American Journal of Infection Control 42 (2014) 708-12

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major article

# Impact of a mandated provincial hand hygiene program: Messages from the field

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*Key Words:*
Hand hygiene
Safety culture

***Background:*** The British Columbia Provincial Hand Hygiene Working Group was formed in September 2010 and tasked with the development and implementation of a provincial hand hygiene (HH) program for health care.

***Methods:*** As part of an evaluation of the provincial HH program, qualitative key informant interviews of program developers, senior administrators, and field workers were performed from December 2011 to March 2012 (phase 1) and again in April to June 2013 (phase 2).

***Results:*** The following 5 broad themes were identified: (1) the provincial HH program became a platform for cooperation; (2) standardization (of HH audits and program components) strengthened and provided credibility to the provincial HH program; (3) quality results and good communication enabled a learning process that resulted in positive change management; (4) with ownership came pride and program success; and (5) management support and infrastructure is needed to sustain a positive culture change.

***Conclusion:*** Positive behavior change for HH can be achieved on a provincial scale through a program that is standardized, has mandated components, is well communicated, owned by the frontline workers, and receives sustained support from senior management.



## INTRODUCTION

Hand hygiene (HH) practice has become a priority in health care settings to minimize transmission of infections to patients and health care workers (HCWs).[1-3] Research has emphasized the importance of a culture of safety and behavior change to optimize HH compliance, and the World Health Organization lists this as one of the key multimodal implementation strategies.[2-4] In 2010, in response to the Office of the Auditor General's review of infection control, the British Columbia (BC) Ministry of Health and 6 health authorities (HAs) created the Provincial Hand Hygiene Working Group (PHHWG). This article details one arm of the research project, the results from 2 sets of key informant interviews performed during the planning stage and following implementation of the provincial program. Interviews with developers/implementers, senior administrators, and field workers (HH auditors and infection control staff) focused on perceptions of the program's effectiveness in promoting HH and affecting change on a provincial scale.

## METHODS

### *Background*

In 2007, the auditor general reviewed infection control programs in BC and specifically noted HH as an area for improvement.

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This research is supported by funds from WorkSafeBC through the Focus on Tomorrow program and the WCB of Nova Scotia RS2011-OG10 Bryce.
Conflict of interest: None to report.


http://dx.doi.org/10.1016/j.ajic.2014.04.004

In response, several of the HAs developed regional programs, and in 2010, the auditor general developed a HH program self-assessment framework for the HAs to complete. In fall 2010, the HAs met to develop a uniform response to the auditor general's requirement to improve HH compliance among health care providers and develop fulsome HH programs. The Ministry of Health Services and BC Clinical Care Management Committee approached this group with a request to become the PHHWG and develop a standardized provincial HH program, including auditing of HH compliance. Terms of reference and membership were developed collaboratively, a governance structure and communication structure was established to include reporting to both the Ministry of Health Services and HAs, and an agreement was reached with the BC Provincial Infection Control Network to publicly report the HH compliance results and posteducational modules and best practice guidelines.

*Study setting*

The PHHWG developed a provincial framework and strategy for a HH program that included best practice guidelines, an educational module, methodology for HH compliance audits, assessment of staff's perceptions over time, and communication strategies for reporting audit results to the HCWs and public. Institutional safety climate was addressed by emphasizing the importance of HH through HA mission statements, mandating HH audits and best practice guidelines provincially, creating local campaigns and initiatives directed at actively engaging institutions and individuals, and sharing successful interventions among the HAs. The HA ethics committees confirmed that this was a quality improvement project.

*Sample*

Qualitative key informant interviews of HH program designers/implementers (PHHWG), senior administrators, and field workers (those tasked with HH auditing and liaising with HCWs) were conducted between December 2011 and March 2012 (phase 1) and again from April to June 2013 (phase 2). Purposive sampling was conducted first using an initial list of potential informants provided by PHHWG members and then by a snowballing technique, whereby a participant referred another individual.[5]

*Interviews*

Two semistructured interview guides using open-ended questions were developed prior to each phase of the research. These aimed to capture informants' opinions on the provincial HH program. More specifically, the goals and visions, structure and function, barriers and challenges, roles of the various program components (ie, audits, education, reporting), and role of mandating the program were discussed. Interviews lasted between 30-90 minutes and were conducted privately at the location of the informants' choosing; some were conducted over telephone or voice over Internet (Skype Software Sarl, http://www.skype.com; Microsoft, Redmond, WA). The interviews were audio recorded and transcribed verbatim; furthermore, field notes were taken. Study team members met regularly and conducted primary analysis concurrently with the data collection.

*Analysis*

Two researchers experienced in qualitative research conducted the interviews; an additional researcher with training in qualitative content analysis assisted in the coding and identification of emergent themes when the data were analyzed. The transcripts were first read to gain a sense of the whole; the text was next separated into meaning units. The transcripts were then entered into NVivo 10 software (QSR International, Melbourne, Australia) and coded for the manifest meaning of content, without distorting the meaning of the text.[6-8] Working independently, researchers identified common phrases, ideas, or concepts; divergent opinions; and pertinent quotes that related to the research question of exploring HCWs' and implementers' perceptions of the provincial HH program implementation. Emphasis was placed on common themes across the 3 key informant groups: PHHWG members (implementers and developers), senior administrators, and field workers (infection control staff and HH auditors). Agreements on the assigned code and broader themes that emerged were reached through consensus among research team members.

## RESULTS

Thirty interviews were conducted in phase 1 (PHHWG: n = 14; administrators: n = 5; field workers: n = 11), and 20 were conducted in phase 2 (PHHWG: n = 7, administrators: n = 5, field workers: n = 8). Five thematic categories were identified: (1) the provincial HH program became a platform for cooperation among HAs; (2) standardization (of HH audits and program components) strengthened and provided credibility to the provincial HH program; (3) quality results and good communication enabled a learning process that resulted in positive change management; (4) with ownership came pride and program success; and (5) management support and infrastructure is needed to sustain a positive culture change.

*Provincial HH program became a platform for cooperation*

During phase 1, informants thought that the provincial HH program provided legitimacy to the HH programs that already existed in some HAs but indicated the need for coordination and cooperation. One informant stated, "I think the vision is to create consistencies in approach and in reporting…Rather than always talking about our different approaches we can have some common language and common guidelines to use and then work on being more innovative." By phase 2, informants thought that the provincial HH program had become a platform for sharing best practices, working effectively together, and learning from one another: "I think the success is the nice balance of provincial collaboration…to look at issues, resolve issues, develop methodology, develop tools, share, that sort of thing. And then they come back into their organizations and have some resource and capacity to execute, and implement." Another example, "…it gave us a lot more legitimacy…we were very unsure that what we were doing was based on any kind of gold standard or anything, or that anybody else was doing it." Legitimacy and cooperation with HAs learning from each other were identified by informants as direct results of the provincial HH program.

*Standardization strengthens and provides credibility to a provincial HH program*

Standardization and consistency were recurrent themes: "Being able to say, with certainty 'This is what we're doing for the education component, this is how we're addressing infrastructure issues because we've talked about that'…and have guidelines to reference…it'll give us clarity on what might be the priority things to address in each one of those areas because obviously we can't do it all." However, there were differing perspectives on what the standards should be and whether a province-wide standard was feasible. Some of the key informants thought that the geography of BC and diverse organizational and unit-based cultures presented a