

Appendices

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Building capacity in Ontario's long-term care sector to safeguard residents' well-being during infectious disease outbreaks

17 & 18 November 2025

Appendix 1: Background to and methods used in preparing the evidence brief

This evidence brief mobilizes global and local research evidence about a problem, three elements for addressing the problem, and key implementation considerations. In framing the document, we drew on insights gathered through key informant interviews with government policymakers, system and organizational leaders, professional leaders, leaders from citizen-serving NGOs, and researchers. It also incorporates a summary of citizens' views and experiences about the problem, elements for addressing them, and implementation considerations, which were captured during a citizen panel that was convened on 3 October 2025. Whenever possible, the evidence brief summarizes research evidence drawn from evidence syntheses and occasionally from single research studies. An evidence synthesis is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and appraise research studies and to synthesize data from the included studies. The evidence brief does not contain recommendations, which would have required the authors of the brief to make judgments based on their personal values and preferences, and which could pre-empt important deliberations about whose values and preferences matter in making such judgments.

The preparation of this evidence brief involved four steps:

- 1) regularly convening the project Steering Committee composed of representatives from partner organizations, key stakeholder groups, and the McMaster Health Forum to help inform the framing of the evidence brief
- 2) conducting key informant interviews
- 3) identifying, selecting, appraising, and synthesizing relevant research evidence for each section of the brief
- 4) convening a citizen panel with 10 citizens (a mix of residents in long-term care, their families, and caregivers), and summarizing their views and experiences about the issue
- 5) drafting the evidence brief in such a way as to present concisely and in accessible language the global and local research evidence, and insights from the panel.

The three elements for addressing the problem were not designed to be mutually exclusive and could be pursued in a number of ways. The goal of the dialogue is to spark insights and generate action by participants and by those who review the dialogue summary.

Mobilizing research evidence about approach elements for addressing the problem

To identify the best-available research evidence about the approach elements, we primarily searched Health Systems Evidence (www.healthsystemsevidence.org), which is a continuously updated database containing more than 13,200 evidence syntheses and more than 2,900 economic evaluations of delivery, financial, and governance arrangements within health systems. We also searched Social Systems Evidence (www.socialsystemsevidence.org), which is a continuously updated database containing more than 6,700 evidence syntheses and more than 750 economic evaluations about strengthening 20 government sectors and program areas, and achieving the Sustainable Development Goals. We also complemented this with searches in PubMed, and hand searches of the McMaster Health Forum's recently prepared evidence syntheses if there was overlap in the issues addressed or the elements considered. The authors' conclusions were extracted from the syntheses whenever possible. Some syntheses may have contained no studies despite an exhaustive search (i.e., they were 'empty' syntheses), while others may have concluded that there was substantial uncertainty about the approach elements based on the identified studies. Where relevant, caveats were introduced about these authors' conclusions based on assessments of the syntheses' quality, the local applicability of the syntheses' findings, equity considerations, and relevance to the issue.

Being aware of what is not known can be as important as being aware of what is known. When faced with an empty synthesis, substantial uncertainty or concerns about quality, and local applicability or lack of attention to equity considerations, primary research could be commissioned, or an element could be pursued and a monitoring and evaluation plan designed as part of its implementation. When faced with a synthesis that was published many years ago, an updating of the synthesis could be commissioned if time allows. No additional research evidence was sought beyond what was included in the evidence syntheses or highly relevant single studies. Those interested in pursuing a particular element may want to search for a more detailed description of the element or for additional research evidence about the element.

Appendices 2, 3, 4, 5, 6, and 7 provide detailed information about the evidence syntheses and relevant single studies identified that relate to the three elements. In the first column we list the sub-elements and provide hyperlinks to the search strategies used. In the second column, we provide a hyperlinked 'declarative title' that captures the key findings from each synthesis. Columns 3 to 6 list data related to the criteria that can be used to determine which reviews are 'best' for a single category (i.e., living status, quality, last year literature searched, and availability of a GRADE profile, which provides insights about the strength of the evidence included in a particular synthesis), or in the case of single studies, how relevant they are to the elements addressed.

As noted above, the fourth column for tables that present findings from evidence syntheses (Appendices 2, 4, and 6) presents a rating of the overall quality of the evidence synthesis. The quality of each evidence synthesis has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess evidence syntheses (systematic reviews) focused on clinical interventions, so not all criteria apply to evidence syntheses pertaining to delivery, financial, or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1): S8.)

Appendix 2: Evidence syntheses relevant to element 1 – Build stronger implementation supports

