ORIGINAL RESEARCH

The importance of post-outbreak debriefing in strengthening the infection prevention and control program in congregate living settings

Magdalena Krawczyk, RN, BScN, CIC[1*], Christina Critelli, BScN, BKin[1], Madeleine Ashcroft, BScN, MHS[1], and Christopher Okeahialam, MSc, DHealth[1]

[1] *Trillium Health, Mississauga, Ontario, Canada*

[*]**Corresponding author**
Magdalena Krawczyk
Trillium Health
Mississauga, Ontario, Canada
Email: magdalena.krawczyk@thp.ca

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ABSTRACT

Background: Debriefing is an essential component of outbreak management – an opportunity to evaluate response measures, discuss what worked well, and identify gaps and areas for improvement. This study aimed to assess whether post-outbreak debriefing is practiced in long-term care (LTC) and retirement homes (RHs) and to explore its role and value in strengthening outbreak response efforts.

Methods: A review of current literature on outbreak debriefing was conducted, and a survey was created and sent via email to infection prevention and control (IPAC) Leads in all 48 LTC and RHs in Mississauga and south Etobicoke, Ontario, Canada. Active institutional outbreak updates were obtained from the two local public health units covering these regions over six months, from September 2023 to February 2024. These updates were reviewed for the scope and duration of outbreaks.

Results: Fifteen of 48 facilities responded (31% response rate). Of these, 80% (12/15) reported conducting outbreak debriefings using a standardized process. Eighty percent also indicated that debriefs were held via in-person meetings and 73% stated that the debrief took place within a week of declaring the outbreak over. Importantly, there was inconsistency in the content of debrief documents and over one-third of respondents did not include front-line staff in the process.

Conclusion: The findings suggest that LTC and RHs recognize the value of post-outbreak debriefings as a learning and practice improvement exercise. However, variation in debrief modalities may potentially influence IPAC-related processes and outcomes.

INTRODUCTION

Clinical debriefing, also known as post-event debriefing or after-action review, is a well-established practice in healthcare. Moving beyond a crisis requires focused and collaborative efforts to rebuild systems, support recovery, and foster lasting progress. The practice of post-event debriefing gained increased attention during the recent SARS-CoV-2 pandemic and is one of the four components of the International Health Regulations (IHR) Monitoring and Evaluation Framework, as described in the World Health Organization (WHO) guidance for After-Action Review (WHO, 2019).

The purpose of an after-action review is to assess the what, how, and why of a response to a significant public health event. Post-outbreak debriefing (POD) is a specific form of after-action review focused on infectious disease outbreaks. In Ontario, Canada, POD is mandatory for long-term care homes (LTCHs) as specified in the Infection Prevention and Control (IPAC) Standard for LTCHs, 2021. POD is also included in the Public Health Ontario checklist for evaluating IPAC programs in retirement homes (RHs) and LTCHs (PHO, 2023). Although RHs are encouraged to conduct POD, it is not currently mandated. This variation reflects the higher regulatory oversight and acuity of care in LTCHs compared to RHs. Despite this, POD is necessary in both settings as an opportunity for team reflection and learning to improve processes and mitigate the risk of future outbreaks (Stafford *et al*., 2021).

In practice, the after-action review is a structured and collaborative process ideally conducted soon after an outbreak is declared over. The key components include:

- Gathering the outbreak response team.
- Reviewing the timeline of events and major developments of the outbreak.
- Identifying what worked well and what challenges were identified.
- Discussing and documenting lessons learned.
- Determining specific follow-up actions to improve future preparedness and response (Arriaga *et al*., 2020; Dalton *et al*., 2022).

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Although organizations may customize the format to meet their needs, the key components remain essential to effective debriefing. When implemented systematically, these measures can significantly enhance communication, collaboration, and the response process (Paxino *et al*., 2023).

The literature review identified several studies on POD conducted in various countries in response to the COVID-19 pandemic and other infectious disease outbreaks (Boland *et al*., 2017; Mase *et al*., 2017; Tapo *et al*., 2020; Sorbello *et al*., 2021; Stafford *et al*., 2021; Knott *et al*., 2023; Dalton *et al*., 2022; Quach *et al*., 2023). For example, Sorbello *et al*. described the use of after-action review methodology to evaluate the COVID-19 response of a tertiary care hospital. Knott *et al*. reported using post-event debriefing as a platform for emotional support to hospice staff during the pandemic. Other studies highlighted barriers and gaps between debriefing principles and practice (Arriaga *et al*., 2019 & 2020), debriefing myths (Seelandt *et al*., 2021), and variability of practices across settings (Paxino *et al*., 2023).

Despite the wealth of information on POD, there has been limited focus on its use in LTCH and RH settings. This study aimed to examine whether post-outbreak debriefing is being conducted in long-term care and retirement homes and to explore how it contributes to improving outbreak response efforts.

METHODS

An initial literature search of four databases (PubMed, Ovid Medline, Ovid Embase, and Google Scholar) was conducted using a combination of search terms: long-term care, retirement/nursing home/centre/facility, residential home, homes for the aged, outbreak, debrief, debriefing, evaluation, assessment, description, response, reflection. The search was limited to English-language publications from 2010 to 2024.

In January 2024, a survey was emailed to infection prevention and control (IPAC) Leads in 48 LTCHs and RHs in Mississauga and South Etobicoke, Ontario. Fifteen of the 48 facilities responded. Follow-up telephone calls were made to IPAC leads at non-responding facilities as reminders to encourage participation.

The survey explored the following:

- Whether after-action reviews are conducted following outbreaks.
- Use of standardized tools or processes, including templates and documentation methods.
- Details of the debriefing process, such as timing, format (in-person or virtual), and which team members are involved.
- Sources of debriefing templates, including whether forms are developed internally or adopted from external sources.

