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The following is a listing of the nine patient safety indicators that are publically reported in Ontario.

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Clostridium difficile Infection (CDI)

*C. difficile* is a bacterium that can either live in the bowel, as part of normal bowel flora without causing harm, or it can cause infection (diarrhea and more serious intestinal conditions such as inflammation of the colon). Infection can occur when the normal balance of the bowel is upset, usually in patients who are taking certain antibiotics, causing *C. difficile* Infection (CDI).

As of September 2008, Ontario hospitals have been publicly reporting their CDI rates on a monthly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.

**What is the case definition of CDI?**

A case of CDI is a person with diarrhea* with laboratory confirmation of toxin A or B for *C. difficle* OR visualization of pseudomembranes on sigmoidoscopy or colonoscopy; OR histological/pathological diagnosis of pseudomembranous colitis; OR diagnosis of toxic megacolon.

*Diarrhea is defined as:

- Loose/watery bowel movements (conform to the shape of the container), and
- The bowel movements are unusual or different for the patient, and
- There is no other recognized etiology for diarrhea (e.g. laxative use).

For the purpose of defining a case of CDI, there should be three or more episodes of diarrhea within a 24-hour period.

**What are hospitals reporting to the Ministry?**

- The following data elements are reported:
- The number of new CDI cases associated with the reporting facility (i.e., symptoms not present on admission and >72 hours after admission or at time of admission but related to a previous admission to the facility)
- The number of new cases of CDI associated not attributed to your facility (i.e., symptoms present on admission or <72 hours after admission and no admission to your facility within the last four weeks or symptoms recur within two months of the last infection)
- Total number of patient days
- The calculated CDI rate
Additionally, effective September 1, 2008, a *Health Protection and Promotion Act* regulatory amendment made CDI a communicable disease designated as reportable, and public hospitals are required to report all cases and outbreaks of CDI to their local public health unit.

**What is the definition of an outbreak of C. difficile in Ontario?**

CDI outbreak definitions incorporate the concept of notification thresholds that support consultation and dialogue with local public health units. The thresholds involve determining the number of health care (or nosocomial) infections, and are defined further [here](#).

**What are hospitals reporting on their website?**

By the last business day of every month, each hospital is required to report on its website:

- The rates of CDI that were acquired during the patient’s hospital stay (nosocomial) for the previous month
- The number of new cases for the previous month

**Key Resources**

Provincial Infectious Disease Advisory Committee (PIDAC):

- [Annex C: Testing, Surveillance and Management of *Clostridium difficile*](#)
- [Routine Practices and Additional Precautions](#)
- [Environmental Cleaning for Prevention and Control of Infections](#)

Ministry of Health and Long-Term Care:

- [Appendix A: Disease-specific Chapter - *Clostridium difficile* Infection (CDI) outbreaks in public hospitals](#)
- [Appendix B: Provincial Case Definitions for reportable disease – *Clostridium difficile* Infection outbreaks in public hospitals](#)

Additional resources can be found on [Public Health Ontario’s website](#).
Methicillin-resistant Staphylococcus aureus (MRSA)

*Staphylococcus aureus* is a type of bacteria that lives on the skin and mucous membranes of healthy people. Occasionally, *S. aureus* can cause an infection. *S. aureus* that develops a resistance to certain antibiotics is known as methicillin-resistant *Staphylococcus aureus*, or MRSA.

As of December 2008, Ontario hospitals have been publicly reporting their MRSA rates on a quarterly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s [website](#).

**What is the case definition of MRSA?**

A case of MRSA is a patient identified with laboratory confirmed bloodstream infection with MRSA. A blood stream infection is a single positive blood culture for MRSA.

