Paper 2929, Canterbury : University of Kent, The London School of Economics.

³⁴ Eaton, Susan C. 2000. "Beyond 'unloving care': linking human resource management and patient care quality in nursing homes." *The International Journal of Human Resource Management* 11 (3): 591-616.

³⁵ Ibid.

³⁶ Ontario Association of Non-Profit Homes and Services for Seniors. 2014. *The Need is Now: Addressing Understaffing in Long Term Care*. Toronto: OANHSS

social needs of residents.³⁷ Other studies have found that unscheduled tasks are most likely to be missed due to lack of staff, such as answering call beds and taking residents to the commode.

Although there are some mixed and inconsistent findings across studies, the benefits associated with direct care staffing underline the importance of staffing standards and levels.³⁸

Staffing Impacts Worker Retention

Though not the primary focus of this paper, it should also be noted that staffing levels have significant impacts on worker recruitment and retention. With our aging population, demand for continuing care services will be increasing in an unprecedented manner over the next decade, as one of the fastest growing industries in the province³⁹ and the country.⁴⁰ Despite the increasing demand for care services, British Columbia is currently experiencing a labour shortage crisis, with insufficient numbers of new staff to replace care workers exiting the sector.⁴¹

Though the factors creating the worker shortage are diverse, insufficient staffing levels and increasing workloads are among the most significant the factors contributing to worker retention challenges. A recent survey by the BCCPA found that continuing care workers overwhelmingly indicate that high workloads and a lack of time to complete care are among the most significant challenges that they face in their work.⁴²

North American research has also found links between staffing levels, workloads, time-pressures, staffing levels and turnover in long-term care.⁴³ Staffing levels set the stage for high workloads and time pressure, where high workloads are negatively associated with job satisfaction,^{44,45,46,47} and job satisfaction is in turn associated with turnover behaviour.⁴⁸ While all continuing care workers identify that their work is

³⁷ University of South Australia & Flinders University. 2016. *National Aged Care Staffing and Skills Mix Project Report 2016*. Adelaide : Australian Nursing & Midwifery Federation .

³⁸ Harrington, Charlene, John F Schnelle, Margaret McGregor, and Sandra F Simmons. 2016. "The Need for Higher Minimum Staffing Standards in U.S. Nursing Homes." *Health Services Insights* 9: 13-19. doi:10.4137/HSI.S38994.

³⁹ WorkBC. 2018. *British Columbia Labour Market Outlook: 2018 Edition*. Victoria: Minister of Advanced Education, Skills and Training.

⁴⁰ Employment and Social Development Canada. 2017. *Canadian Occupational Projection System 2017 Projections* . Ottawa: Government of Canada.

⁴¹ BC Care Providers Association. 2018. *Situation Critical: A Made-in-BC Plan to Address the Seniors Care Labour Shortage*. Burnaby: BCCPA.

⁴² BC Care Providers Association. 2018. *Health Care Worker Recruitment Survey Results*. Burnaby: BCCPA.

⁴³ Castle, Nicholas G, and John Engberg. 2006. "Organizational Characteristics Associated with Staff Turnover in Nurisng Homes." *The Gerontologist* 46 (1): 62-73.

⁴⁴ Bishop, Christine, E, Marie R Squillace, Jennifer Meagher, Wayne L. Anderson, and Joshua M Wiener. 2009. "Nursing Home Work Practices and Nursing Assistants' Job Satisfaction." *The Gerontologist* 49 (5): 611-622.

⁴⁵ Chamberlain, Stephanie, Matthais Hoben, Janet Squires, and Carole Estabrooks. 2016. "Individual and organizational predictors of health care aide job satisfaction in long term care." *BMC Health Services Research* 16 (577): 1-9.

⁴⁶ Aloisio, Laura, Wendy Gifford, Katherine McGilton, Michelle Lalonde, and Carole Estabrooks. 2018. "Individual and organizational predictors of allied healthcare providers' job satisfaction in residential long term care." *BMC Health Services Research* 18 (491): 1-18.

⁴⁷ Kalish, Beatrice, and Lee Kyung Hee. 2014. "Staffing and job satisfaction: nurses and nursing assistants." *Journal of Nursing Management* 22 (4): 456-71.

⁴⁸ Castle, Nicholas G, and John Engberg. 2006. "Organizational Characteristics Associated with Staff Turnover in Nurisng Homes." *The Gerontologist* 46 (1): 62-73.

physically and emotionally demanding, those that leave perceive their work demands as unreasonable, and cite these challenges as among their primary reasons for leaving their job.⁴⁹

That there is a link between staffing levels, workloads and worker retention challenges in the care sector is neither surprising nor trivial. Canadian research has identified that, despite having a significant sense of professional efficacy, continuing care workers are at high risk for burnout and emotional exhaustion,^{50,51} with poorer mental health than the general population.⁵² As research has demonstrated that long term care workers are sensitive to workload challenges, it may be that increasing staffing levels and care hours would contribute to reduced turnover and enhanced retention in the care sector.

Staffing Impacts Workplace Health and Safety

Staffing levels also have significant implications for workplace health and safety. It is well-documented that the long term care sector has a high injury rate compared to other industries, even when compared to other health care sectors. In British Columbia, injury rates in long term care are twice those in acute care (8.6 per 100 workers versus 4.4 per 100 workers).⁵³ While there are many factors that contribute to the sector's high injury rate, staffing levels and time to complete care may be significant contributing factors.

When surveyed, the continuing care sector draws a clear relationship between staffing levels and their ability to provide care to residents safely. Two recent surveys by SafeCare BC asked frontline workers and employers about staffing levels and shortages in their care home, and what affect they have on workplace health and safety.^{54,55} The overwhelming majority of survey respondents (98%) indicated that they believe that short staffing has at least some impact on safety in their workplace, with only 2% of participants indicating no effect at all. Respondents indicated that low staffing levels and worker shortages contribute to tiredness and fatigue among workers, rushing and

About SafeCare BC

SafeCare BC is an industry funded, non-profit association working to ensure injury free, safe working conditions for continuing care workers in BC.

SafeCare maintains a strong emphasis on injury prevention in the field of long term and home support care through the following methods:

- ❖ Offering online/in-person learning for health care professionals
- ❖ Improving health and safety protocols within the workplace
- ❖ Providing management with training on creating and fostering an organizational culture of safety
- ❖ Providing materials and resources to support safer workplaces.

⁴⁹ Mittal, Vikas, Jules Rosen, and Carrie Leana. 2009. "A Dual-Driver Model of Retention and Turnover in the Direct Care Workforce." *The Gerontologist* 49 (5): 623-634.

⁵⁰ Chamberlain, Stephanie, Matthais Hoben, Janet Squires, and Carole Estabrooks. 2016. "Individual and organizational predictors of health care aide job satisfaction in long term care." *BMC Health Services Research* 16 (577): 1-9.

⁵¹ Aloisio, Laura, Wendy Gifford, Katherine McGilton, Michelle Lalonde, and Carole Estabrooks. 2018. "Individual and organizational predictors of allied healthcare providers' job satisfaction in residential long term care." *BMC Health Services Research* 18 (491): 1-18.

⁵² Hoben, Matthais, Jennifer A Knopp-Sihota, Maryam Nesari, Stephanie A. Chamberlain, Janet E. Squires, Peter G. Norton, Greta G. Cummings, Bonnie J Stevens, and Carole A. Estabrooks. 2017. "Health of health care workers in Canadian nursing homes and pediatric hospitals: a cross-sectional study." *CMAJ Open* 5 (4): 791-799.

⁵³ WorkSafeBC. 2018. *Industry Safety Information Centre*. September 1. Accessed October 1, 2018

⁵⁴ HoweGroup. 2018. *SafeCare BC 2018 Member Engagement*. Burnaby: SafeCare BC.

⁵⁵ SafeCare BC. 2016. "SafeCare BC HR Survey Identifies Shortages of Workers." Burnaby, November 22

hurrying through care tasks, and physical and mental health challenges. Workers also identified that they did not have enough time to ask their co-workers for help when it was needed.

