Prince Edward Island CANADA Health and Wellness

Health PEI

PRINCE EDWARD ISLAND
Infection Prevention and Control Surveillance Data Summary 2014

Department of Health and Wellness
Chief Public Health Office

Prepared by
Christine Drummond RN BN CIC, Provincial Infection Control Coordinator in collaboration with Population Health Assessment and Surveillance, Chief Public Health Office.

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Introduction

Surveillance is a key component of the Infection Prevention and Control Program. Relevant data are gathered on health care and community-associated infections and the information is used to improve infection control outcomes. Surveillance data for community associated and health care associated Methicillin-resistant *Staphylococcus aureus* (CA-MRSA and HA-MRSA), *Clostridium difficile* infections (CDI), and hand hygiene compliance are presented in this report. Each section contains a short discussion about the data and provides a year to year comparison. PEI does not compare rates of MRSA (colonization/infection) and *C. difficile* infection to other provinces due to the diversity of data collection. Provincial data is compared based on previous years of reported data.

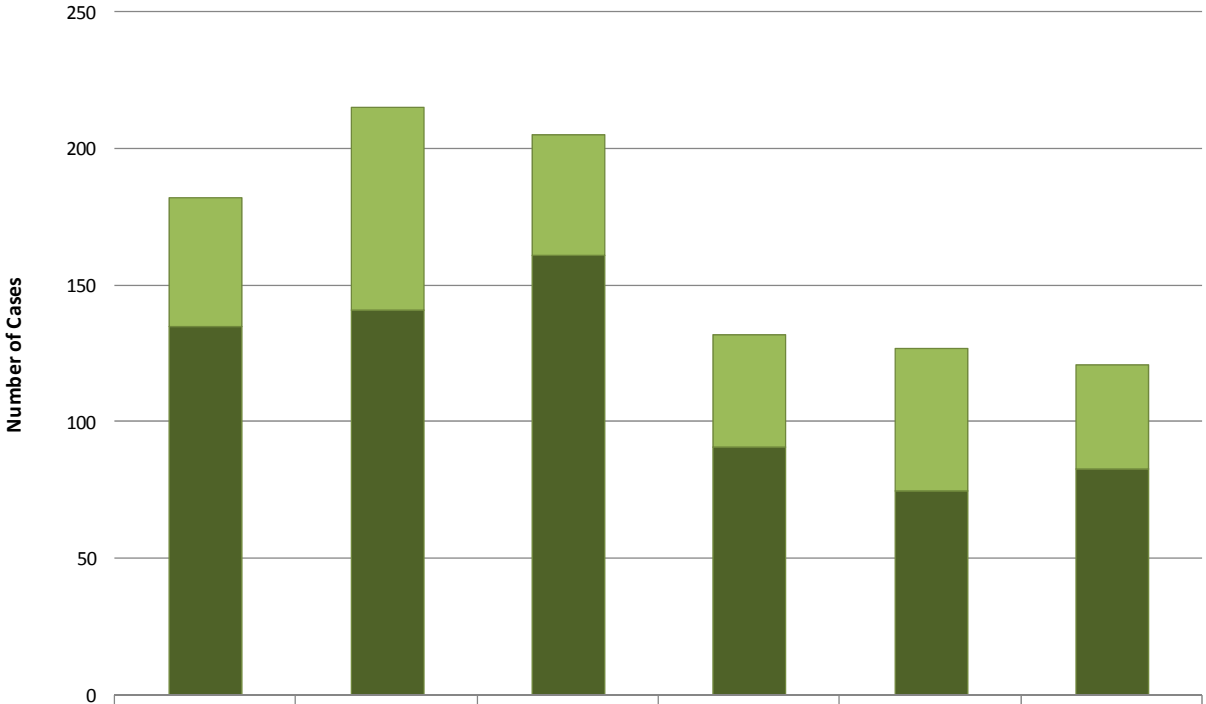
Methicillin-resistant *Staphylococcus aureus* (MRSA)

The overall incidence of MRSA infection/colonization on PEI has been decreasing since 2010. In 2008, the Provincial Infection Prevention and Control Strategy was launched. As a result, there was an increase in infection control professionals in Health PEI facilities across the Island in 2009. While instituting infection prevention and control programs in these facilities, more testing for MRSA was done, hand hygiene education was conducted with health care providers and point of care hand hygiene was introduced. Identifying cases and putting measures in place to prevent the spread of infections from person to person has contributed to a decrease in cases which is a key success of the program. MRSA Guidelines[1] are developed and available on the Department of Health and Wellness website.