**What are hospitals reporting to the Ministry?**

The following data elements are reported:

- Number of new cases of MRSA-bacteraemia associated with the reporting facility
- Number of new cases of MRSA-bacteremia associated with other health care facilities
- Number of new cases of MRSA-bacteraemia associated with a source other than a health care facility or unknown/indeterminate source
- Total number of patient days for the reporting period
- The calculated infection rate

**What are hospitals reporting on their website?**

By the last business day of every quarter, each hospital is required to report on its website:

- The rate of MRSA that was acquired during the patient’s hospital stay (nosocomial) for the previous quarter
- The number of new cases for the previous quarter

**Key Resources**

Provincial Infectious Disease Advisory Committee (PIDAC):

- [Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms (AROs) In All Health Care Settings](#)
Vancomycin-resistant Enterococci (VRE)

Enterococci are bacteria that live in the gastrointestinal tract (bowels) of most individuals and generally do not cause harm (this is termed “colonization”). Vancomycin-resistant enterococci (VRE) are strains of enterococci that are resistant to the antibiotic vancomycin.

As of December 2008, Ontario hospitals have been publicly reporting their VRE rates on a quarterly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.

What is the case definition of VRE?

A case of VRE is a patient identified with laboratory confirmed bloodstream infection with Vancomycin-resistant Enterococci (VRE-Bacteraemia). A bloodstream infection is a single positive blood culture for VRE.

What are hospitals reporting to the Ministry?

The following data elements are reported:

- Number of new cases of VRE-bacteraemia associated with the reporting facility
- Number of new cases of VRE-bacteremia associated with other health care facilities
- Number of new cases of VRE-bacteraemia associated with a source other than a health care facility or unknown/indeterminate source
- Total number of patient days for the reporting period
- The calculated infection rate

What are hospitals reporting on their website?

By the last business day of every quarter, each hospital is required to report on its website:
The rates of VRE that were acquired during the patient’s hospital stay (nosocomial) for the previous quarter
The number of new cases for the previous quarter

Key Resources

Provincial Infectious Disease Advisory Committee (PIDAC):

- Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms (AROs) In All Health Care Settings

Health Quality Ontario:

- VRE Fact Sheet

Additional resources can be found on Public Health Ontario’s website.

Central Line Infection (CLI)

CLI occurs when a central venous catheter (or “line”) placed into a patient’s vein gets infected. This occurs when bacteria grow in the line and spread to the patient’s blood stream. Symptoms can include redness, pain, and swelling at or near the catheter site, and sudden fever or chills.

As of April 2009, Ontario hospitals have been publicly reporting their CLI rates on a quarterly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.

What is the case definition of CLI?

The patient must be situated in a designated critical care unit (Level 3) which reports through the Critical Care Information System (CCIS), and has a central line in place for more than 48 hours. The patient has been diagnosed by a physician with a recognized pathogen cultured from one or more blood cultures, and the pathogen cultured from the blood is not related to an infection or pathology from another site, but is directly related to the central line. Diagnostic criteria guidelines are set by the Critical Care Secretariat.
What are hospitals reporting to the Ministry?

The following data elements are reported:

- Existing cases of CLI upon admission.
- New cases of CLI diagnosed in the unit.
- Total number of central line days for the reporting period.
- The rate of CLI incidents per 1,000 line days.

What are hospitals reporting on their website?

By the last business day of every quarter, each hospital is required to report on its website:

- The number of CLI cases that developed in the ICU for the previous quarter
- The CLI rate for the previous quarter

Key Resources

Ministry of Health and Long-Term Care (Critical Care Secretariat):

- Ventilator Associated Pneumonia and Central Line Infection Prevention Toolkit

Health Quality Ontario:

- CLI Fact Sheet

Safer Healthcare Now:

- CLI bundle
Ventilator-Associated Pneumonia (VAP)

VAP is pneumonia that can occur in patients (specifically Intensive Care Unit [ICU] patients) who need assistance breathing with a mechanical ventilator for at least 48 hours. Symptoms can include fever, low body temperature, new purulent sputum (foul smelling infectious mucous or phlegm coughed up from the lungs or airway into the mouth), and hypoxia (decreasing amounts of oxygen in the blood).

As of April 2009, Ontario hospitals have been publicly reporting their VAP rates on a quarterly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.

What is the case definition of VAP?

The patient must be situated in a designated critical care unit (Level 3) which reports through the Critical Care Information System (CCIS), and has intermittently or continuously received mechanical ventilation through a tracheostomy or endotracheal tube for more than 48 hours. The patient must be diagnosed by a physician for VAP following the diagnostic criteria guidelines set by the Critical Care Secretariat.

What are hospitals reporting to the Ministry?

