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‘Hands off hand hygiene training’: implementation of a COVID safe auditor training program

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ABSTRACT

Optimal hand hygiene practices reduce the risk of healthcare-associated infections, especially in high-risk settings of immunocompromised patients.

In 2020, face-to-face learning was disallowed in the environment of COVID-19 transmission. We developed a revised learning program for hand hygiene auditors for our cancer care facility.

The learning package resulted in a 2-fold increase in the number of participants, with effective promotion by managers, due in part to reduced time and resources for training, and flexibility for staff.

Keywords

cancer care; hand hygiene auditor training; infection prevention

INTRODUCTION

Enhanced hand hygiene auditing and compliance have been implemented in healthcare settings as essential responses during the COVID-19 pandemic.¹ Vigilance with hand hygiene is particularly required to reduce risks for infection transmission in the high-risk setting of cancer care. Hand hygiene is effective in preventing transmission of multi-drug resistant pathogens and a range of healthcare-associated infections (e.g. surgical site infections, *Staphylococcus aureus* bloodstream infections)^{2,3}

In Australia, hand hygiene programs in healthcare facilities are a national quality standard requirement,⁴ based upon the WHO 5 moments,⁵ and audit programs are locally supported. Clinical departments nominate staff champions to be trained as local clinical auditors and these auditors are generally trained by infection prevention staff.

Prior to the onset of the COVID-19 pandemic in Australia (2020), a face-to-face hand hygiene auditor training program was utilized at our organization but ceased in order to manage risks associated with staff COVID-19 exposure. We report the development and implementation of a module for hand hygiene auditor training at a quaternary cancer centre during a period where face-to-face training was not possible.

METHODS

Setting

The Peter MacCallum Cancer Centre (PMCC) is a quaternary cancer treatment centre located in Melbourne (Victoria). There are more than 3,300 staff, including approximately 750 laboratory and clinical researchers, spanning 5 campuses.

Prior to the COVID-19 pandemic, face-to-face auditor training consisted of the following process: (a) phone call booking made by a participant or manager to the infection prevention team, (b) e-mail response to confirm the booking, with provision of resources and pre-reading to the participant, (c) scheduling of participant to a full-day training session, capped at 8 per session, (d) scheduling of follow-up individual 40-minute clinical auditing assessment session with the trainer, and (e) completion of a quiz assessment.⁶ If knowledge gaps were identified, additional training was provided prior to re-assessment. Each trainer was required to be a 'gold standard' hand hygiene auditor, having completed a more extensive training package, and in accordance with the national framework.⁶

Development

A project steering group, led by the infection prevention team, was formulated to develop a revised auditor training module. Elements considered essential for the revised module were: (a) need to meet national standards for auditor training, (b) contextualization of content within cancer care, (c) need for reduced face-to-face contact with trainer, and (d) flexibility of timing of staff training activities. The learning package was endorsed by the National Hand Hygiene Initiative.

Implementation

The revised module was trialed and feedback received prior to roll-out. A staff learning portal was used to host all on-line learning content, configured as a 9-stage learning management system including information about the course, pre-requisite requirements, preparation information, learning material, a written quiz, how to audit and the practical session, practice auditing section, mandatory assessment, package evaluation and course completion. Completion of training was permitted within a 2-week period of receipt of resource materials. In keeping with COVID-19 pandemic management requirements, participation in clinical auditing was modified to ensure maintenance of physical distancing.

Evaluation

Two methods of evaluation were used. The first involved a request for feedback from participants to evaluate their experience of the learning process. This method of evaluation was also used with the previous training method in 2019 and involved feedback through written responses of participants and managers. The second method used to assess the understanding and learning achieved by the participants involved an inter-rater reliability assessment. This is a mandatory assessment, required by the National Hand Hygiene Initiative (NHHI). The same method was used in 2019 as for this training in 2021. Inter-rater reliability assessment is addressed in the auditor training program by pairing hand hygiene auditors for observations of the same session and then comparing observations recorded, using the trained and validated person as the gold standard. Each hand hygiene auditor is paired with the validated auditors. Until there is >90% inter-rater agreement in all recordings, the official data collection process does not begin.

