



Impact of COVID-19 on residents of Canada's long-term care homes – ongoing challenges and policy responses

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1. Key findings

- While there are many sources of data on the impact of COVID-19 on the Canadian population in general, timely information on the number of confirmed cases of COVID-19 in Canadian long-term care homes was less accessible until recent weeks.
- As new information becomes available and cases evolved or resolved, we have observed changes to previously estimated prevalence and case fatality of residents in Canadian long-term care homes.
- Based on the reported number of COVID-19 cases from official sources in Ontario, the estimated doubling time was 8.2 days between April 20th and April 26th.
- Case fatality rate among residents in Canadian long-term care homes is 25%. This is roughly 5 to 10% higher than the global case fatality rate among people over the age of 80.
- Based on publicly available information from official sources, we have found that deaths in long-term care residents currently represent 66.4% of all COVID-19 deaths in Canada. Unofficial estimates that include retirement homes and other residences for seniors suggest it may be as high as 78.4%.
- Difference in the overall size and density of the population in each province, which influences the rate of community transmission, likely drive the total number and rates of COVID-19 deaths in long-term care homes rather than the proportions of provincial/territorial populations 80 years or older living in these settings.
- Given the vulnerability of residents in long-term care homes, the proper implementation of infection prevention and control policies is the most effective strategy to reduce overall rates of infection and deaths in this population.
- Policy measures to ensure the adequate staffing, the limitation of movement of healthcare workers between multiple sites will also be key in helping to prevent the continued spread of COVID-19 and associated mortality in Canadian long-term care home residents.

2. Impact of COVID-19 on Canadian long-term care homes so far

According to the 2016 Census, 425,755 Canadians live in long-term care or retirement homes as well as assisted living facilities.³ So far, at least 9,746 (2.3%) of these residents have been infected with COVID-19, and 2,395 of them have died as a result. Much like populations in nursing homes in other countries, residents in Canada's long-term care homes are frail and at the highest risk of experiencing severe symptoms and death from COVID-19.⁴

Recent studies of long-term care home residents in Ontario — Canada's most populous province with 14.5 million residents — illustrate the high burden of chronic disease and frailty in this population.^{5,6} Because residents in long-term care homes are more susceptible to serious infection once exposed to COVID-19, homes where infection has been introduced have suffered dire consequences. Recent reports of tragic resident deaths from rapid outbreaks in long-term care homes across several Canadian provinces — such as Pinecrest Nursing Home in Bobcaygeon, Ontario⁷; Lynn Valley Care Centre in North Vancouver, British Columbia⁸; McKenzie Towne Continuing Care Centre in Calgary, Alberta⁹; Résidence Herron in Montreal, Québec¹⁰; and, most recently, Northwood long-term care home in Halifax, Nova Scotia¹¹ — further illustrate the need to protect the vulnerabilities of this population from COVID-19 exposure.

Context: Within Canada, long-term care homes are establishments that provide 24-hour supervision and functional supports for people who are frail, require assistance with their daily activities and often have multi-morbidity. Most residents of long-term care homes are over 80 years old and 70% of them have dementia. Across the provinces and territories, these homes may be known as long-term care homes (in Ontario, Saskatchewan, British Columbia, and Yukon), care homes (British Columbia), nursing homes (in Nova Scotia, and New Brunswick), personal care homes (in Newfoundland and Labrador as well as Manitoba), long-term care facilities (in Newfoundland and Labrador, Prince Edward Island, British Columbia, and Northwest Territories), residential care facilities (in Nova Scotia, Alberta and British Columbia), special care homes (in New Brunswick and Saskatchewan), continuing care facilities (in Northwest Territories), or continuing care centres (in Nunavut). In the province of Québec, they are known as centres d'hébergement de soins de longue durée (CHSLD).

Many older Canadians require substantial health supports but not at the intensity offered in long-term care homes. These people may choose to live in residences primarily designed for older adults and provide these services in a home-like setting, with fewer skilled staff and lower staff-to-resident ratios than in long-term care homes. These residences are commonly referred to as assisted living residences in Alberta, retirement homes (Ontario) or private senior residences (résidences privées pour aînés, RPA) in Québec. They are occasionally collocated with long-term care homes so that residents may seamlessly transfer between them as their care needs change.

2.1. Number of reported cases in long-term care

According to publicly available data as of May 3, 2020, there are now at least 59,474 confirmed cases of COVID-19 in Canada;¹² with at least 9,746 (or approximately 16%) of these are in long-term care homes or other residential care settings (including retirement homes and assisted living facilities). This amounts to 2.3% of Canada's approximately 425,755 long-term care and retirement home residents. Below is a summary of COVID-19 cases in long-term care homes and other residential care settings for seniors across Canadian provinces based on publicly available data.