The private nursing home sector continues to have a notable number of new cases. Numbers of cases are reported but a rate is unable to be calculated. Targeted surveillance for each private nursing home is required in order to explain the number of cases and this is in the process of development.

Figure 1

MRSA Incidence by Attributable Setting, PEI 2009-2014



	2009	2010	2011	2012	2013	2014
CA-MRSA	47	74	44	41	52	38
HA-MRSA	135	141	161	91	75	83
Total	182	215	205	132	127	121

[1]Provincial Infection Prevention and Control Guidelines for MRSA (2009)

Table 1. MRSA Incidence and Rate by Attributable Facility, 2013-2014

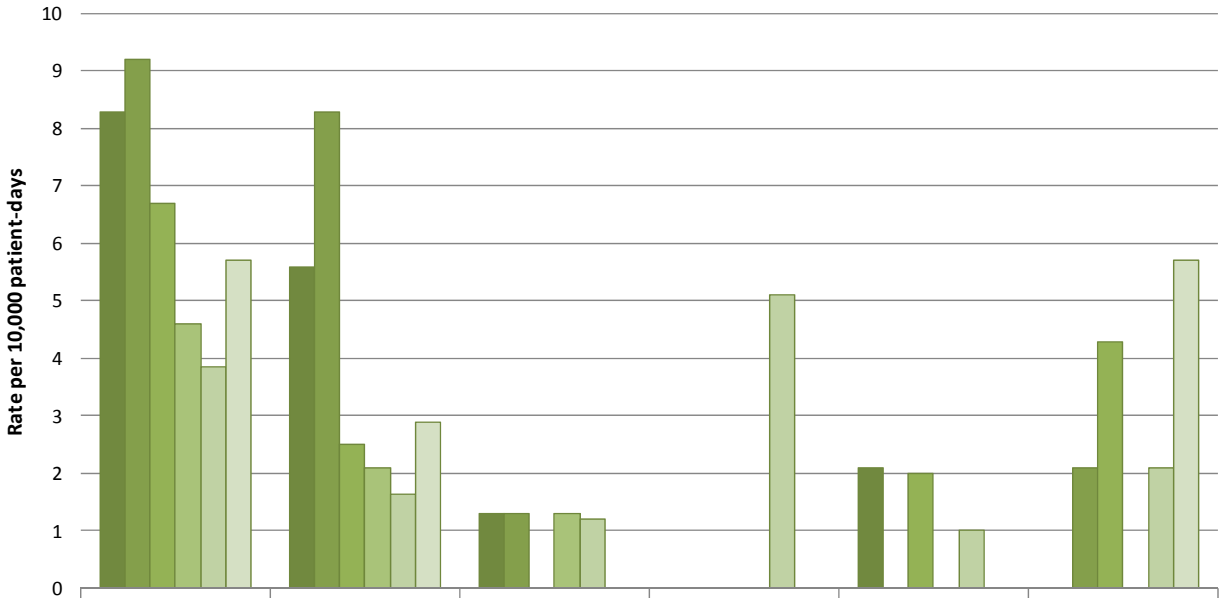
Facility	2014			2013		
	Number of Cases (n=83)	Rate (per 10,000 patient-days)	Rate (per 1,000 admissions)	Number of Cases (n=75)	Rate (per 10,000 patient-days)	Rate (per 1,000 admissions)
Long Term Care						
Private Nursing Homes	16	n/a	n/a	24	n/a	n/a
Prince Edward Home[1]	1	0.2	n/a	2	0.4	n/a
Beach Grove Home	2	0.4	n/a	2	0.4	n/a
Summerset Manor	1	0.3	n/a	0	0.0	n/a
Wedgewood Manor	3	1.1	n/a	2	0.7	n/a
Total Public Long Term Care[2]	7	0.3	n/a	6	0.3	n/a
Acute Care[3]						
Queen Elizabeth Hospital	44	5.7	4.6	30	3.8	3.0
Prince County Hospital	10	2.9	2.3	6	1.6	1.5
Western Hospital	0	0.0	0.0	1	1.2	2.4
Community Hospital O'Leary	0	0.0	0.0	2	5.1	15.9
Kings County Memorial Hospital	0	0.0	0.0	1	1.0	1.5
Souris Hospital	3	5.7	8.1	1	2.1	2.7
Other						
Community Care Facilities	2	n/a	n/a	3	n/a	n/a
Provincial Corrections Facility	0	n/a	n/a	1	n/a	n/a
Hillsborough Hospital	1	0.4	7.4	0	0.0	0.0

