



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

Amy T. Hsu and Natasha Lane

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Authors

Amy T. Hsu PhD ([University of Ottawa Brain and Mind Research—Bruyère Research Institute Chair in Primary Health Care Dementia Research](#)) and Natasha Lane MD PhD (University of Toronto).

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Corrections and comments are welcome at info@ltccovid.org. This document was last updated on 15 April 2020 and may be subject to revision.

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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 is less accessible.
- 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.
- Case fatality rate among residents in Canadian long-term care homes is approximately 20%. This is roughly 5% higher than the global case fatality rate among people over the age of 80.
- Based on publicly available information, we estimate that deaths in long-term care residents represent approximately 63% of all COVID-19 deaths in Canada.
- Between-province differences in the proportion of adults aged 80+ years living in long-term care explains why long-term care residents constitute >50% of COVID-19 deaths in some provinces, but not others.
- Given the vulnerability of residents in long-term care homes, infection prevention is the most effective strategy to reduce overall fatality in this population.
- Policy measures to ensure adequate staffing and limit movement of healthcare workers between multiple sites is key in helping to prevent 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, between 6,156 to 6,519 (1.5%) of these residents have been infected with COVID-19, and 1,240 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 and Résidence Herron in Montreal, Québec⁹ — further illustrate the need to protect the vulnerabilities of this

population from COVID-19 exposure.

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 Ontario and Alberta, or private senior residences (résidences privées pour aînés, RPA) in Quebec. They are occasionally collocated with long-term care homes so that residents may seamlessly transfer between them as their care needs change.

Context: Within Canada, long-term care homes are facilities that provide 24-hour functional support for people who are frail, require assistance with their daily activities and often have multimorbidity. Most residents of long-term care are over 80 years old and 70% of them have dementia. Across the provinces and territories, these facilities may be known as long-term care homes (in Ontario, Saskatchewan, British Columbia, and Yukon), 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).

2.1. Number of reported cases in long-term care

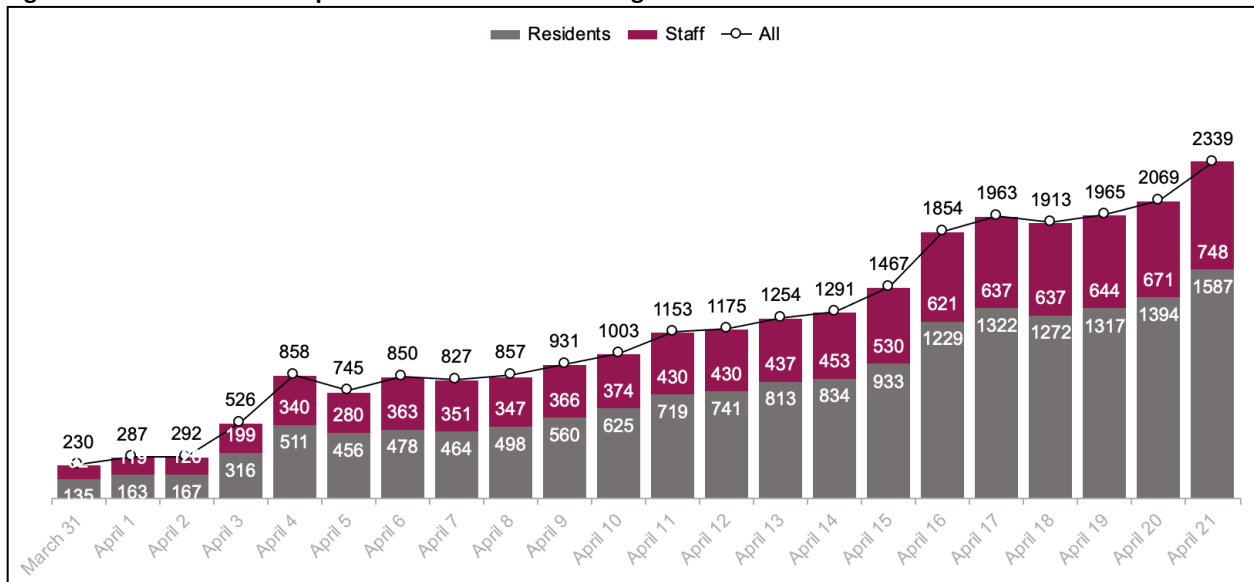
According to publicly available data as of April 22, 2020, there are now at least 40,179 confirmed cases of COVID-19 in Canada;¹⁰ between 6,156 to 6,519 (or approximately 16%) of these are in long-term care homes or other residential care settings (including retirement homes and assisted living facilities). Although this amounts to fewer than 2% of Canada's approximately 425,755 long-term care and retirement home residents, this number is likely an underestimate. We expect to see this proportion rise as access to testing increases in this sector and as data, particularly from retirement homes, become available. Below is a summary of COVID-19 cases in long-term care homes 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. 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 (such as [the Government of Ontario](#) and the [BC Centre for Disease Control](#)), daily updates provided on websites of individual long-term care homes or their corporate office,^{1,2} and media outlets. 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 20, 2020, Québec reports the highest number of confirmed cases of COVID-19 among people living in long-term care and senior residences. There are 4,038 residents in Québec’s 2,000-plus long-term care homes (CHSLD) and private senior residences (RPA) who have COVID-19.¹¹ They represent approximately 21% of the 19,319 confirmed cases in Québec.