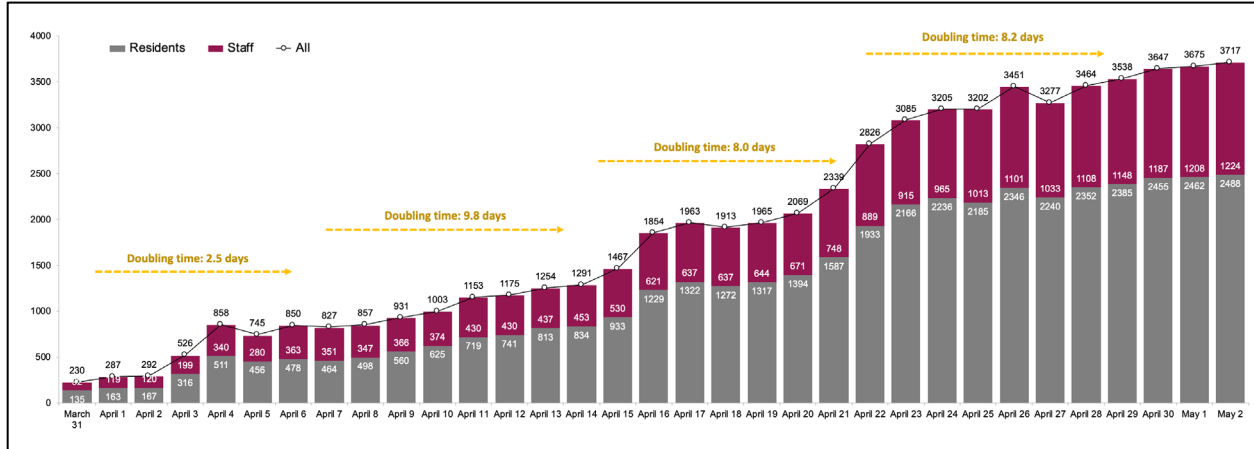
Methodology note: There are continued challenges to accessing timely data on the number of confirmed cases of COVID-19 in Canadian long-term care homes. While each province's Chief Medical Officer and/or premier has provided daily updates, data that are collected by public health agencies are not always readily accessible to the public or organized in a way that is conducive to examination of temporal changes. These challenges are reflected in the numbers that are presented in this report, which were drawn from a mix of official epidemiological reports produced by some of the provinces or their provincial public health agencies (such as [Public Health Ontario/Government of Ontario](#) and the [BC Centre for Disease Control](#)), daily updates or news releases provided by the province (in [Nova Scotia](#) and [Alberta](#)), and the websites of individual long-term care homes or their corporate offices.^{1,2} As more information becomes available, we will update the numbers in this report and continue to reflect on the impact of COVID-19 in Canada's long-term care homes.

As of April 29, 2020, Québec reports the highest number of confirmed cases of COVID-19 among people living in long-term care and senior residences. There are 6,172 residents in Québec's 2,000-plus long-term care homes (CHSLD) and private senior residences (RPA) who have COVID-19.¹³ They represent 22.4% of the 27,538 confirmed cases in Québec.

Ontario has the second highest number of confirmed cases of COVID-19 among residents in long-term care homes. As of May 2, there are 17,553 cases of COVID-19 in the province, based on official numbers produced by Public Health Ontario, with 2,488 (14.2%) cases among long-term care residents and 1,224 (7.0%) in long-term care staff from homes with confirmed outbreaks. However, this is likely to be an underestimate as there are known discrepancies between the counts of cases extracted from the province's integrated Public Health Information System (iPHIS) and the Ministry of Long-Term Care's Daily Report due to lags in reporting time. The count of cases extracted from the Ministry of Long-Term Care's Daily Report on May 2, 2020, included 2,719 residents and 1,594 staff. Furthermore, the official report does not include cases and deaths from private residences for seniors, such as retirement homes and assisted living facilities. Recent estimates produced by the National Institute on Ageing's (NIA) Long-Term Care COVID-19 Tracker Open Data Working Group suggest there are at least 6,361 cases in just under 20% of the 1,400 long-term care and retirement homes in Ontario as of May 2, 2020. For consistency, all data presented in this report are derived from iPHIS, as this is the official data source for the provincial counts of cases

and deaths and will allow us to calculate the proportion of all deaths in the province represented by only residents in long-term care homes. We note deviations from this approach where possible. Based on the reported number of COVID-19 cases from iPHIS, the estimated doubling time was 8.2 days between April 20th and April 26th (Figure 1). In contrast to the general population in Canada, where the rate of growth of COVID-19 cases has decreased and the most current doubling time was 15 days (during the period April 11 to 25)¹⁴.