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about element 1	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
<p>Sub-elements:</p> <ul style="list-style-type: none"> • Creating a framework and supporting workbooks • Improving LTC residents and staff engagement in decision-making • Strengthening LTC home connections • Facilitating peer sharing and learning <p>Searches: Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. <i>(seven evidence syntheses identified)</i></p>	<p>Contact restricting in long-term care during infectious disease outbreaks is associated with cognitive and emotional challenges, demonstrating the need to integrate efforts to maintain resident well-being when implementing public health strategies (1)</p> <ul style="list-style-type: none"> • This review explored the impacts of contact restricting in long-term care homes during the onset of the COVID-19 pandemic • A total of 23 studies found that contact restrictions could exacerbate mental health challenges in older adults including anxiety, loneliness, sadness, and depressive symptoms • Contact restrictions were associated with increased cognitive complaints in older adults • Mixed qualitative reports were found regarding quality of life; some individuals reported worse quality of life due to boredom and lack of activities • Patients with profound cognitive disorders reported no difference in quality of life • These findings suggest that strategies preventing infectious diseases in long-term care should balance patient safety and measures of well-being 	No	5 of 9	2021	Not available	None reported
	<p>Effective COVID-19 vaccine education relied on multifaceted approaches (including combining group sessions, personalized dialogue, trusted messengers, and culturally tailored strategies) to build confidence among healthcare and LTC staff (2)</p> <ul style="list-style-type: none"> • The review analysed 32 studies (from February 2021 to February 2022) on COVID-19 vaccine educational interventions aimed at adult populations, including healthcare and LTC staff • Formal, group-based presentations were the most used delivery method (75% of studies), often complemented by individual-based interventions (29%) • Many interventions were multifaceted, combining formal presentations with personalized interactions, such as one-on-one conversations and Q&A sessions • Personalized dialogue, opportunities to ask questions, and addressing misinformation were identified as crucial components 	No	5 of 9	2022	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about element 1	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> • A strong emphasis was placed on leveraging community partnerships (including cultural and religious leaders) to enhance trust in vaccine education • Trust and personal connection emerged repeatedly as key enablers of effective vaccine education • Train-the-trainer approaches, particularly using trusted community members, were highlighted as valuable for engaging and educating priority populations • The authors state the importance of tailoring educational strategies to the needs, preferences, and cultural context of the target audience 					
	<p>Social distancing compliance is hindered by economic hardship, social and cultural barriers, and low trust in authorities, but can be improved through clear communication, community engagement, and supportive measures (3)</p> <ul style="list-style-type: none"> • The review identified multiple barriers to social distancing measures, including economic hardship, social isolation, and psychological stress • The review included 29 studies covering SARS, H1N1, Ebola, and COVID-19 contexts • Psychological barriers included fear, anxiety, stigma, and social isolation • Socio-economic hardship (income loss, job insecurity, inequities) was one of the strongest barriers to compliance • Low trust in government and health authorities, and unclear or inconsistent communication, significantly reduced adherence • Cultural and social norms, such as communal living and religious practices, made social distancing harder to implement in some settings • Clear, consistent, and transparent communication improved compliance with social distancing measures • Community engagement and use of trusted messengers were effective in overcoming resistance • Support mechanisms (financial, material, and social support) were key facilitators of sustained compliance • The authors conclude that successful social distancing requires more than enforcement; it depends on trust, communication, and supports that reduce the burden of restrictions 	No	6 of 9	2020	Yes (available)	None reported
	<p>Implementation of multimodal strategies are reported to improve hospital-acquired infection rates and hand hygiene (4)</p>	No	6 of 10	2023	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about element 1	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> The aim of the study was to update the evidence base on multimodal strategies for implementing infection prevention and control (IPC) interventions at the facility level Eligible study designs included randomized controlled trials (n=6), controlled before–after studies (n=5), interrupted time series (n=9), and non-controlled before-after studies (n=7); 27 studies were included in the final synthesis The authors defined multimodal strategies as ≥3 World Health Organization (WHO) components such as system change, training, monitoring/feedback, reminders, safety culture A total of 20 out of 27 studies reported reduced healthcare-associated infections and/or improved hand hygiene Reported benefits included lower device-associated infections, reduced surgical site infections, and declines in some hospital-acquired infections Hand hygiene compliance improved with role-model programs, link nurses, and behaviour-change-informed training, though some results were mixed Evidence quality was low to moderate, with most studies from high-income countries 					
	<p>Evidence suggests digital tools improved timeliness and awareness, but robust evaluations are lacking (5)</p> <ul style="list-style-type: none"> The review included eight interventional studies implementing digital surveillance at mass gatherings (religious, sporting, cultural) Study eligibility focused on mass gathering-specific, digital (web/electronic) surveillance interventions; non-digital studies were excluded A total of seven out of eight studies described implementation but did not evaluate effectiveness digital surveillance formally Only one study (London 2012 Olympics/Paralympics) comprehensively evaluated system effectiveness using multiple performance metrics Digital surveillance systems enhanced timeliness, data management, and situational awareness Participatory tools (e.g., apps) offered low-cost, scalable ways to collect health data, though the effectiveness remained unassessed Syndromic, event-based, and combined surveillance models provided early warning capabilities for threats 	No	4 of 9	2022	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about element 1	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<p>Identified key governance, communication, workforce, and facility capabilities are recommended to be integrated into a three-domain framework that supports system-wide, evidence-informed quarantine preparedness (6)</p> <ul style="list-style-type: none"> • The review included 51 articles, generating 156 recommendations for quarantine implementation • Recommendations were organized into 15 capability categories (e.g., governance, communication, workforce, infection control, facility design) • These categories were grouped under three domains: strategic, structural, and operational capabilities <ul style="list-style-type: none"> ○ Operational domain encompasses hotel, home, facilities, workforce and resident considerations for quarantine ○ Some factors from the structural domain include under facility (ventilation and compliance), workforce (communication and data), and the healthcare model ○ Strategic domain includes preparedness and governance strategies • The outcome was a whole-of-system quarantine implementation capability framework to improve preparedness for future pandemics • The authors placed a strong emphasis on clear governance, cross-sector collaboration, and community engagement to support effective quarantine • The authors recommend active involvement of residents, families, staff, and community partners in quarantine planning mirrors the co-development principle for LTC preparedness • The authors also recommend integration of lessons from hotel/home/facility quarantine regarding the need for adaptable models, which LTC homes can co-design with public health authorities 	No	4 of 9	2023	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about element 1	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<p>Amantadine is effective in preventing influenza in LTC homes, while evidence for hand hygiene, personal protective equipment (PPE), social distancing, and vaccination is limited or low certainty (7)</p> <ul style="list-style-type: none"> • The review assessed the effectiveness of infection-control interventions in LTC facilities for older adults • The review included 68 studies in the qualitative synthesis: 31 from the original rapid review plus 37 new articles (17 guidelines, 20 reviews) • Evidence suggests that antiviral prophylaxis (e.g., amantadine) is effective in preventing the spread of influenza in LTC homes • Hand hygiene, PPE, and social distancing measures are widely recommended, but evidence from LTC-specific trials remains limited • Vaccination of residents and staff plays a critical role in outbreak prevention, although study quality varied • The review highlighted an overall low to moderate certainty of evidence on infection-control interventions in LTC 	No	8 of 9	2021	Not available	None reported

Appendix 3: Single studies relevant to element 1 – Build stronger implementation supports

