

# Appendices

to the

Annual surveillance report of healthcare-associated infections in BC  
acute care facilities

Fiscal Year 2014/15 (April 1, 2014 to March 31, 2015)

Prepared by:

Provincial Infection Control Network of British Columbia (PICNet)

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## Introduction

This document contains the Appendices for the report “Annual surveillance report of healthcare-associated infections in BC acute care facilities: Fiscal Year 2014/15 (April 1, 2014 to March 31, 2015)”.

The main report can be found at <http://s.picnet.ca/annualreport201415>.

### Glossary of Acronyms

ARO	Antimicrobial-resistant organism
BC	British Columbia
CA	Community-associated
CI	Confidence interval
CDI	<i>Clostridium difficile</i> infection
CNISP	Canadian Nosocomial Infection Surveillance Program
FHA	Fraser Health Authority
FQ	Fiscal quarter
FY	Fiscal year
HA	Health authority
HAI	Healthcare-associated infection
HCA	Healthcare-associated
HCC	Hand cleaning compliance
HH	Hand hygiene
ICP	Infection control practitioner
IHA	Interior Health Authority
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
NHA	Northern Health Authority
PCR	polymerase chain reaction
PHC	Providence Health Care
PHSA	Provincial Health Services Authority
PICNet	Provincial Infection Control Network of British Columbia
PHHWG	Provincial Hand Hygiene Working Group of British Columbia
SSC	PICNet’s Surveillance Steering Committee
VCHA	Vancouver Coastal Health Authority
VIHA	Island Health Authority

## Appendix A. Methodology

### Surveillance populations

All patients who were admitted to an acute care facility in BC were under surveillance for CDI, MRSA, and CPO. This included patients admitted to the emergency department awaiting placement (e.g. patients admitted to a service who are waiting for a bed), patients in alternative level of care beds, and patients in labour and delivery beds. Outpatient visits to acute care facilities, patients in extended care, and a short-time admission to emergency room only were excluded, with an exception in CPO surveillance, which includes the hemodialysis patients visiting renal clinics in acute care facilities and other patients that were deemed high risk for CPO. Patients under one year of age were also excluded from CDI surveillance because asymptomatic carriage of *C. difficile* is very frequent and *C. difficile*-associated diarrheal illness is exceedingly rare before twelve months of age (21,22).

For hand cleaning compliance, auditing takes place among all healthcare workers in BC acute care facilities. The healthcare workers were grouped into four categories: 1) nursing staff, including nurses, midwives, care aides, nursing students, etc.; 2) physicians, including medical doctors, residents, and medical students; 3) clinical support services, such as occupational therapists, physiotherapists, respiratory therapists, speech therapists, social workers, dieticians, psychologists, audiologists, porters, pastoral care, radiologists, laboratory and electrocardiogram technicians, etc.; and 4) others, such as housekeeping, food services, clerk, volunteer, security, etc., and by healthcare provider group.

### Data collection and reporting

#### CDI and MRSA

Provincial surveillance data for CDI and MRSA were collected according to the provincial surveillance protocols, which developed by PICNet's Surveillance Steering Committee (SSC) and reviewed annually. CDI cases include new infections as well as relapses from previous infections. MRSA surveillance focusses on incidence cases, which are newly identified colonizations or infections with MRSA among inpatients. All CDI and MRSA cases were laboratory confirmed, and classified as either healthcare-associated (HCA), community-associated (CA), or unknown based on the patient's healthcare encounter in the last four weeks (for CDI) or twelve months (for MRSA) before identification. Information on individual cases of CDI and MRSA were collected daily by infection control practitioners (ICP) and managed by the respective health authority. After the end of each fiscal quarter, CDI and MRSA cases were aggregated by facility and classification using templates for data submission. These data were then submitted to PICNet. Total inpatient days were collected from the patient information systems by HA as denominators.

#### CPO

The provincial surveillance protocol for CPO was developed by the provincial CPO Working Group in May 2014. Since July 18, 2014, the microbiology laboratories in the BC healthcare facilities were required to submit all isolates that were suspected of harbouring a carbapenemase gene to the BC Public Health Microbiology and Reference Laboratory (BCPHMRL) for confirmatory testing and genotyping analysis. If an isolate was recovered from a patient in an acute care facility and was identified with a carbapenemase gene for the first time or with a new carbapenemase gene, regardless of the organism/species identified, it was considered to be a new case of CPO and reported to PICNet. The ICPs then collected surveillance information regarding the new case and submitted this information to

PICNet via their health authority. PICNet further linked the new cases to the laboratory testing data and patient information collected at BCPHMRL for the provincial surveillance report.

### Hand Cleaning Compliance

The methodology for the provincial hand hygiene audits was adapted by the Provincial Hand Hygiene Working Group (PHHWG) from the World Health Organization's guidelines for hand hygiene that describes direct observation as the gold standard methodology for assessing hand hygiene (23). During the auditing, trained auditors directly observe a sample of healthcare workers in acute care facilities across BC. The auditors record the number of hand cleaning events they observe (i.e., when healthcare workers clean their hands), as well as the number of hand cleaning opportunities (i.e., when a healthcare workers should clean their hands). This includes opportunities before contact with a patient or the patient's immediate environment (such as around the patient's bedside) and after contact with a patient or the patient's immediate environment. The minimum requirement is 200 observations per quarterly audit cycle for each facility with 25 or more beds. For facilities with fewer than 25 beds, the audit data are aggregated into the overall health authority data. The audit data are collected and managed by each HA, then aggregated by facility and submitted to PICNet at the end of each quarter.

The quarterly data were verified with the health authority once received. After the end of each fiscal year (FY), all quarterly submitted data were reviewed with HAs and updated if there were any changes.

### Data analysis

The CDI and MRSA surveillance data submitted were merged into respective databases and then grouped by HA, size of facility, and type of facility. The rate of HCA CDI or MRSA was calculated using the total number of new cases of HCA CDI or MRSA associated with the reporting facility as numerators divided by the total inpatient days during the same period as denominators, then multiplying 10,000 as a rate by per 10,000 inpatient days. The 95% confidence intervals (CI) of the rate were calculated by the Wilson score method and were used to determine whether the difference between the rates was statistically significant. If the ranges of 95% CI are not overlapped with each other, the difference in the two rates is considered statistically significant.

The HCC percentage was the number of compliant opportunities over the total opportunities observed, and further grouped by moment of before contact and after contact, and by healthcare worker group. To reduce the impact of variations in the opportunities observed by HA, total inpatient days in each HA was used to weight opportunities observed during the same period and the weighted provincial compliance was calculated for each auditing quarter.

The overall trend of the quarterly rates from the beginning of the provincial surveillance data collection to the last quarter (Q4) of FY 2014/15 was analyzed using Cochrane-Armitage test for linear trend at a statistically significant level of  $p < 0.05$ .

Due to the small number of CPO cases identified and short surveillance period, only the number of new CPO cases was presented in the report.

### Data limitations

Although standard provincial surveillance protocols have been developed and reviewed annually to reflect the advances of scientific research and surveillance practice, there were noted variations in how the case definitions and inclusion/exclusion criteria were applied by the HAs and healthcare facilities. For example in defining a CDI case, FHA and PHSA began to apply the frequency of documented

diarrheal episodes stringently with chart review since 2012, while other HAs continued to define CDI based on positive laboratory testing from diarrhea specimens. In addition, from 2012 IHA and FHA require resolution of diarrhea from a previous CDI episode for a period of >24 hours (IHA) or >72 hours (FHA) before applying the period of two to eight weeks for defining a relapse of CDI. No health authorities reported significant changes in the application of the protocol after 2012.

Laboratory practice and methodology may vary among the microbiology laboratories and may change over time. From 2008 to 2012, more sensitive and faster testing for detecting *C. difficile* was gradually introduced into the microbiology laboratories across the province, which may result in more specimens being identified positive with *C. difficile* by the laboratory, and thus more CDI cases diagnosed. There is no evidence that the microbiology practice has changed significantly for MRSA after the provincial MRSA surveillance started.

Infection prevention and control practices also vary by HAs and healthcare facilities, which can also affect identification of MRSA and CDI. For example, facilities that conduct more intense screening of patients (such as universal admission screening, periodic screening of certain units and/or at-high risk patients) may identify more MRSA cases than those which screen patients in specific situations only. Intensive testing diarrhea specimens may result in more CDI reported.

