



Major Article

Environmental scan of infection prevention and control practices for containment of hospital-acquired infectious disease outbreaks in acute care hospital settings across Canada



Wrechelle Ocampo MBT^a, Rose Geransar PhD^a, Nancy Clayden EMT-P^a,
 Jessica Jones MSc^b, Jill de Groot MSc^a, Mark Joffe MD^{c,d}, Geoffrey Taylor MD^{c,d},
 Bayan Missaghi MD^{c,e}, Craig Pearce MSc^c, William Ghali MD, MPH^{a,e,f,g},
 John Conly MD^{a,c,e,g,h,i,*}

^a W21C Research and Innovation Centre, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

^b Human Factors, Alberta Health Services, Calgary, Alberta, Canada

^c Infection Prevention and Control, Alberta Health Services, Edmonton, Alberta, Canada

^d Department of Medicine, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada

^e Department of Medicine, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

^f Department of Community Health Sciences, University of Calgary, Calgary, Alberta, Canada

^g O'Brien Institute for Public Health, Calgary, Alberta, Canada

^h Department of Microbiology, Immunology, and Infectious Diseases, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

ⁱ Department of Pathology and Laboratory Medicine, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

Key Words:

Ward closure

Unit closure

Wing closure

Partial hospital closure

Department closure

No new admissions

Background: Ward closure is a method of controlling hospital-acquired infectious diseases outbreaks and is often coupled with other practices. However, the value and efficacy of ward closures remains uncertain.

Purpose: To understand the current practices and perceptions with respect to ward closure for hospital-acquired infectious disease outbreaks in acute care hospital settings across Canada.

Methods: A Web-based environmental scan survey was developed by a team of infection prevention and control (IPC) experts and distributed to 235 IPC professionals at acute care sites across Canada. Data were analyzed using a mixed-methods approach of descriptive statistics and thematic analysis.

Results: A total of 110 completed responses showed that 70% of sites reported at least 1 outbreak during 2013, 44% of these sites reported the use of ward closure. Ward closure was considered an "appropriate," "sometimes appropriate," or "not appropriate" strategy to control outbreaks by 50%, 45%, and 5% of participants, respectively. System capacity issues and overall risk assessment were main factors influencing the decision to close hospital wards following an outbreak.

Discussion: Results suggest the use of ward closure for containment of hospital-acquired infectious disease outbreaks in Canadian acute care health settings is mixed, with outbreak control methods varying. The successful implementation of ward closure was dependent on overall support for the IPC team within hospital administration.

© 2017 Association for Professionals in Infection Control and Epidemiology, Inc. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

There have been more than 2,322 infectious disease nosocomial outbreaks filed in the Worldwide Outbreak Database based on articles published since 1966, which indicates the frequent and con-

tinuous occurrence of outbreaks across the globe.¹ An infectious disease outbreak is defined as the occurrence of more cases than expected of an infectious disease in a given area or among a particular group of people over a particular duration of time.² Outbreaks occur frequently in hospitals and health care centers and pose a serious risk of colonization or illness to susceptible patients and health care staff.^{3,4} In an effort to control hospital-acquired infectious disease outbreaks, many measures may be used, sometimes in combination, and include enhanced hygiene, isolation of

* Address correspondence to John Conly, MD, Foothills Medical Centre, 1403 29 St, NW, Calgary, Alberta, T2N 2T9, Canada.

E-mail address: john.conly@albertahealthservices.ca (J. Conly).

Conflicts of interest: None to report.

infected patients, cohorting of cases and staff, visitor restrictions, and ward closures.^{3,4}

Hospitals providing acute care began publishing reports on the use of ward closure in an effort to control infections and communicable diseases more than 4 decades ago.⁵ Although there is no standard definition of “ward closure” and its use varies considerably, it usually involves some restriction of new patient admissions in some manner and is usually coupled with a bundle of other infection control measures, such as enhanced environmental services, rigorous hand hygiene, and enhanced surveillance to control transmission.⁶ During recent years, the value and efficacy of using ward closure to control hospital-acquired infection (HAI) outbreaks has been questioned because it is among the most expensive and disruptive infection prevention and control (IPC) measures that can be used.^{4,7–9} Total closures of a ward, assuming 25 patients or more housed on the ward, can have a major influence on bed-days lost, cancellation of elective admissions, loss of capacity for emergency admissions with its attendant impacts on morbidity and mortality, and may be difficult to implement in health care facilities where lack of capacity is a problem, or in wards providing unique clinical services.⁹ Ward closures have historically been employed to curtail spread (by restricting admission of new, susceptible hosts) and thereby shorten the overall duration of an outbreak. In addition, ethical concerns when new patients are knowingly admitted into an area known to be experiencing ongoing spread of an infectious agent may factor into decision making regarding ward closure. Recent studies comparing the efficiency of ward closures to other, less expensive and less disruptive outbreak methods suggest that ward closures may not be necessary, depending on the setting and the type of microbe associated with the outbreak.⁹