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
<p>Sub-elements:</p> <ul style="list-style-type: none"> • Creating a framework and supporting workbooks • Improving LTC residents and staff engagement in decision-making • Strengthening LTC home connections • Facilitating peer sharing and learning 	<p>Family caregivers reported frustration with visitor restrictions in long-term care homes, including progression of dementia symptoms and worse quality of care (8)</p> <ul style="list-style-type: none"> • The purpose of this study was to evaluate the impact of visitor restrictions during the first wave of the COVID-19 pandemic • This study used an online survey and focus groups throughout numerous long-term care homes • Most participants felt that restrictions were unnecessarily burdensome and created challenges • Restrictions made it challenging to provide personalized care, which could reduce the quality of care that residents received • Alternative communication strategies included video calls, outdoor visits, and phone calls <ul style="list-style-type: none"> ○ Approximately 25% of participants found these strategies ineffective ○ Residents could have trouble using the technology • Some caregivers reported noticing increased progression of dementia symptoms in residents as non-pharmacological interventions were limited • Participants also expressed their gratitude for long-term care workers and appreciated their efforts despite the challenging circumstances 	High	<p><i>Publication date:</i> 1 September 2021</p> <p><i>Jurisdiction studied:</i> Calgary</p> <p><i>Methods:</i> Mixed online survey</p>	None reported
<p>Searches:</p> <p>Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. (23 single studies identified)</p>	<p>Perceived severity, benefits, self-efficacy, cues to action, and barriers predicted handwashing intentions, but message format (text, infographic, video) showed no significant impact on behaviour during early COVID-19 (9)</p> <ul style="list-style-type: none"> • The aim of the study was to investigate the persuasiveness of different visual message formats (text, infographic, video) on people’s behavioural intentions to follow COVID-19 handwashing guidelines during the early weeks of the pandemic • The authors conducted an online between-subjects experiment (March–April 2020) with 350 Amazon Mechanical Turk participants randomly assigned to one of three handwashing message formats: text, infographic, or video • No statistically significant difference was found between text, infographic, or video formats in influencing handwashing behavioural intentions • Perceived severity, perceived benefits, self-efficacy, cues to action, and perceived barriers significantly predicted behavioural intentions • Higher perceived barriers (e.g., time-consuming, discomfort, social stigma) led to lower intention to adopt proper handwashing practices 	Medium	<p><i>Publication date:</i> January 2024</p> <p><i>Jurisdiction studied:</i> United States</p> <p><i>Methods:</i> Between-subjects experiment</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> Findings highlight that effective crisis communication in LTC settings should prioritize reducing perceived barriers and enhancing cues to action (e.g., visible prompts in care homes) rather than focusing solely on message format Study focused only on handwashing in early COVID-19 stages, used self-reported intentions, and did not assess long-term behavioural change or other preventive measures (e.g., masking, distancing) 			
	<p>Essential family caregivers of residents in Canadian long-term care homes experienced profound trauma during COVID-19 lockdowns due to prolonged separation, lack of involvement in care, and inadequate support from staff and administration (10)</p> <ul style="list-style-type: none"> Essential family caregivers of residents in Canadian long-term care homes experienced profound trauma during COVID-19 lockdowns due to being unable to visit or assist their loved ones, leading to intense stress and emotional distress Caregivers endured prolonged separation from family members, which caused feelings of isolation, helplessness, and guilt Restrictions prevented caregivers from providing hands-on care and advocating for their relatives' daily needs, heightening a sense of powerlessness and loss of agency Many interactions with long-term care staff were perceived as unempathetic or dismissive, which further intensified caregivers' emotional strain The combined effects of separation, lack of involvement, and inadequate support resulted in collective trauma that affected caregivers' well-being and their relationships with residents, emphasizing the need for trauma-informed approaches, compassionate communication, and inclusive decision-making policies 	High	<p><i>Publication date:</i> May 2022</p> <p><i>Jurisdiction studied:</i> Ontario and British Columbia</p> <p><i>Methods:</i> Qualitative</p>	None reported
	<p>Essential family caregivers in Canadian long-term care homes experienced profound emotional distress and systemic challenges during COVID-19 due to restricted access and limited involvement in resident care (11)</p> <ul style="list-style-type: none"> The study identified that the experiences of essential family caregivers were influenced by factors at the individual, long-term care home (LTCH), and health-system levels Variations in policies and practices across different LTCHs contributed to inconsistent experiences for caregivers, highlighting the need for standardized guidelines and support mechanisms Essential family caregivers reported challenges in maintaining communication with residents, often relying on virtual or window visits, this mode of communication was perceived as inadequate in conveying empathy and providing comfort 	High	<p><i>Publication date:</i> Jun 2023</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> Involving caregivers in care planning and decision-making processes is crucial for enhancing the quality of care and ensuring the well-being of residents The findings advocate for future sectoral responses and visitation guidelines that prioritize the inclusion of essential family caregivers Implementing trauma-informed care approaches and fostering compassionate communication can mitigate the adverse effects experienced by caregivers and improve the overall caregiving environment 			
	<p>Family caregivers of residents in Canadian long-term care homes experienced significant emotional distress during COVID-19 due to disrupted relational continuity, limited access, and restrictions on providing in-person care (12)</p> <ul style="list-style-type: none"> Family caregivers, including spouses and adult children, made concerted efforts to sustain relationships with their loved ones in long-term care facilities during the pandemic They utilized various communication methods, such as phone calls and video chats, to bridge the physical gap caused by visitation restrictions The enforced separation led to significant emotional distress among caregivers The inability to provide direct care and companionship resulted in feelings of loss, grief, and anger, highlighting the deep emotional bonds between caregivers and residents The study identified two main themes: “seeking to maintain relational continuity,” where caregivers strived to preserve their relationships despite challenges, and “disrupted relational continuity,” which reflects the emotional and psychological toll of severed connections The findings emphasize the need for trauma-informed care practices that acknowledge the pervasive impact of disrupted relationships on family caregivers and aim to prevent further emotional harm The study advocates for policy changes that recognize the essential role of family caregivers in long-term care settings and ensure their inclusion in care processes, even during public health emergencies 	High	<p><i>Publication date:</i> February 2023</p> <p><i>Jurisdiction studied:</i> British Columbia</p> <p><i>Methods:</i> Qualitative</p>	None reported
	<p>Families of residents in Canadian long-term care facilities experienced severe psychological distress during COVID-19 due to prolonged visitation restrictions, workforce shortages, communication gaps, and systemic deficiencies (13)</p> <ul style="list-style-type: none"> To explore the experiences of families with a relative in a long-term care facility (LTCF) in New Brunswick during COVID-19 visitor restrictions, seventeen family members 	High	<p><i>Publication date:</i> December 2021</p> <p><i>Jurisdiction studied:</i> New Brunswick</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<p>participated, each completing two interviews spaced six months apart to capture changes over time</p> <ul style="list-style-type: none"> • Families experienced intense emotional distress, including anxiety, worry, and depression, which worsened over time as visitor restrictions continued beyond initial expectations • Workforce-related issues, such as staff shortages and high turnover, contributed to communication deficits, limited care, and the need for families to closely monitor their relatives' well-being • Social isolation of residents, compounded by restricted visits, negatively impacted both physical and cognitive health, while families felt helpless in providing necessary support • Visitor restrictions failed to recognize family members as essential care partners, often requiring them to perform tasks they were untrained for, leading to additional stress and limited benefits for residents • The study highlights the systemic shortcomings in long-term care, showing that flexible, family-inclusive policies and recognition of families as integral members of the care team are critical to resident and caregiver well-being 		<i>Methods: Qualitative</i>	
	<p>Across long-term care homes in Alberta, residents reported isolation, decreased physical activity, and mental health symptoms, particularly for residents with dementia (14)</p> <ul style="list-style-type: none"> • The purpose of this study was to examine the perspectives of residents and families living in long-term care homes in Alberta • Some residents with dementia did not understand the purpose of visitor restrictions which created additional mental health challenges • Types of preventative measures included personal protective equipment (PPE) use, visit procedures, COVID-19, and hand hygiene • Most residents recognized that the measures were necessary, even if they were unpleasant • Residents did not appreciate changes in staff regulations, which did not allow staff to work in multiple residences resulting in fewer staff and increased workload for remaining staff • A reduction in physical activity was seen due to reduced group and social participation, including loss of recreation programs • Some residents felt patronized by strict spacing regulations • Residents described feelings of loneliness 	High	<p><i>Publication date:</i> November 2021</p> <p><i>Jurisdiction studied:</i> Edmonton</p> <p><i>Methods: Qualitative</i></p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> Residents remarked the importance of having additional staff 			
