Reducing the Transmission of Methicillin resistant Staphylococcus aureus and Clostridium difficile in the Canadian Healthcare System by Enabling Front Line Healthcare Worker Behavioural Change Using Positive Deviance

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The Problem

Methicillin resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile* (CD) are two bacteria that are well known to spread patient to patient in Canadian hospitals. Despite essentially 40 years of Canadian infection control guidance to help control these organisms, the annual incidence rates of hospital acquired MRSA and CD as measured by the Canadian Nosocomial Infection Surveillance Program (CNISP) continue to rise.

New Approach

Positive Deviance (PD) has shown to be an effective tool to engage staff and dramatically reduce MRSA rates in a number of US health systems. Through an iterative process, a health care facility identifies and disseminates unique practices that solve local infection control challenges. PD acts as a catalyst for solutions that fit with an organization's history, context, or practices.

Research Questions

- To determine if the implementation of PD is associated with a reduction in healthcare associated MRSA and CD rates in acute care settings in Canada.
- To determine what organizational elements including culture, support or obstruct the implementation of PD at the pilot sites.

Methods

Four pilot sites would be selected from Canadian acute care hospitals that have applied to participate in this study. Baseline data will be collected, following which the study team will coordinate and support the implementation of PD using a consultative model where PD coaches provide regular remote and onsite support with each pilot site. The pilot sites will form a PD network where in-person and virtual sharing will occur on the implementation challenges and experiences. The pilot sites will prospectively collect data on process and outcome measures:

- Quarterly community and healthcare associated MRSA/CD incidence rates
- Change in social network mapping of staff relationships vis a vis MRSA/CD (every 6 months)
- Quarterly process measures such as hand hygiene compliance, gown and glove usage, alcohol based hand rub usage
- Organizational conditions that would foster effective PD implementation (qualitative)
- Evolution of attitudes and perceptions towards hospital acquired infections (qualitative)

Pre and post intervention measurements will be compared with pilot sites acting as their own controls.

Deliverables and Dissemination

To share learnings and experiences of the effectiveness of PD in reducing healthcare associated infections such as MRSA and CD throughout Canada using multiple forums, including Safer Healthcare Now!; to develop Canadian expertise in PD to allow for broad dissemination of the technique in the healthcare system; to describe the key organizational elements that contribute to effective PD implementation.