

Symptom management and end-of-life care of residents with COVID-19 in long-term care homes

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The coronavirus disease 2019 (COVID-19) pandemic is causing unprecedented challenges for long-term care homes (LTCHs). There have been several clusters of severe acute respiratory syndrome coronavirus 2 infections within LTCHs and approximately half of all deaths in Canada at the time of writing have been in this setting.¹ There are regional differences; however, current estimates of patients requiring intensive care unit admission range between 5% and 16%.^{2,3} Similarly, case-fatality rates vary depending on regional differences, ranging between 1.4% and 7.2%.³⁻⁵ Droplet-transmitted infections like COVID-19 are easily transmitted in institutional settings such as LTCHs, but factors contributing to a higher risk of mortality include the aggregate of dependent residents with advanced age and multiple comorbidities. Comorbidities associated with severe illness and mortality include cardiovascular disease, diabetes mellitus, hypertension, chronic lung disease, chronic kidney disease, cancer, and dementia.⁶ Further, in LTCHs, 61% of residents have a diagnosis of dementia, 32% have severe cognitive impairment, and 40% have behaviour concerns related to their dementia.⁷ Behaviour issues in residents can pose unique challenges at a time when physical distancing has become an imperative social prescription.⁸ The care challenges for residents of LTCHs who test positive for COVID-19 are numerous. They include the need to provide palliative care in place with potentially fewer opportunities for transfer to other facilities. Therefore, a framework that can be used in LTCHs for symptom management including end-of-life care is needed. We present such a framework, with considerations for respiratory symptom management and provision of palliative and end-of-life care in long-term care.

Symptom control

The following recommendations are for managing respiratory distress and end-of-life care in LTCH residents with COVID-19. We prioritize symptom control in instances in which treatment decisions are consistent with no cardiopulmonary resuscitation, no hospital transfer, and supportive care in place. The most common clinical features at the onset of COVID-19 include fever, fatigue, dry cough, anorexia, myalgias, dyspnea, and sputum production.⁹ Symptoms related to COVID-19 might advance quickly, and staff must be prepared to escalate medication dosing to match the severity of symptoms. Resources are limited and access

to medications and staff might become challenging. Furthermore, administration of medications in LTCHs has limitations based on staff comfort and training around both the agents and the modes of delivery. Staff in LTCHs are encouraged to expeditiously prepare access to essential medications (for comfort care) and training (as applicable).

General recommendations

For all residents who are experiencing respiratory distress, all nonessential medications should be discontinued. Subcutaneous and intravenous hydration might contribute to fluid overload and worsening of symptoms, and discontinuation should be considered. All symptom-control medications can be delivered parenterally; through the subcutaneous route, which many LTCHs have easier access to or more familiarity with; or through the intravenous route depending on clinical circumstances. Avoid any aerosol-generating medical procedures including heated and humidified air-oxygen delivery systems; oxygen flow greater than 6 L/min via nasal cannula, high-flow nasal oxygen, continuous positive airway pressure, or bilevel positive airway pressure; all nebulized treatments (eg, bronchodilators, saline solutions); suctioning; and fans.

Symptom management. The spectrum of symptomatic infection ranges from mild to critical.⁹ The following recommendations focus on key strategies to manage symptoms and end-of-life care. Treatment strategies will reflect symptom severity, prognosis, and goals of care. If LTCH residents can communicate, self-reporting of symptoms and their severity can be assessed using a validated and reliable tool as per local protocols. Residents might experience a spectrum of symptoms with ranging severity levels and for non-communicative residents there are several scales for pain assessment.¹⁰

Dyspnea. Although a resident might *appear* short of breath, it is important to ask whether the resident *feels* short of breath—this will guide management. Residents should be positioned as upright as can be tolerated. Supplemental oxygen can be provided to hypoxic patients and in some cases can help reduce the subjective work of breathing. Supplemental oxygen delivered by nasal prongs can be titrated to symptoms rather than oxygen saturation. Avoid flow rates greater than 6 L/min to avoid aerosolization. Opioids are the

standard for managing dyspnea. If the resident is not receiving opioids, consider starting low-dose opioids such as morphine or hydromorphone subcutaneously every 30 minutes, as needed. If more than 3 as-needed doses are required in 24 hours, reassess and titrate the dose up as needed according to symptoms; an increase in frequency might be required if symptoms progress rapidly. Consideration should also be given for a standing dose of opioids, including continued access to as-needed doses. It is important to note that opioids do not hasten death in the context of dyspnea. If the resident is already taking oral opioids, consider increasing the dose by 25%. Also, residents who have communication barriers require more frequent assessment of their symptoms for adequate symptom control. For residents in respiratory distress, nonoral routes of medication administration are preferable (eg, subcutaneous). Adjuvants can be used in conjunction with opioids if needed to manage dyspnea and associated anxiety, such as benzodiazepines. For severe respiratory distress, expect to use opioids and benzodiazepines simultaneously. For refractory symptoms and intolerable suffering, palliative sedation is a consideration, and

benzodiazepines might need to be titrated in collaboration with a palliative care specialist to achieve sedation. Follow local protocols when available but also recognize the need to develop them based on local factors and to provide the required care expeditiously if symptomatic case volumes increase.

Other symptoms. Respiratory secretions can be managed with anticholinergics (eg, scopolamine); however, be mindful that this can have a drying effect that thickens secretions, making them more difficult to clear. For agitation and restlessness, consider whether a non-sedating antipsychotic medication is required (eg, haloperidol) versus a sedating antipsychotic medication (eg, methotrimeprazine), both of which can be given parenterally. Non-sedating antipsychotics like haloperidol can also be used to manage nausea and vomiting. In cases where haloperidol is contraindicated, methotrimeprazine can be considered a second choice for the management of agitation, distress, or nausea. Pain can be managed with opioids similar to the management of dyspnea. If the resident is taking scheduled opioids, consider using rectal laxatives as needed.

We recommend, whenever possible, that each LTCH establishes a connection with local palliative care consultants who can provide guidance either in person or virtually. Further, planning requires stakeholder engagement, but the rapidly evolving COVID-19 pandemic poses challenges for administrative bodies trying to balance policy development with the urgent need for protocols. In this context, having a palliative care consultant able to help the LTCH can alleviate these issues as well.

Psychosocial support, grief, and bereavement.

The uncertainty and fear related to COVID-19 is justified.¹¹ The COVID-19 pandemic also presents LTCHs with a severe crisis of unknown duration. Many LTCHs have visitor restrictions that can contribute to distress and a risk of complicated grief and bereavement for families. The World Health Organization's definition of *palliative care* underlines the need for a support system for families dealing with grief and bereavement.¹² Some family members might require special interventions and support from social work, spiritual care, and other trained clinicians.^{13,14} In a similar manner, many LTCH staff have long-standing relationships with their residents and will have a higher frequency of recurrent distress, including from repeat exposure to residents experiencing severe symptoms and death and dying. These care providers grieve differently than families, but grieve nonetheless. The risk of compassion fatigue, moral distress, and burnout has never been higher.¹⁵

Conclusion

Those living and working in LTCHs are at great risk and have considerable needs during the COVID-19 pandemic. Residents who are actively having COVID-19 symptoms need meticulous symptom assessment and management. Many residents are at risk of morbidity and mortality during this pandemic, and providing end-of-life care is paramount for residents and their families, who face great adversity during these trying times. Provision of care also has to be balanced with the safety of staff and caregivers. 

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Competing interests

None declared

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