The link between staffing levels and workplace injuries is corroborated by evidence from the literature. In 2008, a team of academics from York University and Carleton University linked staffing shortages with resident-to-care-worker aggression in long term care. Given the high proportion of residents living with dementia in long term care, workers must manage responsive behaviours as a result of cognitive impairment on a daily basis. Two-thirds of HCAs in the sample reported that they experienced the impacts of physical, sexual or verbal responsive behaviours, at least every week. The research concluded that it is crucial for governments to recognize short-staffing as a key contributor to workplace violence. The study authors recommend that governments ensure safe staffing levels by legislating adequate care standards and providing funding for organizations to meet these standards.⁵⁶

Research from the United States has also found a strong relationship between care home staffing levels and worker injury rates. In the U.S. long term care homes are among the top 10 industries for musculoskeletal problems, which are a major cause of worker absenteeism, worker's compensation claims, and worker injury and illness.⁵⁷ When staffing levels and injury rates were examined, it was found that higher total daily direct care hours were significantly associated with lower worker injuries after the researchers adjusted for other factors such as acuity levels and care aide training. The study found that for each additional care hour per day, injuries were predicted to decrease by 2.4 per 100 full time equivalent (FTE).⁵⁸

Quick Facts – Workplace Injuries in Long Term Care

- ❖ The long term care sector has one of the highest injury rates of all industries in B.C., at 8.9 per 100 workers. This is twice the injury rate of acute care, at 4.4 per 100 workers.
- ❖ The most common source of injury is People (35%), largely due to interactions with residents, such as lifting, turning, and transferring.
- ❖ The most common types of injuries are overexertion (44%) and acts of violence, force (16%)
- ❖ Strategies to reduce workplace injuries include creating a culture of safety, ensuring safe staffing levels, providing access to appropriate equipment, and enhancing staff training, particularly on safe resident handling, dementia care and violence prevention.

Source: WorkSafeBC. 2018. *Industry Safety Information Centre*. September 1. Accessed October 1, 2018

The link between staffing levels and staff safety is important for quality of care as well. Naturally, fewer workdays lost means better continuity of care residents. Additionally, research has found that perceptions

⁵⁶ Banerjee, Albert, Tamara Daly, Hugh Armstrong, Pat Armstrong, Stirling Lafrance, and Marta Szebehely. 2008. *Out of Control: Violence against Personal Support Workers in Long-Term Care*. Toronto: York University; Carleton University

⁵⁷ Trinkoff, Alison M; Johantgen, Meg; Muntaner, Carles; Le, Rong. 2005. "Staffing and Worker Injury in Nursing Homes." *American Journal of Public Health* 95 (7): 1220 - 1225.

⁵⁸ Ibid.

of workplace safety are correlated with job satisfaction in the long term care sector.⁵⁹ Improving perceptions of safety can have positive impacts on job performance by improving worker attitudes, such as work engagement, job satisfaction, and organizational commitment.⁶⁰ Hence, ensuring safe staffing levels has positive implications not only for lives of those receiving care, but also for the general resilience and strength of the health care workforce.

Staffing Thresholds Identified within the Literature

Numerous studies have examined the relationship between nursing staffing levels and quality in long term care, many of which have used hours per resident day (hprd) staffing measure.⁶¹ These studies can be broadly subdivided into two categories:

- Studies that identify minimum staffing thresholds to avoid or prevent specific adverse health outcomes; and
- Studies that identify the staffing levels necessary to promote improved quality of care.

The latter set of studies can be thought of as identifying optimum staffing levels, while the former identify minimum thresholds for care homes. This report will examine both types of research in turn, the results of which are summarized in Table 5. Further information on each study is detailed in Appendix B.

Minimum Staffing Levels to Prevent Adverse Outcomes

As outlined above, several studies have examined the relationship between staffing levels and adverse health outcomes. Among the most robust of these studies are Kramer et al (2000); Hutt et al (2000); Horn et al. (2005); Zhang (2006); and Dyck (2007).^{62, 63, 64, 65, 66} Broadly, the findings from these studies suggest that there are staffing thresholds for professional and non-professional nursing staff that are required to avoid adverse health outcomes—such as weight loss, incidence of pressure ulcers, hospitalization and deterioration of activities of daily living (ADLs).

While these studies do not prescribe guidelines for appropriate staffing levels, they do provide evidence for minimum thresholds. Specifically, these studies provide evidence that the minimum threshold for care hours provided by HCAs is between 2.06 and 3.00 hprd. For Registered Nurses (RNs) the minimum threshold is between 0.14 and 0.67 hprd, while the threshold is between 0.53 and 0.77 hprd for Licensed

⁵⁹ Berta, Whitney, Audrey Laporte, Tyrone Perriera, Laine Ginsburg, Adrian Rohit Dass, Raisa Deber, Andrea Buamann, et al. 2018. "Relationships between work outcomes, work attitudes, and work environments of health support workers in Ontario long-term care and home and community care settings." *Human Resources for Health* 16 (15): 1-11.

⁶⁰ Ibid.

⁶¹ Essentially there are two measures of staffing used in studies focusing on quality: (1) the ratio of staff to residents; and (2) the number of hours per resident (hprd).

⁶² Kramer, A, and R. Fish. 2001. "The Relationship Between Nurse Staffing Levels and the Quality of Nursing Home care." *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report* (U.S. Department of Health and Human Services, Health Care Financing Administration) 2.1-2.6.

⁶³ Hutt, E., M Lin, and A. Kramer. 2000. "Effects of nurse staffing on selected quality measures for long term care residents derived from MDS." *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Report to Congress, Phase I* (Health Care Financing Administration) 10.1-10.19.

⁶⁴ Horn, SD, P Buerhaus, N Bergstrom, and R.J. Smout. 2005. "RN staffing time and outcomes of long-stay nursing home residents: pressure ulcers and other adverse outcomes are less likely as RNs spend more time on direct patient care." *American Journal of Nursing* 105 (11): 58-70. <https://www.ncbi.nlm.nih.gov/pubmed/16264305>.

⁶⁵ Zhang, N.J, L Unruh, R Liu, and T.T. Wan. 2006. "Minimum Nurse Staffing Ratios for Nursing." *Nursing Economics* 24: 78-85.

⁶⁶ Dyck, Mary J. 2007. "Nursing Staffing and Resident Outcomes in Nursing Homes: Weight Loss and Dehydration." *Journal of Nursing Care Quality* 22 (1): 59-65.

Practical Nurses (LPNs). Total combined care hours for licensed nurses (RN and LPN) should be at least 0.76 hprd. See Table 5 above and see Appendix B for further details on each study.

Table 5 – Minimum Staffing Thresholds to Avoid Adverse Resident Outcomes & Promote Improved Resident Outcomes

Care Position	HPRD Levels to Avoid Adverse Outcomes	HPRD Levels to Promote Quality and Improved Resident Outcomes
RN	0.14 – 0.67	0.5 – 1.15
LPN	0.53 – 0.77	0.70
RN + LPN	0.76	0.95 – 1.85
HCA	2.06 – 3.00	2.4 – 2.8 3.1 – 3.4
ALLIED	No data	No data
TOTAL DIRECT CARE	No data	4.1 – 4.8

Source: Adapted from Murphy et al. 2006

Optimal Staffing Levels

There are also a number of studies in the literature that examine the staffing thresholds necessary to promote improved resident outcomes and quality of life. Among the most robust of these studies are: Kramer and Fish (2001), Schnelle et al (2001), Bates-Jensen et al. (2004); Schnelle & Simmons (2004), Dorr et al (2005); Konezta, Stearns, & Park (2008).^{67, 68, 69, 70, 71, 72} These studies use a wide variety of quality measures to provide evidence for optimal staffing levels, including improvements in functional abilities, incidence of weight loss, incidence of pressure ulcers, time socially engaged, observed food intake, incidence of agitation, and incidence of hospitalization for select causes. Also used are process quality indicators such as time given to provide assistance with eating, ambulation, and/or toileting assistance.

Examined collectively, these studies suggest that the staffing levels necessary to promote improvements in resident’s functional abilities are higher than those to avoid adverse health outcomes.

⁶⁷ Kramer, A, and R. Fish. 2001. "The Relationship Between Nurse Staffing Levels and the Quality of Nursing Home care." *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report* (U.S. Department of Health and Human Services, Health Care Financing Administration) 2.1-2.6.

⁶⁸ Schnelle, J.F., and S.F. Simmons. 2001. "Minimum Nurse Aide Staffing Required to Implement Best Practice Care in Nursing Facilities." *Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report* (U.S. Department of Health and Human Services, Health Care Financing Administration) 3.1-3.40.

⁶⁹ Bates-Jensen, B.M., J.F. Schnelle, C.A. Alessi, N.R Al-Samarrai, and L Levy-Storms. 2004. "The Effects of Staffing on In-Bed Times of Nursing Home Residents." *Journal of the American Geriatrics Society* 52: 931 - 938.

⁷⁰ Schnelle, J.F., S.F. Simmons, C. Harrington, M. Cadogan, E Garcia, and B Bates-Jensen. 2004. "Relationship of Nursing Home Staffing to Quality of Care." *Health Services* 39: 225-250.

⁷¹ Dorr, D.A., S.D. Horn, and R.J. Simout. 2005. "Cost Analysis of Nursing Home Registered Nurse Staffing Times." *Jounral of American Geriatrics Society* 53: 656 -661.

