

# Infection Prevention and Control

Annual Report 2014 - 2015



**northern health**  
*the northern way of caring*

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# Executive Summary

The Northern Health Infection Prevention and Control (IPAC) program's annual report highlights achievements and continued challenges facing infection prevention and control practices throughout the region. The report summarizes the progress of programs and initiatives, education, hand hygiene compliance, outbreaks, and annual infection rates within Northern Health (NH) during the fiscal year 2014 - 2015 (April 1, 2014 – March 31, 2015).

This fiscal year, the IPAC program has been involved in a number of projects and initiatives both provincially with Provincial Infection Control Network (PICNet), and regionally. The IPAC team members are also involved in the BC chapter of Infection Prevention and Control Canada (IPAC Canada), as well as individual interest groups within IPAC Canada.

## Regional:

- Involved in three large construction projects: Lakes District Hospital – new build, Queen Charlotte City Hospital – new build, UHNBC – new Learning Center
- Collaborated with Environmental Services in the development of the NH Master Equipment Cleaning List and the Green Means Clean campaign.
- Developed an education video of donning and doffing of personal protective equipment (PPE) for staff
- Ebola training sessions for low risk PPE
- Involved in the Ebola Content Committee
- Residential care policy change over to Clinical Practice Standards format
- Developed a Carbapenem Producing Organism (CPO) power point for NH staff
- Developed an Infection Prevention Newsletter

## Provincial:

- Participated in the Provincial Hand Hygiene working group as sub- working groups: communication and patient education
- Involved in the provincial Ebola Expert Clinical Advisory Group
- Involved in the PICNet Foot Care Equipment Reprocessing Working Group

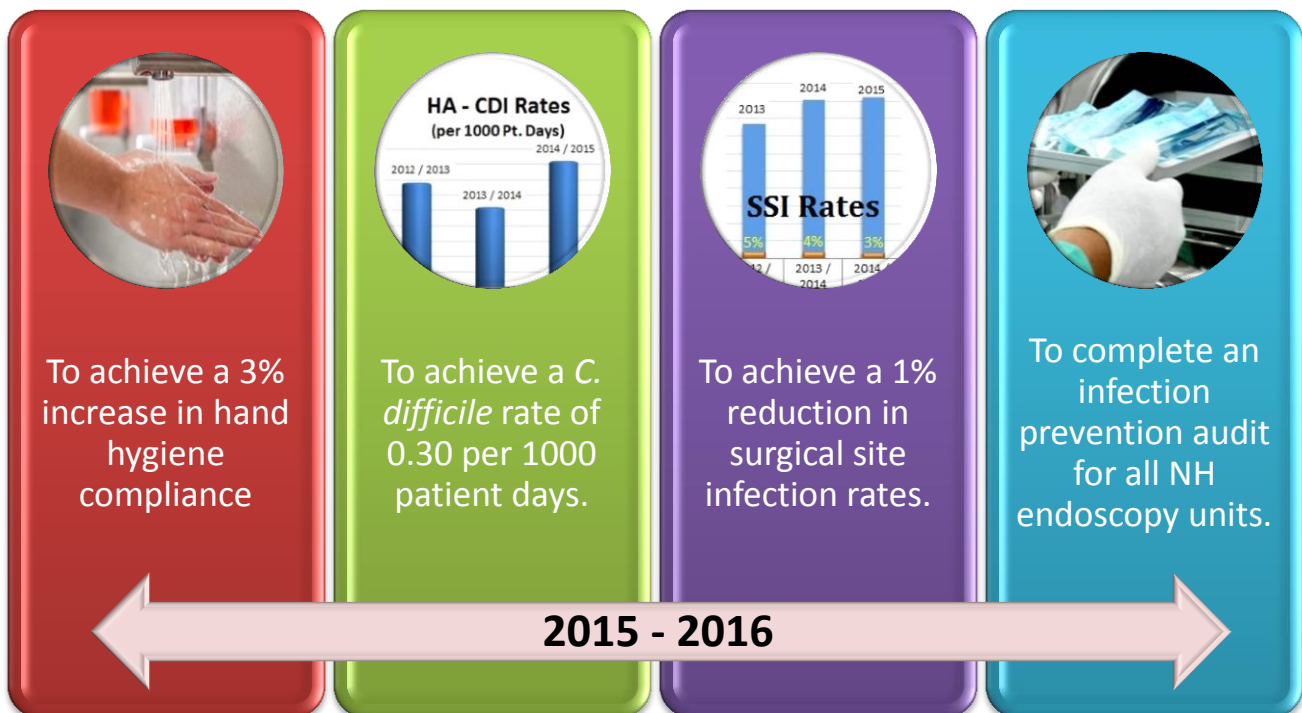
## National:

- Participated in the following IPAC Canada Interest Groups: Medical Device Reprocessing Interest Group and Surveillance and Applied Epidemiology Interest Group (SAIEG)
- Participated in Northern Health Public Health planning and response to the 2015 Canada Winter Games.

## Medical Device Reprocessing Department (MDRD):

- Participated in Third Party Reprocessing Request for Qualification (RFQ)
- Involved in committee for UHNBC Renovation of Sterile Processing for cart washer installation
- Completion of MDRD audits for NH Acute Care sites with Operating Rooms (OR)
- Involved in OR linen committee with Health Shared Services BC (HSSBC) to standardize OR linens across NH and Interior Health Authority (IHA)
- Worked with foot care providers to ensure instruments are used and reprocessed according to the Ministry of Health Best Practices document.