	<p>Lower staffing preparedness and worse quality of care was associated with worsened impacts (e.g., physical, cognitive, and behavioural) on the quality of care for long-term care residents with dementia living in Ontario (15)</p> <ul style="list-style-type: none"> The purpose of this review was to explore the perceptions of staff on the impacts of COVID-19 on quality of care in Ontario long-term care homes Most participants were professionals from behavioural supports or allied health Half of participants worked in mid-sized homes with 100–199 beds located in urban centres Over half of participants reported worse quality of care, particularly for residents with dementia Lower staffing levels and COVID-19 preparedness was associated with worse quality of care Respondents with 11–20 years of experience were more likely to report worse quality of care, compared to those with over 20 years of experience Respondents found that participants had decreases in their behavioural symptoms, cognition, mobility, food intake, and increased falls 	High	<p><i>Publication date:</i> May 2022</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Quantitative survey</p>	None reported
	<p>Immigrant women working in long-term care homes in Calgary during the pandemic described feeling excluded from policy decisions for resident well-being, as well as negative impacts to their financial well-being due to said policies (16)</p> <ul style="list-style-type: none"> The purpose of this study was to describe the care experiences of immigrant women working in long-term care homes in Calgary during the COVID-19 pandemic Regulations preventing long-term care workers from working in multiple facilities significantly reduced their income and had far reaching impacts on their quality of life and livelihood The experiences and insights from long-term care workers were often not captured in local or broader policy decisions, despite being at the forefront of the issue 	High	<p><i>Publication date:</i> July 2022</p> <p><i>Jurisdiction studied:</i> Calgary</p> <p><i>Methods:</i> Qualitative</p>	<ul style="list-style-type: none"> Race/ethnicity/culture/language Gender/sex
	<p>Mis- and infrequent communication during visitor restriction policies created emotional distress for residents of long-term care homes and their family care partners (17)</p> <ul style="list-style-type: none"> The purpose of this study was to describe the experiences of family care partners for residents of long-term care facilities Care partners and residents described feelings of emotional distress during visitor restriction policies 	Medium	<p><i>Publication date:</i> June 2024</p> <p><i>Jurisdiction studied:</i> Quebec</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> Participants felt particularly impacted by miscommunication or infrequent communication 		<i>Methods:</i> Qualitative	
	<p>Visitor restrictions in long-term care homes in Ontario could negatively impact one's mental and physical health by reducing social engagement and person-centred care, particularly for those with barriers to technology (18)</p> <ul style="list-style-type: none"> The purpose of this study was to examine the experiences of care partners in Ontario This study found that restrictions were associated with fewer and shorter visits Care recipients also reported feeling less involved in care decisions Residents with challenges utilizing technology may have experienced greater impacts of isolation Many residents felt neglected, isolated, and frustrated A lack of socialization was thought to be related to decreases in physical function Restrictions could create challenges in implementing person-centred care 	High	<p><i>Publication date:</i> 8 September 2023</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Mixed methods survey</p>	None reported
	<p>The COVID-19 pandemic was associated with lower levels of social engagement, personal control, and staff responsiveness by older adults living in long-term care homes in Ontario (19)</p> <ul style="list-style-type: none"> The purpose of this study was to assess changes in the quality of life of long-term care residents living in Ontario before and after the COVID-19 pandemic Residents' perception of care was significantly lower after the pandemic Residents reported decreases to their personal control and social life 	High	<p><i>Publication date:</i> December 2023</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Cross-sectional</p>	None reported
	<p>Late or undetected cases of COVID-19 were related to greater and more severe outbreaks in long-term care homes in Ontario (20)</p> <ul style="list-style-type: none"> The purpose of this study was to measure the association between COVID-19 outbreak and mortality in residents of long-term care homes A total of 632 long-term care home outbreaks were observed between March and November 2020 Outbreaks were defined as at least one infected resident or staff within 14 days of the last case within a single long-term care home, occurring in 56% of Ontario's long-term care homes The incidence of infection was 7.6% during the outbreak period Approximately 36% of outbreaks were considered late, occurring three days past the infectious period; these cases were correlated with greater outbreaks 	High	<p><i>Publication date:</i> October 2024</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Cohort study</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<p>The implementation of family visitation programs in long-term care homes during the COVID-19 pandemic was inconsistent, influenced by facility culture, staff involvement, and communication practices (21)</p> <ul style="list-style-type: none"> • Conducted video/telephone interviews with 54 direct care and implementation staff in six long-term care homes in two Canadian provinces to assess implementation barriers and facilitators of visitation programs • Key themes found were: <ul style="list-style-type: none"> ○ Variability in implementation: Despite uniform public health directives, visitation policies differed across facilities due to variations in existing cultures and staff interpretations ○ Role of direct care staff: Excluding direct care staff from planning led to logistical challenges and conflicts regarding visitation rules ○ Importance of communication: Effective communication networks and leadership were crucial for successful implementation of visitation programs ○ Equity and inclusion concerns: The study highlighted equity issues in the implementation of visitation programs, emphasizing the need for inclusive planning 	High	<p><i>Publication date:</i> December 2022</p> <p><i>Jurisdiction studied:</i> Nova Scotia and Prince Edward Island</p> <p><i>Methods:</i> Qualitative</p>	None reported
	<p>Residents in Canadian long-term care homes described feelings of isolation and loneliness, which may be alleviated by modified visits or additional recreational activities (22)</p> <ul style="list-style-type: none"> • The purpose of this study was to explore the experiences of loneliness of older adults living in Canadian long-term care homes • Residents felt extremely isolated during visitor restrictions, as well as death from their friends • Social interaction was described to increase well-being in older adults and could occur in the form of video chats, outdoor visits, or window visits with other residents • Staff recognized the important role they played in supporting the well-being of residents • Additional recreation activities were described as important to supplement boredom of patients 	High	<p><i>Publication date:</i> January 2023</p> <p><i>Jurisdiction studied:</i> Canada</p> <p><i>Methods:</i> Qualitative</p>	None reported
	<p>Early case identification, the suite of interventions implemented, external support, staff training, PPE use/supply, workplace culture/organizational leadership/management, coordination and communication, and staffing were key to LTC outbreak management (23)</p> <ul style="list-style-type: none"> • This qualitative study thematically analysed interviews conducted with LTC front-line workers and managers involved in COVID-19 outbreak management (from public health, health authority leadership for LTC, infection prevention and control, and long-term care operators) to identify best practice 	Medium	<p><i>Publication date:</i> August 2021</p> <p><i>Jurisdiction studied:</i> British Columbia</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> • The following themes were identified: : <ul style="list-style-type: none"> ○ Early case identification: Early testing/identification (having a high index of suspicion) and rapid implementation of control measures was identified as a protective factor ○ Suite of public health interventions: Participants supported visitor restrictions, active symptom assessment, cohorting staff, mass testing, and environmental testing; however, appreciation for single LTC site restriction policy was tempered by the consequence of the resulting staffing shortage, and appreciation of visitor restriction tempered by consequences of impact on LTC resident mental health ○ External support (relief staffing, logistical support, infectious prevention and control (IPAC) supports): IPAC support (on-site assessments and staff training) was described as critical to outbreak management. In particular, the IPAC team’s non-punitive approach to giving feedback helped increase morale, and the external nature of the team made staff more receptive to following their advice ○ Other supports mentioned were the public health team and LTC operations directors’ provision of timely information ○ A barrier identified was nighttime staff not receiving the same amount of IPAC training ○ Staff training on IPAC and COVID-19 helped manage outbreaks, and a need for more regular IPAC training was mentioned ○ PPE use and supply: Access to centralized supply of PPE through health authority was key to getting stable PPE supply; however, inappropriate use of PPE were also noted (double-masking, unnecessary use of N95 respirators) ○ Workplace culture and leadership were key to management: For example, having LTC operators follow their own policies by acting as role models (e.g., helping care for COVID-19 patients in adhering to safety measures) brought the team closer ○ An area for improvement identified was the top-down punitive management style, with many participants reporting low morale/feeling unable to speak to a manager about issues and poor adherence to protocol ○ Communication and coordination between teams and consistency in approach to outbreak management: Daily communication between public health team and staff, and the opportunity to express concerns to management, built trust and ensured consistent approach to outbreak control ○ Communication breakdowns, which often involved front-line staff, resulted in staff not implementing the protocol 			