There are reported cases in 20% of the 630 long-term care homes in Ontario and the province has the second highest number of reported confirmed cases of COVID-19, with 2,339 confirmed cases (comprised of 1,587 residents and 748 healthcare workers) from 125 long-term care homes as of April 21, 2020. This represents an increase of 181% in the total number of cases (165% among staff and 190% among residents) since our last report on April 14 (Figure 1). Overall, residents in long-term care homes represent 13.0% of the 12,245 cases reported in Ontario.

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 April 22, 2020 from: <https://www.ontario.ca/page/2019-novel-coronavirus>

As a result of infrequent official data updates, 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 1,795 confirmed COVID-19 cases in the province (reported on April 21, 2020),¹² at least 174 (or 10%) were residents in long-term care homes or assisted living facilities and 117 were staff who were in these homes.

Recently, there have been steady rises in the number of confirmed cases reported in the provinces of Alberta and Nova Scotia. Alberta now has 307 cases (combining both residents and staff) in long-term care homes reported to date.¹³ Estimates based on previously reported figures suggest residents represent 66-76% of all cases that have occurred in Alberta's long-term care homes. Nova Scotia has reported 213 confirmed cases (comprised of 148 residents and 65 staff) as of April 21, 2020.¹⁴ Residents in long-term care homes represent 19% of the 772 confirmed cases in Nova Scotia.

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 (as of April 22, 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	1 resident and 2 healthcare workers from 3 long-term care homes
Saskatchewan	Possibly 4 residents (3 are currently under investigator) 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.

1.1 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.^{15,16} Based on the publicly available Canadian data presented in this report, we estimate a case fatality rate between 15 to 29% among residents of our long-term care homes (Table 2). This sobering case fatality rate is much higher than the 4.9% in the total Canadian population, where there have been 40,179 confirmed cases and 1,974 deaths as of April 22, 2020. A recent study of skilled nursing facilities in the U.S.,¹⁷ where long-term care residents are comparable in frailty to Canadian residents, found a case fatality rate among 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 atypical presentations of COVID-19 in older adults were well-understood. 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 homes. Deaths from long-term care homes and private senior residences in Québec account for approximately two-thirds 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 among staff.