Figure 1. Total number of reported cases in Ontario's long-term care homes with confirmed COVID-19 outbreaks



Source: Derived from Daily Epidemiological Summaries produced by Public Health Ontario. Accessed on May 3, 2020 from: <https://www.ontario.ca/page/2019-novel-coronavirus>

As a result of infrequent official data updates and a lack of consistent reporting of cases in long-term care settings, we have opted not to present the daily increase in cases over time for most provinces. The province of British Columbia had the earliest publicly reported outbreak in long-term care homes in Canada on March 5th.⁸ Among the 2,145 confirmed COVID-19 cases in the province reported on May 1, 2020,¹⁵ 260 (or 12.1%) are patients from acute care institutions, or residents in long-term care homes and assisted living facilities.

Recently, there have been steady rises in the number of confirmed cases reported in the provinces of Alberta and Nova Scotia. Alberta now has 580 cases (comprised of both residents and staff) in long-term care homes as of May 1, 2020.¹⁶ They represent 10.4% of the 5,588 confirmed cases in Alberta. Nova Scotia has reported 239 confirmed cases among residents in long-term care homes as of May 2, 2020.¹⁷ They represent 24.6% of the 971 confirmed cases in the province.

Based on publicly available information, many Canadian provinces and territories continue to have fewer than 10 cases (including both residents and staff) in long-term care homes:

Table 1. Prevalence of COVID-19 in Canadian provinces or territories reporting fewer than 10 cases in long-term care and retirement homes (as of May 3, 2020)

Province or Territory	Number of Cases
Newfoundland and Labrador	1 long-term care home resident
Prince Edward Island	No reported cases in long-term care homes
New Brunswick	1 healthcare worker from a retirement home
Manitoba	4 residents (2 resulting resident death) and 2 healthcare workers from 5 long-term care homes
Saskatchewan	2 residents (2 resulting resident death) and 4 healthcare workers from 2 long-term care homes
Yukon	No reported cases in long-term care homes
Northwest Territories	No reported cases in long-term care homes
Nunavut	No reported cases in long-term care homes

Sources: Estimates based on various sources, including provincial public documentation and health officer and premier updates to press.

2.2. Number of reported deaths due to COVID-19 in long-term care

Global estimates indicate that approximately 13-26% of people over the age of 80 have died if infected with COVID-19.^{18,19} Based on the publicly available Canadian data presented in this report, we estimate a case fatality rate of 25% (Range 11 to 35%) among residents of Canadian long-term care homes (Table 2). This sobering case fatality rate is much higher than the 6.3% for the total Canadian population, where there have been 57,148 confirmed cases and 3,606 deaths as of May 3, 2020. The case fatality rate would be even lower if cases and deaths from long-term care homes were removed from this calculation. A recent study of skilled nursing facilities in the U.S.,²⁰ where long-term care residents are comparable in frailty to Canadian residents, found a case fatality rate among its residents of 33.7%. A possible explanation for the higher mortality among U.S. long-term care residents is that their outbreak occurred earlier in the pandemic, before appropriate infection control measures were implemented and before asymptomatic, pre-symptomatic and atypical presentations of COVID-19 in older adults were well-understood.^{21,22} It is important to note that case fatality can only truly be determined once every infected person either recovers or dies, therefore, regional differences in rates may also be due to incomplete data on outcomes of currently infected residents.

Table 2 presents the current number of cases and deaths due to COVID-19 among residents in Canadian long-term care and retirement homes. Deaths from long-term care homes and retirement homes in Québec and Ontario, Canada’s two most populous provinces, account for the bulk of all deaths among individuals in this setting. Deaths of cases from COVID-19 in long-term care homes are nearly all (>99%) comprised of residents receiving care in this setting and not really among staff of which only 5 deaths have been noted to date.