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> ○ An area of improvement noted was the wish for the public health team and IPAC support team to coordinate advice in order to avoid conflicting advice ○ Front-line staffing levels: Many participants attributed staffing challenges/increased workload to staff illness, single site restriction, sick residents, and strict adherence to IPAC protocols ○ Informants also complained of lack of increase in overnight staffing, with potential of staff crossing between wards and increasing transmission risk 			
	<p>LTC staff felt proud, anxious, closer to residents/staff members, and that vaccines help during the COVID-19 outbreak (24)</p> <ul style="list-style-type: none"> ● This qualitative study explored the experience of staff (n=30, drawn from disciplines including nurses, care workers, recreational staff, and a unit clerk) in a publicly funded Canadian long-term care home during a COVID-19 outbreak ● Data were gathered from focus groups and 1:1 interviews with staff ● The following themes were identified: <ul style="list-style-type: none"> ○ Several staff described the outbreak as “a good experience,” reframing it as a learning experience that taught them they could step up to hardship ○ This resilient attitude helped staff remain passionate about their roles, which served to further boost team spirit ○ “We felt anxious”: Staff were stressed about contracting COVID-19, but also reported that education from the infection control team around safety boosted confidence; staff also frequently reported a “broken heart” from witnessing the distress of residents resulting from social isolation and confinement ○ Many staff reported that the extra staffing provided by the LTC organization during the outbreak resulted in stronger relationships with residents due to being able to provide psychosocial, on top of physical, care ○ During mealtimes, staff filled the gaps of absent family and volunteers in interacting with residents ○ Keeping the same people in the unit during the outbreak fostered sense of solidarity amongst staff ○ “The vaccines help”: Staff observed the vaccine helped keep the outbreak controlled compared to smaller, privately owned LTC homes with less resources ○ Vaccines reduced staff anxiety and enabled more family visits ● Key takeaways: <ul style="list-style-type: none"> ○ Authors conclude that leadership and organizational support “are pivotal” to team resilience in managing and adapting to crises 	Medium	<p><i>Publication date:</i> February 2022</p> <p><i>Jurisdiction studied:</i> British Columbia</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> ○ Leadership and organizational support may facilitate the co-development of LTC responses to public-health crises ○ Authors concluded that building relationships was important; extra staffing helped build stronger relationships between staff and residents and advocated for adequate staffing of LTC homes ○ Authors suggested that the staff being trained in person-centred care principles may have aided in building relationships ● Study weakness: Zoom focus groups (participants were masked) and phone interviews limited researcher ability to read body gestures/facial expressions, limiting researchers' depth of understanding of emotional context 			
	<p>Providing staff with psychological support, reasonable working hours and contracts, and inclusion in decision-making process may alleviate negative impacts on care delivery associated with infectious disease outbreaks (25)</p> <ul style="list-style-type: none"> ● The purpose of this study was to describe the impacts of the pandemic on services offered by long-term care staff in New Brunswick, Manitoba, and Quebec ● Staff described being unable to provide attentive care to clients as they were assigned to too many at one point, resulting in less social interaction and less time for feeding or hygiene ● Long-term care organizations could account for this by hiring more staff or modifying contracts, involvement of staff in decision-making, clear communication, providing staff with psychological support 	High	<p><i>Publication date:</i> 3 September 2022</p> <p><i>Jurisdiction studied:</i> New-Brunswick, Manitoba, and Quebec</p> <p><i>Methods:</i> Qualitative</p>	None reported
	<p>Strategies to support the emotional well-being of informal caregivers of residents living in long-term care centres during visitor restriction periods include outdoor and/or window visits, phone calls, and peer support groups (26)</p> <ul style="list-style-type: none"> ● The purpose of this study was to describe how isolation policies in long-term care homes impacted informal caregivers ● Isolation policies were associated with loneliness and isolation in residents of long-term care homes ● Isolation policies created anxiety and stress for informal caregivers who had limited opportunity to check in on their loved ones ● Opportunities to alleviate isolation from visitor restriction policies might include window and/or visits or phone calls ● Peer support groups for caregivers may alleviate emotional distress 	High	<p><i>Publication date:</i> 1 January 2024</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<p>The dynamic role of the nurse, preserving self, banding together, and a sense of leadership support were themes found in cases of sustaining and fraying resilience amongst registered practical nurses (RPNs) in the LTC sector (27)</p> <ul style="list-style-type: none"> • This qualitative study investigated RPNs’ resilience in LTC homes (15 private, 25 public) in Ontario during COVID-19 • Constructivist grounded theory analysis was used to dissect interviews with RPNs to understand the process of how RPNs built and maintained resilience during COVID-19 • This analysis yielded several themes represented in cases of sustained resilience at the one end and cases of fraying resilience at the other end • Overarching these themes was the central concept of “Emblazoned by Professional Identity,” denoting the observation that maintaining resilience was governed by professional identity as a nurse. Key insights from the analysis included: <ul style="list-style-type: none"> ○ Dynamic role of nurse: On the one pole, professional ‘responsibility to keep going’ as a nurse was a source of resilience, whereas at the other end of the dynamic, ‘thinking of quitting’ (feelings of having to constantly compromise leading to thoughts of quitting because no longer able to fulfill nurse ideal of keeping going) was reported as a drain on resilience ○ Nurses able to accept they can ‘say no’ or compromise without compromising their professional identity fuelled resilience ○ Preserving self: On the one pole of self-preservation, ‘it’s about compartmentalizing things’ was a source of resilience, whereas ‘you get consumed by [work]’ was a drain on resilience ○ Nurses reported separating their work and life selves as a coping mechanism; however, RPNs who lacked workplace supports where they could share their fears/worries with colleagues were less able to compartmentalize and ‘deal with it’ ○ Banding together: Feeling like ‘we’re all in it together’ strengthened resilience, whereas feelings of ‘turning on each other’ drained resilience ○ Colleague conflict was noted as being increased by the unequal commitment to safety policies observed in co-workers, as well as the negativity produced by conditions of staffing shortages ○ Sense of leadership support: RPNs who felt abandoned by their leaders were drained, whereas RPNs who felt supported by their leaders/management (administrators acknowledged importance of RPNs’ work, did not see them as just ‘a number,’ gave them timely information, were ‘there all the time’) remained resilient 	Moderate	<p><i>Publication date:</i> December 2022</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> ○ In particular, RPN resilience was boosted by seeing their leaders work as hard as they. RPNs who felt that management was ‘upstairs’ and left the hard work to them felt abandoned and drained (example: being told to ‘get the job done’ regardless of lack of supports) ○ Authors concluded that resilience was mostly drawn from personal resources as individuals, and that more ‘external’ (professional development resources in the workplace) sources of resilience – workplace supports which strengthen team-based care practices, enable colleague support in problem-solving, and facilitate more opportunities allowing RPNs to connect with LTC nursing colleagues – would be helpful 			
	<p>Policy restricting long-term care workers from working in multiple homes are effective, but do not capture temporary and contract workers (28)</p> <ul style="list-style-type: none"> ● The purpose of this study was to assess changes in the mobility of long-term care staff working in Ontario before and after the implementation of policy restricting employment in multiple homes ● The results of the study indicate that the policy was effective in that staff ceased working in multiple homes ● However, mobility persisted as temporary staff and contract workers were permitted to work across multiple homes 	High	<p><i>Publication date:</i> March 2021</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Pre-post observational study</p>	None reported
	<p>PPE availability and quality, knowing how to use PPE, familial obligations, convenience and comfort, sense of professional duty, and social influences and identity affected LTC staff's PPE use (29)</p> <ul style="list-style-type: none"> ● This qualitative study used the Theoretical Domains Framework (TDF) to analyze semi-structured interviews conducted with front-line healthcare workers (healthcare workers) (n=7) in not-for-profit LTC facilities in Calgary for facilitators and barriers to PPE uptake ● Barriers and facilitators were identified in all the TDF domains except for optimism ● A total of six overarching themes encapsulated the barriers and facilitators ● Theme 1: Availability and quality of PPE: Lack of availability of PPE for easy use and low-quality PPE (loops breaking) resulted in healthcare workers not wearing PPE ● Theme 2: Knowing how to use PPE: Lack of understanding of what PPE is/how to use it appropriately was observed; training opportunities were described as helpful, when available, although one participant said that the English language used was a limitation <ul style="list-style-type: none"> ○ Rapidly changing guidelines had the result of co-workers relying on their own personal knowledge of IPC to inform PPE use 	Low to Medium	<p><i>Publication date:</i> August 2025</p> <p><i>Jurisdiction studied:</i> Calgary, Alberta</p> <p><i>Methods:</i> Qualitative</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> • Theme 3: Familial obligations: All participants wanted to protect their families and residents, citing this as motivation to use PPE • Theme 4: Convenience and comfort: Convenience of guidelines being posted outside residents' rooms meant healthcare workers didn't need to memorize the PPE steps <ul style="list-style-type: none"> ○ Discomfort from wearing the masks was mentioned, as well as inefficiency in responding to residents because of time needed to for PPE • Theme 5: Sense of professional role and duties affected PPE use: Healthcare workers (n=3) reported that client safety should be top priority as a good care provider, and using PPE supported this professional priority <ul style="list-style-type: none"> ○ On the other hand, healthcare workers (n=5) chose not to use PPE appropriately in cases where their responsibilities as healthcare providers took full attention (e.g., cardiac arrest) ○ Other healthcare workers did not wear PPEs for fear of frightening residents; understaffing exacerbated the barrier of PPE taking too much time to put on, because lack of staff meant healthcare workers needed to rush even more • Theme 6: Social influences and identity: Most participants said they copied their co-workers' PPE use; some would even imitate an inappropriate PPE use <ul style="list-style-type: none"> ○ Some healthcare workers reported their PPE use was influenced by residents or family of residents making comments about PPE use, while other workers reported their PPE use was not influenced by residents 			