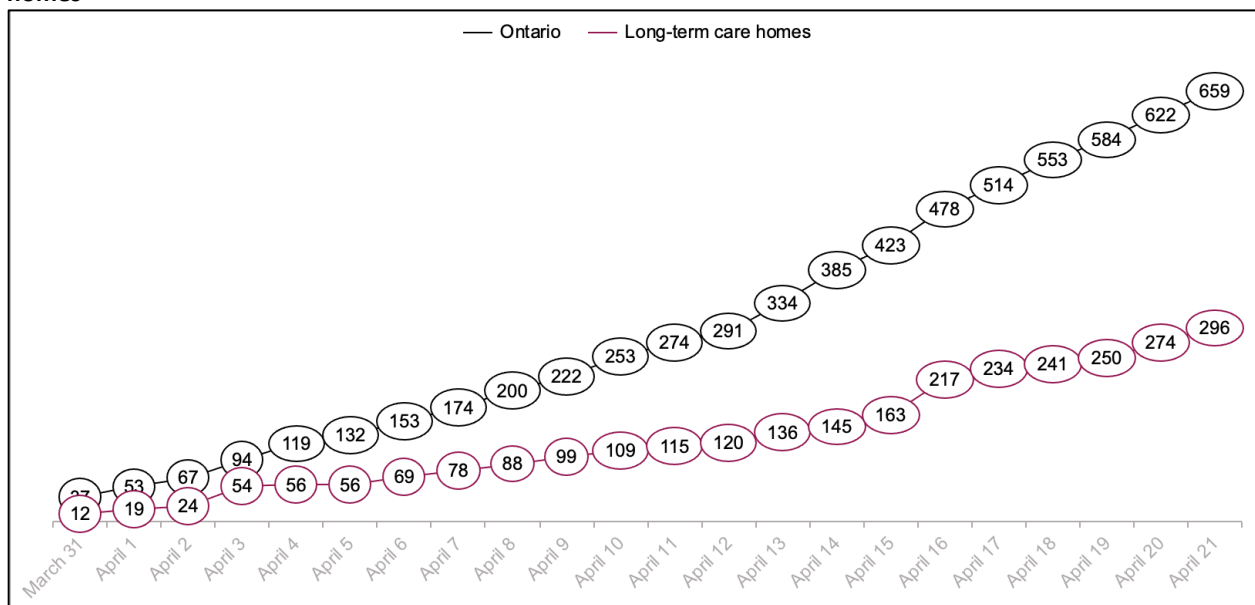
Table 2. Best estimates of case fatality rate among residents in long-term care homes, retirement homes and assisted living facilities in Canada (as of April 21, 2020), by provinces and territories

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>April 21</i>	<i>6,156 to 6,519</i>	<i>1,240</i>	<i>19-20%</i>
Newfoundland and Labrador	April 20	1	0	Too few cases to provide a meaningful estimate
Prince Edward Island	April 20	0	0	No reported cases in long-term care homes
Nova Scotia	April 21	148	8	Too few cases to provide a meaningful estimate
New Brunswick	April 20	0	0	No reported cases in long-term care homes
Québec	April 20	4,038	850	21%
Ontario	April 21	1,587	295	19%
Manitoba	April 20	1	1	Too few cases to provide a meaningful estimate
Saskatchewan	April 16	4	0	Too few cases to provide a meaningful estimate
Alberta	April 18	203 to 233	36	15 to 18%
British Columbia	April 21	174	50	29%
Yukon	April 22	0	0	No reported cases in long-term care homes
Northwest Territories	April 22	0	0	No reported cases in long-term care homes
Nunavut	April 22	0	0	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.

Since our last data update, the total number of COVID-19 related deaths in Ontario has nearly doubled in the general population, from 385 on April 14th to 659 on April 21st. Within long-term care homes, there was a corresponding and steeper rise in the number of deaths from 145 on April 14th to 296 on April 21st (Figure 2).

Figure 2. Total number of deaths from COVID-19 in Ontario, among total population and in long-term care homes



Source: Derived from Daily Epidemiological Summaries produced by Public Health Ontario. Accessed on April 22, 2020 from: <https://www.ontario.ca/page/2019-novel-coronavirus>

