Abstract
The long-term care (LTC) sector has been the epicentre of COVID-19 in Canada. This paper describes the leadership strategies that helped manage the pandemic in one COVID-19-free LTC facility in British Columbia. Qualitative interviews with four executive leaders were collected and analyzed. The facility implemented most provincial guidelines to prevent or mitigate virus spread. Crisis leadership competencies and safety prioritization helped this site’s successful management of the pandemic. There was room for improvement in communication and staffing practices and policies in the facility.

Introduction
The long-term care (LTC) sector has been the epicentre of COVID-19 in Canada, accounting for 81% of the country’s COVID-19-related deaths (CIHI 2020; Hsu et al. 2020). More shocking are the initial reports that COVID-19 mortality among Canada’s LTC residents has been 13 times greater compared to adults of equivalent age living in community settings (Fisman et al. 2020). Added to these statistics is the number of LTC staff exposed to the virus, representing over 10% of Canada’s total cases (CIHI 2020). In Ontario, five of the seven staff who died from COVID-19 were LTC personal support workers (Holroyd-Leduc and Laupacis 2020).

The key drivers of high COVID-19 infection rates in LTC facilities are communal space use, low staffing ratios and “high-density” physical contact between staff and residents due to residents’ high care needs (Gardner et al. 2020). With the outbreak of COVID-19 in LTC facilities, fear of the virus resulted in spikes in staff absenteeism and abandonment of residents, as seen in the LTC facility tragedy in Quebec (Feith 2020).

British Columbia (BC) was the first Canadian province to record a COVID-19 outbreak and related mortality in LTC facilities, with outbreaks in 23 additional facilities to follow in less than one month (Coyne 2020; Little 2020). During this time, there were outbreak-free LTC facilities with no documented cases of COVID-19 among residents or staff. This paper will describe key leadership and management strategies and lessons learned during the COVID-19 pandemic from a COVID-19-free LTC facility in BC.

Background
Shortly after COVID-19 was declared a pandemic, the authors received research funds to explore best practices for pandemic management in LTC facilities. We (the researchers) forged a partnership with the executive leadership team of a COVID-19-free LTC facility affiliated with the province’s largest health authority. This publicly funded not-for-profit LTC facility, the largest in our province, has over 400 regulated and unregulated...
health workers (e.g., nursing and allied health) and ancillary personnel (e.g., housekeeping, laundry, food services), who care for more than 200 residents with varying frailty (physiological) and dependency (activities of daily living) needs.

Our Framework
To systematically explore best practices in LTC settings during the COVID-19 pandemic, we used a document from the BC Centre for Disease Control (BCCDC) issued through the Public Health Agency of Canada (BCCDC 2020). This document represents required practice and policy changes for prevention and/or mitigation of COVID-19 in LTC facilities. We turned the BCCDC document into a comprehensive checklist for easy review of measurable indicators associated with 12 infection-control practices and policies. Table 1 contains the 12 best practice categories for infection control with examples of measurable indicators. This paper will describe comparisons between the best practices in the BCCDC document and the practices in our partner LTC facility. We reviewed this document with each member of the facility’s executive leadership team, querying them about facilitators and barriers associated with the BCCDC best practices for LTC facilities.

Method
This is a mixed-methods case study of a large, urban LTC facility, named Louis Brier Home and Hospital, that was COVID-19-free up until the completion of this study. The senior leadership interview component of the study was completed mid-August 2020. Ethics approval was obtained through harmonized review by the facility and the university behavioural research ethics board (H20-01912). The quantitative component (not reported here) is a retrospective-prospective trends analysis of administrative data that includes resident outcomes (e.g., reported falls with injuries), human resource utilization (e.g., staffing levels and skill mix, absenteeism) as well as staff experience surveys at two time points. This paper will focus on the qualitative component of our