The patient's encounter history with healthcare has been used to determine whether the case of CDI and MRSA was healthcare-associated. Various "look-back" periods were employed by HAs in the first year(s) and were consolidated to four weeks for CDI from FY 2010/11 and twelve months for MRSA from FY 2012/13. In addition, the facilities in PHSA and PHC were unable to check the patient healthcare history outside their health authority, thus did not report cases that were associated with another facility.

In hand hygiene audits, auditing might be performed by auditors who work in the same unit or small facility as the healthcare workers they are observing (self-auditing); conversely, it might be performed by external auditors such as infection control practitioners (ICPs), dedicated auditors, medical students, or members of the healthcare quality department of the hospital or HA. Research shows that self-auditing often reports higher compliance rates than non-self-auditing (20).

Finally, the rates in this report were crude rates and were not adjusted by any risk factors or methodology, therefore direct comparison of the rates of CDI and MRSA, or the HCC percentage, between HAs or healthcare facilities is not recommended.

## Appendix B. Glossary

### Acute care facility

Acute care is a branch of healthcare where a patient receives active but short-term treatment for a severe injury or episode of illness, an urgent medical condition, or during recovery from surgery or specialist diagnostic procedures. In this report, acute care facility refers to the hospitals in BC that provide acute care to the patients who are admitted to a care unit(s) in the facility for a short period of time, e.g. at least overnight stay or  $\geq 24$  hours. The patient is discharged as soon as their medical condition is stable. The following table summarizes the acute care facilities participated in the provincial surveillance for HAIs.

Acute care facilities participating in the provincial surveillance program, fiscal year 2014/15

Health authority	IHA	FHA	VCHA <sup>i</sup>	VIHA	NHA	PHSA	Total
<b>Total number of facilities</b>	<b>22</b>	<b>14</b>	<b>11</b>	<b>13</b>	<b>18</b>	<b>2</b>	<b>80</b>
<b>By hospital size<sup>ii</sup></b>							
1-50 beds	16	3	6	7	17	0	49
51-250 beds	5	7	2	3	1	2	20
>250 beds	1	4	3	3	0	0	11
<b>By hospital category</b>							
Community hospital	16	7	6	9	9	0	47
Regional Hospital	4	4	3	2	8	0	21
Tertiary/Referral Hospital	2	3	2	2	1	2	12
<b>By teaching status</b>							
Non-teaching hospital	21	8	6	11	16	0	62
Teaching hospital	1	6	5	2	2	2	18
<b>Total acute care beds<sup>iii</sup></b>	<b>1,325</b>	<b>2,900</b>	<b>1,763</b>	<b>1,554</b>	<b>554</b>	<b>249</b>	<b>8,345</b>
<b>Total acute care admissions<sup>iv</sup></b>	<b>79,794</b>	<b>139,531</b>	<b>86,464</b>	<b>77,185</b>	<b>30,422</b>	<b>28,063</b>	<b>441,459</b>
<b>Total inpatient days<sup>iv</sup></b>	<b>544,906</b>	<b>1,094,219</b>	<b>659,261</b>	<b>577,378</b>	<b>205,111</b>	<b>87,601</b>	<b>3,168,476</b>
General population in 2014 <sup>v</sup>	730,712	1,706,824	1,146,312	759,725	287,729	N/A	4,631,302

Note:

- i. Includes acute care facilities of Providence Health Care (PHC)
- ii. Based on the average of quarterly counts of acute care beds in FY 2014/15. The number of beds may vary by quarter due to temporary closure of acute care beds by facilities.
- iii. Based on the average of quarterly counts of acute care beds in each health authority.
- iv. The patients less than one year old were excluded from CDI surveillance
- v. BC Stats. Population Estimates. <http://www.bcstats.gov.bc.ca/>

### Carbapenemase-producing organisms (CPO)

CPOs refer to a large group of bacteria with an acquired genetic resistance to broad-spectrum antibiotics, including the carbapenem family of drugs. The genetic resistance is plasmid mediated, and not an intrinsic part of the bacteria's DNA. We chose not to limit the scope of these bacteria to the class of Enterobacteriaceae, as these plasmids have been shown to be transmitted to other bacteria (e.g. Acinetobacter species). Hence, the use of CPO (Carbapenemase-producing organisms) instead of CPE (Carbapenemase-producing *Enterobacteriaceae*).

A new case of CPO is defined as a new carbapenemase gene identified from a patient's isolate for the first time, either infection or colonization with the organism. The different carbapenemase genes identified from the same specimen or subsequent specimens from the same patient are considered as new cases of CPO, regardless of the bacterial species. The same genotype identified from different bacterial species in the same patient will not be regarded as a new case of CPO.

### Clostridium difficile Infection (CDI)

CDI, under PICNet CDI surveillance, is defined as:

- presence of diarrhea\* or toxic megacolon without other known etiology, AND laboratory confirmation of the presence of *C. Difficile* toxin A and/or B (positive toxin, or culture with evidence of toxin production, or detection of toxin genes); OR
- diagnosis of typical pseudo-membranous colitis on sigmoidoscopy or colonoscopy; OR
- histological/pathological diagnosis of CDI with or without diarrhea

\* *Diarrhea is defined as persistent liquid or loose stools (e.g. passing liquid or loose stools three or more times per day for more than 24 hours), or more frequently than is normal for the patient. It is assumed that any stool sent to the laboratory for C. difficile testing is from a patient that has had at least three episodes of loose stools in a 24-hour period.*

The CDI case is classified as either healthcare-associated (HCA) or community-associated (CA) based on the time of CDI identification and the patient's healthcare encounter history in the last 4 weeks.

- **Healthcare-associated (HCA)**

- A CDI case occurring > 72 hours or > 3 calendar days (the day of admission counted as the first calendar day, the same hereinafter) after admission to an acute care facility (e.g., the CDI cases identified on or after the 4<sup>th</sup> calendar day of hospitalization will be classified as HCA); OR
- A CDI case with symptom onset in the community or occurring ≤ 72 hours or ≤ 3 calendar days after admission to an acute care facility, provided that the patient was admitted to a healthcare facility (including acute care and long-term care) for a period of ≥ 24 hours or at least overnight stay in the past 4 weeks before onset of CDI symptoms

- **Community-associated (CA)**

A CDI case with symptom onset in the community or occurring within ≤ 72 hours or ≤ 3 calendar days after admission to an acute care facility, provided that the patient was not admitted to any healthcare facility (including acute care and long-term care) for a period of ≥ 24 hours or at least overnight stay in the past 4 weeks before onset of CDI symptoms



- **Unknown**

A CDI case where there is not enough information to assess whether the patient had a healthcare encounter in the past 4 weeks before onset of CDI symptoms

The HCA CDI is further classified as new cases and relapses of CDI based the patients' previous CDI history:

- **New case of CDI**

- A CDI case without previous history of CDI; OR
- A CDI case that has not had an episode of CDI in the last 8 weeks

- **Relapse of CDI**

The episode of CDI reoccurred between 2 and 8 weeks\* after a previous CDI case

### CDI-associated complications

CDI-associated complications under PICNet's CDI surveillance include ICU admission, toxic megacolon, and entire or partial colectomy due to CDI. Other complications associated with CDI are excluded from the surveillance. Relapses are included in the CDI surveillance, but are reported separately.

### Colonization

Presence of microorganisms on skin, on mucous membranes, in open wounds, or in excretions or secretions but are not causing adverse clinical signs or symptoms.

### Confidence interval (CI)

A confidence interval gives an estimated range of values which is likely to include an unknown population parameter to indicate the reliability of an estimate. The 95% CI of the rate and proportion in this report are calculated using Wilson score intervals<sup>10</sup>.