This study was part of an effort to understand current evidence in the literature as well as practices on the use of ward closure across Canada in the event of an HAI outbreak, with the ultimate goal of informing the provincial policy on ward closure in Alberta. The first part of this work has been published as a systematic review.¹⁰ The present work is a survey-based environmental scan that was designed to gain a better understanding of the current practices regarding the use of ward closure to control HAI outbreaks in acute care settings in Canada. The objective of the environmental scan was to determine the frequency of use of ward closure in different acute care hospital settings to control HAI outbreaks; determine the context, triggers, and conditions for the use of ward closure; and provide insight on the professional perspectives and rationale used by hospital administrators, IPC directors, and other infection preventionists (IPs) regarding whether and under what circumstances ward closure is an appropriate means of assisting or aiding in the control of HAI outbreaks.

METHODS

Environmental scan survey development

The team involved IPC experts who worked in a collaborative and consultative manner to develop the questions and structure of the survey that would be most appropriate in addressing the objectives of this study. Demographic characteristics-related questions were adopted from the Canadian Nosocomial Infection Surveillance Program survey, “Hospital Profile for 2013 Core Surveillance Projects Including Criteria for Stratifying Hospitals for Level of Patient Acuity”.¹¹

A fillable portable document format (PDF) version of the survey was developed, and subsequently reviewed and revised by content-expert members of the study team to ensure content validity of the questions. The survey was piloted by sending the PDF via e-mail to a convenience sample of 10 IPs, resulting in further refinement of the survey questions. As a result of feedback to the PDF, the survey

was converted to a more convenient online format using FluidSurveys (www.fluidsurveys.com). The refined survey was piloted a second time among noncontent experts to address technical and aesthetic issues before launch. The final survey can be found in [Appendix 1](#).

Distribution

Participants were sent an e-mail on behalf of the principal investigator inviting them to complete the online survey through an attached link or by telephone ([Appendix 2](#)). The survey was initially distributed to 210 directors and/or key personnel from IPC units in acute care hospitals across Canada. These personnel were identified from contact lists obtained from the Canadian Nosocomial Infection Surveillance Program and investigators involved in the 2012 antibiotic-resistant organism (ARO) study conducted by the Provincial Infection Advisory Committee for the Ontario Agency for Health Protection and Promotion. During 2011–2012, the Canadian Institutes of Health Information cited a total of 736 hospitals in Canada. The contact list consisted of names, e-mail addresses, and affiliations. An online search then identified switchboard or office telephone numbers to be used for telephone reminders of the survey. The initial participants suggested 25 additional individuals who were contacted to fill out the online survey. When multiple individuals were identified for 1 hospital site, only 1 contact was asked to participate in the survey (ie, 1 contact per site).

Data collection

The survey was initially launched February 24, 2014, and data collection was completed March 14, 2014. Two days after initial e-mail messages were sent to participants, follow-up reminders were conducted by telephone.

Participants who were responsible for multiple health care centers were asked to respond to the survey for the center with the greatest number of beds. They were given the opportunity to identify other contacts who could complete the survey for the other health care centers. The referrals were then reviewed by the study team and contacted if they were affiliated with an acute care site for which a contact had not already been identified.

Data analysis

Responses from the surveys were exported into comma-separated values and Statistical Package for the Social Sciences version 20 (IBM-SPSS Inc, Armonk, NY)² formats from FluidSurveys.com and resulted in a combination of quantitative and qualitative data, which were analyzed separately. Quantitative analysis was conducted using descriptive statistics with SPSS software version 20.0. Qualitative responses were coded independently by 2 coders into thematic categories. Disagreements were resolved through discussion to achieve consensus within the team. The finalized categories were organized into tables, noting the frequency with which each occurred, and example quotes were provided. The tables were used in the writing process to provide insight on the quantitative findings. These categories were then analyzed qualitatively to provide insight on broader trends that arose in the collective dataset. These themes were then summarized and are further discussed in the text.

RESULTS

The environmental scan survey focused on contacting a broad spectrum of acute care hospitals that were identified through the Provincial Infection Advisory Committee for the Ontario Agency for Health Protection and Promotion datasets. The survey was initially e-mailed to a core list of 210 individuals. An additional 25

Download English Version:

<https://daneshyari.com/en/article/5566175>

Download Persian Version:

<https://daneshyari.com/article/5566175>

[Daneshyari.com](https://daneshyari.com)