⁷² Koneztka, R Tamara, Sally C. Stearns, Robert Kondrad, Jay Magaziner, and Sheryl Zimmerman. 2005. "Personal Care Aide Turnover in Residential Care Settings: An Assessment of Ownership, Economic, and Environmental Factors." *Journal of Applied Gerontology* 24: 87-107.

In particular, these studies provide evidence that the staffing thresholds to improve resident outcomes are between 2.4 to 2.8 HCA hprd for low workload care homes, and between 3.1 to 3.4 HCA hprd for high workload care homes. Additionally, staffing for RNs should optimally be 0.5 hprd to 1.15 hprd, and at least 0.7 hprd for LPNs. Total direct care staffing levels should optimally be within the range of 4.1 to 4.8 hprd in order to promote quality care, including a minimum of 0.95 hprd for licensed nurses (RNs and LPNs). See Table 5 above and see Appendix B for further details on each study.

Recommended Staffing Levels

In addition to reviewing academic studies, it is also valuable to review the staffing levels recommended by health experts. As detailed time studies have not been conducted on the amount of time that is required to provide high-quality of care to residents, expert opinion may still be among the most valuable approaches to addressing the issue of adequate staffing.⁷³

Ontario - The Sharkey Report (2008)

Arguably the most comprehensive review of direct care hours and staffing levels conducted in Canada was undertaken in Ontario in the late 2000s. Known as the “*Sharkey Report*”, it was an independent review commissioned by the Ontario Ministry of Health and Long-Term Care, published in 2008, to review both staffing levels and care standards in Ontario’s continuing care sector.⁷⁴

The review was conducted by an independent team led by Shirley Sharkey, CEO of Saint Elizabeth Health Care. In order to conduct the review, they consulted with sector stakeholders, including residents and their families, staff and other health care professionals, as well as reviewing available research from Ontario and other jurisdictions.

The Sharkey report made several recommendations regarding staffing, funding levels and accountability frameworks in long term care. The review team found that both number of staff and skill mix affects the provision of care. The review also found that supports such as equipment, supervision and mentoring, and overall leadership affect quality of care.

With respect to care hours, the Sharkey report noted that staffing in long term care homes is a complex activity that requires consideration of a range of issues “related not only to sufficient staffing capacity, but also to such factors as the mix of residents and their care needs, a home’s philosophy of care, the service delivery model, and the use of team approaches to care, and staff skill mix and experience.”⁷⁵

Despite these caveats, the review found that there is a need to “establish provincial guidelines to support annual funding for enhanced capacity for resident care to achieve a provincial average of up to four hours of care per resident per day over the next four years,” pending annual evaluations and learnings. The Sharkey report recommended that most hours be provided by health care assistants (2.5 hours),⁷⁶ and

⁷³ Harrington, Charlene, Christine T. Kovner, Mathy D. Mezey, Jeanie Kayser-Jones, Suzanne Burger, Michael Mohler, Rebecca Burke, and David Zimmerman. 2000. "Experts recommend minimum nurse staffing standards for nursing facilities in the United States." *Gerontologist* (Gerontologist) 40 (1): 5-16. <https://www.ncbi.nlm.nih.gov/pubmed/10750309>.

⁷⁴ Ontario Ministry of Health and Long Term Care. 2008. *People Caring for People: Impacting the Quality of Life and Care of Residents of Long-Term Care Homes*. Toronto: Ontario Ministry of Health and Long Term Care.

⁷⁵ Ibid.

⁷⁶ Known as Personal Support Workers (PSWs) in Ontario.

nurses (1.0 hours), with the remaining hours provided by allied health care professionals (0.5 hours)—see Table 6 below.

Table 6 - Sharkey Recommendations for Enhanced Staff Capacity

Occupation	Recommended HPRD
Nurses (LPNs & RNs)	1.0
Health Care Assistants	2.5
Allied Health Professionals	0.5
TOTAL	4.0

The four-hour minimum threshold recommended by the Sharkey Report was intended only as a starting point, pending further evaluation. The report noted that staffing levels in long term care homes should be dynamic and flexible, and adjustable based on resident needs and the availability of health human resources. As such, the review team also recommended that the 4.0 hprd threshold be updated and adjusted following annual evaluations of staffing levels based on resident outcomes.

Despite the above recommendations, the Sharkey Report cautioned against mandating one-size-fits-all staffing frameworks, noting that studies by experts provide only limited evidence on staffing standards and the link to quality of care. The report further cautions that establishing a standard alone may in fact be a barrier to meeting staffing requirements in other areas, such as continuing education of staff, improvement to work processes and team collaborations. As such, within the framework of a four-hour threshold, the Sharkey report recommended that, based on local staffing plans, each long term care home be given the flexibility to determine how to best align staff resources and staff mix to best meet the needs of their residents.

New Brunswick, Canada—Evaluation of 3.5 HPRD Pilot Program

In 2010, New Brunswick’s Department of Social Development undertook a pilot project to evaluate the effects of enhanced staffing levels in five long term care homes.⁷⁷ Under the pilot, funding was given to five long term care homes to increase staffing levels to 3.5 hours per day, above and beyond the provincial standard of 3.1 hprd. Care homes were given the flexibility to determine how they would allocate the additional hours, the majority of which were allocated to additional HCA hours, as well as some additional LPN hours.

Using a pre-and post-study method, the evaluation examined the relationship between increased care hours and resident outcomes, finding several positive outcomes. In particular, the study found that care homes were able to provide greater attention and care to residents, as they were not as pressed for time when assisting with activities of daily living. The study further reported that the resident’s quality of life had improved as they were more engaged in recreational activities and were getting more attention from

⁷⁷ New Brunswick. 2014. *Evaluation of 3.5 Hours of Care Pilot in Nursing Homes: Summary Report*. Fredericton: Government of New Brunswick, Department of Social Development.

staff. However, the study found mixed outcomes with respect to specific quality indicators, such as falls, pressure ulcers, urinary tract infections, medications errors, etc.

The report concluded that there is a need to invest in nursing home staffing levels based on resident needs—in particular, noting that due to resident acuity and case mix, some care homes will require staffing levels above and beyond 3.5 hprd.⁷⁸

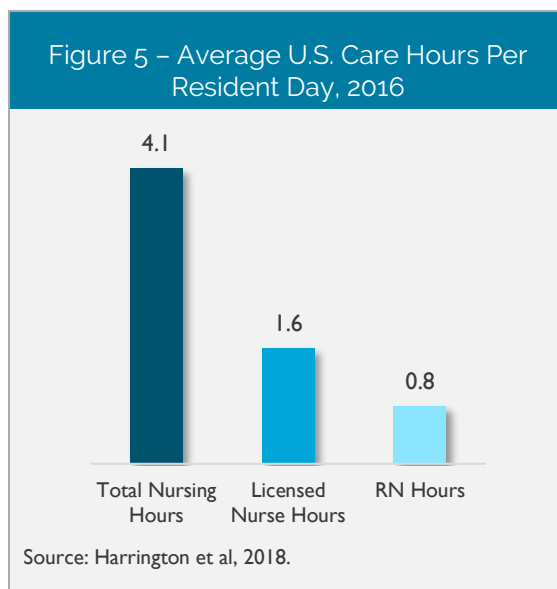
United States—Centers for Medicaid and Medicare Services (USCMS)

Several studies in the United States have focused on staffing levels and standards in long term care. The wide variability of staffing levels in American care homes, as well as concerns regarding quality of care, have precipitated a number of negative media reports.

To address these issues, in 1987 the U.S. Congress adopted stronger requirements and oversight of long term care homes with the passage of the *Nursing Home Reform Act*. This Act requires long term care homes in the U.S. to have ‘sufficient staff’ to meet the needs of residents, and one Director of Nursing on duty for eight hours a day, seven days a week, and a licensed nurse (either an RN or an LPN) on evening and night shifts.⁷⁹

Subsequently, over 40 states have established higher staffing standards than the federal requirements, though there is significant variability within these standards. As of 2016, total nursing hours in the U.S. average 4.1 hprd including 1.6 licensed nurse hours, and 0.8 RN hours (see Figure 5).⁸⁰ There is wide variation in average nursing hours between states, ranging from 3.7 hprd in South Dakota to 5.8 hprd in Alaska. Overall, though staffing levels in the U.S. remain higher on average than those in Canada, they remain below the levels identified by health experts. Recent media reports also indicate that staffing levels may in fact be overstated.⁸¹

In 2001, the United States Centre for Medicare and Medicaid Services (USCMS) conducted a study to examine the level of care hours required to meet federal quality standards in long term care, analyzing the minimum number of staff necessary to provide five basic aspects of daily care in a care home that has different levels of resident acuity. The study found that in order to ensure consistent, timely care to



⁷⁸ Ibid.

⁷⁹ Harrington, Charlene, John F Schnelle, Margaret McGregor, and Sandra F Simmons. 2016. "The Need for Higher Minimum Staffing Standards in U.S. Nursing Homes." *Health Services Insights* 9: 13-19.