### Fiscal quarter and calendar quarter

Fiscal quarter (FQ) is a specified period within a budget or financial year. There are four FQs in a fiscal year. Start and end dates of each FQ vary from year to year. Calendar Quarter is a period of three consecutive months starting on the first day of January, April, July or October. Below is the start and end date of each quarter for the fiscal year from 2009/10 to 2014/2015:

**Start and end date of quarters for this report**

Fiscal year	Quarter code	Fiscal quarter		Calendar quarter	
		Start date	End date	Start date	End date
2010/11	Q1	01-Apr-2010	24-Jun-2010	01-Apr-2010	30-Jun-2010
	Q2	25-Jun-2010	16-Sep-2010	01-Jul-2010	30-Sep-2010
	Q3	17-Sep-2010	09-Dec-2010	01-Oct-2010	31-Dec-2010
	Q4	10-Dec-2010	31-Mar-2011	01-Jan-2011	31-Mar-2011
2011/12	Q1	01-Apr-2011	23-Jun-2011	01-Apr-2011	30-Jun-2011
	Q2	24-Jun-2011	15-Sep-2011	01-Jul-2011	30-Sep-2011
	Q3	16-Sep-2011	08-Dec-2011	01-Oct-2011	31-Dec-2011
	Q4	09-Dec-2011	31-Mar-2012	01-Jan-2012	31-Mar-2012

Fiscal year	Quarter code	Fiscal quarter		Calendar quarter	
		Start date	End date	Start date	End date
2012/13	Q1	01-Apr-2012	21-Jun-2012	01-Apr-2012	30-Jun-2012
	Q2	22-Jun-2012	13-Sep-2012	01-Jul-2012	30-Sep-2012
	Q3	14-Sep-2012	06-Dec-2012	01-Oct-2012	31-Dec-2012
	Q4	07-Dec-2012	31-Mar-2013	01-Jan-2013	31-Mar-2013
2013/14	Q1	01-Apr-2013	20-Jun-2013	01-Apr-2013	30-Jun-2013
	Q2	21-Jun-2013	12-Sep-2013	01-Jul-2013	30-Sep-2013
	Q3	13-Sep-2013	05-Dec-2013	01-Oct-2013	31-Dec-2013
	Q4	07-Dec-2013	31-Mar-2014	01-Jan-2014	31-Mar-2014
2014/15	Q1	01-Apr-2014	20-Jun-2014	01-Apr-2014	30-Jun-2014
	Q2	21-Jun-2014	12-Sep-2014	01-Jul-2014	30-Sep-2014
	Q3	13-Sep-2014	05-Dec-2014	01-Oct-2014	31-Dec-2014
	Q4	07-Dec-2014	31-Mar-2015	01-Jan-2015	31-Mar-2015

### Fiscal year (FY)

A term used to differentiate a budget or financial year from the calendar year. The Fiscal Year in BC runs from April 1 of the prior year through March 31 of the next year. For example, FY 2010/11 is from April 1, 2010 to March 31, 2011.

### Health authority (HA)

A health authority manages and delivers healthcare services. There are five regional Health Authorities in BC which govern, plan, and coordinate services regionally within sixteen health service delivery areas, and the Provincial Health Services Authority, which coordinates and/or provides provincial programs and specialized services.

The six HAs in BC are:

- Interior Health Authority (IHA)
- Fraser Health Authority (FHA)
- Northern Health Authority (NHA)
- Vancouver Coastal Health Authority (VCHA) [includes Providence Health Care (PHC)]
- Vancouver Island Health Authority (VIHA)
- Provincial Health Services Authority (PHSA)

### Hospital type

The hospital type in this report is based on the healthcare services that the hospital provides and the population to be served, including:

- **Tertiary/referral hospital** refers to a major hospital that provides a wide range of acute in-patient and out-patient specialist services together with the necessary support systems for the patients across the health authority, and in some cases, across the province. Patients will often be referred from smaller hospitals for major operations, consultations with specialist and sub-specialists and when sophisticated intensive care facilities are required.

- **Regional hospitals** typically provide health care services to the patients in its region, with large numbers of beds for intensive care and long-term care, providing specialist and sub-specialist services, such as surgery, plastic surgery, childbirth, bioassay laboratories, and so forth.
- **Community hospitals** offer an appropriate range of integrated health and social care designed to meet the needs of the local people. Medical care is predominantly provided by general practitioners working with consultant medical colleagues.

## Infection

Invasion and multiplication of microorganisms (such as bacteria, viruses, and parasites) in body tissues lead to clinical symptoms or local cellular injury. An infection may remain localized, or it may spread through the blood or lymphatic vessels to become systemic (body-wide).

## Inpatient day

An accounting unit used by healthcare facilities and healthcare planners. Each day represents a unit of time during which the services of the institution or facility are used by a patient; thus 50 patients in a hospital for 1 day would represent 50 inpatient days. The report uses the inpatient days as denominator to calculate the rate of CDI.

## Methicillin-resistant *Staphylococcus aureus* (MRSA)

The MRSA cases under PICNet surveillance must meet **ALL** of the following criteria:

- Laboratory identification of MRSA, including *Staphylococcus aureus* cultured from any specimen that tests oxacillin-resistant by standard susceptibility testing methods; or by a positive result for penicillin binding protein 2a (PBP2a); or molecular testing for *mecA*. May also include positive results of specimens tested by other validated polymerase chain reaction (PCR) tests for MRSA
- Patient must be admitted to the reporting facility for acute care
- Must be a new case of MRSA, either infection or colonization, as an inpatient in the reporting facility
- Patient has no known history of MRSA in any BC acute care facilities

The MRSA cases are classified into the following 5 categories based on the date of MRSA identification and patient's healthcare encounter history in the last 12 months:

- **Healthcare-associated with current admission to the reporting facility**  
An MRSA case (as defined above) identified > 48 hours or > 2 calendar days (the day of admission counted as the first calendar day, the same hereinafter) after the patient was admitted to the reporting facility
- **Healthcare-associated with Previous Encounter with the Reporting Facility**
  - An MRSA case (as defined above) identified ≤ 48 hours or ≤ 2 calendar days after the patient was admitted to the reporting facility, AND one of the followings
  - The patient was admitted to the reporting facility for a period of ≥ 24 hours or at least overnight stay within the last 12 months, OR
  - Presence of indwelling catheters or other medical device at time of admission, which was inserted by the reporting facility, OR

- Documented history of weekly visits to an outpatient clinic (e.g., dialysis, oncology) in the reporting facility for more than 4 weeks in the last 12 months
- **Healthcare-associated with Another Healthcare Facility**
  - An MRSA case (as defined above) identified ≤ 48 hours or ≤ 2 calendar days after the patient was admitted to the reporting facility, AND one of the following:
    - The patient was admitted to another healthcare facility (including acute care and long-term care) for a period of ≥ 24 hours or at least overnight stay, or weekly visits to an outpatient clinic (e.g., for dialysis, oncology) at another facility, within the last 12 months, OR
    - Presence of indwelling catheters or other medical device at time of admission, which was inserted by another facility
- **Community-associated**
  - An MRSA case (as defined above) identified ≤ 48 hours or ≤ 2 calendar days after the patient was admitted to the reporting facility, AND there was no documented history for any of following healthcare exposure within the last 12 months:
    - Admitted to an acute care facility
    - Residence in a long-term care facility or rehab centre
    - Weekly visits to an outpatient clinic (e.g., dialysis, oncology) in the healthcare facilities
    - Use of indwelling catheters or other medical device
- **Unknown**

An MRSA case (as defined above) where there is insufficient information on healthcare exposure history to classify the case

### Rate per 10,000 inpatient days

$$\text{Rate per 10,000 inpatient days} = \frac{\text{Number of cases in a defined period}}{\text{Total inpatient days during the same period}} \times 10,000$$

A defined period can be a quarter or several quarters, or a year (annual rate).

### Statistical significance

In statistics, a result is called statistically significant if it is unlikely to have occurred by chance. In this report, the difference between the rates or percentages is considered as statistically significant if the 95% confidence intervals (CI) of the two rates or percentages do not overlap (i.e., the lower limit of 95% CI of one rate or percentage is greater than the upper limit of 95% CI of the other one).

### Teaching hospital

A teaching hospital combines assistance to patients with the training/education of medical students, nursing students, and other healthcare professionals, and is often linked to a medical school, nursing school or university. A teaching hospital can be a community hospital, or regional hospital, or tertiary/referral hospital.

### Trend test

A trend test is an aspect of statistical analysis that tries to determine whether there is a statistically significant trend upwards or downwards over a period of time or among specific ordinal categories. This

report uses Mantel-Haenszel Chi-square test for linear trend at a statistically significant level of  $p < 0.05$  of a two-tailed test.

#### **Unknown association**

A CDI case where there is insufficient information on healthcare admission and/or discharge to classify whether it is healthcare-associated or not.