### TABLE 1
The BCCDC COVID-19 best LTC practices

<table>
<thead>
<tr>
<th>Primary infection-control practices and policies</th>
<th>Example indicators</th>
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| 1. Screening                                     | • An up-to-date contact list is maintained for anyone entering the facility.  
• There is a flexible, non-punitive sick policy for staff who must stay home. |
| 2. Visitors                                      | • Visitor policies follow BC Public Health directives. |
| 3. Hand hygiene                                  | • Hand hygiene signs appear throughout the facility.  
• Staff hand hygiene compliance is monitored and reinforced on an ongoing basis. |
| 4. Respiratory hygiene and PPE                   | • Staff are trained to select, don and doff PPE including gowns, gloves, face shields, surgical masks and N95 masks.  
• Mask fit-testing on N95 masks for all staff. |
| 5. Source control and physical distancing        | • All residents have single rooms with private toilets.  
• There are physical barriers such as clear partitions at reception desks and sneeze guards in food-service areas. |
| 6. Point-of-care risk assessment                 | • Staff conduct point-of-care risk assessment prior to every resident interaction. |
| 7. Cleaning and disinfection                     | • If there are suspected or confirmed cases of COVID-19 in the facility, the resident’s individual meals are served in their room/space.  
• Carts for transporting waste are cleaned and disinfected at least thrice a day. |
| 8. Suspected and confirmed COVID-19 cases        | • There are policies and protocols for management of suspected and confirmed COVID-19 residents.  
• All non-essential external activities are cancelled. |
| 9. Psychological supports for residents          | • Staff make every effort to connect with residents to understand their needs.  
• There are one-on-one support programs for residents. |
| 10. Psychological supports for staff             | • Staff are provided with up-to-date information about COVID-19 and related policies/procedures.  
• Staff are reminded about the importance of physical activity, healthy eating, sleep and good personal hygiene. |
| 11. Monitoring                                   | • PPE stocks are monitored to prevent running low/out. There is a specific cut-off definition of “low supply.”  
• Staffing levels, absenteeism and sick leaves are monitored to ensure that safe, minimum staffing needs are maintained. |
| 12. Communication and leadership                | • There is a COVID-19 emergency response team with a clear chain of command for role delineation, decision making and communication.  
• The COVID-19 response plan is clearly available and accessible. |

Note: Indicators not implemented in the facility are in boldface. PPE = personal protective equipment.
leading a long-term care facility through the COVID-19 crisis: successes, barriers and lessons learned

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A collaborative study, which includes virtual semi-structured interviews with four members of the executive leadership team accountable for human resource management, facility management and quality and safety. Informed consent was obtained prior to interviewees’ participation in interviews. Interviews were audio-recorded and transcribed verbatim. Each interview averaged an hour in length. The interview questions are in Table 2. Qualitative data were deductively coded based on the interview questions and were analyzed using content analysis (Krippendorff 2018).

Results

The findings are organized in sections according to the questions mentioned in Table 2. Members of the leadership team who participated in the study have been at the facility for two to four years. Two members of the leadership team had previous leadership experience during the severe acute respiratory syndrome (SARS) epidemic in Toronto, Ontario.

The BCCDC checklist

Leadership team members separately concurred that most practices in the checklist were enacted by early March 2020. This facility has a dedicated infection-control officer, and COVID-19 BCCDC best practices were enacted before outbreaks occurred in BC. Practices not implemented are in bold (Table 1). These practices were as follows: a readily available emergency operations plan for LTC facilities; N95 fit-testing and use; single-occupancy rooms; use of barriers such as sneeze guards in food-service areas; and disinfection of waste carts thrice daily.

The leadership team began monitoring the news and social media about a potential pandemic as early as December. They did not have a guiding document or framework to prepare for a pandemic at that time. Instead, they created their own emergency operations plan with clear roles and accountability based on the previous experience with the SARS epidemic in Toronto. One leader had also been involved in natural disaster/crisis planning for provincial wildfires and air quality concerns. When outbreaks occurred in LTC facilities in the province and other jurisdictions (e.g., Quebec, Ontario), the BC Ministry of Health (MoH) arranged for all LTC facility leaders to virtually address implementation of public health orders within LTC facilities. Real-time communication via e-mail was used to update sites on BC public health policy directives.

The leadership team noted that contrary to the BCCDC guidelines, in BC LTC facilities, direct care providers are not required to use N95 masks, and fit-testing is not done. In the study site, one of the leaders is certified in N95 fit-testing, and the facility tried to purchase test kits and masks as a precautionary measure at the beginning of the pandemic; these were not available.

Given the physical layout of Louis Brier, there are some double-occupancy rooms that share toileting facilities. Dedicated staff are assigned to these rooms to decrease cross-contamination, and regular spot checks are done by supervisors after housekeeping cleans these areas. Routine environmental marking with ultraviolet light is used to ensure that all areas are cleaned appropriately. The facility did not install Plexiglas barriers or sneeze guards because food is not served buffet-style; food is brought to residents in the facility dining hall in two seatings to maintain physical distancing. Food is delivered on individual trays to the rooms of residents in isolation or those unable to leave their rooms for any reason. With limited staff available to regularly clean the facility, a decision was made by Infection Control to clean waste carts at least twice if not thrice daily. The facility is due for an infrastructure upgrade, and a dedicated waste management/service elevator is in the plan as one way to isolate contaminants from waste.