Based on this year's report, the key priorities for 2015 - 2016 will be:



# Introduction

The Northern Health IPAC program is part of the Vice President Planning, Quality, and Information Management portfolio. The program is dedicated to the prevention and reduction of healthcare associated illness in Northern British Columbia residents through a variety of strategies summarized in this annual report.

The IPAC team is comprised of a Regional Manager, an Epi-technologist, eight infection prevention and control practitioners and a Medical Device Reprocessing Coordinator. The group (including a dedicated practitioner for residential care), provides on-site and consultative infection prevention and control and sterile reprocessing expertise, to thirty five acute care facilities, residential care facilities, home and community care, assisted living facilities, Diagnostic and Treatment (D&T) centres and health centres.

Northern Health is geographically divided into three Health Service Delivery Areas (HSDAs) and each of these areas is represented by a multidisciplinary IPAC Committee. Committee membership includes representatives from the following groups: physicians, public health, environmental health, workplace health and safety, plant services, nursing, residential care, lab, support services and HSA's. The committees report to the NH IPAC Council, the NH Medical Advisory Committee, and the Senior Executive Team.

The IPAC program functions in accordance with international, national, and provincial guidelines and best practices across the continuum of care. The program influences practice through the following:

- Provides infection surveillance (includes Antibiotic Resistant Organisms [ARO], and Surgical Site Infection [SSI]) and disseminates data to appropriate stakeholders;
- Develops and recommends best practices, policies, and procedures;
- Involved in infection prevention and control issues relating to all construction and renovation projects within NH to ensure that IPAC Canadian standards association (CSA) standards are considered and adhered to;
- Provides education and training to healthcare providers, patients, non-medical caregivers, and visitors;
- Provides outbreak management support to all acute care facilities, residential care facilities, D&T centres, health centres, and community programs within Northern Health.

## Infection Prevention and Control Team Members

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Deanna Hembroff  
IPAC Manager

### Infection Prevention & Control Practitioners

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Kelsey Breault

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Sylvia Eaton

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Roxanne Fitzsimmons

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Debora Giese

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Judy Klein

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Beth McAskill

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Holly-Lynn Nelson

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Bonnie Schurack

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Monica Sephton

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### Medical Device Reprocessing

Bonnie Mackenzie, Regional  
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## Contact Information

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## Acute Care Facilities



Bulkley Valley District Hospital – Smithers



Chetwynd Hospital & Health Centre



Dawson Creek and District Hospital



Fort Nelson Hospital



Fort St. John Hospital



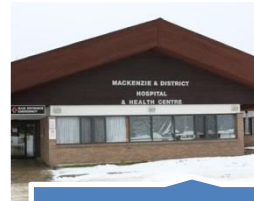
GR Baker Memorial Hospital – Quesnel



Kitimat General Hospital



Lakes District Hospital – Burns Lake



Mackenzie and District Hospital



McBride Hospital



Mills Memorial Hospital – Terrace



Northern Haida Gwaii Hospital



Prince Rupert Regional Hospital



Queen Charlotte Islands Hospital



St. John Hospital – Vanderhoof



Stuart Lake Hospital-Fort St. James



University Hospital of Northern BC – Prince George



Wrinch Memorial Hospital – Hazelton

## Assisted Living Facilities

- Alward Place Seniors Assisted Living – Prince George
- Gateway Lodge Assisted Living Residence – Prince George
- Heritage Manor II – Fort St John
- Laurier Manor – Prince George
- McConnell Estates – Terrace
- Nick Grosse Assisted Living Residences – Masset
- Summit Assisted Living Residences – Prince Rupert



## Diagnostic and Treatment Centres, Health Centres

Atlin Hospital  
Fraser Lake D&T Centre  
Granisle Community Health Centre  
Houston Health Centre  
Hudson Hope Health Centre  
Stewart Health Centre  
Stikine D&T Centre – Dease Lake  
Tumbler Ridge D&T Centre  
Valemount D&T Centre

## Home and Community Care

### Residential Care Facilities

Acropolis Manor – Prince Rupert  
Bulkley Lodge – Smithers  
Dunrovin Park Lodge – Quesnel  
Gateway Lodge Residential Care – Prince George  
Jubilee Lodge – Prince George  
Kitimat Mountain View Lodge  
Parkside Care – Prince George  
Peace Villa – Fort St. John  
Rainbow Lodge – Prince George  
Rotary Manor – Dawson Creek  
Simon Fraser Lodge – Prince George  
Stuart Nechako Manor - Vanderhoof  
Terrace View Lodge - Terrace  
The Pines – Burns Lake



# Education

The IPAC team continuously strives to provide NH staff, patients, visitors, and residents with relevant education, based on current evidence-based recommendations. This year, the team completed the task of reviewing/ revising and transferring all the policies from the IPAC manuals onto the OurNH intranet website.

Messages are communicated using various strategies with the goal promoting a culture in which infection prevention and control is integrated into all aspects of care, namely:

- Workshops and presentations, consultations, “coffee break” sessions, and “huddles” to address patient, procedure, or unit-specific concerns to acute and residential care, support services, home health, health promotion and prevention and third party providers:
- Educational resources such as pamphlets for patients and families are updated as needed to ensure recommendations are based on current evidence-based industry standards and guidelines.
- On-line education available to NH healthcare providers via OurNH intranet website for orientation, Hand Hygiene, Clinical Practice Standards (CPS) and outbreak management is promoted.
- A newsletter with pertinent information and current events within the region, as well as fun facts and stories and a ‘spot light’ introducing individual infection control practitioners (ICPs) continues to be distributed on a quarterly basis.