Appendix 4: Evidence syntheses relevant to element 2 – Co-develop context-specific responses to disease outbreaks

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
<p>Sub-elements</p> <ul style="list-style-type: none"> • Creating structured processes within LTC homes • Building LTC homes' capacity for resident and staff engagement <p>Searches: Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. (10 evidence syntheses identified)</p>	<p>Preventative measures for infectious disease outbreaks in long-term care centres may include mass testing and visitor restriction; development of measures should consider the size and crowding index of the home (30)</p> <ul style="list-style-type: none"> • This review explored the types of measures used in long-term care facilities during the COVID-19 pandemic • Types of measures included use of personal protective equipment, visitor screening, surveillance testing, hand hygiene, surveillance screening, resident cohorting, and mass testing of residents and employees <ul style="list-style-type: none"> ○ The most common measure used across studies was mass testing ○ Mass testing can reduce transmission by providing evidence of infectious rates and enabling activation of other measures (e.g., isolation) ○ Restricting visitors was the second most common measure • The prevalence of COVID-19 infection and morbidity varied across studies; however, the prevalence for both factors was higher in larger homes with a high crowding index 	No	8 of 11	2020	Not available	None reported
	<p>Healthcare workers' adherence to infection prevention and control (IPC) guidelines is shaped by clear communication, management support, training, personal protective equipment (PPE) access, and workplace culture; barriers include unclear guidance, resource shortages, fatigue, and poor infrastructure (31)</p> <ul style="list-style-type: none"> • The review was a rapid qualitative evidence synthesis, analyzing 20 qualitative and mixed-methods studies to identify barriers and facilitators to healthcare workers' adherence to IPC guidelines for respiratory infectious diseases <ul style="list-style-type: none"> ○ The studies included were from Asia (n=10), Africa (n=4), North and Central America (n=4), and Australia (n=2) 	No	7 of 9	2020	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> • A “best fit framework approach” was applied, drawing on organizational, environmental, and individual factors to code and synthesize findings • Healthcare workers’ adherence to IPC guidelines is shaped by organizational, environmental, and individual factors • Barriers included unclear or frequently changing guidelines, inadequate PPE supply, insufficient training, and increased workload/fatigue when applying IPC measures • Facilitators included clear communication, visible managerial support, workplace cultures that valued safety, and adequate space for patient isolation • Staff emphasized the need for mandatory training, ongoing education, and inclusion of all staff (nursing, cleaning, kitchen, porters) in IPC guidance • Environmental constraints such as poor ventilation, overcrowding, and lack of isolation rooms made IPC adherence difficult • Healthcare workers adhered more closely when they perceived IPC measures as valuable for protecting themselves, their families, and their patients • The authors recommend implementation strategies needed to address not just resources (e.g., PPE supply) but also communication, culture, and front-line support to sustain adherence 					
	<p>Organizational, resource, and knowledge barriers can hinder the implementation of antimicrobial stewardship in long-term care facilities (32)</p> <ul style="list-style-type: none"> • A scoping review of 3,904 records found 57 relevant studies analyzing barriers to full anti-microbial stewardship programme implementation in long-term care facilities (LTCFs) • Qualitative analysis of 13 studies identified three primary barrier domains: organizational culture, resources, and knowledge/skills gaps • Organizational culture issues include interprofessional tensions, siloed training, low motivation, and resistance to change 	No	4 of 9	2023	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> Resource constraints encompass high workloads, inadequate staffing, lack of diagnostics, insufficient IT, and limited funding Knowledge and skills limitations involve poor surveillance data access, lack of antimicrobial stewardship expertise, and weak data analysis capability The authors recommend that intervention developers and implementers use these insights to guide AMS programme design in LTCFs For developing implementation support strategies recommended for LTC homes adopting public-health guidance, addressing cultural, resource, and expertise barriers is essential The authors recommend that a tailored support strategy incorporate cross-disciplinary leadership, training programs, IT and diagnostic enhancements, surveillance infrastructure, and funding mechanisms 					
	<p>LTCF performance during COVID-19 was shaped by internal factors like organizational context and staffing, and external factors like public-health guidelines and visitor policies (33)</p> <ul style="list-style-type: none"> A review of 140 articles (largely from North America and early pandemic phases) identified factors influencing LTCF performance using a multidimensional performance framework including equity, accessibility, reactivity, safety, continuity, efficacy, viability, and efficiency The most frequently discussed performance dimensions in the literature were efficacy (75.7%) and safety (75.7%) Key internal factors affecting performance included organizational context (72.9%), like facility structure, policies, and leadership, and human resources (62.1%), such as staffing levels, training, and workforce stability Notable external factors influencing performance were visitors (27.1%), including their management and restrictions, and public health guidelines (25.7%), particularly the clarity and implementation of such policies The authors emphasize that, despite identifying many influencing factors, the lack of randomized controlled trials limits the ability to establish causal links between these factors and LTCF outcomes 	No	4 of 9	2021	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> The adoption of a multidimensional performance framework enabled a better understanding of how diverse elements (e.g., service access, quality, and sustainability) shaped LTCF responses to COVID-19 					
	<p>There was variability in infection rates and COVID-19 safety procedures across long-term care homes in Canada; however, those that cancelled visits, communal activities, implemented vaccines, and ceased new residents' admissions had a lower infection rate (34)</p> <ul style="list-style-type: none"> The purpose of this review was to assess the impacts of COVID-19 on long-term care homes The pooled infection rate of long-term care homes in Canada was 32.63% from 93 studies Hospitalization rates ranged from 2.86% to 100% with a pooled rate of 29% The pooled mortality rate was 15.81% A total of 13 studies cancelled group activities; 49 did not report A total of 10 studies noted using personal protective equipment for everyone, 26 only for staff, and 26 not reported A total of 8 studies reported using social distancing measures; 54 did not report A total of 46 studies noted using 46 testing for COVID-19 at a facility wide level, 1 did on symptom level, and 15 did not report A total of 35 studies reported isolating high-risk cases; 27 did not report A total of 13 studies reported keeping high-risk staff outside of the facility; 49 did not report Long-term care homes that cancelled visits, communal activities, implemented vaccines, and ceased new residents' admissions had a lower infection rate 	No	8 of 11	2021	Not available	None reported
	<p>Variability in facility location, facility design, and staff compartmentalizing in long-term care homes are associated with differences in rate of COVID-19 infection (35)</p>	No	5 of 10	2021	Not available	None reported

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> • The purpose of this review was to examine the impacts of facility and staff characteristics on the risks of spreading outbreaks in long-term care homes • This study showed that the aforementioned characteristics can impact the likelihood of infections <ul style="list-style-type: none"> ○ Facility location: Care homes located in urban centres had higher risks of infections ○ Facility design: Multi-occupancy rooms had higher risks of infections ○ Staff compartmentalizing had lower rates of infection than instances where staff worked in multiple units 					
	<p>Environmental factors like new ventilation, spatial separation, physical barriers, private rooms, and less crowding are environmental factors associated with prevention and management of COVID-19 in long-term care homes (36)</p> <ul style="list-style-type: none"> • The purpose of this review was to summarize the impact of the environment on prevention and management of COVID-19 in long-term care homes • Homes with older ventilation have higher risk of outbreaks • Spatial separation was important, but linked to isolation in residents • Physical barriers may reduce the spread of infection • Smaller rooms with less crowding were associated with fewer outbreaks 	No	1 of 9	Not stated	Not available	None reported
	<p>Individual, environmental and organizational factors are associated with increases in infectious disease outbreaks in long-term care homes (37)</p> <ul style="list-style-type: none"> • The purpose of this review was to identify factors related to COVID-19 outcomes in long-term care facilities • Individual factors including older age, higher dependency needs, dementia, and fatality were more associated with outbreaks • Organizational factors related to higher levels of mortality in long-term care homes with higher racial and ethnic composition, for-profit homes, higher nursing staff levels, lower star ratings, infected staff, chain membership, and lower quality performance 	No	6 of 9	2021	Not available	<ul style="list-style-type: none"> • Age • Socio-economic status

