



# NORTHUMBERLAND HILLS HOSPITAL

*inspiring strength, dignity and compassion*

## **BACKGROUNDER – FINAL DRAFT FOR APPROVAL**

### **Methicillin-resistant Staphylococcus aureus (MRSA) and Vancomycin-resistant Enterococcus (VRE) – On-line bacteraemia infection rate reporting to begin December 2008**

**NORTHUMBERLAND COUNTY, Friday, December 18, 2008** – Following the September 2008 introduction of C. difficile rate reporting on [www.nhh.ca](http://www.nhh.ca), this month NHH will join with hospitals across the province to add the first public release of Methicillin-resistant Staphylococcus aureus (MRSA) and Vancomycin-resistant Enterococcus (VRE) rates for all Ontario hospitals.

NHH welcomes the increased transparency around the important issue of infection prevention and control. MRSA and VRE are the latest of a series of patient safety indicators to receive regular, web-based publication across the province. This spring all Ontario hospitals will also begin web-based publishing of their rates of ventilator associated pneumonia (VAP) and surgical site infections, as well as new public information on the respective hospitals' hand hygiene best practice compliance.

Presented in a question and answer format, the purpose of this third NHH Backgrounder on the subject of quality indicator reporting is to:

- provide information on MRSA and VRE; and
- share an update on the many actions that NHH is taking to minimize the spread of “nosocomial” or hospital-acquired infections.

#### **What is MRSA?**

Staphylococcus aureus is a germ that lives on the skin and mucous membranes of healthy people. Occasionally, S. aureus can cause an infection. When S. develops resistance to certain antibiotics, it is called methicillin-resistant Staphylococcus aureus, or MRSA.

**What is VRE?**

VRE is spread from one person to another by contact, usually on the hands of caregivers. VRE can be present on the caregiver's hands either from touching contaminated material excreted by an infected person or from touching articles soiled by faeces. VRE can survive well on hands and can survive for weeks on inanimate objects such as toilet seats, taps, door handles, bedrails, furniture and bedpans. VRE is easy to kill with the proper use of disinfectants and good hand hygiene.

**What is bacteraemia?**

Bacteraemia is the presence of bacteria in the bloodstream and is referred to as a bloodstream infection.

**What are the risk factors for MRSA?**

Risk factors for MRSA acquisition include invasive procedures, prior treatment with antibiotics, prolonged hospital stay, stay in an intensive care or burn unit, surgical wound infection and close proximity to a colonized person. MRSA can also be transmitted from mother to child through breast milk.

**What are the risk factors for VRE?**

Risk factors for VRE include severity of underlying illness, presence of Invasive devices, prior colonization with VRE, antibiotic use and length of hospital stay.

**What is a case of MRSA or VRE bacteraemia?**

A case is a patient identified with laboratory confirmed bloodstream infection with methicillin resistant *Staphylococcus aureus* (MRSA) or Vancomycin-resistant *Enterococcus* (VRE). A blood stream infection is a single positive blood culture for MRSA.

**How are MRSA and VRE transmitted?**

The single most important mode of transmission of both MRSA and VRE in a health care setting is via transiently colonized hands of health care workers who acquire it from contact with colonized or infection patients, or after handling contaminated material or equipment. The unrecognized colonized patient presents a particular risk for transmission to other patients.

**How are MRSA and VRE diagnosed?**

Bloodstream infections for MRSA and VRE are diagnosed when one of these organisms is isolated from a blood culture taken from the patient.

## **What is NHH doing to control the spread of nosocomial infections?**

Antibiotic resistant infections pose an ongoing challenge for all hospitals, both within Ontario and around the world. At any time of the year, NHH likely has patients in isolation with any one of a series of infectious diseases such as C. difficile. The most important concern is ensuring that processes are in place to ensure that these cases are identified and managed in such away that the risk of further infection is minimized. To that end, the following steps are in place.