Education and/or consultation provided by NH IPC team this year included but not limited to:

- Ebola low risk PPE training
- Routine practice PPE training
- New employee orientation
- Hand hygiene and auditor training
- Reprocessing of medical devices
- Construction and renovation
- Routine practices for acute, community and residential care
- Surgical site infection surveillance
- Power point presentations available on Our NH for staff
- World hand hygiene day
- Canadian patient safety week
- Blood and body fluid exposure counselling
- Influenza and employee immunization clinics
- Clostridium difficile
- Antibiotic resistant organisms

## Medical Device Reprocessing Department


### Education:

- Mini-Education sessions were provided bi-weekly for 12 Sterile Technicians interested in writing the CSA exam. Nine have committed to writing.
- Access to Education and Webinar sessions on Endoscopy Reprocessing were made available to all Sterile Technicians and Managers with participation strongly encouraged. Competency assessments have been completed for staff involved in pre-cleaning, manually cleaning and reprocessing endoscopes, including Duodenoscopes, Colonoscopes, and Gastrosopes.
- Membership to Canadian Association of Medical Device Reprocessing (CAMDR) has been initiated for all CSA certified Sterile Technicians. Membership provides access to comprehensive and industry-leading development tools to promote quality excellence and advancement in the medical device reprocessing profession. Membership is renewed yearly.
- The Sterile Technician Course through Vancouver Community College was provided again this year at the College of New Caledonia (CNC), Prince George. All 9 students passed the exam in April and 4 remain in NH working as casuals.
- The MDR website is now available to all Sterile Technicians and includes information related to Sterile Processing such as The Best Practices, Society of Gastroenterology Nurses and Associates (SGNA) Standards, and Self-Study Education.

# Surveillance

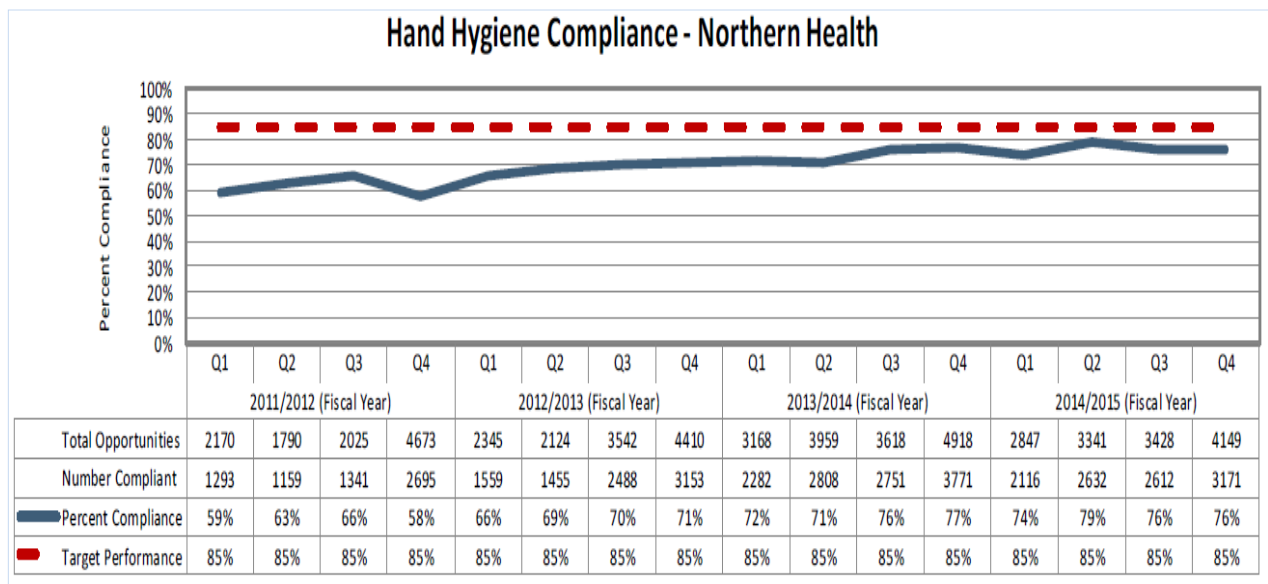
The IPAC program carries out surveillance on a number of quality and patient safety indicators. This section of the report presents information on a number of these indicators. Surveillance case definitions can be found in Appendix 1.




## Hand Hygiene

Indicator	2014 – 2015 Rate	Trend*	Target
Hand Hygiene Compliance	Acute Care Facilities: 77% Residential Care Facilities: 77%  Nursing Staff: 79% Physicians: 62% Clinical Support Services: 80% Other: 75%		85%

Hand hygiene (HH) with either soap and water or alcohol based hand rub is recognized as a key component in the prevention of healthcare associated infections. HH is required both before and after contact with patients and their environment. All BC Health Authorities are participating in the provincial hand hygiene program including the standardized audit process. The minimum provincial requirement is 200 observations per quarter for each facility with 25 or more beds. For facilities with fewer than 25 beds, the audit data is aggregated into NH data.