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> ○ Disparities due to race were most likely attributed to other socio-economic factors ● Environmental factors related to outbreaks included higher number of beds, occupancy rate, outbreaks in community, high-density communities, structural designs of rooms, and older facility design and age ○ For-profit homes typically have less staff, which may reflect increases in outbreaks 					

Appendix 5: Single studies relevant to element 2 – Co-develop context-specific responses to disease outbreaks

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
<p>Sub-elements</p> <ul style="list-style-type: none"> • Creating structured processes within LTC homes • Building LTC homes' capacity for resident and staff engagement <p>Searches: Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. (10 evidence syntheses identified)</p>	<p>Government homes were associated with less outbreaks and deaths than for-profit homes in Ontario (38)</p> <ul style="list-style-type: none"> • This study examined the association between COVID-19 prevention and management in long-term care homes in Ontario 	High	<p><i>Publication date:</i> September 2021</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Cross-sectional</p>	None reported
	<p>Long-term care homes that were for-profit, have a higher incidence rate, more beds, and older designs were associated with an increase in outbreaks, in comparison to government homes in Ontario (39)</p> <ul style="list-style-type: none"> • The purpose of this study was to examine the association between profit status and infectious disease outbreaks in long-term care homes 	Medium	<p><i>Publication date:</i> 17 August 2020</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Retrospective cohort</p>	None reported
	<p>Long-term care homes in Ontario implement various infectious disease prevention measures and over half were uncertain if they were prepared for another outbreak (40)</p> <ul style="list-style-type: none"> • The purpose of this study was to describe the clinic's perspective on long-term care sector preparedness in relation to the COVID-19 pandemic • Types of measures implemented included active screening, staff education, paid sick time for staff, active screening, and coordination with public health officials • Approximately 35% of patients felt that stakeholders in the long-term care home were engaged in COVID-19 preparedness • Half of participants were not certain if their organizations were prepared for another outbreak 	High	<p><i>Publication date:</i> 22 October 2020</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Cross-sectional</p>	None reported
	<p>A higher crowding index was associated with more respiratory disease outbreaks pre-pandemic in Ontario long-term care homes (41)</p> <ul style="list-style-type: none"> • The purpose of this study was to assess the association between crowding and respiratory infectious outbreaks pre-pandemic in long-term care homes in Ontario • Homes with a higher crowding index had more outbreaks than homes with lower indexes • Pre pandemic, the most common outbreaks were influenza A 	High	<p><i>Publication date:</i> March 2023</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Retrospective cohort</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> Homes with higher crowding index typically had younger residents and fewer residents with dementia 			
	<p>Early intervention and personalized care may reduce mortality rates during COVID-19 outbreaks in Ontario long-term care homes (42)</p> <ul style="list-style-type: none"> The purpose of this study was to describe a model of providing acute support to long-term care homes during the pandemic Early intervention and acute supports during outbreaks were correlated to lower mortality rates The intervention consisted of three to six clinicians (e.g., nurses and medical doctors) with community and palliative care experience triaging residents and providing in-depth documentation and personalized care 	Medium	<p><i>Publication date:</i> 1 June 2022</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods:</i> Retrospective cohort</p>	None reported
	<p>Health authority regulated long-term care homes in British Columbia were associated with fewer outbreaks, possibly due to preventative measures like personal protective equipment and lower staff turnover (43)</p> <ul style="list-style-type: none"> The purpose of this study was to assess the association between facility ownership and COVID-19 outbreaks in British Columbia Higher outbreaks were associated with lower nurse care, higher subcontracted and non-regulated professionals, higher mean community incidence of outbreaks, and more shared rooms Long-term care homes owned by a health authority had lower outbreaks in for and non-profit homes <ul style="list-style-type: none"> This may be because these facilities had greater access to infection prevention and control measures (e.g., personal protective equipment) Health authorities also have fewer subcontracted staff and provide more sick leave 	High	<p><i>Publication date:</i> 21 March 2023</p> <p><i>Jurisdiction studied:</i> British Columbia</p> <p><i>Methods:</i> Retrospective cohort</p>	None reported
	<p>Individual (e.g., health condition) and facility (e.g., nursing shortage) characteristics are associated with higher risk of 30-day mortality after COVID-19 infection in Canadian long-term care homes (44)</p> <ul style="list-style-type: none"> The purpose of this study was to explore the factors associated with 30-day mortality in Canadian long-term care homes The risk of 30-day mortality post COVID-19 infection was higher in larger long-term care homes and nursing shortages Individual characteristics like age, men gender, and presence of a health comorbidity was associated with a higher rate of mortality 	High	<p><i>Publication date:</i> November 2022</p> <p><i>Jurisdiction studied:</i> Canada</p> <p><i>Methods:</i> Retrospective cohort</p>	<ul style="list-style-type: none"> Age Sex/gender
	<p>Comprehensive screening procedures, early recognition of cases, and staffing supports can help reduce outbreaks in long-term care homes in Canada (45)</p>	High	<p><i>Publication date:</i> May 2021</p>	None reported

Sub-elements and search strategies used to identify evidence documents	Declarative title and key findings	Relevance rating	Study characteristics	Equity considerations
	<ul style="list-style-type: none"> The purpose of this study was to assess the factors associated with COVID-19 outbreak severity in long-term care homes Recommendations of screening that are not comprehensive and capture rare symptoms could have led to additional outbreaks in long-term care homes in Ontario Nursing shortages and lack of sick paid were associated with increased outbreaks 		<i>Jurisdiction studied:</i> Canada <i>Methods:</i> Retrospective cohort	
	<p>Long-term care homes had higher rates of infection and mortality related to the COVID-19 pandemic; comprehensive and early screening is needed to monitor and reduce outbreaks (46)</p> <ul style="list-style-type: none"> The purpose of this study was to compare the testing and rates of mortality after COVID-19 infection across three long-term care homes in the Greater Toronto Area Earlier screening of COVID-19 did not capture asymptomatic symptoms or target long-term care homes, which may have contributed to outbreaks in long-term care homes 	Medium	<i>Publication date:</i> October 2020 <i>Jurisdiction studied:</i> Greater Toronto Area <i>Methods:</i> Observational	None reported
	<p>Regional outbreaks, larger resident capacity, chain residences, more services on site, and greater diversity were associated with increased risks of outbreaks in retirement homes in Ontario (47)</p> <ul style="list-style-type: none"> The purpose of this study was to examine the association between home and community characteristics and the risk of COVID-19 outbreaks in long-term care homes in Ontario Larger homes had a three-time risk of outbreaks possibly due to more migration Homes offering nine or more services had a 2.5 increased risk of outbreaks, suggesting that these homes require additional supports during infectious disease outbreaks Ethnographically diverse neighbourhoods and residences had higher risk of outbreaks Retirement homes co-located with long-term care homes had a 1.5 increased rate of outbreaks In all examples, instances requiring additional contact and movement outside of the home were associated with increased risk of an outbreak 	High	<i>Publication date:</i> 10 May 2021 <i>Jurisdiction studied:</i> Ontario <i>Methods:</i> Population level cohort	None reported