1=Includes palliative care beds (n=8)
2=Public LTC facilities that had zero cases of MRSA attributed are not listed above as their rate was 0; however, patient-days are included in the denominator for total rate calculations.
3=Acute care facilities that had zero cases of MRSA attributed in 2014 and 2013 are not listed above as their rate was 0.

Incidence rates of HA-MRSA cases in 2013 and 2014 for long term and acute care facilities on PEI are presented in Table 1; additionally, changes in the incidence rate of HA-MRSA per 10,000 patient days by facility are illustrated in Figure 2. Overall incidence of MRSA is decreasing but a slight increase is noted from 2013 to 2014 in acute care. Changes in the incidence of HA-MRSA over time in smaller facilities should be interpreted with caution due to the relatively small number of new cases each year. A very small change in the number of new MRSA cases may cause a change in the rate that appears alarming, when in fact it is not.

Figure 2

HA-MRSA Incidence by Attributable Acute Care Facility, 2009-2014



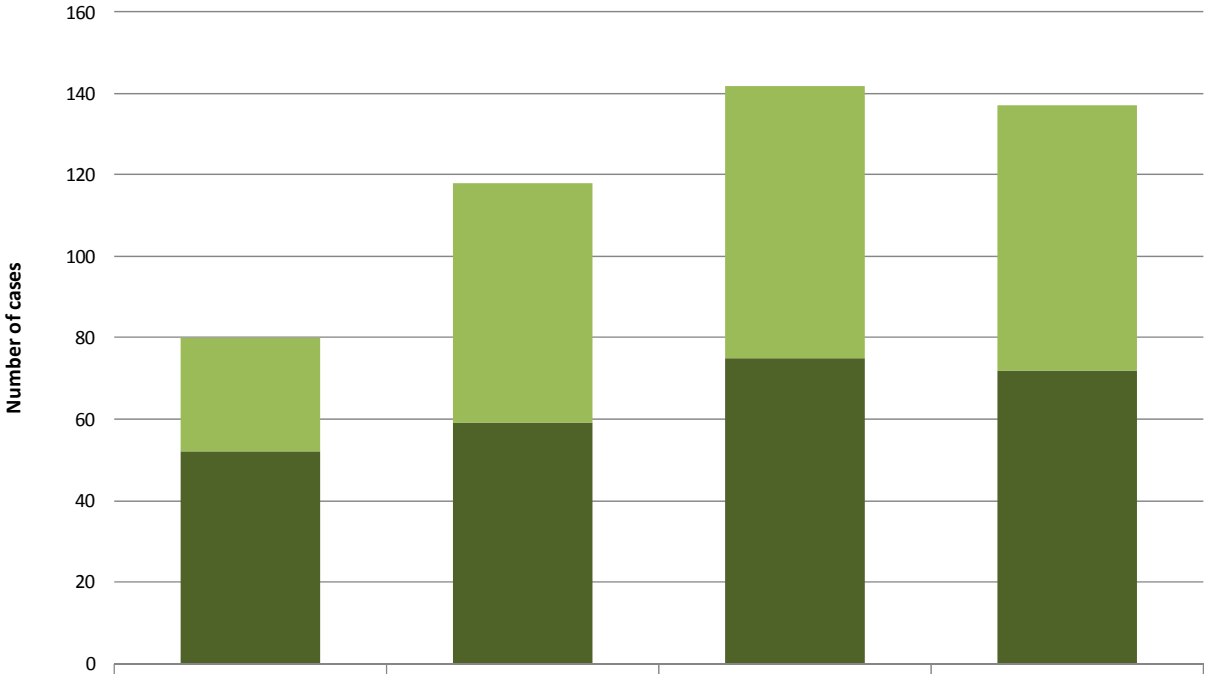
	Queen Elizabeth Hospital	Prince County Hospital	Western Hospital	Community Hospital O'Leary	Kings County Memorial Hospital	Souris Hospital
2009	8.3	5.6	1.3	0.0	2.1	0.0
2010	9.2	8.3	1.3	0.0	0.0	2.1
2011	6.7	2.5	0.0	0.0	2.0	4.3
2012	4.6	2.1	1.3	0.0	0.0	0.0
2013	3.8	1.6	1.2	5.1	1.0	2.1
2014	5.7	2.9	0.0	0.0	0.0	5.7