Overall, the leaders stated that items on the checklist were important to prevent and/or mitigate infection spread. No additional practices were recommended for list inclusion.

TABLE 2.

Executive leadership interview questions

| 1. | Please describe your position and roles at the Louis Brier Home and Hospital. How long have you been in your role at Louis Brier? |
| 2. | Please look through the BCCDC checklist. Do you agree that all the actions in the checklist are necessary? |
| 3. | At Louis Brier, did you carry out all the actions on the checklist? |
| 4. | Is anything missing from the checklist that you would add as a necessary pandemic-control practice? |
| 5. | Please describe the changes that happened at Louis Brier due to the COVID-19 pandemic. |
| 6. | Tell me more about care delivery changes at Louis Brier due to COVID-19. |
| 7. | Were there barriers that prevented you from making changes you wanted to make? |
| 8. | If so, what were the changes you wanted to make? What were the barriers? |
| 9. | Are there any other comments you would like to add about COVID-19 management at Louis Brier? |
Changes due to the COVID-19 pandemic

One of the biggest changes at Louis Brier was staffing. Human resources management instituted an essential services plan based on contract negotiations with unions: What is essential for safe staffing, and what is non-essential? Although the essential services plan was described as “a good starting point,” COVID-19 imposed unforeseen staffing challenges on staffing needs. To control infection spread, the MoH declared that LTC staff could only work at one site. LTC facilities are often staffed with casual or part-time care providers working at multiple sites. When the single-site order was enacted, LTC facilities needed to ensure financial compensation for employees accustomed to more than one source of income. This policy was particularly complex because decisions made between the MoH, the health employers’ association and the unions were not clearly communicated to LTC facilities. A key challenge was an incomplete or inaccurate list of staff who worked multiple sites and their site of choice during the COVID-19 pandemic. As one leader stated, “We’re still trying to sort it out. We are tracking everyone’s hours so that when things are sorted and we have the financial means to compensate people, we’ll be ready to go.”

The month of March was particularly “chaotic” as employees made single-site work decisions and schedule adjustments. Because some employees had travelled for holidays, they required a two-week quarantine and were worried about income. The leadership team made the decision to pay quarantined employees full-time wages: “We wanted them to stay home and be safe and for our residents to be safe, so we paid them full-time for being home.” The March absenteeism hours and overtime hours were high because of the single-site policy, but leaders said that “things are finally smoothing out. April had less sick time and less overtime use.”

COVID-19 created fear and anxiety in staff members, and frequent communication with leaders was an important strategy ...

Another significant change was communications. Decisions were made immediately with respect to essential on-site staff versus staff who could work from home, such as finance staff. To ensure administrative continuity, the director of finance and communications issued laptops to all employees working from home, and a virtual private network was established, with increased bandwidth to provide protected, seamless communications. The facility is using this network to manage external communications with suppliers and to discuss operations issues internally. The leadership team began using WhatsApp to maintain informal contact with their teams, such as business team members working from home: “It’s been a way to maintain regular communications and ensure we stay in touch – have a sense of what everyone’s doing, how they’re doing.”

Before the COVID-19 pandemic, the facility transitioned to a paperless system for managing its internal and external contracts. This facility has over 100 contracts with different vendors for services such as waste management, recycling and food delivery. Direct care providers use a “PointClickCare” documentation system that was tested in Toronto. A member of the leadership team said, “We learned about best practices [for documentation] by doing a site visit in Toronto, and that started our decision to go paperless. A commitment to going paperless has really helped us manage our work more effectively during COVID.” The facility’s conversion to paperless documentation has also included tracking of key indicators for every department, including quality/safety and finance:

- We’re tracking everything we’re doing, everything we’re using so that we know what it’s costing us, how we’re doing. This helps us work in synchrony. For example, staffing-wise, we have had to use more staff hours due to COVID. We’re documenting why we need them, and this will help us for audits and for future planning.

- Within the facility, communications between residents and family members and among staff were significantly affected by COVID-19. With visitation restricted, staff needed to “fill in” for family members’ absence. One leader stated,

The recreation department totally turned their program around to have virtual connectivity with residents, families and partners. They also created a virtual mailbox for letter exchange. And I would say that staff have become more involved. Some staff come in on their own time to do small things, like fingernail painting.