⁸⁰ Harrington, Charlene, Helen Carrillo, Rachel Garfield, and Ellen Squires. 2018. *Nursing Facilities, Staffing, Residents and Facility Deficiencies, 2009 Through 2016*. San Francisco: The Henry J. Kaiser Family Foundation.

⁸¹ Rau, Jordan. 2018. "'It's Almost Like a Ghost Town.' Most Nursing Homes Overstated Staffing for Years." *Ithaca* : The New York Times, July 7.

residents, the minimum threshold is 4.1 care hours each day, including 2.8 HCA hours, 0.75 RN hours and 0.55 LPN hours—see Table 7 below.⁸²

Several organizations have endorsed the minimum of 4.1 hprd standard, including the American Nurses Association, Coalition of Geriatric Nursing Organizations, and the National Consumer Voice for Quality Long-Term Care. These organizations have further outlined that at least 30% of total nursing care hours should be provided by licensed nurses and have recommended that RNs should also be on duty 24 hours per day.

As it is widely believed that staffing levels should increase as resident acuity levels increase, the USCMS has since developed a method to determine the minimum nurse

staffing levels needed for U.S. long term care homes based on resident acuity levels. The staffing ratio is based on two measures: total nursing hprd and RN-specific hprd. The USCMS calculates the *expected hours* of care based on the resident acuity (case mix) obtained from the Resource Utilization Group (RUG) scores reported by each care home and USCMS staff time measurement studies published in 2000. Based on this methodology, USCMS reports that the average U.S. long-term care home should be providing 4.17 care hours, including 1.08 RN hours (see Table 7). This is slightly above the current U.S. average of 4.10 hprd.

Five Basic Aspects of Daily Care	
i.	Consistently changing wet lines for incontinent residents who could not successfully toilet if given assistance
ii.	Providing timely toileting assistance for incontinent residents who could successfully toilet
iii.	Providing feeding assistance to either physically dependent residents or those with low food intake
iv.	Providing exercise to all residents;
v.	Providing assistance that enhances the ability of residents to dress and groom independently.

Table 7 - Recommended HPRD - United States

Care Position	Recommended HPRD (USCMS)	HPRD adjusted for resident acuity (USCMS)	Recommended HPRD (Harrington 2000)
RN	0.75	1.08	1.15
LPN	0.55	0.66	0.70
HCA	2.80	2.43	2.70
Allied	<i>no data</i>	<i>no data</i>	<i>no data</i>
TOTAL	4.10	4.17	4.55

Source: Harrington et al, 2016.

⁸² Given that the average length of a Certified Nursing Assistant certificate program in the U.S. is between 4 and 12 weeks, compared to 6-7 months for Health Care Aides in Canada, it is not clear the non-professional nursing component here is comparable to Canadian jurisdictions.

Some U.S. experts have recommended levels above what is prescribed by the USCMS.⁸³ Research on the impact of nurse staffing levels on quality of care in 14,000 care homes undertaken by a panel of U.S. experts concluded that average nurse staffing levels in the U.S. may be too low in some homes to provide high-quality care.⁸⁴ The experts recommended that in order to improve quality of care, nurse staffing levels should be 4.55 hours per day, with adjustments for resident acuity levels and case mix. Their recommendation includes 1.15 RN hours, 0.7 LPN hours and 2.70 HCAs hours per day (see Table 7 above).

Table 8 - Quick Facts - Acuity Levels in U.S. and Canadian Long Term Care Homes

	Ontario, Canada (%)	Michigan, U.S. (%)
Alzheimer's or other dementia	56.3	38.1
CPS	3-4	30.2
	5-6	8.8
ADL Hierarchy	3-4	57.1
	5-6	21.6
% Residents in Highest Acuity RUG III Groups†	42.1	81.9

Source: Carpenter et al, 2013.
†Special Rehabilitation, Extensive Services, Special Care and Clinically Complex

Australia—National Aged Care Staffing and Skills Mix Project Report

A recent and comprehensive Australian study examined the requirements for staffing levels and skill mix in relation to resident acuity levels. The study, called the National Aged Care Staffing and Skills Mix Project, examined how many and what type of health care workers are needed to care for elderly residents at any one time in long term care.⁸⁵ The study used a mixed methods approach—including surveys, focus groups and care modeling—and found evidence that there is a need to improve staffing levels and skill mix in Australian care homes.

⁸³ Harrington, Charlene, Christine T. Kovner, Mathy D. Mezey, Jeanie Kayser-Jones, Suzanne Burger, Michael Mohler, Rebecca Burke, and David Zimmerman. 2000. "Experts recommend minimum nurse staffing standards for nursing facilities in the United States." *Gerontologist* (Gerontologist) 40 (1): 5-16.

⁸⁴ The review found that average nurse staffing levels in 14,140 residential care homes were: 0.72 RN hprd; 0.69 LPN hprd, and 2.10 CA hprd, for a total of 3.51 hprd.

⁸⁵ University of South Australia & Flinders University. 2016. *National Aged Care Staffing and Skills Mix Project Report 2016*. Adelaide: Australian Nursing & Midwifery Federation.

Australia does not currently have prescriptive guidelines regarding staffing levels or skill mix for long term care homes.⁸⁶ The *Australian Aged Care Act (1997)* requires that providers must “maintain an adequate number of appropriately skilled staff to ensure that the care needs of recipients are met.”⁸⁷

The Aged Care Study reports that residents in long term care in Australia receive an average of 2.84 hours of care per day from nurses, personal care workers, and therapy staff.⁸⁸ As outlined in table 9, this includes a skill mix of approximately 15% RN coverage (0.42 hprd), 12% LPN (0.32 hprd), 68% HCA (1.91 hprd) and 5% allied health (0.15 hprd). Currently the aged care industry receives funding based on the national average of 2.8 hprd, with 3.18 hours for residents with the highest care needs and 1.76 hours for residents with lower care needs.

Table 9 – Australian Staffing Levels Recommend by Australian Aged Care Study

Care Position	Average HPRD Australia	Recommended HPRD Australia Aged Care Study
RN	0.42	1.29
LPN	0.32	0.86
RN + LPN	0.74	2.15
HCA	1.91	2.15
ALLIED	0.15	No data
TOTAL DIRECT CARE	2.8	4.3

Source: University of South Australia & Flinders University. 2016. *National Aged Care Staffing and Skills Mix Project Report 2016*. Adelaide : Australian Nursing & Midwifery Federation .

When long term care staff were surveyed regarding staffing levels, only 8.2% of respondents indicated that staffing levels were always adequate. The survey also reported that all care tasks are missed at least some of the time, and the most commonly identified reason for missed care was inadequate staffing levels.⁸⁹ Additional factors that were identified as adding to the time to deliver care were:

- Administrative load;
- Communication needs of residents and clients;
- Inadequate skills mix;
- Size of the care home and access to resources; and
- Working with special needs groups (such as those with dementia, people of culturally and linguistically diverse backgrounds, and people receiving palliative care).

In terms of required staffing levels, the study found evidence that in order to provide safe and restorative care for residents, long term care homes should be providing an average of 4.3 hours of total nursing care

⁸⁶ Though the state of Victoria has recently introduced the Safe Patient Care Act, which prescribes RN-patient ratios for a small number of publicly-subsidized care homes in the state.

⁸⁷ Russell, Sarah. 2016. "Here's why we need nurse-resident ratios in aged care homes." Sydney: The Conversation, September 12.

⁸⁸ Allard, Tom. 2016. "Nursing home profits soar as patient care declines." Sydney : The Sydney Morning Herald , January 1.

⁸⁹ Additional factors that were identified as adding to the time to deliver care were: administrative load; communication needs of residences; inadequate skill mix; size of care home and access to resources; and working with special needs groups.

per day. In particular, the study recommended a skill mix of 30% RN, 20% LPN and 50% HCA as a minimum to ensure safe resident care.

The Australian Aged Care Study is notable as it recommends a professional skill mix of at least 50%. However, it should be noted that Australian HCAs—who are referred to as Personal Care Assistants—can earn their certificate in as little as five weeks. This comparatively low educational standard may partially explain the increased emphasis on professional care, when compared to the B.C. context.⁹⁰

⁹⁰ While standards vary, finding employment in Canada as an HCA typically requires a 6-12 month certificate. The approved provincial curriculum in B.C. takes approximately 7 months.

Quick Facts – Aged Care in Australia

- ❖ More than 170,000 older Australians live in aged care homes at any given time.
- ❖ Up to 83% are classified as requiring high care (i.e. requiring almost complete assistance with most activities of daily living).
- ❖ Of those considered to have high care needs:
 - 60% have dementia
 - 40-80% have chronic pain
 - 45% have a sleep disorder, and
 - 30-40% have depression
- ❖ On average, residents in long term care receive 2.8 hours of care per day from nurses, personal care attendants, and therapy staff.
- ❖ Licensed Nurses account for 27% of the workforce in aged care, while unregulated care workers account for 68%.
- ❖ Unregulated care workers—referred to as Personal Care Attendants (PCAs)—can earn a certificate in as little as five weeks.