Clostridium difficile Infection (CDI)

Between 2011 and 2013, the number of new cases of both health care associated CDI (HA-CDI) and community associated CDI (CA-CDI) increased and the 2014 data showed a slight decrease (Figure 3). The increase in 2011-2013 can be partially explained by the introduction of a more sensitive lab test for the detection of CDI. The most common risk factor for acquiring *C*DI is being on antibiotics. In 2013/2014 the Provincial Antimicrobial Stewardship Program was introduced with the goal of preventing an increase in the CDI rates in the future. *C. difficile* Guidelines[2] are developed and available on the Department of Health and Wellness website.

Figure 3

CDI Incidence by Attributable Setting, 2011-2014



	2011	2012	2013	2014
HA-CDI	28	59	67	65
CA-CDI	52	59	75	72
Unknown	2	0	0	0
Total	82	118	142	137

In the health care environment, CDI can spread from person to person by the fecal-oral route. All cases of CDI in Health PEI facilities are investigated. Incidence rates of HA-CDI cases in 2013 and 2014 for long term and acute care facilities on PEI are presented in Table 2; additionally, changes in the incidence rate of HA-CDI per 10,000 patient days by facility are illustrated in Figure 4. Given differences in hospital patient acuity and services provided, it is important to note that comparisons between acute care

[2]Provincial Infection Prevention and Control Guidelines for *Clostridium difficile (2010)*

centres in the province should not be made. In addition, caution should be taken when interpreting facility rates given the small numbers of infections per facility; one case can cause a large fluctuation in rates. An outbreak of *C. difficile* illness resulted in 8 cases in one private long term care facility in March 2014.

Table 2. CDI Incidence and Rate by Attributable Facility, 2013-2014

Facility	2014			2013		
	Number of Cases (n=65)	Rate (per 10,000 patient-days)	Rate (per 1,000 admissions)	Number of Cases (n=67)	Rate (per 10,000 patient-days)	Rate (per 1,000 admissions)
Long Term Care						
Private Nursing Homes	11	n/a	n/a	8	n/a	n/a
Prince Edward Home[1]	1	0.2	n/a	2	0.4	n/a
Beach Grove Home	1	0.2	n/a	1	0.2	n/a
Colville Manor	1	0.5	n/a	1	0.5	n/a
Riverview Manor	1	0.6	n/a	0	0.0	n/a
Total Public Long Term Care[2]	4	0.2	n/a	4	0.2	n/a
Acute Care[3]						
Queen Elizabeth Hospital	33	4.3	3.5	31	4.0	3.1
Prince County Hospital	8	2.3	1.9	16	4.4	4.0
Kings County Memorial Hospital	5	6.0	7.9	5	4.9	7.4
Souris Hospital	2	3.8	5.4	2	4.2	5.5
Western Hospital	1	1.3	2.5	1	1.2	2.4