Table 2. Best estimates of case fatality rate among residents in long-term care homes, retirement homes and assisted living facilities in Canada (as of May 3, 2020), by provinces and territories

Province or Territory	Last update	Number of cases among long-term care home residents	Number of deaths among long-term care home residents	Best estimate of case fatality rate
<i>Canada</i>	<i>May 3</i>	<i>9,746</i>	<i>2,395</i>	<i>25%</i>
Newfoundland and Labrador	May 3	1	0	Too few cases to provide a meaningful estimate
Prince Edward Island	May 3	0	0	No reported cases in long-term care homes
Nova Scotia	May 2	239	33	14%
New Brunswick	May 3	0	0	No reported cases in long-term care home residents
Québec	April 29	6,172	1,634	26%
Ontario	May 2	2,488 [†]	590 [†]	24% [†]
		2,719 [‡]	954 [‡]	35% [‡]
		4,416 [¥]	1,021 [¥]	23% [¥]
Manitoba	May 3	4	2	Too few cases to provide a meaningful estimate
Saskatchewan	May 3	2	2	Too few cases to provide a meaningful estimate
Alberta	May 1	580 [§]	64	11% [§]
British Columbia	May 1	260 [*]	70 [*]	27% [*]
Yukon	May 3	0	0	No reported cases in long-term care homes
Northwest Territories	May 3	0	0	No reported cases in long-term care homes
Nunavut	May 3	0	0	No reported cases in long-term care homes

Notes: [†]Estimates derived from Daily Epidemiological Summaries produced by Public Health Ontario/iPHIS data. [‡]Estimates derived from self-reported data to the Ontario Ministry of Long-Term Care. [¥]Estimates produced based on data collected by NIA's Long-Term Care COVID-19 Tracker Open Data Working Group. [§]The number of cases reported in Alberta, as well as the calculation of the case fatality rate may include staff who work in long-term care homes. ^{*}The case fatality rate in British Columbia may be inflated as the count of cases and deaths include patients in acute care institutions. *Sources:* Estimates based on various sources, including provincial public documentation and health officer and premier updates to press.

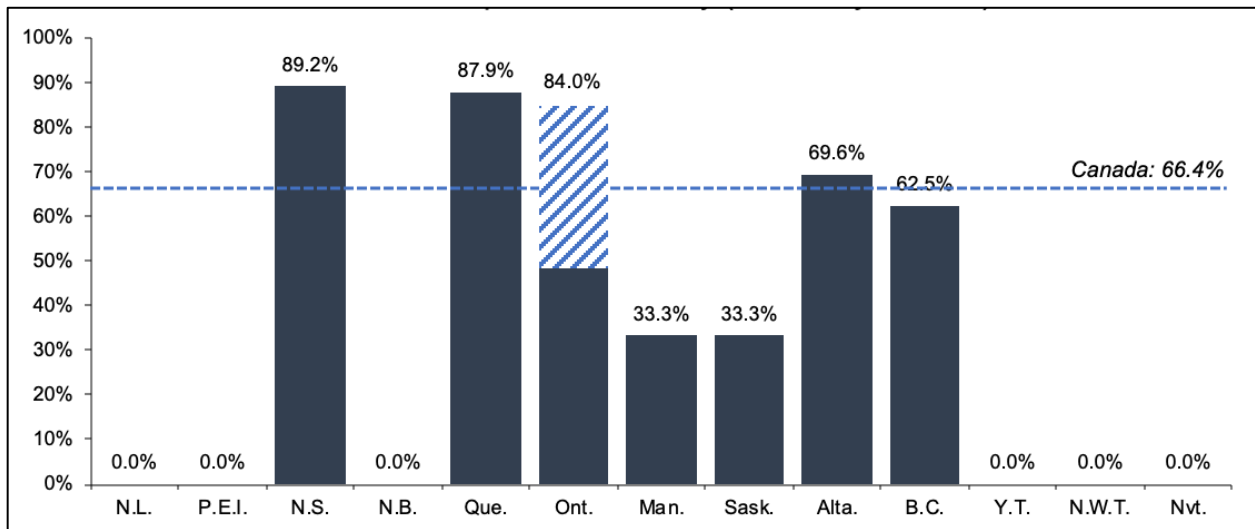
Since our last data update, the total number of COVID-19 related deaths in Ontario increased by 171% in the total population, from 713 on April 22nd to 1,216 on May 2nd. Within long-term care homes, there was a corresponding rise (165%) in the number of deaths from 358 on April 22nd to 590 on May 2nd. In Québec, there was a similar increase (of 150%) in the number of deaths in the general population, from 1,243 on April 22nd to 1,859 on April 29th. The total number of deaths among residents in CHSLDs increased from 933 to 1,318 (141%), while those in RPAs increased from 211 to 316 (150%) over the same period.