Source: Russell, Sarah. 2016. "Here's why we need nurse-resident ratios in aged care homes." Sydney: The Conversation, September 12

5.0 Analysis & Discussion

The research findings outlined in this report have significant implications for staffing levels in B.C.'s long term care sector. The inferences which can be made from the jurisdictional scan, literature review and recommendations from health experts are discussed below.

Staffing Levels in Other Canadian Jurisdictions

When considering care levels in B.C., current staffing levels in other Canadian jurisdictions are of interest. However, as Statistics Canada no longer conducts the Long Term Care Facilities survey, national data on staffing levels is not current. The most recent year for which data is available is 2013, and even then, the data set does not include the hours of unregulated care workers who provide up to 80% of direct care to residents.

Provincial Ministries of Health also do not report regularly on staffing levels in any consistent or standardized manner, thus making meaningful interprovincial comparisons challenging. While British Columbia reports on worked care hours, many other provinces focus on paid care hours, which is a less appropriate measure for hands-on care. While it may be possible to estimate paid care hours based on worked care hours the margin of error is too large for any comparison to be meaningful.

Overall, it is challenging to compare B.C.'s staffing levels to other Canadian provinces and territories due to the sporadic and inconsistent nature of the measures being reported. Access to consistent data on staffing levels will be critical for interjurisdictional comparison and accountability, thus for ensuring that Canadian seniors have access to safe, high-quality care.

BCCPA recommends that the Canadian Institute for Health Information (CIHI) and Statistics Canada work collaboratively with Canadian Association for Long Term Care (CALTC) and other sector stakeholders to establish a consistent methodology to measure and track staffing levels and care hours in long term care homes in Canada. Any such initiative should include staffing levels and care hours for both professional and non-professional care staff, as well as allied health workers. In order to accurately reflect hands-on care, BCCPA recommends that any staffing measure focus on worked rather than paid hours.

➤ Recommendation #1

BCCPA recommends that CIHI and Statistics Canada work collaboratively with CALTC and other sector stakeholders to establish a consistent methodology by 2022 to measure and track staffing mix and hours in long term care homes across Canadian provinces and territories, and that this information be reported regularly.

Staffing Thresholds and Standards

Though interjurisdictional comparisons such as those discussed above are of interest, this report is most concerned with how B.C.'s staffing levels compare to the staffing standards identified in the literature. When compared to the staffing thresholds identified earlier, it appears that a statistically average care home under the 3.36 hprd guideline would have sufficient care hours to reduce the risk of adverse health

outcomes for residents. In particular, average RN, LPN, HCA and licensed nurse (LPN+RN) staffing levels would be above the minimum thresholds identified in the literature. (see Table 10 below).⁹¹

Staffing levels under the 3.36 guideline, however, compare less favourably to the optimal staffing levels identified in the literature to promote quality and improve resident outcomes. While the increase to 3.36 hprd is an improvement over current staffing levels in B.C., the target is still well below the optimal range of 4.1-4.8 hprd identified in the literature. This is true for each occupational component as well, with staffing levels for HCAs, LPNs, RNs, and licensed nurses all falling below optimal thresholds (see Table 10).

Table 10 – 3.36 HPRD Guideline Compared to Staffing Thresholds for Quality Standards

Care Position	3.36 HPRD	Sufficient to Avoid Adverse Outcomes?	Sufficient to Promote Quality and Improve Resident Outcomes?
RN	0.31*	0.14 – 0.67	0.5 – 1.15
LPN	0.57*	0.53 – 0.77	0.70
RN + LPN	0.88*	0.76	0.95 – 1.85
HCA	2.12*	2.06 – 3.00	2.4 – 2.8 3.1 – 3.4
Allied	0.36*	No data	No data
TOTAL	3.36	No data	4.1 – 4.8

* The Ministry of Health has outlined that the 3.36 hprd guideline will include 3.00 hprd of total nursing care and 0.36 hprd of allied health. The skill mix has further been estimated based on Health Authority staffing plans, which outline that of total nursing care hours, approximately 10% should be provided by RNs, 20-25% by LPNs, and 65-70% by HCAs.

While provincial and regional staffing levels are useful guidelines, when it comes to quality of care for individual seniors, staffing at the care home levels is more pertinent. Currently, fewer than 15% of care homes in B.C. are funded at the levels required to meet the all minimum staffing thresholds. Even fewer non-government care homes are able to meet these staff standards, as they are funded at systematically lower levels than their government counterparts (see Figure 6).

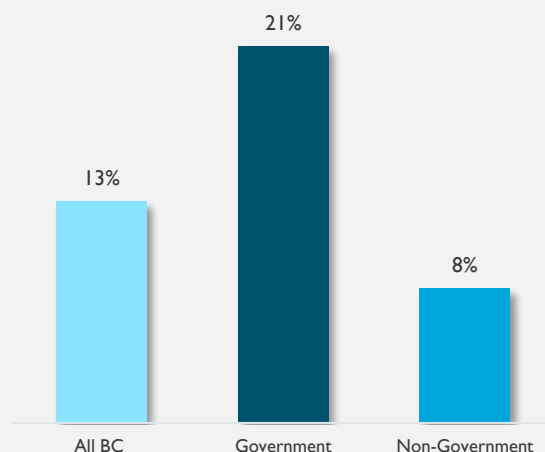
While increasing care hours to meet the 3.36 guideline has the potential to address staffing level disparities between government and non-government care homes, this will depend on how hours are allocated between care homes. If the regional Health Authorities choose to continue to allocate higher staffing levels to government care homes, seniors may continue to have unequal access to long term care services depending on their place of residence.

⁹¹ As these studies did not examine the relationship between allied health staffing levels and adverse resident outcomes, no conclusions can be drawn about the suitability of allied care hours.

Figure 6
Proportion of B.C. Care Homes that Meet All Minimum Staffing Thresholds for RNs, LPNs and HCAs – 2017/18

Only 13% of care homes in B.C. are funded by the regional Health Authorities to meet all recommended staffing standards. Even fewer non-government homes meet these standards, as the HAs have chosen to fund non-government care homes lower than their HA owned and operated counterparts.

Source: Fraser Health, Interior Health, Northern Health, Vancouver Coastal Health, Vancouver Island Health.



In order to ensure the safety of all seniors in care, BCCPA recommends that the B.C. Ministry of Health implement and fund equitably a minimum of 3.36 hprd in all care homes, rather than using a Health Authority average as a benchmark. This would ensure that all seniors have access to high-quality long term care services, regardless of their place of residence.

➤ **Recommendation #2**

BCCPA recommends that the B.C. Ministry of Health fund all providers equitably and implement a minimum of 3.36 hours of care per resident day (hprd) in each care home by 2021 so as to ensure that all seniors have access to high-quality long term care services, regardless of their place of residence.

Staffing Levels Recommendations by Health Care Experts

Staffing levels under British Columbia’s 3.36 guideline are also well below the thresholds identified by health care experts (see Table 11).

As outlined in the literature, RN staffing levels are linked to higher quality of care and positive health outcomes among residents in long term care. As such, health experts have identified that high RN staffing levels will promote better quality of care for residents, recommending RN hours within the range of 0.75-1.29 hprd, or 45 to 77 minutes each day. Care hours under the 3.36 hprd guideline are lower than the recommended RN hours, at an average of 0.31 hprd or 19 minutes. Health excerpts also recommend a higher skill mix, with RNs accounting for 18-30% of total care hours. In contrast, under the 3.36 guideline RN staffing hours are expected to be only 10% of total care hours on average.

LPN staffing levels are also linked to quality of care, though not as strongly as RN levels. Health care experts have recommended that LPN staffing levels be within the range of 0.55-0.86 hprd, or 33-52 minutes per day. LPN hours in B.C. under the 3.36 guideline are within this range, though at the lower end at 0.57 hprd or 34 minutes. While, health experts have outlined that LPN hours should be 15-23% of total nursing care hours, British Columbia falls at the lower end of this range at 17%.

Table 11 – 3.36 HPRD Guideline Compared to Staffing Levels Identified by Health Experts

Care Position	Breakdown of 3.36 HPRD	Sharkey Recommended HPRD	Recommended HPRD (USCMS)	Recommended HPRD (Harrington 2000)	Recommended HPRD (Australia Aged Care Study)
RN	0.31*	-	0.75	1.15	1.29
LPN	0.57*	-	0.55	0.70	0.86
RN + LPN	0.88*	1.0	-	-	2.15
HCA	2.12*	2.5	2.80	2.70	2.15
Allied	0.36*	0.5	-	-	-
TOTAL	3.36	4.0	4.1	4.55	4.30

*The skill mix under the 3.36 hprd guideline is estimated based off of Health Authority staffing plans, which outline that of total nursing care hours, 10% should be provided by RNs, 20-25% by LPNs, and 65-70% by HCAs.

