McMaster University | HEALTH FORUM

COVID-END COVID-19 Evidence Network to support Decision-making ... in Canada

Appendices for COVID-19 Rapid Evidence Profile #27

(6 January 2022)

Appendix 1: Methodological details

We use a standard protocol for preparing rapid evidence profiles (REP) to ensure that our approach to identifying research evidence as well as experiences from other countries and from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For this REP, we searched our continually updated inventory of best evidence syntheses and all documents screened to develop it for:

1) guidelines (defined as providing recommendations or other normative statements derived from an explicit process for evidence synthesis);
2) full systematic reviews;
3) rapid reviews;
4) protocols for reviews or rapid reviews that are underway;
5) titles/questions for reviews that are being planned; and
6) single studies (when no guidelines, systematic reviews or rapid reviews are identified).

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing.

Identifying experiences from other countries and from Canadian provinces and territories

For each REP, we collectively decide on what countries to examine based on the question posed. For other countries we search relevant sources included in our continually updated guide to key COVID-19 evidence sources. These sources include government-response trackers that document national responses to the pandemic. In addition, we conduct searches of relevant government and ministry websites. In Canada, we search websites from relevant federal and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language, where information is not available through the government-response trackers, we are unable to extract information about countries that do not use English, Chinese, French or Spanish as an official language.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraised the quality of the guidelines we identified as being highly relevant using AGREE II. We used three domains in the tool (stakeholder involvement, rigour of development and editorial independence) and classified guidelines as high quality if they were scored as 60% or higher across each of these domains.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher out of a possible 11, medium-quality reviews are those with scores between four and seven, and low-quality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses to COVID-19. 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.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare a small number of bullet points that provide a brief summary of the key findings, which are used to summarize key messages in the text. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. We then draft a brief summary that highlights the total number of different types of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2: Key findings from evidence documents that address the question, organized by document type and sorted by relevance to the question and COVID-19

Type of document	Relevance to question	Key findings	Recency or status

Guidelines	• Vulnerable hospital inpatients to protect
	  ○ Cancer patients
		• This guideline focuses on prioritizing cancer treatments and suggests:
		  ○ Shared decision-making with individual patients to discuss the risks and benefits of starting, continuing or deferring systemic anticancer treatment
		  ○ Using NHS England's clinical guide for the management of non-coronavirus patients requiring acute treatment (cancer)
		Source (high-quality AGREE II rating; NICE)
			Last updated 12 February 2021

	• Vulnerable hospital inpatients to protect
	  ○ People with other conditions that make them vulnerable (e.g., COPD)
		• This guideline focuses on the safety of dialysis patients and suggests:
		  ○ Cohorting
		  ○ Providing separate entrances for anyone suspected as having COVID-19
		  ○ Treating patients as close to home as possible and moving to different units if needed to allow for effective cohorting
		Source (low-quality AGREE II rating; NICE)
			Last updated 11 September 2020

Full systematic reviews	• Approaches to protecting vulnerable hospital inpatients
	  ○ Cancer patients
		• Interventions adopted to prevent the spread of COVID-19 among pediatric cancer patients included:
		  ○ Limiting the risk of contagion by restricting access to the wards and implementing hygiene measures
		  ○ Identification of separate pathways for the management of patients suspected or confirmed to be infected with COVID-19
		  ○ Postponement of people accessing the hospital for non-urgent or unnecessary tests or medical examinations, and the preventive screening of patients before chemotherapy treatment or transplantation of hematopoietic stem cells
			Literature search data not reported (published 21 November 2020)

		Source (5/10 AMSTAR rating)	
	• Approaches to protecting vulnerable hospital inpatients ○ Other	• Half of six of the models identified for hospital surge-capacity planning did not include age-stratified parameters, and only one included the option to represent a second wave Source	Published 10 September 2020

	• Approaches to protecting vulnerable hospital inpatients
	  ○ Discharging patients to other care settings (e.g., home with supports or long-term care)
	  ○ Other
		• This review explored short-, mid-, and long-term strategies for medical-resource management to navigate a resurge of COVID-19 cases during the pandemic
		• The following preparedness strategies were identified for COVID-19 management in medical institutions:
		  ○ Conducting continuous COVID-19 screening
		  ○ Establishing a central control tower to identify bed availability and prepare for potential bed shortages
		  ○ Establishing a systematic severity criterion for effective triage of COVID-19 cases
		  ○ Facilitating rapid bed circulation by creating facilities for long-term care and post-acute care for COVID-19 patients with dementia, mental illness, and other disabilities requiring rehabilitation
		  ○ Developing and establishing plans to create national infectious-disease hospitals
		• The following preparedness strategies were identified for COVID-19 management in the context of medical workforce:
		  ○ Ensuring sufficient numbers of hospital staff, such as by recruiting staff members from alternative sources (e.g., recently retired professionals, healthcare students, volunteers)
		  ○ Providing adequate personal protective equipment to healthcare staff
		  ○ Strengthening communication between primary-care providers, experts and government
			Literature last searched 31 July 2020