In Alberta and British Columbia, the number of additional deaths in both the general population as well as among residents in long-term care homes have increased but at a lower rate: from 66 to 92 deaths in the general population, and 44 to 64 deaths among long-term care home residents between April 22nd and May 1st in Alberta.²³ In British Columbia, the number of deaths in the general population increased from 90 to 112 between April 22nd and May 1st, while the number of deaths in long-term care homes and acute care settings increased from 58 to 70 over the same period.²⁴

2.3. Large proportion of Canadian COVID-19 deaths are in long-term care residents

Deaths of residents with COVID-19 in long-term care homes constitute at least two-thirds of COVID-19 deaths Canada, as shown in Figure 2. Most provinces now report combined cases and deaths from long-term care homes as well as retirement homes (or other private residences for seniors) as their populations are quite similar in many respects. Ontario is one of the exceptions, where official sources have primarily focused on cases and deaths in long-term care homes. Estimates based on iPHIS-generated report indicate deaths in nursing homes represented 48.5% of the deaths in the province; the inclusion of deaths that had occurred among residents in retirement home estimated by NIA's Long-Term Care COVID-19 Tracker Open Data Working Group suggest potentially up to 84% of deaths in Ontario are from long-term care settings, including retirement homes. The inclusion of estimates from retirement homes in Ontario increases the national proportion of deaths from long-term care settings from 66.4% to 78.4%.

Figure 2. Deaths from residents in long-term care and retirement homes as a proportion of the total number of deaths in each province or territory (as of May 3, 2020)



Sources: Estimates based on various sources, including provincial public documentation and health officer and premier updates to press.

As studies of older adults in China and Italy reveal a dramatic increase in COVID-19 case fatality among adults aged 80 years and older, even compared to those aged 65-79,^{18,19} we wanted to examine whether the proportion of individuals over the age of 80 living in long-term care homes in each province may have contributed to the high observed mortality rates. Table 3 presents the proportion of Canadians over the age of 80 residing in long-term care homes or other residences for seniors, such as retirement homes and assisted living facilities. In provinces like Québec, Alberta and Manitoba, which have the highest proportions of their populations 80 years or older living in long-term care settings, one might expect to see a greater proportion of provincial deaths. However, the death rates in these three jurisdictions vary from 79% to 58% and 33%, respectively, between them. Ironically, Nova Scotia and Ontario that have some of the lowest proportions of their populations 80 years or older living in long-term care settings saw some of the highest death rates at 79%.

Table 3. Proportion of Canadians aged 80+ living in long-term care homes and residences for senior citizens, by provinces and territories, 2016

	Total Population ≥ 80 years old in region, N	Population ≥ 80 years old living in long-term care homes and residences for older adults, N	Proportion of population ≥ 80 years old living in long-term care homes and residences for older adults, %
<i>Canada</i>	1,520,430	313,130	20.6
Newfoundland and Labrador	20,430	3,525	17.3
Prince Edward Island	6,450	1,330	20.6
Nova Scotia	43,560	6,985	16.0
New Brunswick	35,270	6,530	18.5
Québec	376,520	103,385	27.5
Ontario	592,260	101,745	17.2
Manitoba	54,525	11,930	21.9
Saskatchewan	50,060	10,295	20.6
Alberta	125,555	30,680	24.4
British Columbia	214,440	36,560	17.0
Yukon	680	105	15.4
Northwest Territories	520	70	13.5
Nunavut	155	20	12.9

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016018.

We previously examined whether the higher proportion of individuals over 80 years of age could explain the between-province variation in proportion of total COVID-19 deaths occurring in long-term care and retirement home residents. Based on our crude analysis, the findings suggest that the proportion of individuals over the age of 80 living in long-term care settings does not explain the between-province variation. We then examined whether the age structure of those residing in long-term care homes could have accounted for the high proportion of

deaths in each province (Appendix Table A1). In provinces like Ontario, British Columbia and Saskatchewan, where more than three-quarters of their long-term care residents are 80 years or older, one might expect to see a greater proportion of provincial deaths. However, the death rates in these three jurisdictions also varied from up to 84% to 63% and 33%, respectively, between them. Interestingly, Québec has one of the lowest proportions of individuals residing long-term care homes who are over the age of 80 (i.e., they have a younger population in these settings than many other provinces); yet, they have one of the highest proportion of deaths from long-term care at 88%. This may be an indication that other contributing factors — including underlying health conditions or multi-morbidity of the population, the expediency in which infection prevention and control measures were implemented — may have influenced the high count of deaths in Québec today.

Based on these observations, we propose that the main underlying contributors of the current spread of COVID-19 in long-term care homes are between-province differences in the overall size and density of their populations, which strongly influences the extent of community transmission. Indeed, long-term care residents constitute between 63 to 88% of COVID-19 deaths in Canada's three most populous and urban provinces of British Columbia, Ontario and Québec, but only around 33% in the provinces with lower population density.