## Appendix C. Annual rate of new cases of CDI associated with the reporting facility per 10,000 inpatient days and 95% confidence intervals by acute care facility

Acute care facility	Facility group <sup>i</sup>	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
100 Mile District Hospital	S,C,N	0.0	1.5(0.3-8.7)	0.0	7.7(3.0-19.8)	5.9(2.0-17.4)	3.3(0.9-11.9)
Abbotsford Regional Hospital	L,T,Y	3.8 (2.7-5.3)	4.3(3.2-5.8)	4.6(3.5-6.1)	3.9(2.9-5.3)	3.2(2.3-4.4)	4.8(3.7-6.3)
Arrow Lakes Hospital <sup>ii</sup>	S,C,N	28.4(11.0-72.7)	0.0	0.0	8.3(1.5-46.7)	0.0	0.0
BC Children's Hospital	M,T,Y	14.7(10.3-20.8)	6.4(4.0-10.3)	13.4(9.6-18.7)	13.0(9.3-18.2)	8.9(6.1-13.0)	11.5(8.0-16.7)
BC Women's Hospital	M,T,Y	0.4(0.1-2.5)	0.9(0.2-3.2)	0.0	0.8(0.2-3.1)	0.0	0.4(0.1-2.4)
Bella Coola General Hospital	S,C,N	0.0	0.0	5.0(0.9-28.4)	0.0	0.0	0.0
Boundary Hospital <sup>ii</sup>	S,C,N	14.1(6.5-30.8)	5.2(0.9-29.5)	9.5(2.6-34.5)	0.0	5.3(1.5-19.4)	8.5(2.9-24.9)
Bulkley Valley District Hospital	S,R,N	5.4(1.8-15.8)	0.0	0.0	0.0	0.0	0.0
Burnaby Hospital	L,R,Y	18.1(15.7-20.9)	17.1(14.8-19.7)	15.2(13.1-17.6)	8.6(7.1-10.5)	5.3(4.2-6.8)	5.8(4.6-7.3)
Campbell River & District General Hospital	M,C,N	1.2(0.4-3.4)	3.0(1.5-5.9)	5.2(3.0-8.9)	3.6(1.9-6.6)	2.4(1.2-5.0)	4.4(2.6-7.6)
Cariboo Memorial Hospital and Health Centre	S,C,N	2.1(0.6-7.7)	6.1(2.8-13.4)	6.1(2.8-13.4)	31.4(21.9-44.5)	13.2(7.6-23.1)	12.8(7.5-21.9)
Chetwynd General Hospital	S,C,N	0.0	0.0	0.0	21.7(7.4-63.7)	11.5(3.2-41.9)	11.8(3.2-43.0)
Chilliwack General Hospital	M,C,Y	2.6(1.5-4.4)	2.9(1.8-4.6)	1.8(1.0-3.2)	2.9(1.8-4.6)	2.7(1.6-4.4)	2.5(1.6-4.1)
Cormorant Island Community Health Centre	S,C,N	0.0	0.0	0.0	0.0	0.0	0.0
Cowichan District Hospital	M,C,N	4.0(2.3-6.8)	4.7(2.9-7.5)	4.9(3.1-7.8)	3.0(1.7-5.4)	2.8(1.6-5.0)	3.1(1.8-5.5)
Creston Valley Hospital <sup>iii</sup>	S,C,N	12.0(5.5-26.1)	6.7(2.6-17.1)	11.0(3.8-32.4)	8.0(3.1-20.6)	11.0(5.0-23.9)	5.6(1.9-16.4)
Dawson Creek And District Hospital	S,R,N	0.0	0.0	1.2(0.3-4.4)	0.6(0.1-3.4)	1.8(0.6-5.3)	2.5(1.0-6.5)
Delta Hospital	M,C,N	4.7(2.6-8.5)	9.5(6.3-14.4)	9.2(6.0-14.1)	2.9(1.4-6.1)	2.5(1.1-5.5)	3.3(1.7-6.6)
Dr. Helmcken Memorial Hospital & Health Centre	S,C,N	8.5(1.5-47.9)	0.0	0.0	5.9(1.0-33.3)	6.7(1.2-37.8)	0.0
Eagle Ridge Hospital	M,C,N	13.3(10.2-17.4)	10.7(8.1-14.3)	10.7(8.2-14.0)	8.3(6.4-10.9)	4.9(3.5-6.9)	7.3(5.5-9.7)
East Kootenay Regional Hospital <sup>iii</sup>	M,R,N	11.1(7.5-16.4)	7.4(4.6-11.9)	10.5(6.1-17.9)	10.3(6.8-15.6)	11.1(7.5-16.4)	4.4(2.4-8.0)
Elk Valley Hospital <sup>iii</sup>	S,C,N	18.5(9.7-35.2)	15.9(8.1-31.3)	7.7(2.1-28.0)	15.7(7.2-34.2)	0.0	4.3(1.2-15.8)
Fort Nelson General Hospital	S,C,N	0.0	0.0	0.0	0.0	6.7(1.8-24.4)	0.0
Fort St. John General Hospital	S,R,N	1.3(0.4-4.9)	2.2(0.8-6.5)	0.7(0.1-3.9)	0.6(0.1-3.6)	0.6(0.1-3.5)	2.5(1.0-6.4)
Fraser Canyon Hospital	S,C,N	7.5(2.5-21.9)	16.6(7.6-36.1)	2.6(0.5-14.9)	0.0	0.0	7.9(2.7-23.1)
G.R. Baker Memorial Hospital	S,R,Y	0.0	2.3(0.8-6.8)	2.2(0.8-6.6)	0.8(0.1-4.4)	2.2(0.7-6.4)	4.5(2.1-9.8)
Golden & District General Hospital <sup>iii</sup>	S,C,N	0.0	0.0	0.0	0.0	9.7(2.6-35.2)	5.1(0.9-28.7)
Invermere & District Hospital <sup>iii</sup>	S,C,N	10.8(3.7-31.6)	11.0(3.7-32.2)	0.0	22.4(9.6-52.3)	0.0	0.0
Kelowna General Hospital	L,T,Y	13.7(11.8-15.9)	10.0(8.4-12.0)	8.5(7.0-10.2)	7.0(5.7-8.6)	5.3(4.2-6.7)	3.8(2.9-5.0)
Kitimat General Hospital	S,R,N	3.1(0.8-11.1)	1.5(0.3-8.3)	2.7(0.8-10.0)	3.3(0.9-12.1)	3.7(1.0-13.4)	5.3(1.8-15.6)
Kootenay Boundary Regional Hospital <sup>ii</sup>	M,R,N	10.0(6.7-15.1)	5.2(2.2-12.2)	7.4(3.9-14.1)	7.9(5.0-12.5)	4.1(2.1-7.8)	7.3(4.4-12.0)
Kootenay Lake Hospital <sup>ii</sup>	S,C,N	8.8(5.0-15.3)	13.9(7.0-27.4)	3.2(0.9-11.7)	9.7(5.5-16.9)	3.5(1.3-8.9)	8.5(4.6-15.6)
Lady Minto Gulf Islands Hospital	S,C,N	3.4(0.9-12.4)	4.9(1.7-14.4)	3.1(0.8-11.2)	8.9(3.8-20.8)	1.8(0.3-10.0)	3.6(1.0-13.2)
Lakes District Hospital and Health Centre	S,C,N	4.8(1.3-17.6)	0.0	3.2(0.6-18.1)	7.9(2.7-23.1)	0.0	0.0