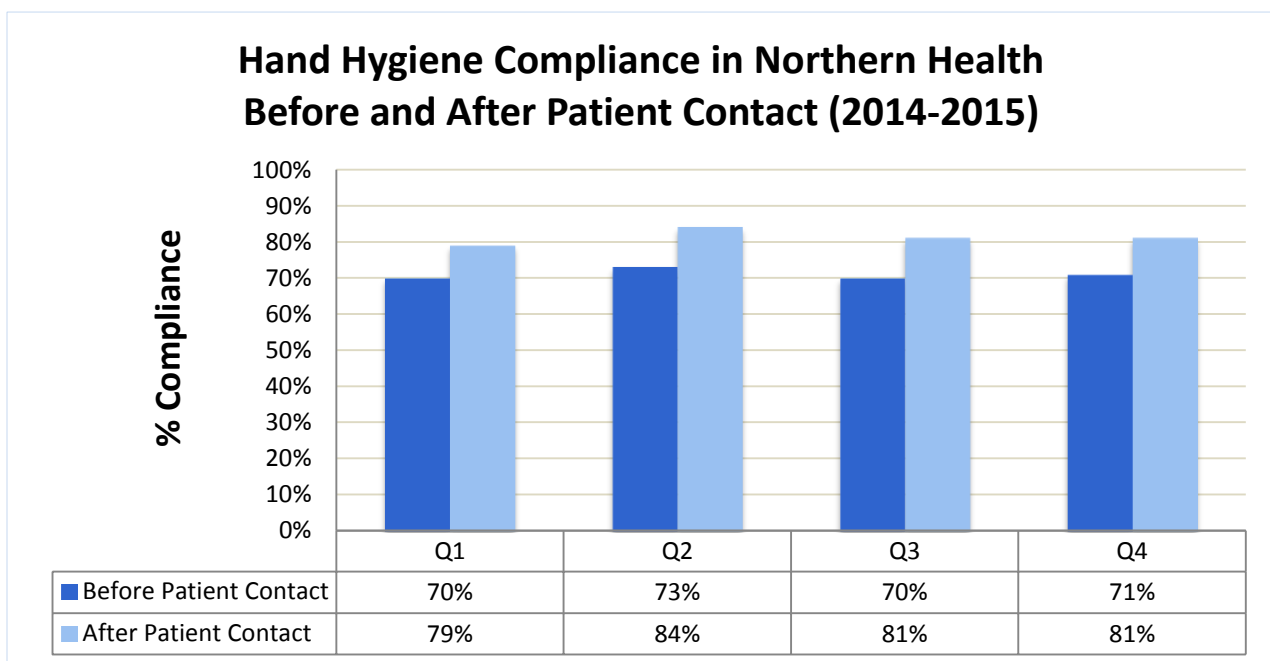
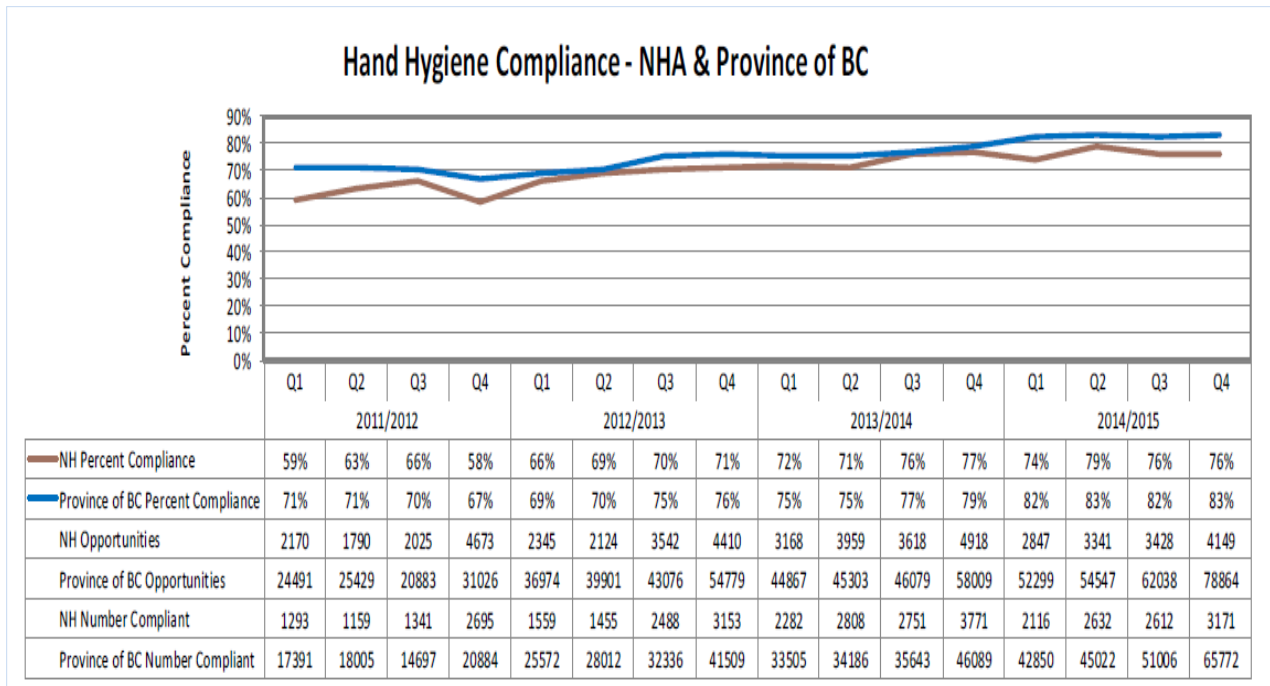
Ongoing challenges within NH are recruitment of HH auditors, and maintaining consistency with auditing at both acute and residential care facilities.



