National Collaborating Centre for Methods and Tools

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Rapid Review: What is the effectiveness of cohorting virus-positive residents to shared rooms in care facilities?

Prepared for: Technical Advisory Committee (TAC); Public Health Agency of Canada (PHAC)

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Date: June 12, 2020

Suggested Citation:

National Collaborating Centre for Methods and Tools. (2020). *Rapid Review: What is the effectiveness of cohorting virus-positive residents to shared rooms in care facilities?* https://www.nccmt.ca/knowledge-repositories/covid-19-evidence-reviews.

Version 1: June 12, 2020

Executive Summary

Background

Effective infection prevention and control measures are critical to prevent and mitigate the transmission of COVID-19 in long-term care (LTC) facilities. Cohorting of infected residents to shared rooms is a practice that has been used in the context of other infections, and its effectiveness for managing COVID-19 is of interest.

This rapid review was produced to support the Public Health Agency of Canada's response to the coronavirus disease 2019 (COVID-19) pandemic. This review seeks to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making.

This rapid review includes evidence available up to June 8, 2020.

In this rapid review, we provide the most recent research evidence to answer the question: **What is the effectiveness of cohorting virus-positive residents to shared rooms in care facilities?**

Key Points

- No research evidence was identified related to the effectiveness of cohorting COVID-19 virus-positive residents to shared rooms in long-term care facilities.
- Guidance documents are consistent in recommending isolation of positive cases in single rooms, and cohorting when single rooms are not available, based on past practice, recommendations related to control of other infections, and expert opinion.

Overview of Evidence and Knowledge Gaps

- Research on the effectiveness of cohorting COVID-19 virus-positive residents to shared rooms is needed.
- The quality of the available evidence sources is low.

Methods

Research Question

What is the effectiveness of cohorting virus-positive residents to shared rooms in care facilities?

Search

On June 8 and June 9, 2020, the following databases were searched:

- Pubmed's curated COVID-19 literature hub: LitCovid
- Trip Medical Database
- World Health Organization's Global literature on coronavirus disease
- Joanna Briggs Institute COVID-19 Special Collection
- COVID-19 Evidence Alerts from McMaster PLUS™
- Public Health +
- COVID-19 Living Overview of the Evidence (L·OVE)
- Cochrane Rapid Reviews Question Bank
- Prospero Registry of Systematic Reviews
- NCCMT COVID-19 Rapid Evidence Reviews
- MedRxiv preprint server
- PubMed database
- EMBASE database

A copy of the search strategy is available on request.

Study Selection Criteria

The search results were first screened for recent guidelines and syntheses. Single studies were included if no syntheses were available, or if single studies were published after the search in the synthesis was conducted. English-language, peer-reviewed sources and sources published ahead-of-print before peer review were also included. Guidance documents, jurisdictional policies, and expert opinion were included as relevant to the question. Surveillance sources were excluded. When available, findings from syntheses and clinical practice guidelines are presented first, as these take into account the available body of evidence and, therefore, can be applied broadly to populations and settings.

	Inclusion Criteria	Exclusion Criteria
Population	Residents and staff of care facilities with infectious disease outbreaks (including coronaviruses, seasonal influenza, TB)	People with sexually-transmitted infections Hospital and acute care settings
Intervention	Cohorting to shared rooms	Cohorting to shared units
Outcomes	# of cases, # of deaths	

Data Extraction and Synthesis

For syntheses, data on study design, setting, location, population characteristics, interventions or exposure and outcomes were extracted when reported. For guidance documents, data on jurisdiction, organization, release date, and the nature of the guidance were extracted when reported.

We synthesized the results narratively due to the variation in methodology and outcomes for the included studies.

We evaluated the quality of included research evidence using critical appraisal tools as indicated by the study design below. Quality assessment was completed by one reviewer and verified by a second reviewer. Conflicts were resolved through discussion. Quality assessment was not done for the guidance documents, which summarize jurisdictional approaches.

Study Design	**Critical Appraisal Tool**
Synthesis	Health Evidence™ Quality Appraisal Tool

Completed quality assessments for each included source are available on request.

Findings

Quality of Evidence

This document includes two syntheses and five guidance documents for a total of seven publications included in this evidence review. The quality of the evidence included in this review is as follows:

	Total	Quality of Evidence
Syntheses	2	1 Low 1 High
Guidance Documents	5	Not assessed

Warning

Given the need to make emerging COVID-19 evidence quickly available, many emerging studies have not been peer reviewed. As such, we advise caution when using and interpreting the evidence included in this rapid review. We have provided a summary of the quality of the evidence as low, moderate, or high to support the process of decision making. Where possible, make decisions using the highest quality evidence available.

Important to this question, we did not assess the methodological quality of the 5 guidance documents. Due to the highly technical nature of these studies, we highly recommend consulting a content-area expert to inform decision making.