RESULTS

Table 1 provides a summary of the training programs used in pre-COVID-19 and pandemic periods. In 2018 (pre-pandemic), 13 auditors were trained throughout the year and in 2019 (pre-pandemic), 12 auditors completed auditor training. In 2021 (pandemic), 24 auditors in the revised program, with 20 successfully completing the training within the 2-week timeframe. The remaining 4 staff successfully completed training over a longer time period. Newly trained auditors during 2021 included a member of medical staff and 3 domestic staff. These staff disciplines are the first to be trained as hand hygiene auditors at our facility.

In 2018, 2.6 hours plus 40 minutes total training time was required per participant, while in 2019 this was 3 hours plus 40 minutes per person. In 2020, the time spent by the trainer was 40 minutes per participant (Table 1). The number of errors identified by trainers reduced in 2021, compared with 2019 [do we need figures here, or have they already been included below?]. This resulted in a reduction in the need to follow up auditors, during data validation at the time of the inter-rater reliability assessment.

Feedback and responses from trainee auditors and managers are summarized in Table 2. Where suggestions were made by participants these were incorporated into the training package. This included reducing difficulty in navigating the system. Four of 12 participants required further training and follow up in 2019 (33%), and only 3 of 24 participants required further training and follow up in 2021 (12%).

DISCUSSION

From July 2020, an organization-wide approach was taken at PMCC which included reduced face-to-face interaction for staff meetings, clinical audits, education, and hand hygiene auditor training. In this setting, a 9-stage learning management system (LMS) hand hygiene auditor self-learning package replaced the previous face-to-face auditor workshop.

Flexibility of the program was regarded as a key improvement and was embraced by clinical area managers. Positive feedback was associated with benefits when structuring staff rosters, enhancing learning opportunities and capacity to respond to clinical workloads. Flexibility of training allowed

education to be completed at the time of on-boarding new staff, reducing the need for staff to be away from the work place for long periods of time. This created a significant advantage for departments with healthcare worker workforce shortages related to the pandemic.⁷

With the implementation of this program, an expanded auditor model was achieved, contributing to a multidisciplinary auditing process. Auditors included nursing, medical and domestic staff disciplines. It is recognized that traditional auditing models rely heavily upon nursing staff, and we suggest that a revised model contributes to implementing a more representative and inclusive framework for auditing.⁸ This is especially relevant for promoting the inclusion of clinical staff and could eventually result in greater numbers of medical staff being engaged in hand hygiene auditing.⁹

Our experience has led to embedding of a new program, and this will continue as the sustainable model. Staff did not report difficulty in accessing or undertaking the on-line program but their feedback did suggest that refinement was needed and this was addressed during implementation. Managers and staff utilized the new program at a time of significant disruption related to pandemic responses. The participation and completion of training by more than twice the number of participants, compared with previous years, was an unexpected but beneficial outcome.

We acknowledge that the revised package was implemented at a single and specialised healthcare facility and findings may not be generalizable to larger healthcare facilities. Notwithstanding these potential limitations, we believe the quality of education is not compromised with the new learning system. The program enables identification of learning deficits. Trainees are able to be provided with extra support to successfully complete the required training. It is well-established that in some settings, studying at one's own pace can be advantageous and support learning to improve outcomes.¹⁰

We report the development, implementation and evaluation of an innovative hand hygiene training package to reduce contact time and efficiently apply training resources. This program may have application for other facilities, including non-cancer settings.