		• The following preparedness strategies were identified for COVID-19 management with regards to medical equipment:
		  ○ Ongoing monitoring and forecasting of medical or non-medical supplies and equipment
		  ○ Establishing a system to determine resource allocation in case of resource shortages
		• The following preparedness strategies were identified for COVID-19 management with respect to data and information:
		  ○ Establishing a national surveillance system to monitor COVID-19 transmission trends and disease activity, and evaluate policy impact
		  ○ Building a database to store and share clinical data on patient progress
		  ○ Enabling open, transparent and efficient data sharing between health professionals, authorities, experts, scientists and the public
		Source	

	• Approaches to protecting vulnerable hospital inpatients ○ Other	• Ward closure for control of outbreaks lacks evidence • Its use will need to balance competing risks by considering the nature of the outbreak, the type of pathogen and its virulence, mode of transmission, and the setting in which it occurs Source	Literature last searched 7 July 2014

	• Approaches to protecting vulnerable hospital inpatients
	  ○ People who are immunocompromised
	  ○ Older adults
	  ○ Other
		• Vulnerable populations, older adults, immunocompromised, and pediatric populations may require additional considerations such as the availability or appropriateness of telehealth, separate clinic hours or clinic spaces
		• Routine COVID-19 testing for vulnerable populations was highlighted to be very important to protect them from contracting COVID-19
		• In the U.K., the following models were used to limit exposure to COVID-19: performing stroke clinics using telemedicine, the use of telephone
			Literature search data not reported (published on 18 June 2020)

		triage for cancer referrals, and the use of 'cancer hubs' for non-urgent procedures Source (4/9 AMSTAR rating)	

	• Vulnerable hospital inpatients to protect
	  ○ Other
	• Approaches to protecting vulnerable hospital inpatients
	  ○ Other
		• This review identified 25 articles that explore measures taken during delivery, breastfeeding, and neonatal postpartum care to prevent and control neonatal COVID-19 infection
		• The following measures were found to be implemented during delivery:
		  ○ Preparation of delivery rooms with negative pressure, personal protective equipment and disinfectant solution
		  ○ Personal protective equipment, including N95 masks, worn by health professionals, and surgical masks for pregnant women during labour
		  ○ Individualized delivery mode and time based on obstetric indications
		  ○ Immediately cleaning and drying newborns and discontinuing skin-to-skin contact after delivery
		  ○ Storing samples of swabs (e.g., pharyngeal, peripheral, breast milk) for further investigation
		• The following measures were found to be implemented during breastfeeding:
		  ○ Delaying breastfeeding until newborns receive preventive care for contamination by COVID-19
		  ○ Wearing face mask, sanitizing hands and using sanitized equipment when breastfeeding or extracting breast milk
		• The following measures were found to be implemented during neonatal postpartum care:
		  ○ Monitoring newborns in a private room 14 days after birth for COVID-19
		  ○ Maintaining one metre distance between mother's bed and newborn's crib
			Literature last searched 31 March 2020

		○ Restricting visits to newborn and mothers, and educating mothers about the importance of following prevention protocols ○ Postponing elective follow-ups at newborn's outpatient clinics ○ Maintaining a strict disinfection protocol when managing newborns with a suspected or confirmed case of COVID-19 ○ Using alternative options for monitoring newborns after discharge (e.g., online) Source	
Rapid reviews	• Approaches to protecting vulnerable hospital inpatients ○ Other	• Proper ventilation is critical for controlling airborne infections in congregate-care settings, and over the short-term this can be accomplished by using portable high-efficiency particulate air filters, installation of upper-room ultraviolet air disinfection, and opening windows where possible Source	Last updated 4 November 2021
	• Vulnerable hospital inpatients to protect ○ Cancer patients ○ People who are immunocompromised ○ People with other conditions that make them vulnerable (e.g., COPD) • Approaches to protecting vulnerable hospital inpatients ○ Other	• This rapid review explored suggestions to inform hospice and palliative-care response to the COVID-19 pandemic • The following systems-level recommendations were found for the palliative-care response to COVID-19: ○ Changes to policies to allow for flexibility and rapid changes, restrictions on visitors in palliative-care settings, and integration of palliative care in broader national/local pandemic planning ○ Developing palliative-care protocols, and providing training and education on basics of palliative care for non-specialist staff ○ Streamlining communication between organizations and multiple health professionals by sharing protocols, advice and standards of care ○ Building a rapid triage system	Literature last searched 18 March 2020