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Acute care facility	Facility group <sup>i</sup>	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Langley Memorial Hospital	M,R,Y	15.3(12.6-18.5)	13.7(11.3-16.6)	16.5(13.9-19.7)	11.6 (9.4-14.2)	4.9(3.6-6.7)	4.2(2.9-5.9)
Lillooet Hospital and Health Centre	S,C,N	12.7 (3.5-46.0)	0.0	0.0	0.0	6.7 (1.2-37.9)	0.0
Lions Gate Hospital	L,R,Y	9.2 (7.4-11.4)	6.8 (5.3-8.7)	3.5 (2.5-4.9)	6.1 (4.7-7.9)	4.9 (3.7-6.5)	3.5 (2.5-5.0)
Mackenzie and District Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0	0.0
Matsqui Sumas Abbotsford	S,C,N	2.2 (0.6-7.8)	2.3 (0.6-8.5)	6.4 (2.9-13.9)	4.5 (1.7-11.5)	0.0	0.0
McBride and District Hospital	S,C,N	0.0	0.0	0.0	0.0	9.8 (1.7-55.5)	0.0
Mills Memorial Hospital	S,R,N	0.6 (0.1-3.6)	1.3 (0.4-4.7)	4.4 (2.1-9.0)	4.8 (2.4-9.5)	0.0	2.7 (1.0-6.9)
Mission Memorial Hospital	S,C,N	2.3 (0.6-8.5)	6.2 (3.0-12.8)	15.8 (10.1-24.7)	7.1 (3.9-13.2)	6.3 (3.3-12.0)	5.6 (2.7-11.6)
Mount Saint Joseph Hospital	M,C,Y	15.3 (11.9-19.8)	19.3 (15.3-24.3)	12.6 (9.5-16.7)	9.4 (6.8-13.1)	6.2 (4.1-9.3)	7.6 (5.3-11.0)
Nanaimo Regional General Hospital	L,R,N	7.3 (5.7-9.2)	9.6 (7.8-11.8)	6.4 (4.9-8.2)	5.3 (4.1-7.0)	2.9 (2.0-4.2)	3.7 (2.7-5.2)
Nicola Valley Health Centre	S,C,N	3.3 (0.6-18.6)	0.0	12.1 (4.7-31.0)	3.0 (0.5-16.9)	8.5 (2.9-24.9)	6.1 (1.7-22.3)
Northern Haida Gwaii Hospital <sup>iv</sup>	S,C,N	0.0	0.0	11.9 (2.1-66.9)	0.0	0.0	0.0
Peace Arch Hospital	M,R,N	9.0 (7.0-11.6)	6.8 (5.2-9.0)	9.5 (7.5-11.9)	5.4 (3.9-7.3)	4.8 (3.5-6.6)	3.1 (2.1-4.7)
Penticton Regional Hospital	M,R,N	4.1 (2.6-6.4)	5.6 (3.8-8.1)	4.3 (2.8-6.6)	5.0 (3.4-7.5)	5.0 (3.3-7.5)	2.5 (1.4-4.4)
Port Hardy Hospital	S,C,N	0.0	0.0	6.5 (1.8-23.5)	6.3 (1.7-23.1)	0.0	4.1 (0.7-23.4)
Port McNeill and District Hospital	S,C,N	0.0	3.9 (0.7-22.1)	0.0	5.2 (0.9-29.6)	5.4 (1.0-30.5)	0.0
Powell River General Hospital	S,C,N	0.0	1.0 (0.2-5.7)	2.0 (0.6-7.3)	1.8 (0.5-6.5)	1.7 (0.5-6.0)	1.7 (0.5-6.3)
Prince Rupert Regional Hospital	S,R,N	1.2 (0.2-6.6)	2.3 (0.6-8.4)	1.1 (0.2-6.2)	1.0 (0.2-5.5)	3.1 (1.0-9.0)	0.0
Princeton General Hospital	S,C,N	0.0	11.8 (3.2-42.9)	6.4 (1.1-36.4)	11.5 (3.2-42.0)	6.2 (1.1-34.9)	23.4 (9.1-60.1)
Queen Charlotte Islands General Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0	0.0
Queen Victoria Hospital and Health Centre	S,C,N	10.0 (3.4-29.4)	3.0 (0.5-16.9)	0.0	0.0	3.3 (0.6-18.9)	0.0
Queens Park Hospital	M,C,N	14.1 (9.8-20.4)	9.9 (6.7-14.6)	9.4 (6.7-13.1)	4.9 (3.0-7.8)	3.3 (1.8-5.9)	2.6 (1.4-4.9)
Richmond Hospital	M,R,Y	6.5 (4.8-8.9)	7.5 (5.6-9.9)	6.8 (5.1-9.1)	7.8 (6.0-10.2)	6.4 (4.8-8.5)	4.2 (2.9-6.0)
Ridge Meadows Hospital	M,R,N	3.3 (2.1-5.3)	3.4 (2.2-5.3)	8.4 (6.4-11.0)	4.2 (2.9-6.1)	2.9 (1.9-4.5)	6.2 (4.5-8.4)
Royal Columbian Hospital	L,T,Y	7.9 (6.6-9.5)	12.6 (11.0-14.5)	12.9 (11.3-14.8)	9.7 (8.3-11.3)	5.2 (4.2-6.4)	3.4 (2.6-4.4)
Royal Inland Hospital	M,T,N	2.5 (1.6-3.9)	2.3 (1.5-3.6)	4.3 (3.1-6.0)	5.5 (4.1-7.3)	6.2 (4.8-8.1)	4.9 (3.6-6.5)
Royal Jubilee Hospital	L,T,Y	7.9 (6.5-9.7)	4.3 (3.3-5.7)	4.5 (3.5-5.9)	3.7 (2.8-4.9)	4.6 (3.5-5.9)	4.2 (3.2-5.4)
RW Large Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0	0.0
Saanich Peninsula Hospital	M,C,N	11.2 (7.4-17.0)	1.3 (0.5-3.9)	2.6 (1.2-5.7)	2.3 (1.0-5.5)	3.2 (1.5-7.0)	3.7 (1.8-7.5)
Sechelt Hospital <sup>v</sup>	S,C,N	3.4(1.5-8.0)	5.4(2.7-10.6)	4.9(2.4-10.1)	5.1(2.5-10.5)	0.0	1.1(0.3-4.0)
Shuswap Lake General Hospital	S,C,N	4.0 (1.8-8.7)	6.3 (3.4-11.5)	5.6 (2.9-10.6)	3.8 (1.7-8.2)	5.5 (2.9-10.4)	3.4 (1.6-7.5)
South Okanagan General Hospital	S,C,N	5.3 (1.8-15.5)	6.1 (2.4-15.8)	0.0	3.3 (0.9-11.9)	3.3 (0.9-11.9)	8.9 (4.1-19.4)
Squamish General Hospital	S,C,N	4.4 (1.2-16.0)	0.0	7.5 (2.9-19.2)	1.9 (0.3-10.7)	3.9 (1.1-14.4)	1.8 (0.3-10.5)
St. John Hospital	S,C,N	0.0	5.0 (1.7-14.6)	0.0	4.3 (1.4-12.5)	0.0	0.0
St. Joseph's General Hospital	M,R,N	5.3 (3.2-8.7)	2.6 (1.3-5.0)	4.0 (2.3-6.8)	4.1 (2.4-6.9)	2.4 (1.2-4.8)	2.8 (1.5-5.2)
St. Paul's Hospital	L,T,Y	9.9 (8.4-11.6)	10.2 (8.7-11.9)	10.1 (8.6-11.9)	9.1 (7.6-10.7)	6.9 (5.7-8.4)	4.9 (3.9-6.2)
Stuart Lake Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0	7.7 (1.4-43.6)
Surrey Memorial Hospital	L,T,Y	14.1 (12.5-16.0)	13.1 (11.6-14.8)	14.4 (12.9-16.1)	8.2 (7.0-9.5)	3.9 (3.1-4.8)	3.6 (2.9-4.5)

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Acute care facility	Facility group <sup>i</sup>	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Tofino General Hospital	S,C,N	0.0	0.0	0.0	0.0	18.8 (5.2-68.3)	13.4 (3.7-48.9)
UBC Hospital	S,R,Y	0.9 (0.2-5.2)	2.9 (1.0-8.4)	0.0	0.0	2.0 (0.5-7.2)	1.0 (0.2-5.5)
University Hospital of Northern BC	M,T,Y	3.5 (2.4-5.2)	4.8 (3.4-6.7)	4.3 (3.1-6.0)	3.5 (2.4-5.1)	3.1 (2.1-4.6)	4.1 (2.9-5.7)
Vancouver General Hospital	L,T,Y	12.1 (10.7-13.6)	11.4 (10.1-12.9)	12.0 (10.7-13.5)	9.8 (8.7-11.1)	6.5 (5.6-7.6)	5.3 (4.4-6.2)
Vernon Jubilee Hospital	M,R,N	15.5 (12.4-19.4)	6.6 (4.7-9.2)	3.3 (2.1-5.3)	5.4 (3.7-7.7)	5.4 (3.8-7.8)	2.9 (1.8-4.7)
Victoria General Hospital	L,T,Y	3.0 (2.2-4.2)	2.9 (2.1-4.1)	2.1 (1.4-3.1)	1.8 (1.1-2.7)	1.3 (0.8-2.2)	1.8 (1.2-2.8)
West Coast General Hospital	M,C,N	3.2 (1.5-7.0)	4.7 (2.5-9.0)	1.6 (0.5-4.7)	1.9 (0.8-5.0)	2.9 (1.3-6.4)	1.4 (0.5-4.0)
Wrinch Memorial Hospital	S,R,N	0.0	3.9 (0.7-21.9)	3.0 (0.5-17.2)	6.1 (1.7-22.1)	9.6 (3.3-28.3)	2.8 (0.5-16.0)

Notes: Variations exist among health authorities in the laboratory testing for detection of *C. difficile* and how the surveillance protocol has been applied. Direct comparison of the numbers of CDI rate between individual hospitals is not recommended.