- **NHH's Infection Control Committee**, comprised of a physician, staff and administrators, meets regularly to review the hospital's performance, discuss emerging trends and challenges, and ensure that a response is underway or in process that matches or improves upon recognized best practices for minimizing risk. The Provincial Infectious Disease Advisory Committee's (PIDAC) best practice document for the management of MRSA, VRE and C. difficile is reflected in NHH's policies and procedures.
- **Education sessions for physicians and staff (ongoing)** focused on infection prevention and the importance of good hand hygiene by everyone, including patients and visitors. Initiatives such as a new comprehensive program for support services attendants and active participation in the province-wide Just Clean Your Hands program are in place at NHH.
- **New patient education protocols (Clean Hands Protect Lives)** aimed at instructing all patients, on admission and throughout their stay, on the dos and don'ts of proper hand hygiene and the opportunities when hands should be cleaned (after using the washroom, before eating, after coughing or sneezing, etc.)
- **Regular and thorough cleaning** of the entire facility with recommended germicides is also essential, and NHH conducts twice-daily room cleaning for patients with C. difficile and VRE. In the fall of 2008, NHH installed alcohol-based hand-rub stations at every patient bedside in the hospital, as a further measure to reducing the spread of infection.

## **What will be publicly reported?**

Each hospital in Ontario, including NHH, will post its quarterly rate and case count of new MRSA and VRE bacteraemia acquired in their facility on their website. The first reporting period will cover the months of September, October and November 2008.

At the end of each quarter, the ministry will report the previous quarter's data on its website ([www.ontario.ca/patientsafety](http://www.ontario.ca/patientsafety)) by hospital site including:

- (1) the number of new hospital acquired MRSA and VRE bacteraemia cases that is zero (0) or totaling five (5) or more associated with that hospital site, or if this is less than 5 cases (i.e. 1 to 4 cases), text reading "< cases", and
- (2) the hospital acquired MRSA and VRE bacteraemia rate

**What determines the rate?**

The total number of new cases of MRSA and VRE bacteraemia acquired in the hospital in a quarter is divided by the total number of patient days for that quarter. Patient days are the number of days spent in a hospital for all patients. The results are multiplied by 1000. This represents the rate of hospital acquired associated MRSA and VRE bacteraemia associated with the reporting facility per 1000 patient days for that quarter (e.g. 2 cases for that quarter divided by 30,000 patient days for that quarter =  $0.00006 \times 1000 = 0.06$  per 1000 patient days). The rates of infection will be calculated by quarter.

**What will the healthcare system do with the rate information?**

Hospital acquired infection rates provide one measure of patient safety and quality of care. The rate of hospital acquired MRSA and VRE bacteraemia can be used to analyze any trends of infection, sources of infection and general surveillance of MRSA and VRE bacteraemia. It can also assist hospitals to evaluate the effectiveness of infection prevention and control interventions and make further improvements based on this information.

**C. difficile information is updated monthly. How often will MRSA and VRE information be updated on your website, and what period does it cover?**

Hospitals are responsible for submitting the information for both MRSA-bacteraemia and VRE bacteraemia to the province on a monthly basis. The information will be published on a hospital-by-hospital basis on a quarterly basis, beginning in December 2008. The first reporting period will cover the months of September, October and November 2008

**Does NHH have an outbreak currently?**

No, but C. difficile, MRSA and VRE are present in our hospital and we must work together to minimize its spread.

For more information, contact Jennifer Gillard at 905-377-7757 or [jgillard@nhh.ca](mailto:jgillard@nhh.ca).

**About Northumberland Hills Hospital** – The Northumberland Hills Hospital (NHH) is located approximately 100 kilometres east of Toronto. The 137-bed acute care hospital delivers a broad range of services, including emergency and intensive care, medical/surgical care, complex/long-term care, rehabilitation, palliative care and obstetrical care. A variety of ambulatory care clinics are also offered at NHH. In addition to these, NHH also sponsors a Community Mental Health Centre and an Assertive Community Treatment Team. The hospital serves the catchment area of west Northumberland County. A mixed urban and rural population of approximately 60,000 residents, west Northumberland comprises the Town of Cobourg, the Municipality of Port Hope and the townships of Hamilton, Cramahe and Alnwick/Haldimand. NHH employs close to 600 people and relies on the additional support provided by physicians and volunteers. NHH is an active member of the Central East LHIN. For more information, please visit [www.nhh.ca](http://www.nhh.ca).