		○ Standardizing data collection, and continuously monitoring and evaluating data for quality of services • The following staff-level recommendations were found for the palliative-care response to COVID-19: ○ Ensuring adequate staff numbers, restricting staff contact with volunteers for infection control, and establishing flexibility around which settings to deploy staff ○ Involving psychologists and spiritual-care professionals in pandemic response ○ Ensuring staff resilience by maintaining a sense of connectedness, providing training in communication and bereavement counselling, and supporting healthcare workers in managing stress • The following recommendations were found with respect to location of care and technology: ○ Shifting resources from acute-care settings to the community ○ Fostering community engagement to establish trust ○ Utilizing technology to provide daily updates for loved ones, particularly when visiting is limited • The following recommendations were found with respect to medical equipment: ○ Maintaining adequate supplies of personal protective equipment, and basic supplies of medical equipment ○ Ensuring medication for symptoms of COVID-19 (e.g., cough, fever) is available in formularies ○ Maintaining adequate access to diagnostic and monitoring equipment Source	
Protocols for reviews that are already underway	None identified		

Titles and questions for reviews being planned	None identified		
Single studies	• Approaches to protecting vulnerable hospital inpatients ○ Cohorting	• A case study of the response from an intensive-care unit (ICU) at a tertiary-care hospital to COVID-19 pandemic revealed the need to almost double ICU bed capacity and to change multiple aspects of ICU workflow to be able to care for high numbers of affected patients Source	Published November 2021
	• Vulnerable hospital inpatients to protect ○ Cancer patients	• A single-centre experience with maintaining a cancer service during the COVID-19 pandemic Source	Published August 2020

Appendix 3: Documents excluded at the final stages of reviewing

Type of document	Hyperlinked title
Guidelines	
Full systematic reviews	COVID-19 outbreak and hospital air quality: A systematic review of evidence on air filtration and recirculation COVID-19 in cardiac arrest and infection risk to rescuers: A systematic review Hospital visitor policies during the COVID-19 pandemic: A living systematic review Resilience of nursing homes in Europe during the first wave of COVID-19: A systematic review of control measures implemented according to the magnitude of the outbreak and national guidelines Rapid review of the evidence on impacts of visiting policies in care homes during the COVID-19 pandemic A systematic narrative review of comprehensive preparedness strategies of healthcare resources for a large resurgence of COVID-19 nationally, with local or regional epidemics: Present era and beyond Should homes and workplaces purchase portable air filters to reduce the transmission of SARS-CoV-2 and other respiratory infections? A systematic review The COVID-19 pandemic and plastic surgery: Literature review, ethical analysis, and proposed guidelines The management of surgical patients in the emergency setting during COVID-19 pandemic: The WSES position paper Exploring the impact of the COVID-19 pandemic on pediatric surgical services
Rapid reviews	Informing readiness and response to COVID19 in hospitals and primary healthcare centers Patient risk stratification and admission guidelines Aged care facilities and COVID-19 Dedicated or temporary COVID-19 healthcare facilities
Protocols for reviews that are already underway	
Titles and questions for reviews being planned	
Single studies	Nosocomial outbreak of coronavirus disease 2019 by possible airborne transmission leading to a superspreading event

	Crucial role of temporary airborne infection isolation rooms in an intensive care unit: Containing the COVID-19 outbreak in South Korea Infection control measures of a Taiwanese hospital to confront the COVID-19 pandemic Updates on recommended use of non-invasive ventilation in AHS acute care facilities during the COVID-19 pandemic

Wilson MG, Bhuiya A, Bain T, Al-Khateeb S, Mansilla C, Mehta V, Sood T, Soueidan S, Rintjema J, Waddell K, Wang A, Wang Q, Wang X, Lavis JN. Appendices for COVID-19 rapid evidence profile #27: What measures and approaches can protect the most vulnerable in hospitals when outbreaks of Omicron in hospital are becoming more common? Hamilton: McMaster Health Forum, 6 January 2022.

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