

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Dedicated Versus Shared Toilet Arrangements for Patients Residing in Acute Care Facilities: Clinical Effectiveness, Cost- Effectiveness and Evidence- Based Guidelines

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Authors: Deba Hafizi, Robin Featherstone

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Research Questions

1. What is the comparative clinical effectiveness regarding the use of dedicated versus shared toilet arrangements for patients residing in acute care facilities?
2. What is the comparative cost-effectiveness regarding the use of dedicated versus shared toilet arrangements for patients residing in acute care facilities?
3. What are the evidence-based guidelines regarding the use of dedicated arrangement of toilets facilities in acute care settings?

Key Findings

One randomized controlled trial was identified regarding the clinical effective of dedicated versus shared toilet arrangements. In addition, two evidence-based guidelines were identified regarding the use of dedicated arrangement of toilet facilities in acute care settings. No relevant cost-effectiveness studies were identified.

Methods

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic studies and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2019 and March 1, 2019. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Hospitalized patients in acute care settings
Intervention	Dedicated toileting facilities in patient rooms within an acute care facility (e.g., personal or single occupancy bathrooms)
Comparator	Q1,2: Shared toilet facilities in patient rooms (e.g., shared bathroom between patients in hospital room) Q3: No comparator required
Outcomes	Q1: Clinical effectiveness (e.g., infection control, length of hospital stay, adverse events, harms, adverse events) Q2: Cost-effectiveness Q3: Guidelines
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One randomized controlled trial was identified regarding the clinical effectiveness of dedicated versus shared toilet arrangements. In addition, two evidence-based guidelines were identified regarding the use of dedicated arrangement of toilet facilities in acute care settings. No relevant health technology assessments, meta-analyses, systematic reviews, non-randomized studies, or economic evaluations were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One randomized controlled trial was identified regarding the the clinical effectiveness of dedicated versus shared toilet arrangements.¹ The authors found that there was no statistical difference between the incidence of infection for patients in single-patient rooms with private bathrooms, and multi-patient rooms with shared bathrooms.¹

A guideline by the World Health Organization² recommends patients colonized or infected with resistant strains of bacteria should be placed in single-patient rooms preferably with their own toilet facilities when available, separate from non-infected patients. When single-patient rooms are not available, patients infected with the same resistant pathogen should be cohorted together.²

A second guideline was produced to guide health care professionals in the effective development of new and renovated intensive care units.³ Although the authors state that shared toilets can be a source of cross contamination, they do not make a specific recommendation for or against dedicated versus shared toilet arrangements. They recommend that rooms should offer privacy especially for patients with limited mobility.

No economic evaluations were identified therefore no summary can be provided on the cost-effectiveness of shared versus dedicated toilets.

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

1. Ellison J, Southern D, Holton D, et al. Hospital ward design and prevention of hospital-acquired infections: a prospective clinical trial. *Can J Infect Dis Med Microbiol*. 2014

Sep;25(5):265-270.

[PubMed: PM25371689](#)

Non-Randomized Studies

No literature identified.

Economic Evaluations

No literature identified.

Guidelines and Recommendations

2. Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, *Acinetobacter baumannii* and *Pseudomonas aeruginosa* in health care facilities. Geneva (CH): World Health Organization; 2017:
<https://apps.who.int/iris/bitstream/handle/10665/259462/9789241550178-eng.pdf>.
Accessed 2019 Mar 12
See : Recommendation 5: Patient Isolation, page 16

3. Thompson DR, Hamilton DK, Cadenhead CD, et al. Guidelines for intensive care unit design. *Crit Care Med.* 2012;40(5):1586-1600. Available from:
https://journals.lww.com/ccmjournal/Fulltext/2012/05000/Guidelines_for_intensive_care_unit_design_26.aspx. Accessed 2019 Mar 12
See: Patient Care Zone: Hand Hygiene, Toilet Facilities and Fluid Disposal

Appendix — Further Information

Systematic Review – Alternative Setting

4. Heijnen M, Cumming O, Peletz R, et al. Shared sanitation versus individual household latrines: a systematic review of health outcomes. *PLoS One*. 2014;9(4):e93300. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3990518/>. Accessed 2019 Mar 12

Guidelines and Recommendations – Methods Not Described

5. Guidelines for design and construction. St. Louis (MO): Facility Guidelines Institute; 2018. Available for purchase at: <https://www.fgiguide.com/guidelines/2018-fgi-guidelines/>. Accessed 2019 Mar 12
6. Infection control during construction, renovation and maintenance of health care facilities. Toronto (ON): Canadian Standards Association Group (CSA Group); 2017. Available for purchase at: https://store.csagroup.org/ccrz_ProductDetails?viewState=DetailView&cartID=&sku=CAN/CSA-Z317.13-17&isCSRFlow=true&portalUser=&store=&cccl=en_US. Accessed 2019 Mar 12
7. Routine practices and additional precautions for preventing the transmission of infection in healthcare settings. Ottawa (ON): Public Health Agency of Canada; 2016: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/routine-practices-precautions-healthcare-associated-infections/routine-practices-precautions-healthcare-associated-infections-2016-FINAL-eng.pdf>. Accessed 2019 Mar 12
See: Routine practices - Patient placement and accommodation, page 48
8. *Clostridium difficile* infection: infection prevention and control guidance for management in acute care settings. Ottawa (ON): Public Health Agency of Canada; 2012: https://www.health.gov.nl.ca/health/publichealth/cdc/infectioncontrol/CDI_acute_care_settings.pdf. Accessed 2019 Mar 12
See: 9., Patient Placement & Accommodation, page 8
9. Routine practices and additional precautions in all health care settings. 3rd ed. Toronto (ON): Provincial Infectious Diseases Advisory Committee (PIDAC); 2012: <https://www.publichealthontario.ca/-/media/documents/bp-rpap-healthcare-settings.pdf?la=en>. Accessed 2019 Mar 12
See: Point 24, page 25

Review Articles – Private Rooms

10. What is the evidence for the clinical and cost effectiveness of single room only wards in hospitals compared with non-single room only wards? Edinburgh (GB): Healthcare Improvement Scotland; 2016: <http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=6a21ee67-7f9d-4272-b80f-9de86832ea9b&version=-1>. Accessed 2019 Mar 12