

To: Dr. Erika Paterson

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Subject: Proposal for Implementing a Hand Hygiene Program at the BC Children's and Women's Hospital Campus

## **Introduction**

Hand hygiene in a hospital setting such as the BC Children's and Women's Hospital (BCCH) has the potential to reduce healthcare-associated infections and antibiotic-resistant organisms, leading to decreased spread of hospital-based pathogens. Hand hygiene must be performed at 4 key "moments" in hospital settings: before an aseptic procedure, after contact with bodily fluids, and before and after entering the patient's room.

A part of the provincial health services authority (PHSA), the infection prevention and control (IPAC) team are tasked with ensuring the protection of patients, staff and visitors from preventable infections. As the PHSA begins the recovery phase from COVID-19, hand hygiene has been identified as a key preventative measure for COVID-19, as well as other healthcare-associated infections. IPAC's responsibility in this regard is to ensure an evidence-based hand hygiene program is in place during the pandemic. The implementation of this large program must take into account the site-specific differences, a current-state analysis as well as an environmental scan for clinical evidence and best practices moving forward. At the BCCH campus, one must take into account both the younger patient population, as well as the parents and health care workers' (HCW) unique beliefs within the culture of the workplace.

## **Statement of Problem**

Recent auditing results from the BCCH in 2019-2020 on patients and visitors in the inpatient surgical unit surveyed the 4 moments of hand hygiene. Hand hygiene compliance was determined to be 4.7%, although implementation of an improvement strategy had to be arrested due to the onset of COVID-19. In addition, it was found that health care worker (HCW) compliance rates are not as high as reported. Furthermore, changing HCW behavior was found to be extremely difficult, with current efforts proving to be insufficient. Insufficient hand hygiene in patients, visitors and HCW can lead to systemic infection spread and even shut down of hospital wards or units to prevent further spread.

## **Proposed Solution**

The best solution to the problem involves a multi-faceted effort to resolve not only low patient and visitor hand hygiene rates, but also improve hand hygiene of HCWs in the process. A novel approach to this problem would be to engage HCWs in improvement of patient and visitor hand hygiene. This is especially integral to minimize cognitive dissonance in both populations, a psychological issue that may arise when behavior and beliefs conflict. It is integral that not only one specific population change their beliefs, but instead that all involved invoke a cultural change within the workplace. This solution can be broken down into 4 parts:

1. Patient Education – Patient education will be tailored to the BCCH demographic, focusing on the behavioral and psychographic characteristics of patient, family and

visitors. This can inform campaign communication and content development in staff training, leading to an effective patient education plan.

2. Frontline Staff Enablement/Empowerment – Addressing the accountability gap, emphasizing the reality of hand hygiene compliance and supporting staff with user-friendly resources and tools can ensure that staff are able and willing to not only educate patients on hand hygiene, but also increase their own hand hygiene accountability.
3. Promotion and Communication – A Multimodal Approach – When staff are educating patients, they will do so verbally upon admission, providing a pamphlet, inserting it into the patient welcome package. Verbal reminders can be provided during vitals, visual reminders like posters can be placed strategically to garner both patient and visitor attention. Fun interactive activities designed for both kids and adults can allow for increased engagement in education, which can encompass or be separate from hand hygiene videos and messages. Most importantly, ready access to hand hygiene products such as sanitizer and wipes at the bedside for maximum hand-hygiene opportunity.
4. Mechanism of Evaluation for Sustained Improvement – 30-60-90-day sustainment plan, featuring intentions for the first 30, 60 and 90 days, ensuring that the plan is on track for its projected improvements. Quarterly hand hygiene audits can provide further proof of the projected improvements in campus-wide hygiene practices. Finally, mid-year and year-end campaign evaluation points will allow to determine sustained improvement over the long-term and whether appropriate adjustments must be made.

## **Scope**

In order to determine the details and efficacy of implementing such a program in the BCCH, the following inquiries will be pursued:

- For what reasons have the hand hygiene compliance been so low in all populations?
- How has the COVID-19 situation impacted hand hygiene practices and behavior at the BCCH?
- What are the most important elements of the implemented campaign?
- How can one ensure the accountability of the HCWs teaching hand hygiene?
- What multimodal tactics may be used to support the HCW's education of patients and visitors?
- How do the HCWs prioritize the hand hygiene message when compared to treatment or admission messages?

## **Methods**

Primary data sources include consultation with Dr. Jocelyn Srigley, a medical microbiologist at the BCCH and the corporate director of the IPAC as well as the PHSA quality improvement initiative lead, Joanne Fernando. If COVID-19 permits, assistance with implementation and evaluation of the program may also be possible. In addition, further grasping of the situation may be done via written or oral surveys to students at the University of British Columbia (UBC),

who may be able to elucidate the patient and visitor perspective, as well as healthcare professionals if permissible.

Secondary sources may be used to help understanding and history, with review studies and recommended readings written and suggested by Dr. Srigley on the subject.

### **My Qualifications**

For the past year, I have been a research assistant of Dr. Srigley's through the Integrated Student Program in Research Education (INSPIRE), where we implemented a mixed methods study of hand hygiene attitudes, knowledge and practices of hospital inpatients. We also presented to HCWs, beginning implementation of a strategy to increase hand hygiene. A quantitative auditing-based survey has been completed, with future direction focusing on qualitative patient interview analysis and continued implementation of a strategy to increase hand hygiene compliance.

In addition, I was a microbiology and immunology student at UBC for one year before switching to pharmacology, giving me knowledge of the background on infectious organisms. Finally, in my position as a research assistant in the Pediatric Medical Research Associates Program at the Alberta Children's Hospital (ACH) over the summer I have also performed appropriate hand hygiene practices in a hospital setting including experience with more intensive hand hygiene practices such as pre-surgical hand washing.

### **Audience**

The target audience of this Formal Report is the IPAC team, who are tasked with development and implementation of the hand hygiene project in question. Specifically, Dr. Jocelyn Srigley and Joanne Fernando (find position descriptions above). These two healthcare workers are spearheading the implementation of the hand hygiene at the BCCH and thus have the capacity to turn the suggestions of the Formal Report into reality.

### **Conclusion**

Ample evidence has consistently proven that hand hygiene in both HCW and patients and visitors has always been an area in need of improvement. Factoring in COVID, it is more important than ever before to improve hand hygiene in the hospital setting. By addressing the six areas of inquiry, an informed decision detailing the implementation of the program can be acquired. With your approval, I hope to proceed as soon as possible.