Further research is needed and we will continue to explore this issue in our future updates.

3. Long-term care policy and practice measures

Because one in five Canadian long-term care residents who got COVID-19 have died from it, preventing infection in this population is key to Canada's evolving COVID-19 strategy. Some of the measures implemented to date with ongoing results are described below. This is the latest information as of April 21, 2020.

3.1. Restricting all non-essential visits

One of the first policy measures to be implemented in long-term care was prohibiting non-essential visitors from entering a home. While it is arguable that most visits from family and friends are important to the overall health and well-being of residents, there is a greater risk that these visitors could inadvertently introduce the virus into a home. The only visitors who have been permitted access to long-term care homes are those who are deemed as 'essential' which, in addition to the staff employed by these establishments, may include a family member visiting a resident who is near the end of life. Furthermore, all care provider and other visitor entering the home are actively screened for signs, symptoms or for potentially being at high-risk of exposure. In Ontario, for example, this may include twice-daily screening (at the beginning and end of the day or shift) for symptoms as well as temperature checks.²⁵ While this recommendation is crucial to stopping the spread of COVID-19, staff and family members of residents are encouraged to look for safe ways of engaging with residents to prevent undue social isolation that can result from a lack of visitors. Technology, such as tablets can be used to communicate to residents. Families have also become creative in visiting residents through the window of their rooms.

3.2. Measures to manage staff availability

Even prior to the current pandemic, one of the greatest challenges faced by the long-term care sector were staffing shortages.²⁶ In times of a severe and rapid respiratory outbreak, the shortage of healthcare workers in Canada's long-term care sector has led to recent amendments to the requisites for employment and re-deployment of staff to new roles within the home. For example, as a result of reduced staffing capacity in the long-term care sector, the Government of Ontario enacted a temporary emergency order²⁷ on March 23rd to "ensure personnel are properly deployed to help prevent the spread of COVID-19 to keep staff, volunteers and residents in long-term care homes safe." Under this emergency order,²⁸ LTC homes will have the capacity to:

- Change the assignment of work among its staff, including assigning non-bargaining unit employees or contractors to perform bargaining unit work;
- Employ extra part-time or temporary staff or contractors, including for the purpose of performing bargaining unit work; and
- Use volunteers to perform work, including to performing bargaining unit work.

While emphasis has been placed on ensuring redeployed and temporary staff as well as contractors receive appropriate training and education to perform their new assignments, the rapid redeployment and broad introduction of temporary staff in the long-term care sector may have unintended consequences, specifically the rapid transmission across several homes within a short period of time.

3.3. Measures to prevent the introduction and spread of COVID-19 within and between care settings

Early data from the U.S. demonstrated the ability of long-term care workers to spread COVID-19 between facilities where they are employed,²⁰ which has now led to all provinces to implement measures to restrict the employment of healthcare workers to a single home. As the reality for most health care workers in Canadian long-term care settings is part-time employment opportunities at lower wages and without benefits (such as sick leave), this hiring practice often necessitates that these care providers will work across multiple homes to earn a living wage.²⁹ This further contributes to the high level of staff turnover in these settings as these workers will often seek full-time, better paid positions with benefits that are usually available in publicly-funded hospitals.

In provinces like Ontario, which announced on April 15th its intent to limit the employment of healthcare workers in one care setting, they recently announced a 16-week accompanying \$4.00 an hour pay enhancement for front-line workers in long-term care settings to help further retain and stabilize its long-term care workforce in the face of growing staffing challenges. Prior to this, on March 27th, the Provincial Health Officer for British Columbia enacted under the province's *Emergency Program Act* and *Public Health Act* restrictions to long-term care home workers' movement across multiple healthcare organizations, including hospitals and long-term care homes.³⁰ The estimated cost to support the single-site order is approximately \$10 million a

month but was designed to stabilize its front-line workforce by bringing all care home staff in that province under the employment of the Government of British Columbia with an entitlement to full-time pay with benefits.³¹

Every province, other than Québec and the territories, have now enacted similar policies.³²

3.4. All care providers and visitors should wear appropriate protective equipment

It is recommended that all care providers and visitors in a care setting wear surgical masks and other appropriate protective equipment, given the high rates of community transmission, the early asymptomatic spread that can occur with COVID-19 between individuals, and a lower likelihood that older residents will display the typical signs and symptoms of a COVID-19 infection. Wearing a mask can particularly help to prevent or limit the early transmission of the virus from care providers to residents or to other care providers. As care providers might enter a home being asymptomatic, they should continuously self-monitor for any symptoms and screening should be done at least twice daily for residents. Standard hygiene practices should continue, including regular hand washing and physical distancing, where possible.