In terms of combined hours for licensed nurses (LPNs + RNs), the Sharkey report recommended a minimum of 1.0 hprd (25% of total care hours), while the Australian Aged Care Study went much further to recommend 2.15 hprd (or 50% of total care hours). Licensed nurse staffing levels in B.C. under the 3.36 guideline would not meet either recommended standard.

Recommended staffing levels for HCAs range from 2.15 to 2.80 hprd. In terms of skill mix, health care experts recommend that HCAs account for anywhere between 50% and 68% of total care hours. Care hours for HCAs under the 3.36 guideline will fall just short of this recommendation at 2.12 hprd. In terms of skill mix, HCA staffing levels will fall into the recommended range at 63%.

The vast majority of studies examined within this report have not examined care hours for allied health care workers, as the literature relating to quality of care is largely concerned with nursing and personal care staffing levels. This is problematic, as allied health workers make significant contributions to the quality of life and quality of care for residents. The only recommendations regarding allied care hours is from the Sharkey Report, which recommends 0.5 hours of care per day be delivered by allied health care professionals. This is higher than the allied care hours that will be delivered in British Columbia under the 3.36 guideline, which will include up to 0.36 hprd or around 22 minutes per day per person.

Finally, in terms of overall staffing levels health care experts have recommended in excess of four hours per day. The lowest recommended staffing levels were from the Sharkey Report in 2008 at 4.0 hours per day for total direct care (including allied health), and the highest were from U.S. health care experts who outlined that a minimum of 4.55 total nursing care hours are required to promote quality care. All recommended care levels are significantly higher than B.C.'s current target of 3.36 hprd.

However, there are some caveats to these findings. The majority of peer reviewed literature and expert recommendations are external to Canada, and specific to the U.S. How applicable American findings are to Canada is difficult to say. There are differences in the health care systems, such as how the systems are

organized, resident acuity levels,⁹² and case mix, as well as differences in the education and skill levels of care workers. There are also major concerns regarding how staffing levels are reported in the U.S., as they may be overstated.⁹³ Caution should be used when applying international findings to the Canadian context.

Furthermore, many of the staffing standards recommended by experts are several years (or even decades) out of date. Given the increasing medical complexity of residents in long term care, it is questionable whether the standards identified in the literature are adequate for today's resident population. As such, BCCPA recommends that the Ministry of Health and regional Health Authorities undertake further review and analysis to determine appropriate staffing levels and care hours to promote the health and well-being of seniors.

Such analysis should be undertaken in collaboration with sector stakeholders, including care providers, health care experts, academia, unions, frontline workers, and residents themselves in order to ensure a fulsome understanding of the staffing levels and skill mix necessary to care for residents of different acuity levels and case mix. Though the current literature focuses primarily on nursing and personal care hours, BCCPA believes that any analysis undertaken should be inclusive of care hours provided by allied health workers, as these services contribute both to quality of care and quality of life for residents.

➤ **Recommendation #3**

BCCPA recommends that the B.C. Ministry of Health and regional health authorities in collaboration with BCCPA and sector stakeholders, undertake a study to be completed by 2021 that would determine what staffing mix and hours are appropriate for residents in long term care homes in B.C. given current resident acuity levels and mix. Along with determining what is an appropriate minimum level of care hours, any such study should examine skill mix, including nursing, personal care and allied health hours.

⁹² See Table 8 on page 27.

⁹³ Rau, Jordan. 2018. "It's Almost Like a Ghost Town.' Most Nursing Homes Overstated Staffing for Years." Ithaca : The New York Times, July 7.

6.0 Conclusion & Recommendations

This report illustrates that long care homes in B.C. are not universally funded at the staffing levels necessary to ensure the health and well-being of all seniors. BCCPA urges B.C.'s Health Authorities and the Ministry of Health to allocate and fund equitably additional care hours so as to provide a minimum of 3.36 care hours per resident day for each care home with the goal to eliminate differences between government and non government providers. This recommendation must be considered within the context of the current health human resource landscape, as a comprehensive HHR strategy is needed to ensure a robust health workforce.

Care levels in Canada are also well below the standards identified by health care experts as necessary to promote quality and improve resident outcomes. Evidence from Canada and internationally suggest that total care hours should be set at a minimum of four hours per day. Current staffing levels in British Columbia are well below these identified thresholds and will still be insufficient after the 3.36 guideline is achieved. However, caution should be used when applying findings from other jurisdictions to the Canadian context, as considerable differences are apparent.

Determining what an appropriate level of care in the B.C. context is will require further study and analysis. BCCPA recommends that the B.C. Ministry of Health and industry stakeholders undertake further research to determine what the most appropriate level of care is for today's seniors living in care. In particular, the staffing levels necessary to promote quality of care and quality of life for residents, as well as safety and quality of work-life for staff should be examined. Any review should be inclusive of allied health workers as well, as they are valued members of the care team and their work is fundamental to promoting quality of life for seniors in care.

BCCPA believes that as our society ages, ensuring the health, safety and happiness of persons in care will be of the utmost importance. And while health care is a provincial responsibility, collecting standardized national data on staffing levels and skill mix in long term care on a regular basis will be critical. Information should be collected not only on health care professionals, but also on the unregulated care workers who provide up to 80% of direct care to seniors. BCCPA recommends that Statistics Canada and the Canadian Institute for Health Information, in collaboration with sector stakeholders such as CALTC, reinstitute regular data collection on staffing mix and hours in long term care.

Finally, BCCPA acknowledges that identifying appropriate staffing levels for residents in long term care is by nature a moving target. Any one staffing level or standard of care will likely be overly simplistic given the diverse and ever-changing needs of residents in care. In reality, care homes will need the flexibility and resources to provide staffing levels that take into consideration the care needs of their resident population, the home's care philosophy and building design, the skill mix and experience of workers, as well as other individual and system level factors. This complexity notwithstanding, identifying the system levels resources and staffing targets that will be required to ensure the health and safety of seniors is a necessary first step. And as we face an aging society, this work is more imperative now than ever.

Appendix A: Staffing Requirements in Canadian Care Homes by Province

Alberta

Alberta is one of the few jurisdictions in Canada that prescribes specific staffing levels for long term care within its regulations. Alberta's Nursing Homes Operation Regulations outlines that long term care homes must provide an at least 1.9 hours of nursing care per day, of which at least 22% (0.418 hprd) must be provided by an RN. They regulations further prescribe that the care home must have at least one RN on duty 24/7.⁹⁴ In addition, Alberta Health Services further reports that long term care homes must provide a minimum of 2.97 hours per weighted client day (or 3.6 paid hprd), including personal care, nursing, and allied health services.⁹⁵

The 2007/10 Accountability Guide for Alberta's regional health authorities provided a target measure of an average of 3.8 paid hours for personal and personal care per resident per day for nursing homes and auxiliary hospitals in 2007/08.⁹⁶ However, the data reported by CIHI in Figure 3 on page 14 indicates that Alberta provides an average of 3.58 paid hprd—though this reportedly varies by ownership type, from 4.0 paid hprd in publicly-owned care homes, to 3.1 and 3.0 in private-for-profit and non-profit care homes respectively.⁹⁷

Saskatchewan

Long term care homes in Saskatchewan currently have no prescribed guidelines for staffing levels, other than the requirement to have an RN available 24/7 (either in the care home or on call). The program guidelines for Special Care Homes outline that the "provision of nursing and personal care may be provided with a staff mix of regulated health care providers including registered nurses, registered psychiatric nurses and licensed practical nurses and continuing care aids/special-care aids (CCA/SCA) to ensure the provision of quality resident centred care that meets the assessed care needs of the residents."⁹⁸

Saskatchewan did previously have prescriptive guidelines for staffing levels; long term care homes for residents with "intensive personal or nursing care" needs were required to have enough staff to provide at least 2 hours of that level of care per resident per day, with an RN or RPN on duty 24 hr/day responsible for care and supervision. However, these guidelines were repealed in 2011.⁹⁹

⁹⁴ Province of Alberta. 2017. "Alberta Regulation 258/85: Nursing Homes Operation Regulation ." Alberta Queen's Printer.

⁹⁵ Alberta Health Services. 2015. *Patient / Care-Based Funding Long-Term Care*. Edmonton: Government of Alberta.

⁹⁶ Ontario Ministry of Health and Long Term Care. 2008. *People Caring for People: Impacting the Quality of Life and Care of Residents of Long-Term Care Homes*. Toronto: Ontario Ministry of Health and Long Term Care.