The following data elements are reported:

- VAP cases that were recorded on day 1 or day 2 post-admission (cases attributable outside the unit).
- New cases of VAP diagnosed in the unit.
- Total number of mechanical ventilator days for the reporting period.
- The rate of VAP incidents per 1,000 ventilator days.

What are hospitals reporting on their website?

By the last business day of every quarter, each hospital is required to report on its website:

- The number of VAP cases that developed in the ICU for the previous quarter
- The VAP rate for the previous quarter
Key Resources

Ministry of Health and Long-Term Care (Critical Care Secretariat):

- **Ventilator Associated Pneumonia and Central Line Infection Prevention Toolkit**

Health Quality Ontario:

- **VAP Fact Sheet**

Safer Healthcare Now:

- **VAP bundle**

Hospital Standardized Mortality Ratio (HSMR)

The Hospital Standardized Mortality Ratio (HSMR) is a measurement tool that compares a hospital's mortality rate with the overall average rate. It is calculated by the Canadian Institute for Health Information (CIHI) and provides hospitals with a starting point for assessing their mortality trends, identifying opportunities for improvement, and tracking their progress.

As of December 2008, the results for eligible acute care hospitals and regions across Canada (excluding Quebec) are publicly posted annually on the [CIHI website](http://cihi.org).

What are hospitals reporting to the Ministry?

Hospitals are not required to report any data to the Ministry. The data is calculated and published by CIHI and reported publicly on an annual basis.

The indicator shows the **number of observed deaths divided by the expected number of deaths (in acute care hospitals based on overall mortality in the reference year), multiplied by 100**. The data is risk adjusted for several factors that affect in-hospital mortality including age, sex, length of stay, admission category, diagnosis group, co-morbidity, and transfer from another facility.
What are hospitals reporting on their website?

On an annual basis, each eligible hospital is required to report on its website its calculated HSMR rate. For convenience and clarity, the Ontario Hospital Association (OHA) strongly encourages all eligible hospitals to post their rates on the same day as CIHI’s public release.

Key Resources

CIHI:

- [HSMR Frequently Asked Questions](#)

Health Quality Ontario:

- [HSMR Fact Sheet](#)

Additional resources can be found on [CIHI’s website](#).

Surgical Site Infection (SSI) Prevention

Studies have shown that antibiotic prophylaxis administration at a certain time prior to a hip or knee joint replacement surgery can reduce the chance of infection. As of April 30, 2009, all hospitals that perform hip and/or knee joint replacement surgeries have been publicly reporting their SSI Prevention percentage rate on a quarterly basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s [website](#).

What is the case definition of SSI Prevention?

A patient undergoing a primary hip or knee joint replacement surgery, including total, partial or hemi arthroplasty who receives prophylactic antibiotic administration within the appropriate time prior to the surgery. Revisions are to be excluded.

What are hospitals reporting to the Ministry?

The following data elements are reported:

- Total number of patients during the month who had a primary hip/knee joint replacement surgery (i.e., the denominator).
• Number of primary hip/knee joint replacement surgical patients whose prophylactic antimicrobial consisted of vancomycin.
• Number of primary hip/knee joint replacement surgical patients whose prophylactic antimicrobial consisted of antibiotics other than vancomycin.
• Number of primary hip/knee joint replacement surgical patients receiving vancomycin administered within the appropriate time prior to surgery.
• Number of primary hip/knee joint replacement surgical patients receiving antibiotics other than vancomycin administered within the appropriate time prior to surgery.
• Total number of patients who received prophylactic antibiotics within the appropriate time prior to surgery.

What are hospitals reporting on their website?

By the last business day of every quarter, each eligible hospital is required to report on its website:

• The percentage for primary hip/knee joint replacement surgical patients with antibiotic administration within the appropriate time prior to surgery for the previous quarter.

Key Resources

Health Quality Ontario:

• SSI Prevention Fact Sheet

Hand Hygiene (HH) Compliance

Hand hygiene relates to the removal of visible soil and the removal or killing of transient microorganisms from the hands which may be accomplished using soap and running water or an alcohol-based hand rub. The single most common transmission of health care-associated infections (HAIs) in a health care setting is via transiently colonized hands of health care workers who acquire it from contact with colonized or infected patients, or after handling contaminated material or equipment.