4. Lessons learnt so far

Of the 425,755 long-term care and retirement home residents in Canada, 2.3% have COVID-19, but they account for 66.4% of COVID-19-related deaths in Canada. The case fatality rate of approximately 25% in long-term care and retirement home residents suggests that their chance of survival with COVID-19 is approximately 5 to 10% lower than people who are over 80 years old. This is likely due to high prevalence of frailty and chronic disease in this age group. Preventing infection with COVID-19 and its spread through long-term care homes is critical for preserving the lives of Canadians in long-term care homes.

The rapid spread of COVID-19 in Canada's long-term care homes highlights many pre-existing and systemic issues — such as the risks of living in shared accommodations and chronic understaffing issues — as well as the slow implementation of effective infection control measures as the COVID-19 pandemic quickly spread across Canada and into long-term care and retirement homes. Despite the higher wages of many long-term care home staff, compared to their community counterparts, chronic underfunding to the sector leading has been cited³³ as one of the main drivers of inadequate staffing levels in long-term care homes. British Columbia's early introduction of measures to ensure equitable compensation to support their employee single-site order has been recognized as an important step to perhaps slowing fatalities from COVID-19 in its long-term care homes. The repercussions of other provinces' delayed attempts at increasing staffing and minimizing the ability of staff to work in multiple care settings has yet to be seen. In Ontario and Québec, two provinces that have seen close to 90% of Canada's long-term care cases and deaths across over 500 homes, staffing issues have become so acute that local hospitals as well as the Canadian army have been enlisted to help address challenges to meet the basic care needs of residents in these settings. Subsequent

versions of this report will explore further policy changes and their impact on COVID-19 in Canada's long-term care homes.

As our global community comes together to preserve life among long-term care home residents in our countries, we must remember to carry the lessons learned from COVID-19 forward in our public policy making. Policy measures implemented during this pandemic, such as single-site work orders and adequate remuneration of long-term care employees, are likely to benefit residents of long-term care homes beyond the current pandemic. We are optimistic that the continued documentation of these effects will allow policymakers to make lasting improvements in how we care for the most vulnerable members of our society.

Appendix

Table A1. Proportion of Canadians aged 80+ living in long-term care homes and residences for senior citizens, by provinces and territories, 2016

	Total population living in long-term care homes and residences for senior citizens, N	Population ≥ 80 years old living in long-term care homes and residences for senior citizens, N	Proportion of residents in long-term care homes and residences for senior citizens who are 80 years of age or older, %
<i>Canada</i>	425,755	313,130	73.5
Newfoundland and Labrador	5,290	3,525	66.6
Prince Edward Island	1,945	1,330	68.4
Nova Scotia	9,800	6,985	71.3
New Brunswick	9,970	6,530	65.5
Québec	146,405	103,385	70.6
Ontario	133,470	101,745	76.2
Manitoba	15,960	11,930	74.7
Saskatchewan	13,350	10,295	77.1
Alberta	41,695	30,680	73.6
British Columbia	47,510	36,560	77.0
Yukon	175	105	60.0
Northwest Territories	135	70	51.9
Nunavut	40	20	50.0

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016018.