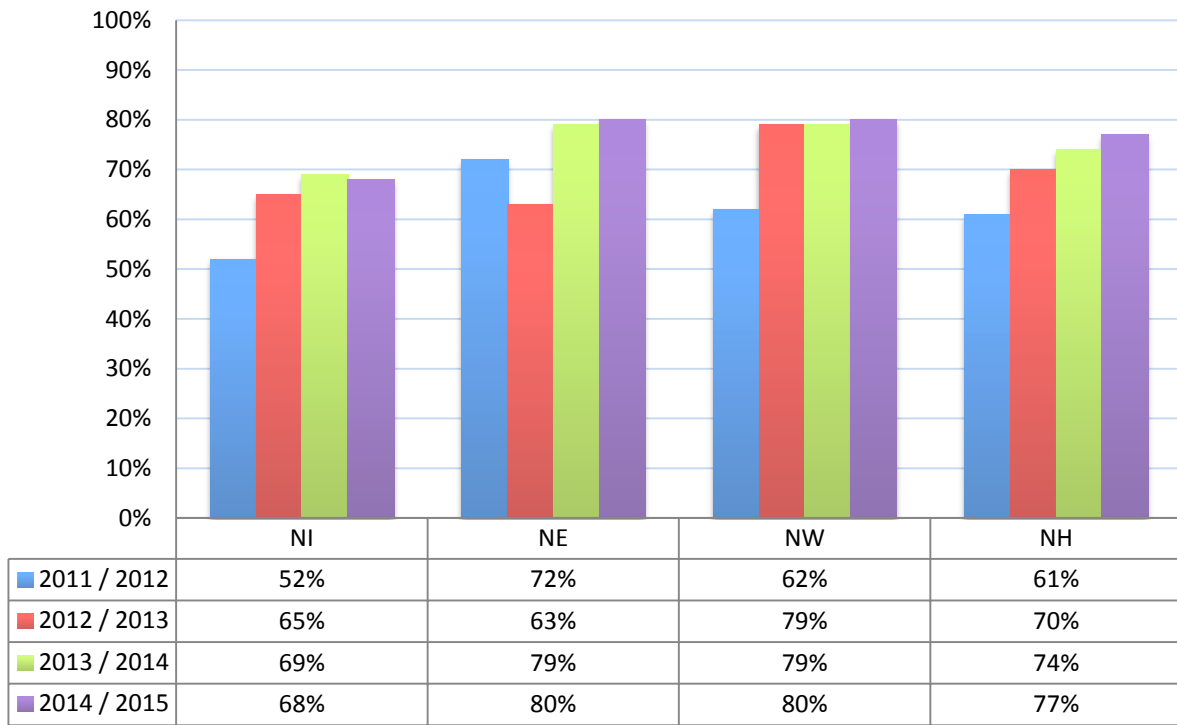
\*  = improving; at least 4 consecutive data points moving towards target  = deteriorating; at least 4 consecutive data points moving away from target  = steady; fewer than 4 consecutive data points moving in either direction

HH compliance in NH is lower at 77% than the province of BC rate of 83% however, “variation in audit strategy and methodology may exist between health authorities (HAs), between facilities, or even between the auditors. The comparison of percentage compliance between HAs and facilities or with other published audit results is therefore not recommended.”

PICNet BC Hand Cleaning Compliance 2014 – 2015



## NH Averages - Hand Hygiene

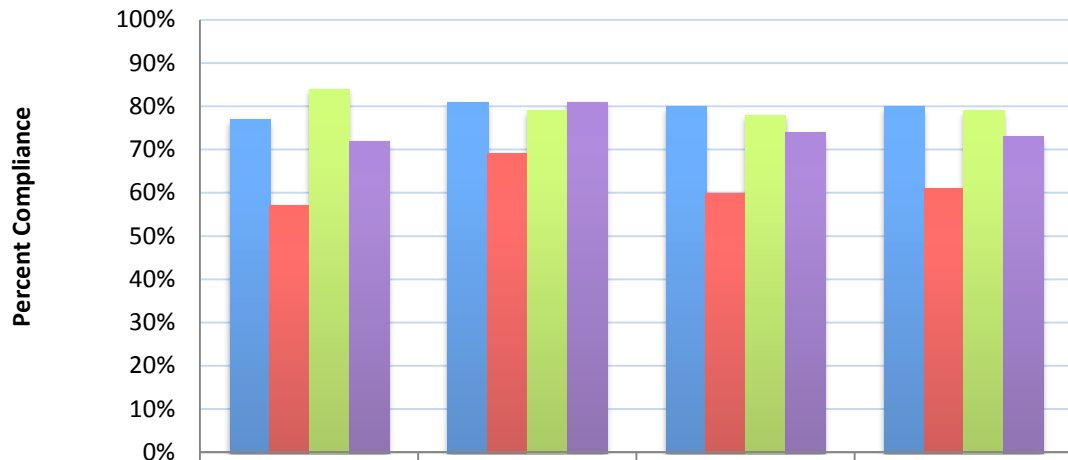


Overall in 2014-15 all healthcare provider groups improved their HH compliance rates.

Actions taken in 2014-15 include:

- NH increased their number of AHR dispensers at all facilities throughout the region with the changeover to Deb Canada
- Increased communication and involvement with senior management
- Increased participation of NH facilities in the HH auditing process resulting in an increased number of HH audits performed
- Beta testing of a HH app for electronic monitoring
- Participation in “Stop clean your hands day” and patient safety week
- Ongoing education for healthcare workers on how and when to perform HH
- Encourage patients to ask their healthcare provider if they have washed their hands

## Hand Hygiene Compliance in NorthernHealth per Healthcare Provider (2014-2015)



	Q1	Q2	Q3	Q4
Nursing Staff	77%	81%	80%	80%
Physicians	57%	69%	60%	61%
Clinical Support Services	84%	79%	78%	79%
Other	72%	81%	74%	73%