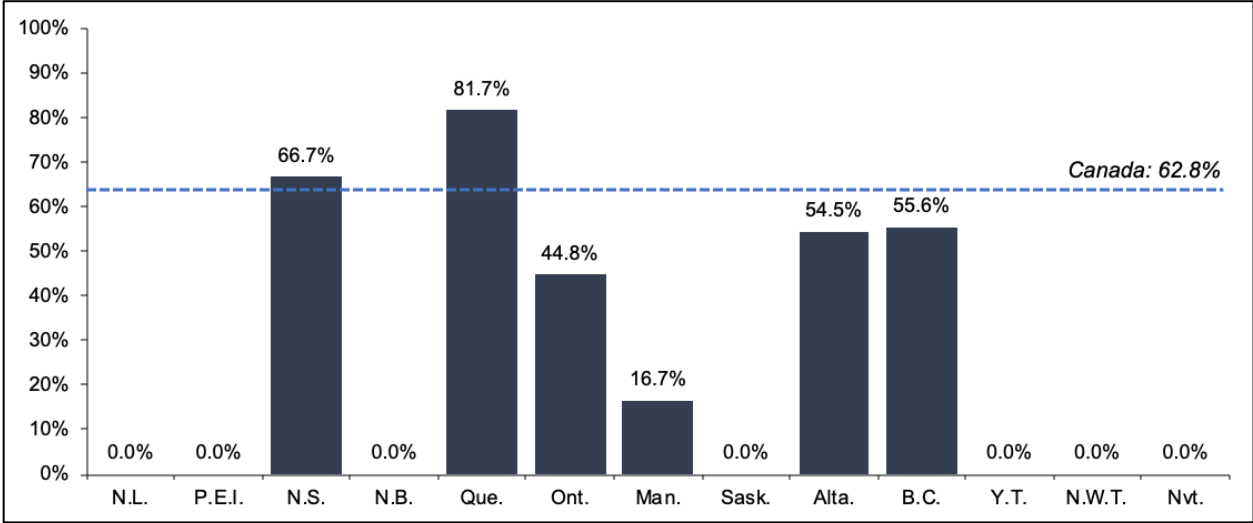
In Alberta and British Columbia, the number of additional deaths in both the general population as well as among residents in long-term care homes have been limited since our last update: from 50 to 59 deaths in the general population and 23 to 36 deaths between April 11th and April 18th in Alberta.¹⁸ In British Columbia, the number of deaths in the general population increased from 55 to 90 between April 10th and April 21st, while the number of deaths in long-term care homes increased from 30 to 50 over the same period.¹⁹

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

Deaths of residents with COVID-19 in long-term care homes make up approximately half of the COVID-19 fatalities in most provinces, with the exception of Québec (where it represents 81.7% of all deaths), as shown in Figure 3. Nationally, deaths among residents in long-term care homes represent approximately 62.8% of all Canadian deaths from COVID-19). Excluding

Québec from this calculation, deaths of residents in long-term care homes represent 41.8% of the deaths from COVID-19 in Canada. However, as some provinces (including Québec and British Columbia) report combined cases and deaths from long-term care homes as well as retirement homes (or other private residences for seniors), provinces that *appear* to have lower proportions of deaths arising from long-term care (such as Ontario) may in fact be the result of underreporting the number of cases, particularly from retirement homes.

Figure 3. Deaths from residents in long-term care homes as a proportion of the total number of deaths in each province or territory (as of April 22, 2020)



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

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.^{15,16} 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. Nearly three-quarters of the residents in these facilities are over the age of 80 (Appendix Table A1), but there are variations between provinces and territories.

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	17.1
Newfoundland and Labrador	20,430	3,525	14.7
Prince Edward Island	6,450	1,330	17.1
Nova Scotia	43,560	6,985	13.8
New Brunswick	35,270	6,530	15.6
Québec	376,520	103,385	21.5
Ontario	592,260	101,745	14.7
Manitoba	54,525	11,930	18.0
Saskatchewan	50,060	10,295	17.1
Alberta	125,555	30,680	19.6
British Columbia	214,440	36,560	14.6
Yukon	680	105	13.4
Northwest Territories	520	70	11.9
Nunavut	155	20	11.4

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

We 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 residents. In provinces like Ontario, Saskatchewan and British Columbia, 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 death. The higher proportion of individuals over the age of 80 likely explains the high fatality rate in residential care settings in British Columbia. While Ontario is expected to follow a similar pattern, the lack of data on retirement homes and assisted living facilities has posed some challenges for drawing comparisons across jurisdictions. Interestingly, Québec has one of the lowest proportions of individuals over the age of 80

residing long-term care homes and other private residences for seniors. This may be an indication that other contributing factors — including underlying health conditions or multimorbidity 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. Further research is needed and we will continue to explore this issue in our future updates.

2. 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 14, 2020

2.1 Measures to manage staff availability

Even prior to the current pandemic, one of the greatest challenges faced by the long-term care sector is staffing shortages.²⁰ 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 order²¹ 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,²² 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.