The facility increased the frequency of newsletters and e-mail updates to family members: “We became the eyes, ears of loved ones.” Although the communications plan is labour-intensive, feedback has been positive: “I regularly get feedback almost instantaneously on communication from me to families regarding COVID. They say it’s great.” COVID-19 created fear and anxiety in staff members, and frequent communication with leaders was an important strategy for addressing staff concerns. Two members of the leadership team were at the facility every day for extended hours, carrying out walkabouts and question-and-answer (Q & A) huddles. The biggest staff concern was bringing the virus to work or taking the virus home should an outbreak happen. A transparent screening process at one entry point helped allay staff anxiety: “Taking temperatures at the front door gives staff a sense of relief.” Simple messages about hand hygiene, personal protective equipment (PPE) use and self-screening were repeated frequently in huddles, e-mails and workplace posters. Staff
were regularly alerted to infection-control spot checks and the “parent” health authority’s 24/7 rapid response team to assist staff with any COVID-19 concerns.

The facility felt that it was important to do “fun things” and maintain a sense of normalcy for staff. During Nurses’ Week in May, the staff did “TikTok” appreciation videos. “We got so many donations from the public – we had ice cream, chocolates, caterers and even PPE supplies – all ways of saying thank you.” One leader noted how a number of their employee-engagement initiatives were put on hold because of COVID-19: “We were doing mindfulness, meditations, best hits of the 90s, that kind of stuff for fun and to keep things light. With COVID, things were on hold, but now we’re figuring out how to make wellness engagement more accessible.”

Barriers
The biggest barrier for the leadership team of our case study site was a lack of coordinated communications among the government, health employers and unions, particularly with respect to human and material resource management. Communications about worksite requirements (e.g., choosing one site of employment) were confusing and delayed, complicating work schedules and appropriate staff preparation. With respect to PPE supplies, one leader said,

> We stayed above water because we created our own pandemic management plan, but some of the communication from above did not give us much lead time to prepare for orders coming out. And sometimes there were conflicting communications. One was “All LTC employees must wear masks.” But we didn’t have enough for all staff. Then an announcement was made that visitors could come back to LTCs, but we heard it at the same time as the public. We need lead time to prepare.”

With a potential pandemic on its way, the leadership team inventoried their infection-control/PPE supplies and cleared storeroom space for at least six weeks’ worth of supplies. The team realized they would incur costs, “but we had to make decisions based on keeping residents and staff safe – not finances.”

The leadership team also determined safe substitutions, such as a combination of face shields, goggles and masks. There was a point when the glove supply was getting low. Due to electronic tracking of resources, the leadership team was able to get “top-ups” from one of the health authorities: “We’re in a good position now with a higher level of inventory.” The leader for facilities management stated, “We made a conscious decision to not stockpile too much – did not want to hoard. We went from six weeks to eight – then 10 weeks of supplies and got everything we needed, but we had to be in constant communications with different health authorities.

The leadership team described how LTC facilities rarely have the budget for much-needed infrastructure upgrades. The need for these upgrades became more apparent with the pandemic. One leader said that due to COVID-19, technological innovations are on their wish list, such as automatic screening at entry points to reduce human interaction: “I’m really looking forward to how we can use technology to improve safety. We need to be more forward-looking that way.”

Another significant barrier and leadership concern was safe staffing. The leadership team described staffing levels and skill mix as inadequate to meet the additional demands of the pandemic: “When we do admissions, residents have to be isolated in their rooms for 14 days. Can you imagine keeping a resident in the room for 14 days without being able to leave the room?” Leaders also raised concerns about the dilution of allied healthcare and ancillary services on weekends, noting, “It seems like there are no resident needs on the weekends.”

Although the leadership team focused on COVID-19-specific staffing challenges during our interviews, they also discussed how there were multiple safe staffing challenges pre-COVID-19. For example, while 80% of residents have dementia and are physically frail, the minimum standard of care is woefully low: approximately four hours of nursing care per resident per day, with only 0.75 hours of care by registered nurses (RNs). Leadership team members pointed out how COVID-19’s silver lining is their opportunity to thoroughly document resident-care gaps. The team is working collaboratively with researchers to map residents’ care needs to human-resource and resident-outcome indicators (e.g., falls with injuries, pressure ulcers). Their goal is to make a case for evidence-informed care delivery while they have the attention of the public, the government and health authorities.

