**To:** Mayor and Members  
Board of Health  

**From:** Elizabeth Richardson, MD, MHSc, FRCPC  
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**Date:** September 11, 2008  

**Re:** *Clostridium difficile* Reporting- BOH08036 (City Wide)  

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**Council Direction:**  
That the Medical Officer of Health report to the Board of Health stating the City of Hamilton’s recommendations on declaring *C. difficile* as a reportable infectious disease.  

**Information:**  

*Clostridium difficile* is a common bacterium in the environment. In fact, about 1%-3% of healthy adults carry the bacteria as part of their normal flora. *Clostridium difficile* is an opportunistic organism, meaning that in most people the bacteria does not cause symptoms in the individual. These individuals who carry the bacteria without symptoms are said to be colonized. However, the elderly as well as patients with risk factors such as, treatment with antimicrobial therapies, underlying illness, and nasogastric intubation may become infected and develop symptoms ranging from severe diarrhea to pseudomembranous colitis, and sometimes death.

A new, more virulent strain of *C. difficile* has been identified in recent years. The strain was first identified in outbreaks in Quebec in 2003. This new strain has been responsible for a number of hospital outbreaks and an increase in severity of symptoms and deaths among cases.

*C. difficile* spreads from person to person via the fecal-oral route. The organism produces spores that can survive for extended periods of time in the environment. Spread occurs due to inadequate hand hygiene and environmental cleaning. The spores of the bacteria are ingested and enter the digestive tract, ultimately reaching the colon. If the normal flora of the colon is altered, often because of antimicrobial therapy, the *C. difficile* can cause infection.
Current Situation

Infections resulting from *C. difficile* are not specified as reportable diseases to the local Medical Officer of Health under the *Health Protection and Promotion Act*. However, outbreaks of gastrointestinal illness in institutions have long been reportable, including outbreaks of *C. difficile* infection in institutional settings, such as hospitals or long-term care homes. To date there have been two reported institutional outbreak of *C. difficile* in Hamilton, the first was reported June 23, 2008 while the most recent was reported August 29, 2008.

Although reporting of outbreaks of gastrointestinal illness in institutions is mandated under the HPPA, the province has now specifically legislated the reporting of outbreaks attributable to *C. difficile*, including the reporting of outbreak related cases which reinforces the messaging to hospitals of the need to report outbreaks to local public health units. Continuing to work with hospitals in the area and emphasizing the importance of the role public health plays in outbreak management will build upon the relationships already in place.

In Hamilton public health staff have a collaborative working relationship with infection prevention and control staff in local hospitals. Public Health Services is represented on the Hamilton Infection Prevention and Control Committee, a venue for the sharing of infection control information, including outbreak management, at the City level. Representatives from all local hospitals are members of the committee. The 2008 outbreaks of *C. difficile* in Hamilton were reported to PHS as a result of the working relationships established with the acute care hospitals and in response to the new requirements placed upon the hospitals with respect to reporting.

Public Reporting of *C. difficile* in Ontario

The Ministry of Health and Long-term Care (MOHLTC) has announced that as of September 15, 2008 hospital rates of *C. difficile* infections along with outbreaks of *C. difficile* will be reported to the Ministry of Health and Long-term Care as well as to the public. Hospitals will be required to report counts of *C. difficile* as well as rates of infection. All public hospitals, including mental health facilities, acute care hospitals, rehabilitation facilities and complex continuing care facilities that are funded as public hospitals will be required to participate in this reporting. The MOHLTC is initiating this public reporting as an indicator of patient safety at acute care hospitals.

Public hospitals will be required to provide the counts and infection rates to the MOHLTC on the 15th day of each month. The numbers are to be reviewed and posted externally to the public and local public health units via a MOHLTC website by the last day of each month.

Implications

Local public health units will receive the monthly reported rates of infection along with case counts specific to public hospitals within the health unit as provided by the MOHLTC. The health unit will not receive reports of individual cases of infection unless the infection is associated with an outbreak. Reporting of rates of *C. difficile* infection will...
become part of our routine Infectious Diseases surveillance. In Hamilton public health staff will be reviewing the rates of \textit{C. difficile} reported. Infection rates will be compared against historical data from the particular setting as well as data from other institutions in order to assess when potential outbreaks are occurring within an institution. PHS staff will consult with hospitals when warranted to investigate the potential outbreaks identified.

Outbreaks of \textit{C. difficile} within health care facilities will be required to be reported to City of Hamilton Public Health Services. PHS staff will work in collaboration with the affected facility as a member of the outbreak management team in order to ensure appropriate outbreak control measures are implemented. PHS will be required to assess the effectiveness of control measures implemented to determine when further infection prevention and control measures are required and provide recommendations to the facility with respect to declaring the outbreak over. PHS will also provide appropriate messaging to the public as well as other healthcare settings when necessary with respect to \textit{C. difficile} outbreaks in institutions in the community.

PHS staff will be required to assume more work and responsibility as a result of \textit{C. difficile} mandatory reporting. However, the additional work will be absorbed within the resources already available to PHS as additional funding has not been made available to local public health units.

Regulation 569 of \textit{The Health Protection and Promotion Act} has been amended to include \textit{C. difficile} outbreaks in public hospitals as reportable diseases, however, because individual cases of infection in the community are not reportable, nor are outbreaks in institutions other than public hospitals there are some shortcomings in the legislation. PHS is currently investigating an outbreak reported under the new regulation. The outcome of this outbreak investigation as well as findings from outbreak investigations in the future will better serve PHS as an indicator of the effectiveness of the legislative changes. As we gain a better understanding of the functionality of this reporting framework as well as the epidemiology of \textit{C. difficile} in our community PHS may request that the Board of Health advocate in the future for enhanced reporting of individual cases of \textit{C. difficile}.

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Medical Officer of Health
Public Health Services

\footnote{Bignardi GE. Risk factors for 	extit{Clostridium difficile} infection. J Hosp Infect 1998; 40:1–15.}