Research Background

Healthcare-associated infections (HAIs) and infectious disease outbreaks present challenges for healthcare facilities. In 2008, a *Clostridium difficile* outbreak in Ontario resulted in the death of 91 patients and raised awareness of HAI (McCarter, 2008). Over the last 5 years, the incidence of outbreaks has increased (Gravel et al., 2009). Traditionally, research has focused on epidemiology, healthcare systems and the economic burden. Little is known about the impact HAI and infectious disease outbreaks have on the work of healthcare professionals. This study examines the effects of HAI outbreaks on healthcare professionals in a large acute care hospital in Ontario.

The Impact of Healthcare-Associated Disease Outbreaks on the Nature of Healthcare Professionals’ Daily Work

Daily work has changed for all healthcare professionals because of the emergence of healthcare-associated infections (HAI), HAI disease outbreaks and the increased incidence of HAI.

The expansion of hospital infrastructure has led to a proliferation of policies, protocols, practices and innovations regarding the prevention and control of infectious diseases.

**Common themes identified by healthcare professional (HCP) participants:**

1. **Education of hospital staff, patients and families**
   - Increase in the amount of HAI prevention education they are expected to participate in and provide for patients and visitors
   - Use of "huddles," which are targeted progress meetings held twice daily during infectious disease outbreaks
   - Education provided through in-service sessions intended to improve compliance with infection prevention and control (IPAC) policies and procedures

2. **Innovation and quality control in clinical practice**
   - Implementation of "nurse servers" for storage of personal protective equipment to increase efficiency in accessing supplies
   - Implementation of HAI prevention audits to evaluate factors contributing to transmission of infection
   - Target *Clostridium difficile* care with specific interventions such as dedicated nursing personnel and multidisciplinary care plans
   - The 5 C model method of communication: clean equipment, clean environment, clean hands, clear communication and consistent processes
   - Using white boards to provide an immediate visual aid to track infectious diseases
   - Unique colour coding (pink and gold) for patients' basins and soap

"The daily unit huddles during infectious disease outbreaks are, on average, 15-20 minute meetings on specific hospital units where vital information regarding infectious diseases is shared. Necessary infection prevention and control practices are reiterated and quick questions about infectious diseases can be asked and answered."
3. Comparison of facility-wide and unit-based HAI outbreaks

- Unit-based outbreaks were commonly caused by methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant enterococci and norovirus and rarely drew media attention; IPAC interventions were localized to control and overcome the outbreaks.
- Facility-wide infectious disease outbreaks caused by *C. difficile* resulted in increased scrutiny and attention from the hospital administration, public and media; IPAC interventions were widely implemented and impacted all healthcare professionals.

4. Impact of outbreaks on patient care

- The psychosocial needs of patients were not being met, especially patients in isolation.
- Further elements of "missed care" were reported when workloads increased.

5. Stress and blaming during HAI outbreaks

- Increased scrutiny and attention during outbreaks caused emotional stress.
- Negative media reports during outbreaks made healthcare professionals feel defensive with friends, relatives, patients and colleagues.
- Environmental services staff indicated that during outbreaks, they are the first to be blamed by the media and the clinical staff.

IPAC protocol reviews and changes include:

- Cleaning and decontamination of all equipment and physical plant.
- Isolation of patients in private rooms and less cohorting of patients.
- Implementation of dedicated patient equipment to reduce transmission.
- Constant use of hand sanitizers and continual de-cluttering of hospital units.
- No food in clinical areas such as in the nurses' station.

IPAC policy changes and reviews:

- Hand hygiene (HH) and uniform policy: the expectations for HH compliance increased from 60% to 90% for all healthcare professionals; diamond rings, nail polish and artificial nails are no longer permitted in the clinical areas, but nurses are allowed to wear plain wedding bands.
- In-hospital patient transfer policy: Patients are now transferred primarily for clinical reasons and less for cohorting patients with the same infectious disease; patients are transferred by stretcher or wheelchair, not in hospital beds.
- Visitor policy: The hospital policy allows patients to have two visitors at a time; during an outbreak, a "no visitors policy" may be implemented to restrict traffic in the units.