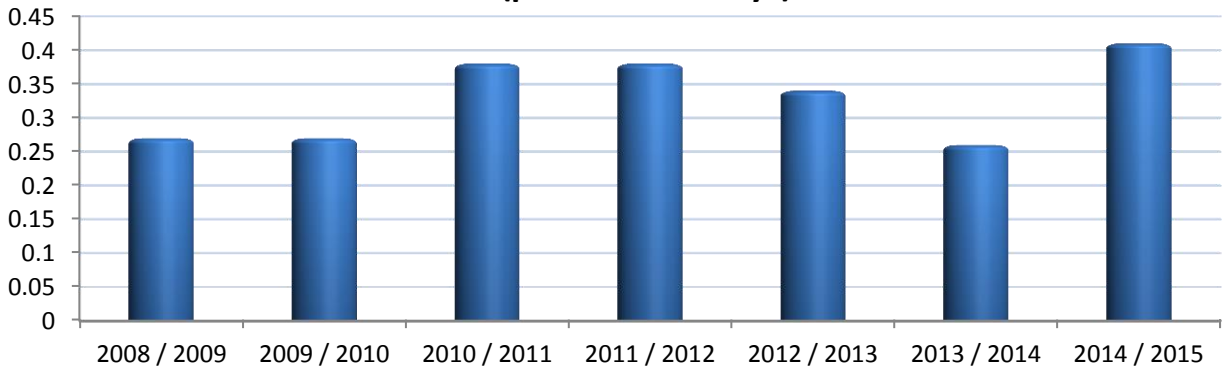
## *Clostridium difficile* Infections (CDI)

Indicator	2014 – 2015 Rate	Trend*	Target
Hospital-acquired (nosocomial) CDI rates	0.41 per 1000 pt. days		< 0.3 per 1000 pt. days

*Clostridium difficile* is a spore forming bacterium that can cause infections of the gastrointestinal system. *Clostridium difficile* infection (CDI) is one of the most common infections acquired in health care settings as the physical environment plays a significant role in transmission of CDI than any other healthcare associated infection.

\* = improving; at least 4 consecutive data points moving towards target = deteriorating; at least 4 consecutive data points moving away from target = steady; fewer than 4 consecutive data points moving in either direction

## HA - CDI Rates (per 1000 Pt. Days)



	2008 / 2009	2009 / 2010	2010 / 2011	2011 / 2012	2012 / 2013	2013 / 2014	2014 / 2015
■ Cdiff (per 1000 Pt. Days)	0.27	0.27	0.38	0.38	0.34	0.26	0.41

The annual rate of hospital acquired *Clostridium difficile* infection (HA-CDI) is the number of new cases of CDI in NH facilities, divided by the total number of in-patient days, multiplied by 1000.

The projected 2015-16 target is a HA-CDI rate of < 0.3 cases per 1000 pt. days.

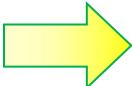
In comparison to the Canadian Nosocomial Infection Surveillance Program 2012 rate of 0.60 HA-CDI cases per 1000 pt. days, NH rates were lower at 0.41 per 1000 pt. days in 2014 -15. <http://www.phac-aspc.gc.ca/nois-sinp/projects/mrsa-eng.php>

Actions taken in 2014-15 include:

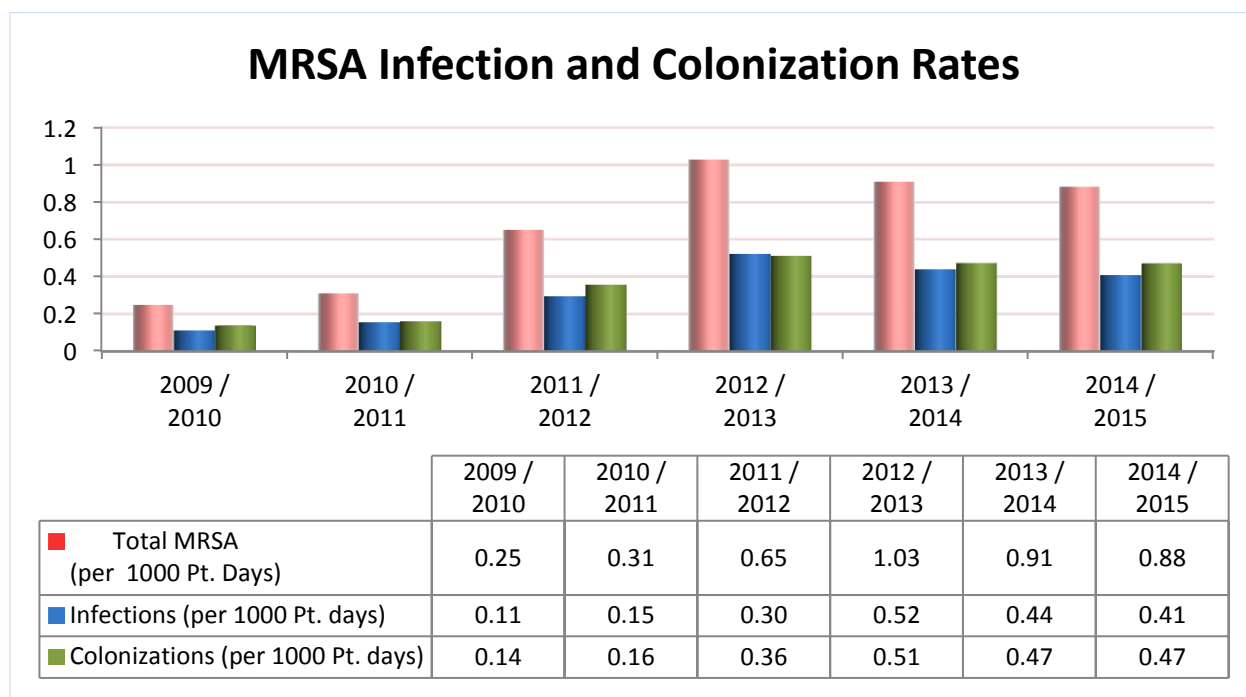
- Educated housekeepers on the different cleaning method needed for a *C. difficile* patient room
- Facilitated increased communication between front line nursing staff and environmental services
- Increased education sessions for HCWs, patients, visitors and families on appropriate transmission precautions
- Plan for development of CDI power point with voice over for NH staff