⁹⁷ Campanella, David. 2016. *Losing Ground: Alberta's Residential Elder Care Crisis*. Edmonton: Parkland Institute.

⁹⁸ Saskatchewan Ministry of Health . 2016. *Program Guidelines for Special Care Homes*. Regina: Government of Saskatchewan.

⁹⁹ SEIU West . 2015. *We put the CARE in Long-Term Care*. Moose Jaw: SEIU West Canada.

While information regarding current care levels is not readily available for Saskatchewan, the province's NDP opposition party, as well as the Saskatchewan Ombudsman, have raised concerns regarding the overall quality of care being provided to residents, including with respect to staffing levels.¹⁰⁰¹⁰¹

Manitoba

Manitoba currently has no legislative requirements for minimum staffing guidelines in long term care. Instead, staffing levels are enforced through a government directive referred to as Personal Care Home Staffing Guidelines. Initially developed in 1973 and amended in 2007, Manitoba's staffing guidelines require all long term care homes to provide enough staff to provide 3.6 paid hours of care per resident per day (hprd), including 24/7 RN coverage.¹⁰²

For long term care homes with 80 or more beds, the 3.6 paid hprd includes 15% RN (0.65 hprd), 15% LPN (0.65 hprd) and 70% HCA hours (2.52 hprd). For care homes with fewer than 80 beds the ratio for licensed nurses is slightly higher, at 35% for licensed nurses and 65% for HCAs.

In terms of actual staffing levels, data from CIHI reports that long term care homes in Manitoba provided an average of 3.75 paid hours of direct care (see Figure 3 on page 14), including by nursing and allied care staff. Despite this, several sector stakeholders and health care experts have raised concerns regarding staffing levels in the province, including the Manitoba Nurses Union, and the Canadian Centre for Policy Alternatives.¹⁰³

Ontario

Similar to the majority of jurisdictions in Canada, regularly requirements for staffing levels in Ontario are not prescriptive. The regulations require that there be "organized programs of nursing services and personal support services that meet the assessed needs of residents. At least one registered nurse (RN) who is both an employee of the Home and a member of the Home's regular nursing staff must be on duty and present in the Home at all times, except as set out in the Regulation."¹⁰⁴

Ontario's long term care regulations further state that care homes must "provide for a staffing mix consistent with resident's assessed care and safety needs" and that they must "promote continuing of care by minimizing the number of different staff members who provide nursing and personal support services to each resident."

As of 2018, the Ontario Ministry of Health and Long Term Care reports care homes are currently providing an average of 3.5 paid hprd¹⁰⁵ which includes approximately 10% RNs, 18% LPNs, 65% HCAs and 7% other

¹⁰⁰ Graham, Jennifer. 2017. "Lack of staff, baths a concern in long-term Saskatchewan care homes." Regina: Global News, February 7.

¹⁰¹ Saskatchewan Ombudsman. 2015. *Taking Care: An Ombudsman investigation into the care provided to Margaret Warholm while a resident of the Santa Maria Senior Citizens Home*. Public Report, Regina: Saskatchewan Ombudsman.

¹⁰² Manitoba Nurses Union. 2018. *The Future of Long-Term Care is Now: Addressing nursing care needs in Manitoba's Personal Care Homes*. Winnipeg: Manitoba Nurses Union.

¹⁰³ Matt McLean. 2013. *Work Life: For the Care We All Deserve: Building Better Long Term Care in Manitoba*. Winnipeg: Canadian Centre for Policy Alternatives.

¹⁰⁴ Government of Ontario . 2011. *A Guide to the Long-Term Care Homes Action, 2007 and Regulation 79/10*. Toronto : Queen's Printer for Ontario .

¹⁰⁵ Elizabeth, Payne. 2017. Ontario to invest \$115 million in new long-term care beds, staffing. Ottawa, November 7.

staff.¹⁰⁶ In terms of worked care hours, the provinces provide an average of 2.71 worked hprd (though this does not include allied health).¹⁰⁷

However, in November of 2017 the Government of Ontario released *Aging with Confidence: Ontario's Action Plan for Seniors*.¹⁰⁸ The plan includes Ontario's intention to increase direct care hours to a provincial average of 4.0 paid hprd, which the province estimates will mean an additional 15 million hours of nursing, personal support and therapeutic care for long-term care residents across Ontario.

New Brunswick

Legislative requirements in New Brunswick are not prescriptive with respect to staffing. The New Brunswick Nursing Homes Act: Regulation 85-187 requires that long term care homes with 30 or more beds provide care under the supervision of an RN, and that care staff be in attendance at all times in appropriate ratios.

Long term care homes in New Brunswick are currently funded to provide 3.1 hprd. The funding formula has two components:

- Funding for Core Staff, including RNs, LPNs and HCAs, at 2.5 hours per day. The standard for core staff is 20% RN, 40% LPN and 40% HCA. RN and HCA ratios are adjusted to ensure that one RN is in the building 24 hours each day in care homes with 49 beds or less.
- Additional 0.6 hprd of funding for peak workload staffing by HCAs, care support staffing by HCAs, rehabilitation support by LPNs, and clerical support.¹⁰⁹

In 2012, the Government of New Brunswick had made a commitment to implement 3.5 hours of care per day per resident within its mandate.¹¹⁰ The province has also announced its intentions to move away from a higher skill mix towards greater use of Health Care Assistants.¹¹¹

Nova Scotia

Nova Scotia's 1989 *Homes for Special Care Act* requires that care homes with more than thirty residents have a registered nurse on duty at all times, though homes with less than thirty residents only need to have one RN on duty for 8 hours a day. The program requirements outline that each long term care home

¹⁰⁶ Ontario Association of Non-Profit Homes and Services for Seniors. 2014. *The Need is Now: Addressing Understaffing in Long Term Care*. Toronto: OANHSS

¹⁰⁷ Ontario Health Coalition. 2019. "Situation Critical: Planning, Access, Levels of Care and Violence in Ontario's Long-Term Care." Toronto. <http://www.ontariohealthcoalition.ca/wp-content/uploads/FINAL-LTC-REPORT.pdf>.

¹⁰⁸ Government of Ontario. 2017. *Aging with Confidence: Ontario's Action Plan for Seniors*. Toronto: Government of Ontario. https://files.ontario.ca/ontarios_seniors_strategy_2017.pdf.

¹⁰⁹ Ontario Ministry of Health and Long Term Care. 2008. *People Caring for People: Impacting the Quality of Life and Care of Residents of Long-Term Care Homes*. Toronto: Ontario Ministry of Health and Long Term Care.

¹¹⁰ Province of New Brunswick. 2009. *Being There for Seniors: Our Progress in Long-Term Care*. Fredericton: Province of New Brunswick .

¹¹¹ Bowie, Adam. 2016. "Hundreds fewer RNs, LPNs in New Brunswick nursing homes, if planned changes go ahead." THE DAILY GLEANER, March 02.

must ensure that the “allocation of staff members is appropriate in numbers and qualifications reflecting the needs of residents and the layout of the home.”¹¹²

The Nova Scotia Nurses’ Union reports that the Department of Health and Wellness provides funding for 4.0 paid nursing hprd, including 1.0 hprd for licensed nurses (RN and LPN) and 3.0 hprd for HCAs.¹¹³ This is largely consistent with the data reported from CIHI, which finds that Nova Scotia provides 4.13 paid hprd on average—the highest of any jurisdiction in Canada. However, the Nova Scotia Nurses Union claims that actual staffing levels are closer to 3.45 paid hprd.¹¹⁴ Despite this, advocacy groups have raised concerns regarding staffing levels in the province, particularly in relation to mortality due to infected pressure sores in the past two years.¹¹⁵

¹¹² Nova Scotia Health and Wellness. 2016. Long Term Care Program Requirements: Nursing Homes & Residential Care Facilities . Halifax : Government of Nova Scotia.

¹¹³ Nova Scotia Nurses Union . 2015. Broken Homes: Nurses speak out on the state of long-term care in Nova Scotia and chart a course for a sustainable future. Dartmouth : Nova Scotia Nurses' Union.

¹¹⁴ CBC News. 2018. "152 severe bedsores reported at Nova Scotia long-term care facilities." CBC, June 21.

¹¹⁵ Henderson, Jennifer. 2018. "McNeil not ready to improve staffing at Nova Scotia nursing homes." Halifax: Herald News, May 18.