References

1. Revera. COVID-19 Response. Revera Inc. <https://reveraliving.com/en/about-us/covid-19-updates>. Published 2020. Accessed.
2. Haro Park Centre. Haro Park Complex Care Vancouver BC. Haro Park Centre. <http://www.haropark.org/>. Published 2020. Accessed.
3. Statistics Canada. 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016018. Statistics Canada. Accessed April 14, 2020.
4. D'Adamo H, Yoshikawa T, Ouslander JG. Coronavirus Disease 2019 in Geriatrics and Long-term Care: The ABCDs of COVID-19. *Journal of the American Geriatrics Society*.n/a(n/a).
5. Ng R, Lane N, Tanuseputro P, et al. Increasing Complexity of New Nursing Home Residents in Ontario, Canada: A Serial Cross-Sectional Study. *J Am Geriatr Soc*. 2020.
6. Lane NE, Wodchis WP, Boyd CM, Stukel TA. Disability in long-term care residents explained by prevalent geriatric syndromes, not long-term care home characteristics: a cross-sectional study. *BMC geriatrics*. 2017;17(1):49.
7. Riches S. What went wrong in Bobcaygeon: How the COVID-19 pandemic killed 29 people at an ill-prepared nursing home. *National Post*.2020.
8. Hager M. How the coronavirus took North Vancouver's Lynn Valley Care Centre. *The Globe and Mail*.2020.
9. Herring J. Three more die from COVID-19, including fourth senior at McKenzie Towne care home. *Calgary Herald*2020.
10. Thanh Ha T, Perreux L, Andrew-Gee E. Coroner, health authorities and police launch investigations into Montreal nursing home after 31 seniors die. *The Globe and Mail*.2020.
11. Pace N, Jerrett A. Devastating weekend for Northwood as 7 residents die from COVID-19. *CTV News*2020.
12. Government of Canada. Coronavirus disease (COVID-19): Outbreak update. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html?topic=tilelink>. Published 2020. Updated April 22. Accessed April 22, 2020.
13. Gouvernement du Québec. Situation dans les milieux de vie pour personnes âgées et vulnérables. https://cdn-contenu.quebec.ca/cdn-contenu/sante/documents/Problemes_de_sante/covid-19/Tableau-milieux-de-vie-COVID-19.pdf?1587064990. Published 2020. Updated April 22. Accessed April 22, 2020.
14. Government of Canada. *Coronavirus Disease 2019 (COVID-19) Daily Epidemiology Update*. Canada May 3 2020.
15. BC Centre for Disease Control. British Columbia COVID-19 Daily Situation Report, April 22, 2020. <http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data>. Published 2020. Accessed April 9, 2020.
16. Small K. Coronavirus: 241 new cases confirmed in Alberta as 4 more people in long-term care homes die. Corus Entertainment Inc. <https://globalnews.ca/news/6839629/alberta-covid-19-update-april-19/>. Published 2020. Accessed April 22, 2020.
17. Jerrett A. Nova Scotia reports 2 more deaths at Northwood, 35 new COVID-19 cases. *CTV News*2020.

18. Verity R, Okell LC, Dorigatti I, et al. Estimates of the severity of coronavirus disease 2019: a model-based analysis. *The Lancet Infectious Diseases*.
19. Onder G, Rezza G, Brusaferro S. Case-Fatality Rate and Characteristics of Patients Dying in Relation to COVID-19 in Italy. *Jama*. 2020.
20. McMichael TM, Currie DW, Clark S, et al. Epidemiology of Covid-19 in a Long-Term Care Facility in King County, Washington. *N Engl J Med*. 2020.
21. Norman RE, Stall NM, Sinha SK. Typically Atypical: COVID-19 Presenting as a Fall in an Older Adult. *Journal of the American Geriatrics Society*. (Accepted Articles).
22. Kimball A, Hatfield KM, Arons M, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. *Morbidity and Mortality Weekly Report (MMWR)*. 2020;69(13):377–381.
23. Small K. Coronavirus: 241 new cases confirmed in Alberta as 4 more people in long-term care homes die. *Global News*2020.
24. Holliday I. 3 more deaths in long-term care facilities in B.C.: Henry. *CTV News*. 2020.
25. Ontario Ministry of Health. *COVID-19 Outbreak Guidance for LongTerm Care Homes (LTCH)*. Toronto, ON2020.
26. Ontario Long Term Care Association (OLTCA). *This is long-term care 2019*. Toronto, ON.2019.
27. Ontario Ministry of Long-Term Care. Ontario Implements Enhanced Measures to Protect the Safety of Residents in Long-Term Care Homes. Additional protocols help keep province’s most vulnerable safe. <https://news.ontario.ca/mltc/en/2020/03/ontario-implements-enhanced-measures-to-protect-the-safety-of-residents-in-long-term-care-homes.html>. Published 2020. Accessed April 8, 2020.
28. O. Reg. 77/20: Order Under Subsection 7.0.2 (4) of the Act - Work Deployment Measures in Long-Term Care Homes. In. Ontario, Canada: Queen’s Printer for Ontario; 2020.
29. Christian Labour Association of Canada (CLAC). *2019 Public Sector Consultations*. Cambridge, ON.2019.
30. British Columbia Ministry of Health. Order with respect to long term care facility staff movement limitation under section 42 of the Public Health Act. In. Victoria BC.2020.
31. Hayward J. B.C. ramps up mental health support for front-line health care workers, families. *The Globe and Mail*.2020.
32. Dunning J, Sinha SK. *The NIA’s Recommended ‘Iron Ring’ for Protecting Older Canadians in Long-Term Care and Congregate Living Settings*. Toronto, ON: Ryerson University;2020.
33. Ontario Health Coalition by Unifor. *Caring in Crisis: Ontario’s Long-Term Care PSW Shortage*. Ontario2019.