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

Indicator	2014 – 2015 Rate	Trend*	Target	Actual
Hospital-acquired (nosocomial) MRSA Infection & Colonization Rates	0.88 per 1000 pt. days		< 0.5 per 1000 pt. days	Infections 0.41/1000 pt. days Colonizations 0.47/1000 pt. days

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of *Staphylococcus aureus* resistant to a number of antibiotics such as methicillin, penicillin, and amoxicillin. MRSA is primarily spread by skin to skin contact or contact with items and surfaces contaminated by the bacteria. The principle mode of transmission in healthcare facilities is considered to be from one (colonized or infected) patient to another via the contaminated hands of healthcare providers. Patients at greatest risk of acquiring MRSA are the elderly, have chronic diseases and/or undergo invasive procedures.



The incidence rate of MRSA is the number of newly identified cases of MRSA (colonized and infected) acquired by patients as a result of their stay in a Northern Health acute care facility, divided by the total number of in-patient days, and multiplied by 1000.

\*  = improving; at least 4 consecutive data points moving towards target  = deteriorating; at least 4 consecutive data points moving away from target  = steady; fewer than 4 consecutive data points moving in either direction

Northern Health MRSA rates decreased from 0.91 in 2013-14 to 0.88 in 2014-15. The projected 2015-16 target is a continual decrease to < 0.5 per 1000 pt. days.

Limitations included:


- Difficulty with accommodating patients with an ARO (s) or risk factors for AROs in appropriate single rooms continued in 2014 -15
- Many sites had increased numbers of over-capacity patients
- Many sites have limitations with storage space and difficulty separating clean versus dirty equipment storage
- Rates of hand hygiene compliance increased in 2014-15 but remain below 85% target

In comparison to the Canadian Nosocomial Infection Surveillance Program 2012 rate of 1.14 MRSA cases per 1000 pt. days, NH MRSA rates were lower at 0.88 per 1000 pt. days in 2014 -15. <http://www.phac-aspc.gc.ca/nois-sinp/projects/mrsa-eng.php>

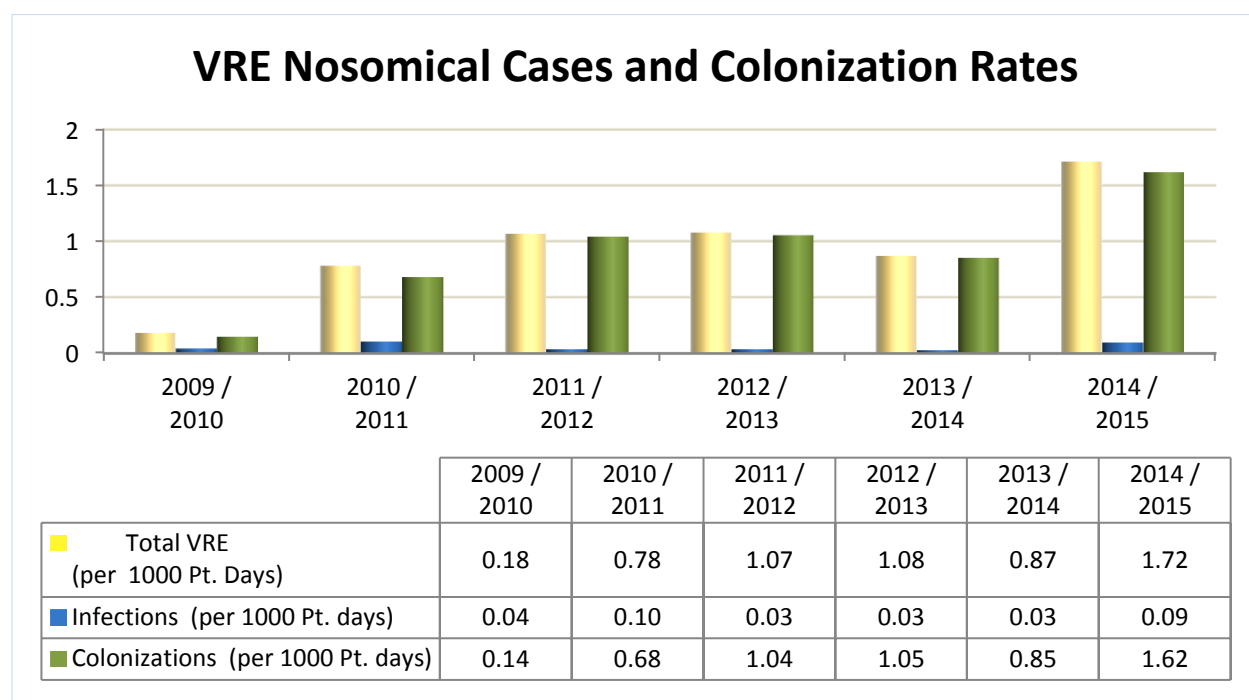
Ongoing Actions:

- An ARO screening form is completed on all acute care admissions
- All NH patients who test positive for an ARO have their health record flagged with that ARO alert
- Continued 30 day prevalence screening of all previously tested negative in-patients
- Continued education for HCWs and patients regarding rationale for ARO screening




## Vancomycin Resistant *Enterococci* (VRE)

Indicator	2014 – 2015 Rate	Trend *	Target	Actual
Hospital-acquired (nosocomial) VRE Infection & Colonization Rates	1.72 per 1000 pt. days		< 0.8 per 1000 pt. days	Infections 0.09 /1000 pt. days Colonizations 1.62 /1000 pt. days

Vancomycin-Resistant *Enterococcus* is a strain of enterococci that has developed resistance to the antibiotic Vancomycin, making infections more difficult to treat. Most patients are colonized with VRE rather than infected. VRE, like MRSA, is most often spread via contact with contaminated hands or surfaces and equipment.