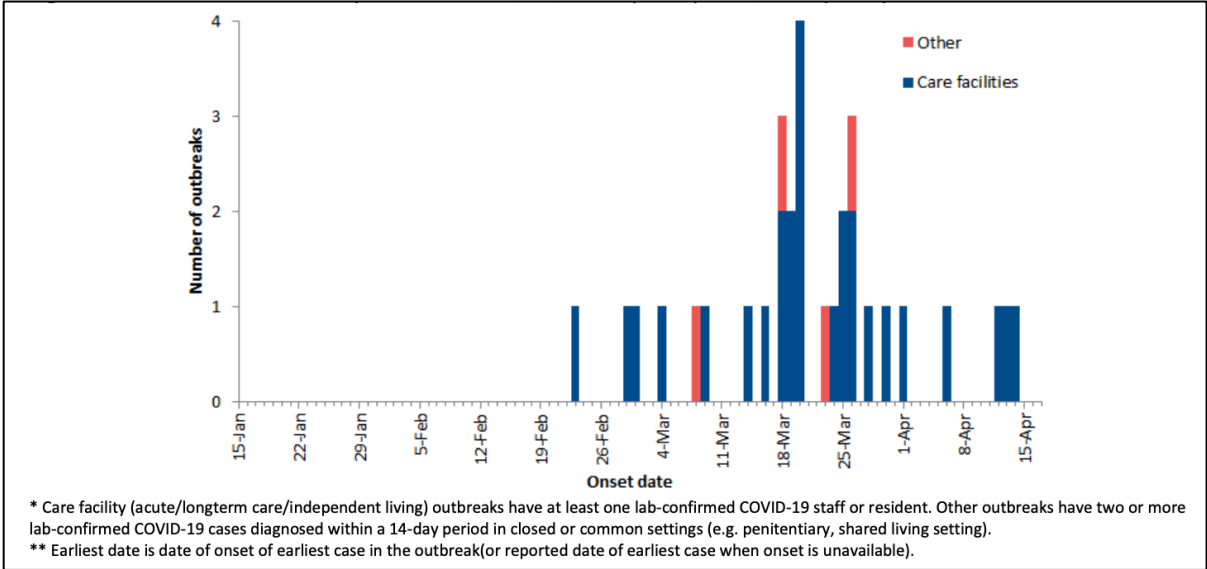
2.2 Measures to prevent spread of COVID-19 infection

Early data from the U.S. show the ability of long-term care workers to spread COVID-19 between facilities where they are employed,¹⁷ which may have led to one of the newest

containment measures being considered across multiple Canadian provinces — the restriction of healthcare workers to employment at a single home. As low wages and part-time hours for many long-term care employees necessitate that they work at multiple homes to earn a living wage,²³ infection control policies to restrict employees to work at one home must account for the staff shortages and inadequate employee wages such measures will exacerbate.

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.²⁴ The estimated cost to support the single-site order is approximately \$10 million a month.²⁵ Early data from British Columbia suggests the single-site order may be effective in reducing the number of new outbreaks (Figure 4).

Figure 4. Outbreaks in British Columbia’s long-term care homes, assisted living and independent living facilities by earliest date of onset (or reported date when onset is unavailable, January 15 to April 21, 2020 (N=31))



Source: The [British Columbia COVID-19 Daily Situation report](http://www.bccdc.ca/Health-Info-Site/Documents/BC_Surveillance_Summary_April_21.pdf). Accessed on April 21, 2020 from: http://www.bccdc.ca/Health-Info-Site/Documents/BC_Surveillance_Summary_April_21.pdf

Ontario^{26,27} and Alberta²⁸ and are considering implementing similar policies, though no details of these measures have been released.

3. Lessons learnt so far

Of the 425,755 long-term care and retirement home residents in Canada, less than 2% have lab-confirmed COVID-19, but they account for approximately 46% of COVID-19-related deaths in Canada. The case fatality rate of approximately 20% in long-term care home residents suggests that their chance of survival with COVID-19 is comparable to all 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 pre-existing and systemic issues — such as shared accommodations and understaffing — as well as the slow implementation of effective infection control measures at the start of the COVID-19 outbreak. Despite the higher wages of many long-term care home staff, compared to their community counterparts, chronic underfunding to the sector leading has been cited²⁹ as one of the main drivers of inadequate staffing levels in long-term care homes. British Columbia's policy to ensure equitable compensation to support their employee single-site order is an important step to slowing fatalities from COVID-19 in Canadian long-term care homes. The repercussions of other provinces' attempts at increasing staffing and minimizing spread between homes are yet to be seen. Subsequent versions of this report will explore other 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.

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