Lessons learned, changes to make
Table 3 summarizes key learnings from the leadership team of our case study site. Stern (2013) argued that during extreme events, such as natural disasters and disease outbreaks, leaders must deal with the unpredictability and uncertainty of complex systems. They must be able to navigate with “good enough” evidence, looking for patterns and making sense of what is happening at different systems levels.

Because of their experience with previous infectious disease outbreaks, the facility leadership recognized the urgency of the situation through international COVID-19 news. The
leadership team began planning for a potential pandemic as early as December 2019. Stern described these characteristics as “sense-making” and “preparing,” important features of effective leadership at times of crisis. They used their essential services plan as the foundation for a pandemic management plan and started to inventory and build up their infection-control resources early on. They quickly trained staff to protect themselves and their residents. Most importantly, they put aside budgetary concerns and focused on resident and staff safety. Extreme events cost money, and leadership in our study agreed to track costs meticulously but spare no necessary expense. By investing financially in adequate preparation and prevention, the facility decreased the financial and human costs that viral outbreaks bring.

Communication and transparency are critical elements of effective leadership during extreme events. According to Forster et al. (2020), transparency includes “walk-the-talk” leadership, where leaders are open and honest about what they know and what they do not know. In our study, there were designated leaders on site, doing rounds, checking in regularly with staff during Q & A huddles. As described by Greenberg et al. (2020), early and continuous leadership support is necessary to protect the psychological well-being of the care staff during the COVID-19 crisis. During a crisis, it is common for leaders to go into command-control mode, but when conditions are complex and variable, leaders need to be present to diligently scope out what is happening and its safety implications for those within their stewardship (Greenberg et al. 2020). In our case study, the leadership team rapidly established formal and informal communication networks using technology, even social media. The leadership team immediately enhanced their technological capacity to ensure seamless, virtual communications. They increased the frequency and routes of “must know” communications with staff, residents and family members. Staff, residents and family members were encouraged to e-mail their concerns or questions directly to the chief executive officer and other executive leaders. Technology also assisted leadership with internal and external data sharing (e.g., other health authorities, the government). During crises, real-time learning depends on access to reliable data (Angeli and Montefusco 2020).

Our Opportunity to Do Things Better
The last point in Table 3 is about our opportunity to consider what safe staffing means for LTC facilities. Staffing inadequacies existed in the LTC sector long before the COVID-19 pandemic (Armstrong et al. 2020; Mackenzie 2020; McGilton et al. 2020). The minimum staffing requirement, based on US research, is 4.1 hours of nursing staff per resident per day, with a minimum of 0.75 RN hours (Armstrong et al. 2020). A recent US study found that LTC facilities with staffing below the required levels had two times higher rates of COVID-19 among residents compared to the staffing levels at their counterparts with or above the minimum requirements; despite this evidence, 80% of the LTC sites did not meet the minimum RN hour requirements (Harrington et al. 2020). This body of evidence raises two important questions: (1) Why isn’t there equivalent research on minimum staffing requirements in Canadian LTC settings? and (2) Do minimum staffing requirements meet seniors’ needs during a pandemic, when residents are isolated from their loved ones and staff have additional responsibilities, such as increased infection-control requirements? These are urgent questions requiring the attention of researchers, policy makers and decision makers. Otherwise, as noted by McGilton et al. (2020), the LTC sector will suffer another crisis.

Conclusion
This paper explored pandemic management practices implemented by an executive leadership team from a COVID-19-free LTC facility in BC. The leadership team exemplified

**TABLE 3.**
Key learnings from the leadership team during COVID-19

| 1. Begin with an essential services plan. |
| 2. Proactively and systematically plan for resource use – material and human. |
| 3. Track everything! |
| 4. Provide continuous safety education/training. |
| 5. Set the right priorities: safety first and foremost. |
| 6. Share critical information with everyone affected by facility changes; be transparent. |
| 7. Coordinate decisions with key stakeholders, especially the government, health employers and unions. |
| 8. Use technology; innovate with it. |
| 9. Provide psychosocial support for residents, families and staff. |
| 10. This is an opportunity to do things better: Do we have the right staffing levels, skill mix and team supports for frail seniors? As our aging population grows, this is a wake-up call. |
leadership competencies needed during extreme events, such as proactive preparation for resource management and regular transparent communications. In their pandemic-management process, the leadership team faced many challenges, but they always sustained one vision: to prioritize resident and staff safety above all else. 

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