Institutional outbreaks reported by the local public health units (Peel and Toronto) from August 2023 to February 2024 were retrospectively reviewed. Data were collated on all infectious disease outbreaks reported for each participating facility during this period. All data were analyzed descriptively. Frequencies and percentages were calculated manually to capture participant responses, considering the limited sample size and categorical nature of the data.

RESULTS

All LTCHs and RHs in the Mississauga and South Etobicoke region were invited to participate in the survey (n=48), with

Table 1: Post-outbreak debrief process

Modality	Standard template used	53% (8/15)
	Conducted In-Person	80% (12/15)
Timing	Occurs within 1 week of outbreak over	73% (11/15)
Participants	IPAC Lead	93% (14/15)
	Director of Care	93% (14/15)
	Administrator	87% (13/15)
	Environmental services	80% (13/15)
	Front-line Staff (including personal support workers)	64% (12/15)
	Outbreak Management Team	53% (8/15)
	Non-specified other	20% (3/15)
	Public Health	13% (2/15)
	Physicians	7% (1/15)
	IPAC Hub*	7% (1/15)
	Pharmacy	7% (1/15)

*__IPAC Hub:__ A regional network of infection prevention and control (IPAC) specialists that supports congregate living settings — such as long-term care homes, retirement homes, and other congregate living facilities — by providing expertise, training, implementation of IPAC best practices, and outbreak support. IPAC Hubs are part of a coordinated provincial strategy to improve infection control capacity and responsiveness across Ontario's health system (Ontario Ministry of Health, 2024, p. 3).

responses received from 15 facilities (31%). The participating homes ranged from small facilities of approximately 40 beds to large institutions with up to 640 beds. Table 1 shows the modality, timing, and participants involved in post-outbreak debriefs at the 15 institutions.

Although all participating facilities reported conducting POD, only 12 (80%) reported completing a debrief after every outbreak, while three (20%) reported that debriefing occurs only in the event of a large outbreak. Additionally, 12 of 15 (80%) indicated that debriefs are conducted in person; 11 (73%) stated debriefing occurs within a week of the outbreak being declared over; and seven (47%) reported using a standardized template.

DISCUSSION

The results of this study indicate that POD is practiced in LTCHs and RHs, albeit with variability. While almost all respondents reported using a template, the variety of templates used creates a lack of consistency in the process. Another observation was that approximately one-third of respondents did not include front-line staff in the debriefing process, which affects the diversity and multidisciplinary nature needed to facilitate effective communication and knowledge sharing.

A study by Paxino *et al*. (2023) identified multiple purposes for post-event debriefing, which may explain the observed differences in structure, attendees, delivery, and tools used in healthcare settings. However, Arriaga *et al*. (2019) and Stafford *et al*. (2021) highlighted the negative outcomes associated with communication breakdown and stressed the importance of broad representation in debriefings. These studies showed that communication failures during and after critical events, such as outbreaks, can impact patient safety and outbreak control efforts. While the survey did not identify communication as an issue with POD, ensuring a more diverse team, including front-line staff as well as leadership, creates an environment for open dialogue, collaboration, and collective problem-solving. It may also more effectively identify gaps by incorporating diverse viewpoints, thereby potentially reducing the risk of repeating mistakes and enhancing facility preparedness for future outbreaks (Arriaga *et al*., 2019; Stafford *et al*., 2021).

Perceptions surrounding the practice of POD may further explain inter-facility variations in debriefing. In their study of healthcare facilities in Switzerland, Germany, and the USA, Seelandt *et al*. (2021) described four myths about post-event debriefing that lack scientific support: "Debriefing should particularly and almost exclusively follow critical performance episodes and catastrophic events," "Debriefing is a luxury which may not improve team performance," "The senior clinician should determine debriefing content," and "Debriefers must be neutral and non-judgmental." They also highlighted how debriefing is often associated with adverse events, errors, and mistakes, reflecting an organizational culture focused on avoiding errors. Such views may negatively influence staff perceptions of the process, contribute to reluctance to participate, and reduce overall effectiveness. This perception overlooks the intent of post-outbreak debriefing – to provide an opportunity for learning and system-level improvements that ultimately create a safer environment for residents and staff (Seelandt *et al*., 2021).

While this study did not explore these perceptions in the participating LTCHs and RHs, it is reasonable to hypothesize that they exist and, if so, would influence the effectiveness of POD in several ways. A facility that questions the value of POD is unlikely to adopt or practise it consistently. Viewing POD as an event intended to highlight errors could discourage healthcare worker engagement. If POD is seen as something to be led by the senior clinician, the debriefing may take on hierarchical overtones, dominated by leadership and excluding frontline workers, as observed in this study. Finally, the expectation of neutrality would be challenging for a debriefer (such as a facility IPAC lead) who must advocate for best practices and be clear when addressing breaches observed during the outbreak. One or more of these misconceptions in any facility could have influenced the conduct or frequency of POD and impacted its effectiveness as a learning and reflective exercise.

Although this study provides new perspectives on POD in congregate living settings, several limitations exist, including the study's duration, size, and methodology. Its retrospective nature also precluded controlling for confounding variables. The low survey response rate means the number of LTCHs and RHs in the area practising POD cannot be accurately estimated, as non-responding facilities may or may not conduct POD. While the original intent was to explore differences in outbreak numbers between homes that did and did not conduct POD, the low response rate and multiple potential confounding factors made this objective unfeasible.

CONCLUSION

The current study corroborates that post-outbreak debriefs are an important means of learning from outbreaks. However, further research is needed to assess their true impact on the prevention and mitigation of outbreaks in long-term care and retirement homes.

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