Table 1. Comparison of hand hygiene auditor training programs: pre-pandemic vs. COVID pandemic

	Auditor training program used pre-COVID-19 pandemic	Revised auditor training module used during COVID-19 pandemic
Participant time	<ul style="list-style-type: none"> • Pre-reading - 2.5 hours • Training session - 8 hours • Assessment - 40 minutes 	<ul style="list-style-type: none"> • Pre-reading - 2.5 hours • On-line training - 4 hours • Assessment - 40 minutes
Face-to-face time, per participant	8 hours 40 minutes	40 minutes
Fixed/flexible program elements	<ul style="list-style-type: none"> • fixed training dates/times • full day participation 	<ul style="list-style-type: none"> • participation within 2-week period • self-directed learning
Auditor time, per participant	3.2-3.6 hours (direct training and assessment)	40 minute (assessment)

Table 2. Responses from trainee auditors and clinical managers of trainee auditors

Manager 1	The flexibility of not having to complete the training in one day is a great option.
Trainee 1	The online self-learning package was easy to follow and understand. The videos provided helped with understanding the moments and how to successfully audit.
Manager 2	Ideally this program is for staff members who are self-starters, very motivated and interested in hand hygiene.
Trainee 2	Very easy to follow and informative modules. Assessors were very easy to talk to and helpful.
Trainee 3	It was a fun and interesting learning package and I learnt new information that I didn't previously know. There is a strong emphasis on the 5 different moments and a plethora of examples to go along with them. It's amazing to have so many handouts and resources available.
Trainee 4	it is a great learning package, and I know I will come back to it in the future to refresh my training and to access the resources that can help me.
Trainee 5	The training is a bit cumbersome and I think could be organized in a more efficient fashion to enable completion with less frustration. The content was great.
Trainee 6	The online self-learning package was well set out, and although a little repetitive, gave me a great understanding of the 5 moments of hand hygiene and was straight forward to do. The practical session was also helpful to do as it reinforced what I had learnt so I know that what I was doing was correct.

REFERENCES

1. WHO document: Evidence of hand hygiene to reduce transmission and infections by multidrug resistant organisms in health-care settings. http://www.who.int/gpsc/country_work/en/. Accessed 02 Mar 2022.
2. Pada S, Chee P, Rathenam S, *et al*. Effectiveness of a Ward level target accountability strategy for hand hygiene. *Antimicrob Resist Infect Control*. 2019 15;8:177
3. Boyce J, Pittet D. Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Society for Healthcare Epidemiology of America/Association for Professionals in Infection Control/Infectious Diseases Society of America. *MMWR Recommend Rep*. 2002 Oct 25;51(RR-16):1-45, quiz CE1-4.
4. Allegranzi B, Pittet D. Role of hand hygiene in healthcare-associated infection prevention *JHI* 2009;73:305-15
5. WHO 2006 Hand hygiene for all initiative: improving access and behaviour in health care facilities http://www.who.int/gpsc/country_work/en/ Accessed 02 Mar 2022.
6. Australian Commission on Safety and Quality in Health Care. National hand Hygiene Initiative Manual 2019 <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/national-hand-hygiene-initiative-nhhi-user-manual> Accessed 02 Mar 2022.
7. Le Flore J, Thomas P Educational Changes to Support Advanced Practice Nursing Education *J Perinat Neonatal Nurs*. 2016 Jul-Sep;30(3):187-90
8. Gilbert G, Kerridge I. The politics and ethics of hospital infection prevention and control: a qualitative case study of senior clinicians' perceptions of professional and cultural factors that influence doctors' attitudes and practices in a large Australian hospital. *BMC Health Services Research* 2019 19:212
9. Kovacs-Litman A, Wong K, Shojania KG, Callery S, Vearncombe M, Leis JA. *J Hosp Med*. Do physicians clean their hands? Insights from a covert observational study. 2016 Dec;11(12):862-864.
10. Cook D, Bryndger R Zendejas B. *et al*. Mastery learning for health professionals using technology-enhanced simulation: a systematic review and meta-analysis. *Acad Med*. 2013;88(8):1178-86