Appendix 6: Evidence syntheses relevant to element 3 – Strengthen capacity for evidence support

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
<p>Sub-elements</p> <ul style="list-style-type: none"> • Mapping and engaging existing assets • Establish rapid-review mechanisms • Build timely 'ways in' for the best evidence • Build and sustain a culture of evidence use <p>Searches: Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. <i>(one evidence synthesis identified)</i></p>	<p>There is reported limited in situ evidence on disinfectant efficacy in healthcare facilities; studies were heterogeneous, often lacked fidelity measures, rarely assessed fungi/viruses, and guidelines remain consensus-based rather than evidence-driven (48)</p> <ul style="list-style-type: none"> • This review conducted as an evidence map and systematic review focusing on in situ studies of environmental surface disinfection in healthcare facilities • The review screened and included 181 articles focused on disinfection or decontamination of in-patient or out-patient environments • A total of 10 types of disinfectants were evaluated, but most studies did not measure implementation fidelity • There was a lack of in situ evidence for how disinfectants reduce pathogen load and healthcare-associated infections (HAIs); most guidelines are based on lab data • Outcomes for fungi and viruses were infrequently assessed • Heterogeneity in study design (e.g., different outcomes, organisms, indicators) made it difficult to compare disinfectants reliably • Guidelines are often consensus-based and varied across regions and institutions • The authors emphasize the need to consider system-level disinfection efficacy, not just lab-based potential 	No	4 of 9	2020	Not available	None reported

Appendix 7: Single studies relevant to element 3 – Strengthen capacity for evidence support

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
<p>Sub-element:</p> <ul style="list-style-type: none"> Mapping and engaging existing assets Establish rapid-review mechanisms Build timely ‘ways in’ for the best evidence Build and sustain a culture of evidence use <p>Searches: Search 1, Search 2, Search 3 – conducted in Health Evidence, specific search terms available upon request. <i>(five evidence syntheses identified)</i></p>	<p>Healthcare professionals working in long-term care centres during infectious disease outbreaks may experience cognitive and psychological burden that can lead to decreased job satisfaction that may impact provider experiences and care outcomes (49)</p> <ul style="list-style-type: none"> This review explored the experiences of healthcare professionals working in long-term care homes during the COVID-19 pandemic Healthcare professionals felt that they carried a significant cognitive and psychological burden that impacted their health and well-being <ul style="list-style-type: none"> This burden was related to increased work demands, sadness of caring for dying or infected residents, and frustration at lack of control over their work This burden could also lead to feelings of helplessness and moral distress Half of the studies included in this review (n=20) reported staff burnout that lead to less job satisfaction <ul style="list-style-type: none"> Burnout was related to emotional and cognitive overload, feelings of lack of accomplishment, and unmanageable workloads Burnout also occurred as some staff were required to return to work even if they contracted symptoms Burnout was related to emotional and cognitive overload, feelings of lack of accomplishment, and unmanageable workloads Additional obstacles healthcare professionals encountered were fear of contracting the virus or spreading it to their loved ones and facing verbal attacks from resident families Support and recognition could motivate healthcare professionals, who often felt underappreciated <p>LTC facilities faced resource shortages, emotional strain, and limited resident-family input during COVID-19 (50)</p> <ul style="list-style-type: none"> This review summarized evidence on the experiences and perspectives of residents, family members, and health/social care workers in LTC settings during the first wave of COVID-19 (11 March 11 to 15 February 2021) 	No	4 of 9	2022	Not available	None reported
	<p>LTC facilities faced resource shortages, emotional strain, and limited resident-family input during COVID-19 (50)</p> <ul style="list-style-type: none"> This review summarized evidence on the experiences and perspectives of residents, family members, and health/social care workers in LTC settings during the first wave of COVID-19 (11 March 11 to 15 February 2021) 	No	4 of 9	2021	Not available	None identified

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> • 16 relevant studies were included that covered residents, families, and professionals in nursing homes and LTC facilities • LTC facilities struggled with managing human and material resources, leading to emotional exhaustion among residents, staff, and family members • Despite adversity, LTC settings demonstrated creative initiatives and new forms of leadership, adapting to meet emerging needs during the pandemic • Few studies included residents' and families' perspectives, partly due to access restrictions and technological barriers; research was predominantly focused on professionals • The pandemic triggered declines in residents' well-being (e.g., increased loneliness, depression), emotional strain in staff, and significant stress on families due to isolation and visitation restrictions • The authors emphasize the importance of establishing formal structures and processes that enable inclusive, multi-stakeholder collaboration (residents, families, staff, and public health authorities) to co-develop emergency response protocols, communication tools (e.g., facilitating connection during lockdown), and leadership practices 					
	<p>Strong partnerships, leadership, funding, staffing, and infection prevention and control (IPC) capacity improved LTC COVID-19 outcomes, while weak policies, poor system integration, underfunding, and high-risk facility characteristics worsened outcomes (33)</p> <ul style="list-style-type: none"> • The review identified internal and external factors influencing long-term care facility (LTCF) performance during the COVID-19 pandemic, using a multidimensional performance framework (accessibility, quality, resource optimization) • Key enablers of better performance included partnerships with health institutions, proactive leadership, access to IPC expertise, increased funding and care hours, universal testing, and visitor restrictions • Barriers included weak LTC policies, poor integration with health systems, funding and staffing shortages, and failures in identifying asymptomatic infection 	No	4 of 9	2021	Not available	None identified

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> • Facilities at higher risk included larger, urban centres with poorer ratings, crowded rooms, fewer care hours, and higher proportions of minority residents • Most studies leveraged data across multiple LTCFs and included staff and resident perspectives, though causality could not be conclusively established due to study design limitations • To support strategy development for implementing public-health guidance, the findings suggest focusing on enhancing partnerships, building IPC leadership and capability, securing resources (funding, staffing, testing), reinforcing system integration, and customizing support for higher-risk facility profiles 					
	<p>Decision-making for residents' care, well-being, and healthcare decisions should be supported by long-term care homes leadership, include family perspective, and personal approaches (51)</p> <ul style="list-style-type: none"> • The objectives of this review were threefold and included exploring: strengths and opportunities for change in long-term care centres, use team-based strategies, and evidence for co-creating care directives • Strengths and opportunities for change included: <ul style="list-style-type: none"> ○ supporting autonomy and decision-making of residents to improve quality of life and satisfaction ○ cultivating relationships with staff and residents for resident-specific care ○ provide opportunities for social and other stimulating activities ○ Providing a home-like setting ○ enhancing dining experiences (e.g., family style dining) ○ having fewer residents to help build a more intimate sense of community • Team-based strategies for improving patient-centred care included: <ul style="list-style-type: none"> ○ improve communication strategies through use of electronic health records and integrating healthily trained team members (e.g., nurse practitioners) ○ strategically implement changes based on unique care centre needs ○ including engaged leaders 	No	2/9	Not stated	Not available	None identified

Sub-elements and search strategies used to identify evidence documents	Available evidence syntheses to inform decision-making about sub-element	Living status	Quality (AMSTAR rating from McMaster Health Forum)	Last year literature searched	Availability of GRADE profile	Equity considerations
	<ul style="list-style-type: none"> ○ including family members in strategic building efforts ● Residents' preferences for advanced care planning included: <ul style="list-style-type: none"> ○ discussing advanced care plans in a positive and personal manner ○ engage family members in advanced care planning and providing sufficient education for decision-making ○ provide advanced care planning for persons with dementia as early as possible ○ organizations should prioritize advance care planning by providing sufficient processes and staff 					

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