As of April 30, 2009, Ontario hospitals have been publicly reporting their Hand Hygiene Compliance rate on an annual basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.
What are the four indications for proper Hand Hygiene Compliance?

The four indications that define proper hand hygiene compliance are:

i. Before initial patient/patient environment contact
ii. Before aseptic procedure
iii. After body fluid exposure risk
iv. After patient/patient environment contact

What are hospitals reporting to the Ministry?

The following data elements are reported:

- **Before initial patient/patient environment contact**
  - Number of times hand hygiene was performed by combined categories of health care providers
  - The number of observed hand hygiene indications by combined categories of health care providers
- **Before aseptic procedure**
  - Number of times hand hygiene was performed by combined categories of health care providers
  - The number of observed hand hygiene indications by combined categories of health care providers
- **After body fluid exposure risk**
  - Number of times hand hygiene was performed by combined categories of health care providers
  - The number of observed hand hygiene indications by combined categories of health care providers
- **After patient/patient environment contact**
  - Number of times hand hygiene was performed by combined categories of health care providers
  - The number of observed hand hygiene indications by combined categories of health care providers
  - The total number of observed hand hygiene indications

What are hospitals reporting on their website?

On an annual basis, all Ontario hospitals, including acute, rehabilitation, complex continuing care, mental health and addictions facilities are required to report by hospital site the following percent compliance rates:

- Hand hygiene before initial patient/patient environment contact by combined health care provider type
- Hand hygiene after patient/patient environment contact by combined health care provider type
Key Resources

Public Health Ontario:

- Just Clean Your Hands campaign
- Clean Hands Protect Lives campaign materials
  - Materials in Additional Languages – Materials are available in non-English/French languages on Public Health Ontario’s (PHO) website. Please click here to access these. On the left-hand navigation bar, select your desired document type to filter the results. (For further information or questions regarding the Clean Hands Protect Lives materials, please contact PHO at handhygiene@oahpp.ca.)

Surgical Safety Checklist Compliance (SSCC)

The Safe Surgical Checklist compliance (SSCC) indicator is a process measure, and refers to the percentage of surgeries in which a three-phase surgical safety checklist was performed correctly and appropriately for each surgical patient. All surgeries carried out in a fully equipped (and MIS coded functional centre) operating room are eligible to report the use of the SSCC.

As of July 30, 2010, Ontario hospitals have been publicly reporting their SSC Compliance rate on an bi-annual basis, and making this information available on their website. These rates are also posted on Health Quality Ontario’s website.

What is the case definition of SSCC?

The SSC is considered performed when the designated checklist coordinator confirms that surgical team members have implemented and/or addressed all of the necessary tasks and items in each of the three phases—‘Briefing’, ‘Time Out’ and ‘Debriefing’—of the checklist, based upon the Canadian Patient Safety Institute (CPSI)’s Surgical Safety Checklist.

What are hospitals reporting to the Ministry*?*

The following data elements are reported:

- The number of times all three phases of the surgical safety checklist was performed.
- The total number of surgeries.
*Please note the following information:

- Hospitals that are not funded by the Wait-times Strategy/part of the Surgical Efficiencies Target program (SETp) are required to report checklist compliance data to the Ministry.
- Compliance data for surgeries performed in the main operating room (OR) of Wait-Times funded/SETp hospitals are automatically reported to Cancer Care Ontario (CCO) through the Operating Room Benchmark Collaborative (ORBC) system.
- Compliance data for surgeries performed in a fully equipped OR other than the main OR should be reported to the Ministry.
- The Ministry’s Patient Safety Team will combine data from both sources.

What are hospitals reporting on their website?

On a bi-annual basis, each eligible hospital is required to post on its website:

- The percentage compliance with the SSC (i.e. where all three phases of the SSC were performed for all surgical procedures in the reporting period).

Key Resources

World Health Organization:

- Safe Surgery Saves Lives campaign

Patients for Patient Safety Canada:

- Making Your Surgery Safer – What You Need to Know

Safer Healthcare Now:

- Surgical Safety Checklist Resources