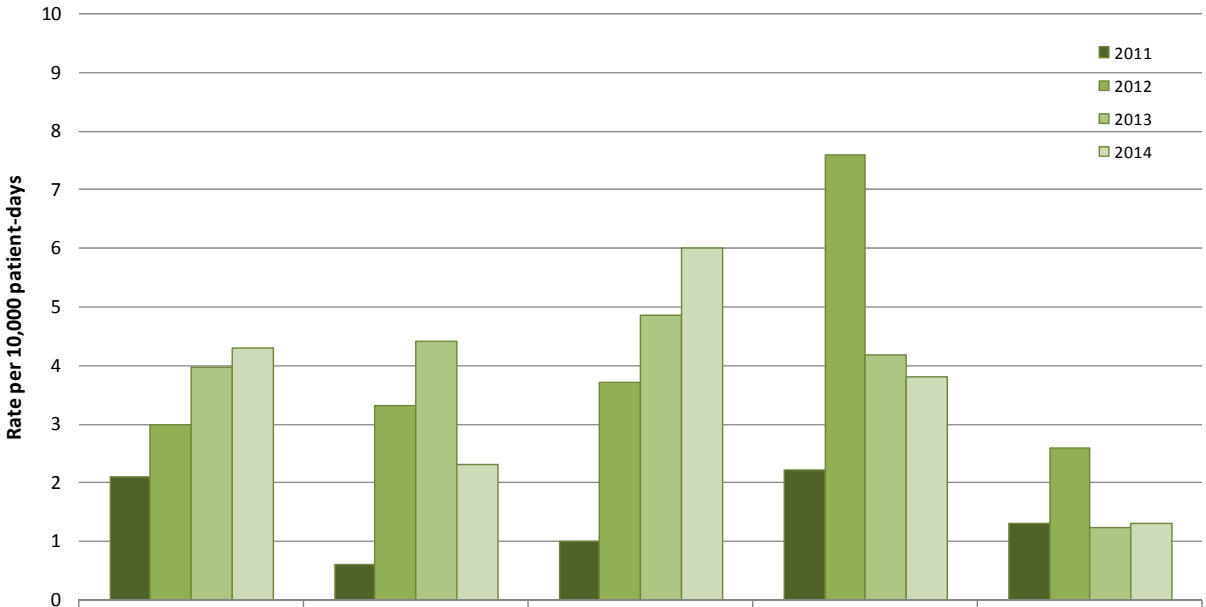
1=Includes palliative care beds (n=8)

2=Public LTC facilities that had zero cases of CDI attributed are not listed above as their rate was 0; however, patient-days are included in the denominator for total rate calculations.

3=Acute care facilities that had zero cases of CDI attributed in 2014 and 2013 are not listed above as their rate was 0.

