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PUBLIC HEALTH IMPLICATIONS OF THE *CLOSTRIDIUM DIFFICILE* REPORTING BY ONTARIO HOSPITALS

The Health and Emergency Medical Services Committee recommends the adoption of the recommendation contained in the following report, October 27, 2008, from the Commissioner of Community and Health Services

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk circulate this report to the Central Local Health Integration Network, the Central Region Infection Control Network, and the Chief Executive Officers of Southlake Regional Health Centre, Markham-Stouffville Hospital and York Central Hospital for information.

2. PURPOSE

This report outlines the public health implications of new mandatory provincial reporting requirements for *Clostridium difficile* (*C. difficile*) associated disease in Ontario hospitals.

3. BACKGROUND

Ontario hospitals are required to report on *C. difficile* associated disease outbreak and outbreak cases to Public Health effective September 2008

On May 28, 2008, the Ministry of Health and Long Term Care (MOHLTC) announced the introduction of public reporting on eight patient safety indicators, including *C. difficile*, to increase level of transparency in Ontario's hospitals. All public hospitals are required to report on *C. difficile* rates in their facilities and these rates became available to the public on September 26, 2008. As of September 1, 2008, public hospitals are also required to immediately report *C. difficile* associated disease outbreak and outbreak cases to their local public health units so that Medical Officers of Health have the information they need to monitor and respond to emergent outbreaks.

On December 31, 2008, reporting of two more diseases, *Methicillin-Resistant Staphylococcus Aureus* and *Vancomycin-Resistant Enterococci,* will be added; however, the role of local public health units associated with these two diseases has not yet been defined. The reporting and management of *C. difficile* outbreaks in other facilities and institutions (i.e., long-term care homes) has remained the same.

C. difficile is the most common cause of infectious diarrhea in hospitalized patients

C. difficile is a bacterium that is widely distributed in the environment. Up to 3-5% of adult humans can carry the organism in their bodies without causing symptoms or illness (colonization). These colonized individuals can however, transmit the bacteria to other individuals who may experience symptoms ranging from diarrhea, fever and/or weight loss to severe, life-threatening disease. Individuals who are at increased risk of acquiring *C. difficile* associated disease include those with: history of antibiotic use: bowel surgery, chemotherapy, prolonged hospitalization, advanced age, and underlying illness. *C. difficile* is the most common cause of infectious diarrhea in hospitalized patients in the industrialized world.

There is an emerging trend of antibiotics-resistant strains of *C. difficile*

C. difficile has been recognized as a known cause of health care associated diarrhea for over 30 years. However, since 2000, there have been new epidemic strains of the disease demonstrating increasing resistance to antibiotics, making treatment and control more difficult. New strains have also increased the potential for adverse outcomes due to the nature of toxins produced.

It is anticipated that mandatory reporting will improve data collection, benchmarking, surveillance, and outbreak control in hospital settings

Until the introduction of mandatory reporting, definitions of *C. difficile* associated disease and data collection methods were not standardized. Comparisons between hospitals could not be made and surveillance of disease trends has been difficult. It is anticipated that mandatory reporting will improve data collection, tracking and studying of *C. difficile* associated disease trends in Ontario hospitals. Reliable surveillance data allows for timely response and comprehensive approach to plan for and control outbreaks. It would also encourage benchmarking among hospitals thereby improving transparency and hospital accountability in patient safety initiatives.

4. ANALYSIS AND OPTIONS

Legislative changes requires Public Health to play a more active role in the control and management of hospital associated outbreak of a communicable disease

To ensure that *C. difficile* associated disease outbreaks and outbreaks of other communicable diseases are identified early and managed according to disease specific protocols and best practices for infection, prevention and control, several legislative changes were made recently to necessitate a more active role for public health:

1. The Medical Officer of Health now has the power to make an order concerning communicable disease control in hospitals and institutions if he or she is of the opinion that an outbreak of a communicable disease exists or may exist at the hospital or institution, that the communicable disease presents a risk to the health of persons in the hospital or institution and that the measures specified in the order are necessary in order to decrease or eliminate the risks to health associated with the outbreak. (*Health Protection and Promotion Act*).