Table 1: Syntheses

Reference	Date Released	Description of Included Studies	Summary of Findings	Quality Rating: Synthesis	Quality Rating: Included Studies
Williams, S., Walsh, C., & Navarro, P. (2020, April 26). *Cohorting in Long-term care*. Newfoundland and Labrador Centre for Applied Health Research.	April 26, 2020 (No date for search completed)	No published primary studies or systematic reviews were included. Relevant to this question, literature specific to COVID-19 or respiratory illnesses and cohorting (i.e., shared rooms) in long-term care settings included: • 5 guidance documents from provincial, federal, international governments or organizations • 1 rapid review • 2 editorials (expert opinion)	The included guidance documents, rapid review, and one editorial indicated that LTC residents with suspected or confirmed COVID-19 should ideally be cared for in single-occupancy rooms with dedicated bathrooms where feasible. If not feasible, cohorting residents with confirmed COVID-19 only with other residents with confirmed COVID-19 can be considered. Similarly, cohorting residents with suspected COVID-19 only with other residents with suspected COVID-19 can be considered. One editorial indicates that further evidence is needed to determine the impact of cohorting COVID-19 positive cases on disease transmission or disease severity among cohorts.	Low	Not reported
Rios, P., Radhakrishnan, A., Thomas, S.M., Darvesh, N., Straus, S.E., & Tricco, A. (2020, March 16). *Guidelines for preventing respiratory illness in older adults aged 60 years and above living in long-term care. A rapid review of clinical practice guidelines.* Knowledge Translation Program Li Ka Shing Knowledge Institute St. Michael's Hospital.	March 16, 2020 (Search completed early March 2020)	This rapid review of clinical practice guidelines includes: • 3 clinical practice guidelines related to room-sharing cohorting for influenza or general respiratory illnesses (2 additional clinical practice guidelines related to COVID-19 discussed cohorting as resident grouping based on COVID-19 status or establishing a designated COVID-19 care unit for virus-positive residents, and not explicitly defined as 'shared room' accommodations, as relevant to the research question.)	Across the three guidelines that discussed cohorting defined as room sharing, recommendations consistently indicated that care should be provided in single rooms for residents infected with influenza or general respiratory illnesses. If single rooms are not available, a secondary option would be cohorting residents in rooms with similar signs/symptoms or with the same confirmed pathogen. The relevance of these recommendations to COVID-19 is uncertain, given these recommendations were made in the context of influenza and respiratory illnesses in general.	High	Low

			The quality of the included guidelines was low, and appeared mostly to be based on expert opinion.		

Table 2: Guidance Documents for Infection Control in Long-Term Care Specific to COVID-19

Jurisdiction	Organization	Reference	Date Released	Description	Evidence basis
International	WHO	Infection Prevention and Control guidance for Long-Term Care Facilities in the context of COVID-19	March 21, 2020	Recommendations include isolation and cohorting of residents with COVID-19 as a strategy for infection prevention.	Not stated
Australia	Communicable Diseases Network Australia (CDNA)	CDNA National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia	April 30, 2020	Recommendations include isolation and cohorting of residents with COVID-19 as well as cohorting of staff to attend to residents with COVID-19 as strategies for infection prevention.	Guidance for previous influenza outbreaks, interim guidance from other jurisdictions and bodies, and expert opinion
Canada	Government of Canada	Infection prevention and control for COVID-19: Interim guidance for long term care homes	April 8, 2020	Recommendations include isolation and cohorting of residents with COVID-19 as well as cohorting of staff to attend to residents with COVID-19 as strategies for infection prevention.	Guidance for previous coronavirus outbreaks, interim guidance from other jurisdictions and bodies, and expert technical advice
UK	British Geriatrics Society	COVID-19: Managing the COVID-19 pandemic in care homes for older people	June 2, 2020	Recommendations include isolation and cohorting of residents with COVID-19 as well as cohorting of staff to attend to residents with COVID-19 as strategies for infection prevention.	Expert opinion
USA	CDC	Responding to Coronavirus (COVID-19) in Nursing Homes	April 30, 2020	Recommendations include isolation and cohorting of residents with COVID-19 as well as cohorting of staff to attend to residents with COVID-19 as strategies for infection prevention.	Not stated

References

British Geriatrics Society. (2020, June 2). *COVID-19: Managing the COVID-19 pandemic in care homes for older people*.

Centers for Disease Control and Prevention. (2020, May 19). *Coronavirus Disease 2019 (COVID-19): Nursing Homes & Long-Term Care Facilities*.

Communicable Diseases Network Australia. (2020, April 30). *CDNA National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia*.

Government of Canada. (2020, April 8). *Infection prevention and control for COVID-19: Interim guidance for long term care homes*.

Rios, P., Radhakrishnan, A., Thomas, S.M., Darvesh, N., Straus, S.E., & Tricco, A. (2020, March 16). *Guidelines for preventing respiratory illness in older adults aged 60 years and above living in long-term care. A rapid review of clinical practice guidelines.* Knowledge Translation Program Li Ka Shing Knowledge Institute St. Michael's Hospital.

Williams, S., Walsh, C., & Navarro, P. (2020, April 26). *Cohorting in Long-term care*. Newfoundland and Labrador Centre for Applied Health Research.

World Health Organization. (2020, March 21). *Infection Prevention and Control guidance for Long-Term Care Facilities in the context of COVID-19*.