Appendix B: Studies examining Staffing Levels using HPRD

Staffing Levels to Avoid Adverse Outcomes

Within the literature, there are five robust studies that examine the staffing levels necessary to avoid adverse resident outcomes that also use the staffing measure hours per resident day (hprd). These studies are summarized in Table A1, and include:

Kramer et al (2000): Researched the association between nurse staffing levels and quality of care in 1,786 U.S. residential care homes, focusing on hospitalization for specific causes (i.e. congestive heart failure, electrolyte imbalance, respiratory infection, UTI, and sepsis). Kramer et al. (2000) identified that in order to avoid hospitalization for sepsis and UTIs, care homes require a minimum of 0.14 hours per resident day (hprd), and 0.63 hprd for LPNs, respectively. In addition, the study also found that a combined minimum level of RN and LPN staffing below 0.76 hprd was strongly associated with the likelihood of hospitalization on all five quality indicators. The study did not provide any information regarding overall care staffing levels.

Hutt et al (2000): In a study of over 1,200 care homes in New York and Ohio, Hutt et al (2000) demonstrated that there was a relationship between lower staffing levels and the likelihood of poor outcomes for residents. Hutt et al. found that care homes with RN and LPN staffing levels below 0.25 hprd and 0.77 hprd respectively are more likely to be grouped in the worst 10% of care homes with regards to incidence rates of pressure ulcers. Furthermore, the report that that RN staffing levels below 0.25 hprd are associated with poorer outcomes regarding functional improvement.

Horn et al (2005): A study of 82 long term care homes by Horn et al (2005) examined the link between staffing levels and incidences of pressure ulcers. The study found that residents who received 2.25 or more hours of HCA time per day were 41% less likely to develop pressure ulcers than those receiving less than 2.25 hprd per day. Similar thresholds were found for LPNs and RNs at 0.75 and 0.67 hprd, respectively.

Zhang et al (2006): A study by Zhang et al (2006), which included 14,113 U.S. residential care homes, focused on identifying the non-linear relationship between staffing levels and quality. In particular, the study found that additional staffing at very low levels creates exponential improvements in quality of care, but that after a certain threshold the improvement in care quality slows and eventually stops. The study found that the minimum thresholds of RN time to achieve 50%, 75%, and 90% quality levels were 0.31, 1.83, and 3.3 hours per resident per day, respectively. The researchers could not statistically determine a minimum staffing level for LPNs at the 50% of 75% quality level, but identified that 8.4 LPN hprd were significantly associated with the 90% quality level.

Dyck (2007): In her dissertation work, Dyck (2004) researched the quality outcomes of weight loss and dehydration among 2,951 residential care facilities in six U.S. states. Dyck found that residents receiving 3 or more hours of care aide per resident day had a 17% less risk of weight loss compared to those residents receiving less than 3 hours of care aide time per day.

Table A1 - Staffing Levels to Avoid Adverse Outcomes

Study / Report	RN HPRD	LPN HPRD	RN + LPN HPRD	HCA HPRD	Total HPRD	Quality Indicator(s)	Sample Size
Dyck (2004), (2007)				>3.0		Weight loss, Dehydration	364,339 residents in 2,951 care homes
Horn et al. (2005)	0.5 to 0.67	0.75		>2.25		Pressure Ulcers, Deterioration in ADLs	1,376 residents in 82 care homes
Hutt et al. (2000)	>0.25	>0.77				Pressure Ulcers	1,200 care homes in New York and Ohio
Kramer et al (2000)	>0.14	>0.53 to 0.63	>0.76	>2.06		Unnecessary Hospitalization	1,786 U.S. residential care homes
Zhang (2006)	0.31, 1.83, 3.30					Indwelling Catheters, Pressure Sores, Physical Restraints	14,113 U.S. residential care homes
Source: Adapted from Murphy et al 2006.							

Table A2 - Staffing Levels to Improve Quality of Care Outcomes

Study Report	RN HPRD	LPN HPRD	RN + LPHN HPRD	HCA HPRD	Total HPRD	Quality Indicator(s)	Sample Size
Bates-Jensen et al. (2004)				3.4 +/- 0.7	4.8 +/- 1.1	Time in bed, social engagement, food intake	882 residents from 34 California care homes
Dorr et al (2005)	0.5 to 0.67					Pressure Ulcers	1,376 residents in 82 U.S. Care Homes
Konezta, Stearns, & Park (2008)	0.35					Pressure Ulcers, UTIs	399,206 residents in 1,366 care homes in 3 U.S. states
Kramer and Fish (2001)	0.75	0.55	0.95 – 1.5	2.4 – 3.1	4.1	ADLs, weight loss, Pressure Ulcers	5294 care homes in 10 U.S. states
Schnelle & Simmons (2004)					4.5 to 4.8	Time-in-bed, social engagement, eating assistance, reposition, exercise, toileting, PU	21 care homes in California
Schnelle et al (2001)				2.8 to 3.2		Toileting, eating assistance, exercise, ADL	674 New York and 972 Ohio care homes
Source: Adapted from Murphy et al 2006.							

Staffing Levels to Improve Quality of Care Outcomes

Within the literature, there are a number of studies that examine the staffing levels necessary to promote improved resident outcomes (e.g. functional abilities). Six use the staffing measure hours per resident day (see Table A2), and include:

Kramer and Fish (2001): Examined the relationship between nurse staffing levels and quality of care in 5,294 long term care homes in 10 U.S. states. The quality of care measures studied were improvement in functional abilities and in resident's incidences of resisting care, and incidence of weight loss and pressure ulcers. The study found that minimum staffing thresholds below which care homes are at increased risk of being in the worst 10% of care home for quality indicators, and above which there is no significant improvement in quality of care. Specifically, the study found that overall staffing levels of 4.1 hprd are linked to quality. In terms of RN staffing levels, the study found that the threshold for improved quality of care was between 0.6 and 0.8 hprd, for a weighted average of 0.75 hprd (pressure ulcers and functional improvements). Similarly, the study found that the threshold for combined RN and LPN staffing levels for quality improvements was between 0.95 and 1.55 hprd (1.3 weighted average). When examining staffing levels for HCAs,¹¹⁶ the study found that a weighted average of 2.8 hprd was necessary for improved quality of care (weight loss, skin trauma, pressure ulcers, functional improvements). As discussed earlier, the Kramer and Fish (2001) study is the basis for the expert recommendations made by the U.S. Centers for Medicaid and Medicare Services.

Bates-Jensen et al (2004): Examined the relationship between overall and nurse staffing levels on the time that residents spent in bed during the daytime hours (7am to 7pm) among a sample of 882 residents from 34 care homes in California. Bates-Jensen et al. (2004) found that nurse and personal care staffing levels (RNs, LPNs, and HCAs) was the strongest predictor of observed time in bed after controlling for residents' demographics and level of functioning. The residents in lower-staffed homes were observed in bed an estimated average of 5 hours a day (between 7am and 7pm) versus an estimated 3 daytime hours for residents in the high-staffed homes. The researchers found with respect to time spent in bed, the residents' care improved in high-staffed homes that reported a mean care aide staffing level of 3.4 hprd (plus or minus 0.7). With respect to total nursing care hours per day, the study found that those care homes performing in the top decile of all homes reported staffing levels of 4.8 hprd (plus or minus 1.1 hprd).

Dorr et al (2005): examined the relationship between higher nurse staffing and adverse resident outcomes (i.e. Pressure Ulcers) in 82 U.S. care homes. The researchers found that the rate of pressure ulcers was four times less in the care homes that had RN staffing levels of 30 to 40 minutes (0.5 to 0.67 hprd) compared to those care homes with only 10 minutes per resident day.

Schnelle et al (2004): examined the relationship between staffing and quality of care in 21 long term care homes. The researchers found that participants in the highest-staffed homes were engaged more frequently; received better feeding and toileting assistance; were repositioned more frequently; spent more time out of bed during the day; and showed more physical movement patterns during the day. Schnelle et al (2004) found that the most dramatic quality improvement occurred for care homes that reported a total staffing average from 4.5 to 4.8 hprd. The researchers also identified that long term care homes with one care aide to 7.6 residents performed better on 13 out of 16 care processes as compared

¹¹⁶ Known as Certified Nursing Assistants in the U.S.

to homes with one care aide for 9-10 residents. Based on these outcomes, the researchers suggest that HCA staffing levels of approximately 2.8 hprd are associated with better quality.

Schenelle et al (2001): a stimulation study of the “minimum staffing levels necessary to achieve ‘good’ quality long term care,” based on five care processes, including feeding, toileting, exercise, and personal care assistance. The study found that the minimum number of care aide full time equivalent (FTE) positions required per 24 hours for 40 residents for optimal care, varied from 16 FTE to 14 FTE, depending on workload (high, medium and low). The study suggests that 3.2 care aide hprd are needed for high workload care homes versus 2.8 for low workload care homes.

Koneztka et al (2008): examined the relationship between RN staffing levels and incidence of pressure ulcers and improvements in UTI rates. Their sample was nearly 400,000 residents in 1,366 care homes in three U.S. states. While the researchers did not find that higher RN staffing levels had an effect on incidences of pressure ulcers, they did find improvements in UTI infection rates.

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