- i. Letter in the hospital group represents: S: hospital with 1-50 beds, M: hospital with 51-250 beds, L: hospital with >250 beds, C: Community hospital, R: Regional hospital, T: Tertiary/Referral hospital, N: Non-teaching hospital, Y: Teaching hospital.
- ii. The rate for FY 2010/11 includes Q1 and Q2 data only, and the rate for FY 2011/12 includes Q3 and Q4 data only. The data were not available from Q3 of FY 2010/11 to Q2 for FY 2011/12 due to information system upgrades in progress.
- iii. The rate for FY 2011/12 includes Q3 and Q4 data only. The data were not available for Q1 and Q2 of FY 2011/12 due to information system upgrades in progress.
- iv. Formerly known as Masset Hospital.
- v. Formerly known as St. Mary's Hospital



## Appendix D. Annual rate of new MRSA associated with the reporting facility per 10,000 inpatient days and 95% confidence intervals by acute care facility

Acute care facility	Facility group <sup>i</sup>	2010/11	2011/12	2012/13	2013/14	2014/15
100 Mile District Hospital	S,C,N	13.9 (7.3-26.4)	7.8 (3.3-18.3)	17.2 (9.0-32.6)	13.6 (6.6-28.1)	10.5 (5.1-21.6)
Abbotsford Regional Hospital	L,T,Y	2.9 (2.0-4.1)	2.8 (2.0-4.0)	3.0 (2.2-4.2)	3.7 (2.7-4.9)	6.7 (5.4-8.4)
Arrow Lakes Hospital <sup>ii</sup>	S,C,N	0.0	0.0	0.0	16.9 (4.6-61.6)	0.0
BC Children's Hospital	M,T,Y	2.9 (1.6-5.4)	2.4 (1.2-4.7)	4.2 (2.5-7.0)	1.3 (0.6-3.2)	4.0 (2.3-6.9)
BC Women's Hospital	M,T,Y	1.1 (0.5-2.4)	2.0 (1.1-3.5)	0.7 (0.3-1.8)	0.2 (0.0-1.1)	2.0 (1.1-3.6)
Bella Coola General Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0
Boundary Hospital <sup>ii</sup>	S,C,N	15.6 (5.3-45.9)	14.2 (4.8-41.7)	11.8 (4.6-30.4)	2.7 (0.5-15.1)	2.7 (0.5-15.4)
Bulkley Valley District Hospital <sup>iv</sup>	S,R,N	N/A	7.8 (3.3-18.2)	0.0	1.8 (0.3-10.4)	6.8 (2.6-17.4)
Burnaby Hospital	L,R,Y	6.6 (5.3-8.3)	5.4 (4.2-6.9)	6.2 (4.9-7.8)	5.3 (4.2-6.8)	7.3 (6.0-9.0)
Campbell River & District General Hospital	M,C,N	4.4 (2.5-7.7)	3.5 (1.8-6.7)	1.8 (0.7-4.1)	4.4 (2.6-7.5)	4.0 (2.3-7.0)
Cariboo Memorial Hospital and Health Centre	S,C,N	2.0 (0.6-7.4)	1.0 (0.2-5.7)	3.8 (1.5-9.7)	9.2 (4.9-17.5)	3.5 (1.4-9.1)
Chetwynd General Hospital <sup>iv</sup>	S,C,N	N/A	0.0	0.0	5.8 (1.0-32.5)	5.5 (1.0-31.0)
Chilliwack General Hospital	M,C,Y	2.4 (1.4-4.1)	3.6 (2.4-5.5)	3.6 (2.4-5.6)	5.9 (4.2-8.2)	3.9 (2.6-5.7)
Cormorant Island Community Health Centre	S,C,N	40.9 (13.9-119.6)	12.6 (2.2-70.9)	0.0	0.0	17.3 (3.1-97.5)
Cowichan District Hospital	M,C,N	3.3 (2.0-5.6)	3.3 (1.9-5.5)	1.7 (0.8-3.4)	2.7 (1.5-4.6)	4.3 (2.7-6.7)
Creston Valley Hospital <sup>iii</sup>	S,C,N	5.0 (1.7-14.7)	3.6 (0.6-20.6)	2.0 (0.3-11.2)	3.6 (1.0-13.0)	5.3 (1.8-15.7)
Dawson Creek Hospital <sup>iv</sup>	S,R,N	N/A	1.2 (0.3-4.4)	1.2 (0.3-4.4)	1.2 (0.3-4.4)	1.7 (0.6-5.1)
Delta Hospital	M,C,N	1.3 (0.4-3.8)	5.3 (3.0-9.2)	3.8 (2.0-7.2)	0.8 (0.2-3.0)	8.3 (5.4-12.9)
Dr. Helmcken Memorial Hospital & Health Centre	S,C,N	0.0	5.6 (1.0-31.5)	17.7 (6.0-51.8)	6.7 (1.2-37.8)	0.0
Eagle Ridge Hospital	M,C,N	2.5 (1.4-4.5)	2.6 (1.5-4.4)	5.1 (3.6-7.2)	6.6 (4.9-8.9)	7.3 (5.5-9.7)
East Kootenay Regional Hospital <sup>iii</sup>	M,R,N	12.7 (9.1-17.9)	6.3 (3.2-12.5)	7.5 (4.8-11.6)	3.7 (2.0-6.8)	7.0 (4.5-10.8)
Elk Valley Hospital <sup>iii</sup>	S,C,N	9.9 (4.2-23.2)	15.1 (5.9-38.7)	7.5 (2.5-21.9)	11.8 (5.4-25.8)	3.8 (1.0-13.9)
Fort Nelson General Hospital <sup>iv</sup>	S,C,N	N/A	14.0 (6.0-32.8)	3.6 (0.6-20.6)	6.7 (1.8-24.4)	0.0
Fort St. John General Hospital <sup>iv</sup>	S,R,N	N/A	4.1 (1.9-8.9)	2.5 (1.0-6.5)	4.9 (2.5-9.7)	2.3 (0.9-6.0)
Fraser Canyon Hospital <sup>iv</sup>	S,C,N	2.8 (0.5-15.6)	13.2 (5.6-30.8)	9.4 (3.2-27.5)	0.0	5.2 (1.4-19.1)
G.R. Baker Memorial Hospital <sup>iv</sup>	S,R,Y	N/A	1.5 (0.4-5.5)	3.9 (1.7-9.1)	4.3 (2.0-9.5)	2.8 (1.1-7.1)
Golden & District General Hospital <sup>iii</sup>	S,C,N	8.7 (2.4-31.8)	0.0	5.4 (1.0-30.5)	4.6 (0.8-26.0)	4.7 (0.8-26.4)
Invermere & District Hospital <sup>iii</sup>	S,C,N	14.6 (5.7-37.5)	7.3 (1.3-41.0)	8.8 (2.4-32.2)	3.8 (0.7-21.6)	0.0
Kelowna General Hospital	L,T,Y	4.5 (3.5-5.7)	2.6 (1.9-3.7)	2.9 (2.1-3.9)	2.0 (1.4-2.8)	1.9 (1.3-2.6)
Kitimat General Hospital <sup>iv</sup>	S,R,N	N/A	4.1 (1.4-12.1)	15.0 (7.9-28.4)	16.5 (8.7-31.4)	9.9 (4.5-21.5)
Kootenay Boundary Regional Hospital <sup>ii</sup>	M,R,N	9.0 (4.9-16.6)	4.1 (1.7-9.5)	3.3 (1.7-6.2)	2.2 (1.0-4.8)	2.2 (1.0-4.9)
Kootenay Lake Hospital <sup>ii</sup>	S,C,N	1.7 (0.3-9.8)	0.0	7.6 (4.1-14.1)	7.3 (3.9-13.9)	2.2 (0.7-6.5)
Lady Minto Gulf Islands Hospital	S,C,N	3.3 (0.9-11.9)	6.1 (2.4-15.8)	7.1 (2.8-18.2)	3.5 (1.0-12.8)	1.8 (0.3-10.2)
Lakes District Hospital	S,C,N	N/A <sup>d</sup>	0.0	2.6 (0.5-14.8)	0.0	5.6 (1.5-20.2)
Langley Memorial Hospital	M,R,Y	3.4 (2.3-4.9)	3.5 (2.4-5.1)	2.0 (1.2-3.2)	3.7 (2.6-5.4)	6.5 (4.9-8.5)
Lillooet Hospital and Health Centre	S,C,N	0.0	0.0	5.2 (0.9-29.2)	6.5 (1.2-36.9)	0.0
Lion's Gate Hospital	L,R,Y	5.9 (4.5-7.7)	4.6 (3.4-6.2)	6.6 (5.2-8.4)	7.7 (6.2-9.7)	8.6 (6.9-10.6)