2. *C. difficile* associated disease is now included in the Specification of Communicable Diseases (*Ontario Regulation 558/91*).

3. Addition of outbreaks of *C. difficile* associated disease in hospitals on the list of reportable diseases in Ontario (*see Attachment 1 - Ontario Regulation 559/91*).

4. Ontario hospitals are required to report specific *C. difficile* associated disease outbreak and outbreak-associated case data to local Medical Officers of Health (*Ontario Regulation 569*).

Public Health has new roles in the management of hospital-based outbreak

Preliminary reports identify several new roles for local public health unit in the hospital-based outbreak management process including:

- Receiving reports of *C. difficile* associated disease outbreak-related cases.
- Discussing assessment of cases with hospital staff.
- Attending hospital Outbreak Management Team meetings.
- Reviewing *C. difficile* associated disease outbreak patient line listings daily.
- Preparing *C. difficile* associated disease outbreak review reports at the conclusion of the investigation.

Public Health responsibilities for investigation, management, and reporting of hospital-based outbreaks will increase

The change in the role of the Medical Officer of Health and addition of *C. difficile* associated disease outbreaks and outbreak-associated cases to the list of reportable diseases introduce new responsibilities for public health in the hospital environment. Public health must now ensure that *C. difficile* associated disease outbreaks are reported in a timely manner, that investigations of the outbreak-associated cases are thorough and comprehensive, and that control measures are effectively implemented to limit further transmission. Close monitoring of outbreak cases and collaboration with hospital staff will be imperative. These responsibilities could be augmented with the reporting of *Methicillin-Resistant Staphylococcus Aureus* and *Vancomycin-Resistant Enterococci* by the end of 2008. The York Region Public Health Branch will develop policies and procedures associated with these additional roles and responsibilities.

Public Health continues to collaborate with hospitals and community partners in the control of *C. difficile* associated disease outbreaks

Local public health units have been collaborating with the MOHLTC, Regional Infection Control Networks, Local Health Integration Networks and hospitals in the introduction of new patient safety indicators. York Region Public Health staff will continue to work with hospital officials and external partners to ensure all the information necessary to make evidence-based decisions concerning *C. difficile* associated disease outbreak surveillance and management is acquired in an efficient and accurate manner.

5. FINANCIAL IMPLICATIONS

The early resource implications involve additional staff time and capacity for training, liaising with the hospitals and responding to outbreaks in hospitals. These additional requirements have been partially met through our routine practice of realigning staff to meet emerging priorities. As we move into 2009, we will need to enhance our outbreak response capacity. One additional public health nurse is required to meet recent legislative changes and new Ontario Standards that necessitate increasing the involvement of staff in outbreak management in institutions, hospitals and the community, including but not limited to *C. difficile* associated disease outbreaks.

Projected costs for an additional Public Health Nurse in the Control of Infectious Diseases Program from 2009-2012 are outlined in Table 1.

Table 1
Projected Costs for Additional Public Health Nurse in the Control of Infectious Diseases Program
2009 - 2012

	2009 ($)	2010 ($)	2011 ($)	2012 ($)
Gross Costs	97,780	99,852	101,970	104,136
Revenues/Cost Saving (provincial subsidy – 75%)	73,335	74,889	76,477	78,102
Tax Levy/Impact	24,445	24,963	25,493	26,034

This business case is being addressed through the 2009 budget proposal.

6. LOCAL MUNICIPAL IMPACT

York Region residents will benefit from the overall improved infection control measures in health care facilities in the Region.

7. CONCLUSION

The mandatory reporting of patient safety indicators in hospitals, including *C. difficile* rates, will facilitate transparency and accountability in the hospital sector. Establishment of "baseline" rates of *C. difficile* in hospitals will also enable better surveillance of these types of communicable diseases and a more timely response to emerging trends.

For more information on this report, please contact Dr. Karim Kurji, Medical Officer of Health, at Ext. 4015.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the agenda for the November 6, 2008 Committee meeting.)