Figure 4

HA-CDI Incidence per 10,000 Patient Days by Attributable Facility, 2011-2014



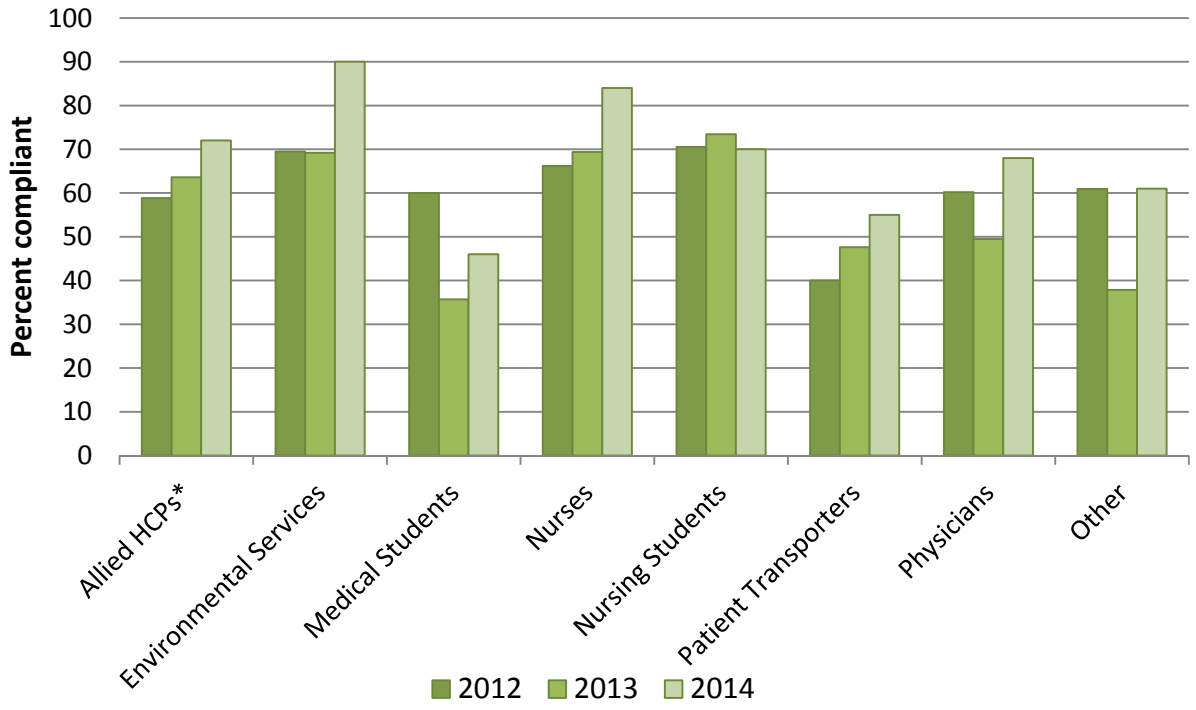
	Queen Elizabeth Hospital	Prince County Hospital	Kings County Memorial Hospital	Souris Hospital	Western Hospital
2011	2.1	0.6	1.0	2.2	1.3
2012	3.0	3.3	3.7	7.6	2.6
2013	4.0	4.4	4.9	4.2	1.2
2014	4.3	2.3	6.0	3.8	1.3

Hand Hygiene Compliance

Best practice for hand hygiene calls for all healthcare providers to perform hand hygiene before and after touching a patient and/or touching any object that comes into contact with the patient. Hand hygiene compliance is audited in Health PEI acute care and long term care facilities using an audit tool adapted from the Canadian Patient Safety Institute[3]. Health care providers are observed by auditors to determine whether they use proper technique when they wash their hands or use an alcohol based hand rub product.

Health PEI has implemented a provincial policy for hand hygiene in 2014 and continues to educate healthcare providers, patients and visitors on the importance of hand hygiene in preventing the spread of healthcare associated infections.

Figure 5. Hand Hygiene Compliance Rate by Health Care Provider 2012-2014



* Allied Health Care Providers includes: physical therapists, occupations therapists, speech therapy, respiratory therapists, social workers, pastoral care, blood collection/lab and radiology.

Compliance increased among healthcare provider groups in 2014. Health PEI aspires to 100% compliance in non-emergency situations, and is striving to improve the compliance rate over the next year.

[3]Canadian Patient Safety Institute STOP! Clean your hands Canada's Hand Hygiene campaign

References

1) Provincial Infection Prevention and Control Guidelines for MRSA. Prince Edward Island Department of Health and Wellness. May 2009. http://www.gov.pe.ca/photos/original/DHW_MRSA.pdf

2) Provincial Infection Prevention and Control Guidelines for Clostridium difficile. Prince Edward Island Department of Health and Wellness. September 2010. http://www.gov.pe.ca/photos/original/DHW_C.diffguide.pdf

3) Canadian Patient Safety Institute STOP! Clean your hands Canada's Hand Hygiene campaign http://www.handhygiene.ca/English/education/pages/default.aspx