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Acute care facility	Facility group <sup>i</sup>	2010/11	2011/12	2012/13	2013/14	2014/15
Mackenzie and District Hospital <sup>iv</sup>	S,C,N	N/A	23.1 (6.4-84.0)	18.1 (5.0-65.8)	9.7 (1.7-54.7)	0.0
Matsqui Sumas Abbotsford	S,C,N	0.0	1.1 (0.2-6.0)	5.6 (2.4-13.1)	1.1 (0.2-6.1)	7.4 (3.6-15.4)
McBride and District Hospital <sup>iv</sup>	S,C,N	N/A	0.0	23.7 (6.5-86.1)	0.0	0.0
Mills Memorial Hospital <sup>iv</sup>	S,R,N	N/A	3.1 (1.3-7.3)	5.4 (2.8-10.2)	5.1 (2.6-10.0)	5.0 (2.5-9.8)
Mission Memorial Hospital	S,C,N	5.3 (2.4-11.6)	4.2 (1.8-9.7)	2.1 (0.7-6.3)	4.2 (1.9-9.2)	7.2 (3.8-13.7)
Mount Saint Joseph Hospital	M,C,Y	3.3 (1.9-5.7)	9.4 (6.7-13.0)	3.2 (1.8-5.6)	3.5 (2.1-6.0)	5.2 (3.3-8.1)
Nanaimo Regional General Hospital	L,R,N	3.0 (2.1-4.3)	4.1 (3.1-5.5)	3.1 (2.2-4.3)	1.9 (1.3-2.9)	2.1 (1.4-3.2)
Nicola Valley Health Centre	S,C,N	10.3 (3.5-30.2)	3.0 (0.5-17.1)	0.0	2.8 (0.5-16.0)	0.0
Northern Haida Gwaii Hospital <sup>iv</sup>	S,C,N	N/A	0.0	22.4 (6.1-81.3)	0.0	0.0
Peace Arch Hospital	M,R,N	3.9 (2.7-5.6)	3.4 (2.3-5.0)	2.7 (1.8-4.2)	1.8 (1.1-3.0)	5.0 (3.7-6.9)
Penticton Regional Hospital	M,R,N	2.2 (1.3-3.9)	2.5 (1.5-4.3)	1.1 (0.5-2.4)	4.2 (2.7-6.3)	3.8 (2.5-5.7)
Port Hardy Hospital	S,C,N	0.0	3.2 (0.6-18.3)	3.2 (0.6-17.9)	0.0	4.1 (0.7-23.2)
Port McNeill and District Hospital	S,C,N	0.0	0.0	0.0	0.0	0.0
Powell River General Hospital	S,C,N	10.7 (6.0-19.2)	4.9 (2.1-11.4)	14.0 (8.6-22.7)	11.7 (7.0-19.6)	2.5 (0.9-7.5)
Prince Rupert Regional Hospital <sup>iv</sup>	S,R,N	N/A	4.4 (1.7-11.2)	5.8 (2.6-12.6)	8.2 (4.1-16.1)	5.4 (2.5-11.9)
Princeton General Hospital	S,C,N	11.7 (3.2-42.6)	6.4 (1.1-36.4)	0.0	0.0	5.6 (1.0-31.6)
Queen Charlotte Islands Hospital <sup>iv</sup>	S,C,N	N/A	0.0	0.0	0.0	17.8 (6.1-52.2)
Queen Victoria Hospital and Health Centre	S,C,N	0.2 (0.0-1.1)	3.4 (0.6-19.1)	3.5 (0.6-19.9)	3.2 (0.6-18.1)	0.0
Queen's Park Care Centre	M,C,N	2.0 (0.8-4.6)	4.0 (2.4-6.7)	7.2 (4.9-10.6)	5.1 (3.2-8.1)	2.6 (1.4-4.9)
Richmond Hospital	M,R,Y	3.5 (2.3-5.2)	3.4 (2.3-5.0)	5.1 (3.7-7.0)	6.3 (4.7-8.3)	5.4 (4.0-7.4)
Ridge Meadows Hospital	M,R,N	4.3 (3.0-6.4)	6.4 (4.7-8.7)	10.4 (8.2-13.1)	9.9 (7.9-12.5)	10.6 (8.4-13.4)
Royal Columbian Hospital	L,T,Y	4.5 (3.6-5.7)	4.9 (4.0-6.1)	7.0 (5.9-8.4)	5.0 (4.0-6.1)	5.6 (4.6-6.8)
Royal Inland Hospital	M,T,N	4.5 (3.3-6.2)	5.1 (3.8-6.9)	8.6 (7.0-10.7)	6.5 (5.0-8.3)	3.8 (2.8-5.2)
Royal Jubilee Hospital	L,T,Y	2.3 (1.6-3.1)	2.9 (2.2-3.9)	2.2 (1.5-3.0)	2.5 (1.8-3.3)	2.3 (1.6-3.1)
RW Large Hospital	S,C,N	0.0	0.0	0.0	10.5 (1.8-59.0)	0.0
Saanich Peninsula Hospital	M,C,N	2.2 (1.0-5.2)	0.4 (0.1-2.4)	2.7 (1.2-5.8)	1.6 (0.5-4.7)	1.6 (0.5-4.6)
Sechelt Hospital <sup>vi</sup>	S,C,N	5.9 (3.1-11.3)	0.7 (0.1-3.9)	7.8 (4.4-14.0)	3.9 (1.8-8.4)	2.1 (0.8-5.5)
Shuswap Lake General Hospital	S,C,N	1.5 (0.8-2.8)	6.1 (3.3-11.3)	15.4 (10.4-22.7)	14.9 (10.1-21.9)	7.0 (4.1-11.9)
South Okanagan General Hospital	S,C,N	6.1 (2.4-15.8)	1.4 (0.3-8.1)	1.6 (0.3-9.2)	6.5 (2.5-16.7)	2.8 (0.8-10.3)
Squamish General Hospital	S,C,N	2.0 (0.4-11.2)	12.0 (5.8-24.7)	1.8 (0.3-9.9)	1.9 (0.3-11.0)	1.7 (0.3-9.8)
St. John Hospital <sup>iv</sup>	S,C,N	N/A	1.5 (0.3-8.7)	2.8 (0.8-10.4)	2.9 (0.8-10.5)	3.3 (0.9-11.9)
St. Joseph's General Hospital <sup>v</sup>	M,R,N	N/A	N/A	8.6 (5.5-13.2)	3.7 (2.2-6.1)	2.5 (1.4-4.5)
St. Paul's Hospital	L,T,Y	6.2 (5.0-7.6)	6.3 (5.1-7.7)	4.9 (3.9-6.2)	4.2 (3.3-5.4)	3.5 (2.7-4.6)
Stuart Lake Hospital	S,C,N	N/A <sup>d</sup>	6.3 (1.1-35.9)	0.0	11.6 (3.2-42.2)	0.0
Surrey Memorial Hospital	L,T,Y	7.4 (6.3-8.7)	6.3 (5.4-7.5)	7.9 (6.8-9.1)	6.3 (5.3-7.4)	8.1 (7.0-9.3)
Tofino General Hospital	S,C,N	0.0	12.5 (3.4-45.4)	0.0	0.0	6.7 (1.2-37.8)
UBC Hospital	S,R,Y	1.0 (0.2-5.4)	0.0	1.0 (0.2-5.4)	0.0	2.0 (0.5-7.1)
University Hospital of Northern BC <sup>iv</sup>	M,T,Y	N/A	3.9 (2.7-5.6)	6.0 (4.5-8.0)	4.8 (3.5-6.6)	5.6 (4.2-7.3)
Vancouver General Hospital	L,T,Y	7.5 (6.5-8.7)	5.3 (4.5-6.3)	8.9 (7.8-10.1)	8.2 (7.2-9.4)	7.0 (6.0-8.1)
Vernon Jubilee Hospital	M,R,N	2.5 (1.5-4.2)	1.3 (0.6-2.7)	1.6 (0.9-3.0)	3.8 (2.6-5.7)	2.0 (1.2-3.4)

Acute care facility	Facility group <sup>i</sup>	2010/11	2011/12	2012/13	2013/14	2014/15
Victoria General Hospital	L,T,Y	1.9 (1.3-2.8)	1.5 (1.0-2.4)	1.6 (1.0-2.4)	1.0 (0.6-1.8)	1.3 (0.8-2.1)
West Coast General Hospital	M,C,N	3.0 (1.4-6.6)	3.6 (1.8-7.5)	5.2 (2.9-9.3)	1.4 (0.5-4.2)	5.8 (3.4-9.9)
Wrinch Memorial Hospital <sup>iv</sup>	S,R,N	N/A	0.0	15.1 (6.5-35.4)	0.0	7.9 (2.7-23.1)

Note: Comparison between individual hospitals is not recommended due to differences in MRSA identification strategy and at-risk population

- i. Letter in the facility type represents: S: hospital with 1-50 beds, M: hospital with 51-250 beds, L: hospital with >250 beds, C: Community hospital, R: Regional hospital, T: Tertiary/Referral hospital, N: Non-teaching hospital, Y: Teaching hospital.
- ii. The rate for FY 2010/11 includes Q1 and Q2 data only and the rate for FY 2011/12 includes Q3 and Q4 data only. The data were not available from Q3 of FY 2010/11 to Q2 of FY 2011/12 due to information system upgrades in progress.
- iii. The rate for data for FY 2011/12 includes Q3 and Q4 data only. The data were not available for Q1 and Q2 of FY 2011/12 due to information system upgrades in progress.
- iv. Data were not available in FY 2010/11.
- v. Data were not available before Q3 of FY 2012/13.
- vi. Formerly known as St. Mary's Hospital

## Appendix E. Annual hand cleaning compliance by acute care facility

Acute care facility	2011/12		2012/13		2013/14		2014/15	
	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance
<b>IHA Total</b>	<b>8,799</b>	<b>58%</b>	<b>12,428</b>	<b>69%</b>	<b>12,546</b>	<b>75%</b>	<b>13,391</b>	<b>75%</b>
East Kootenay Regional Hospital	883	35%	838	66%	861	68%	910	69%
Kelowna General Hospital	1,856	59%	2,601	71%	2,509	75%	2,857	75%
Kootenay Boundary Regional Hospital	665	64%	745	72%	869	78%	809	80%
Penticton Regional Hospital	918	68%	999	72%	1,017	71%	1,175	85%
Royal Inland Hospital	1,217	44%	2,039	67%	2,230	74%	2,511	71%
Vernon Jubilee Hospital	900	63%	1,302	64%	1,198	70%	1,450	72%
Other hospitals (aggregated)	2,360	65%	3,904	70%	3,862	78%	3,679	78%
<b>FHA Total</b>	<b>18,282</b>	<b>61%</b>	<b>87,004</b>	<b>72%</b>	<b>91,240</b>	<b>79%</b>	<b>146,687</b>	<b>85%</b>
Abbotsford Regional Hospital	2,820	57%	5,763	70%	7,354	75%	14,973	80%
Burnaby Hospital	2,337	58%	24,356	79%	22,384	84%	20,328	86%
Chilliwack General Hospital	600	75%	3,212	83%	3,606	84%	5,062	88%
Delta Hospital	641	66%	1,947	74%	1,735	80%	2,715	86%
Eagle Ridge Hospital	992	68%	2,619	76%	3,686	79%	8,611	92%
Langley Memorial Hospital	1,864	69%	4,661	65%	3,903	74%	8,810	82%
Peace Arch Hospital	1,334	70%	5,580	75%	6,083	87%	4,907	86%
Ridge Meadows Hospital	1,177	56%	4,194	68%	4,126	75%	14,339	89%
Royal Columbian Hospital	1,776	65%	15,597	65%	17,982	74%	40,261	81%
Surrey Memorial Hospital	4,173	51%	17,219	66%	16,646	80%	22,926	86%
Other hospitals (aggregated)	568	77%	1,856	80%	3,735	77%	3,755	86%
<b>VCHA Total</b>	<b>31,847</b>	<b>69%</b>	<b>35,444</b>	<b>71%</b>	<b>35,427</b>	<b>76%</b>	<b>35,481</b>	<b>79%</b>
Lions Gate Hospital	4,356	63%	4,165	65%	4,941	71%	5,186	76%
Mount Saint Joseph Hospital	1,160	69%	1,191	77%	1,380	74%	1,043	80%
Richmond Hospital	4,319	63%	4,126	63%	4,134	73%	4,184	73%
UBC Hospital	1,469	71%	1,485	74%	1,441	80%	1,621	79%
Vancouver General Hospital	16,568	72%	19,868	73%	17,844	78%	18,124	81%
St. Paul's Hospital	3,233	69%	3,623	76%	3,616	79%	3,376	80%
Other hospitals (aggregated)	660	66%	988	73%	2,071	79%	1,947	80%
<b>VIHA Total</b>	<b>28,759</b>	<b>82%</b>	<b>23,357</b>	<b>82%</b>	<b>33,766</b>	<b>71%</b>	<b>25,861</b>	<b>81%</b>
Campbell River Hospital	1,751	88%	1,968	85%	860	95%	803	88%
Cowichan District Hospital	1,772	84%	2,582	87%	1,803	93%	1,404	84%
Nanaimo Regional General	6,902	79%	3,872	85%	5,375	70%	4,890	79%
Royal Jubilee Hospital	9,318	81%	6,910	79%	13,348	68%	7,741	84%
Saanich Peninsula Hospital	975	91%	900	93%	1,438	71%	1,212	82%
Victoria General Hospital	6,710	81%	4,736	84%	6,411	73%	7,942	79%
West Coast General	725	83%	694	71%	3,335	64%	1,232	79%
Other hospitals (aggregated)	606	85%	1,695	74%	1,196	84%	637	83%
<b>NHA Total</b>	<b>10,658</b>	<b>61%</b>	<b>12,421</b>	<b>70%</b>	<b>15,663</b>	<b>74%</b>	<b>13,817</b>	<b>76%</b>
Dawson Creek Hospital	798	66%	507	51%	1,407	83%	1,217	83%

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Acute care facility	2011/12		2012/13		2013/14		2014/15	
	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance	Opportunities observed	Percent compliance
Fort St. John General Hospital	1,234	76%	850	72%	971	79%	1,076	75%
G.R. Baker Memorial Hospital	377	45%	907	54%	651	57%	930	55%
Kitimat General Hospital	668	47%	1,156	74%	873	80%	1,091	83%
Mills Memorial Hospital	1,065	62%	881	82%	1,022	83%	826	78%
Prince Rupert Regional Hospital	1,053	68%	968	76%	1,428	70%	1,122	78%
Queen Charlotte Islands Hospital	178	88%	265	93%	583	92%	900	93%
University Hospital of Northern BC	3,075	51%	4,669	66%	6,206	70%	3,308	71%
Other hospitals (aggregated)	2,210	65%	2,218	74%	2,522	75%	3,347	78%
<b>PHSA Total</b>	<b>4,222</b>	<b>75%</b>	<b>4,414</b>	<b>79%</b>	<b>4,351</b>	<b>88%</b>	<b>4,570</b>	<b>88%</b>
BC Cancer Agency - Vancouver Center	823	77%	923	78%	1,199	80%	1,200	84%
BC Children's Hospital	1,974	77%	1,919	80%	1,900	91%	1,970	90%
BC Women's Hospital	1,425	72%	1,572	78%	1,252	91%	1,400	89%

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