The incidence rate of Vancomycin-Resistant *Enterococci* (VRE) is the number of newly identified cases of VRE (colonized and infected) acquired by patients as a result of their stay in a Northern Health acute care facility, divided by the total number of in-patient days, and multiplied by 1000.

\*  = improving; at least 4 consecutive data points moving towards target  = deteriorating; at least 4 consecutive data points moving away from target  = steady; fewer than 4 consecutive data points moving in either direction

Northern Health VRE rates increased from 0.87 in 2013-14 to 1.72 in 2014-15. The projected 2015-16 target is a decrease to < 0.8 per 1000 pt. days.

Limitations included:

- Difficulty with accommodating patients with an ARO (s) or risk factors for AROs in appropriate single rooms continued in 2014 -15
- Many sites had increased numbers of over-capacity patients
- Many sites have limitations with storage space and difficulty separating clean versus dirty equipment storage
- Rates of hand hygiene compliance increased in 2014-15 but remain below 85% target

In comparison to the Canadian Nosocomial Infection Surveillance Program 2012 rate of 0.939 VRE cases per 1000 pt. days, NH VRE rates were higher at 1.72 per 1000 pt. days in 2014 -15. <http://www.phac-aspc.gc.ca/nois-sinp/projects/mrsa-eng.php>

Ongoing Actions:


- An ARO screening form is completed on all acute care admissions
- All NH patients who test positive for an ARO have their health record flagged with that ARO alert
- Continued 30 day prevalence screening of all previously tested negative in-patients
- Continued education for HCWs and patients regarding rationale for ARO screening

## Management of Carbapenem Producing Organisms (CPO)

The ARO screening form was revised to include CPO risk factors. The CPO portion of the form has been implemented at UHNBC only, while all other NH facilities are pending laboratory procedure finalization.

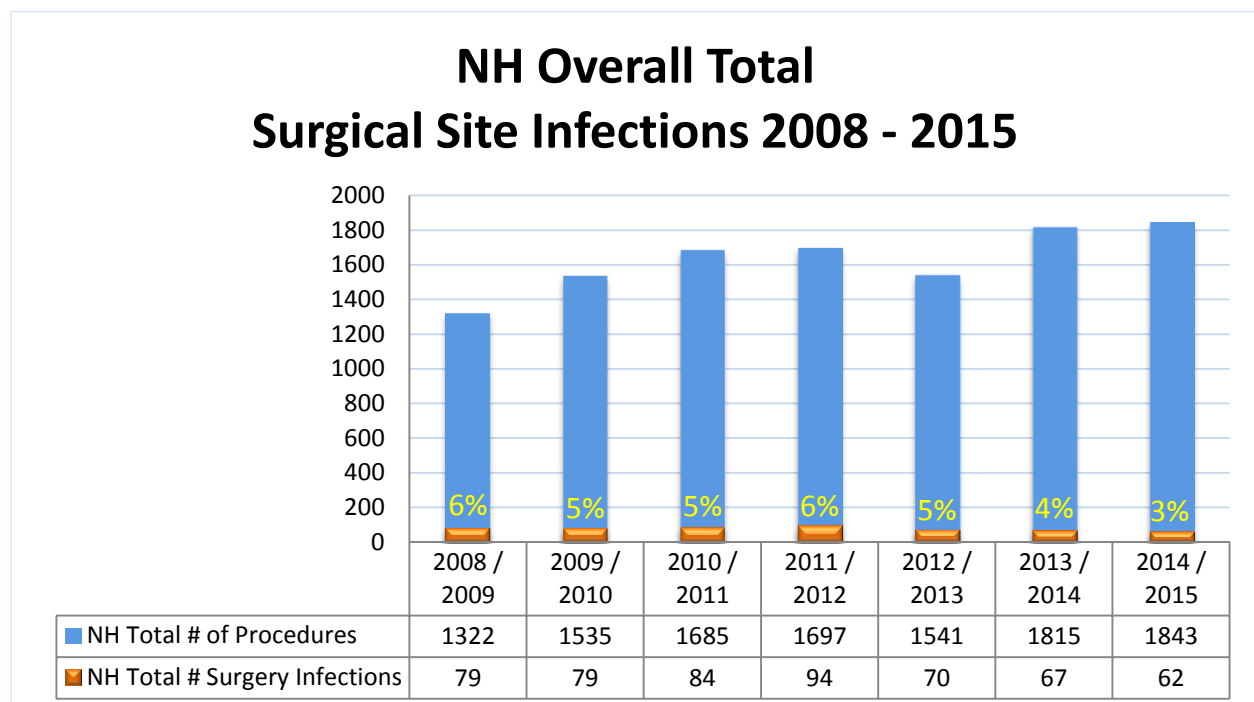
In 2014 -15, no cases of CPO were identified in NH.




## Surgical Site Infections (SSI)

Indicator	2014 – 2015 Rate	Trend *	Target
Surgical Site Infection Rates	3 per 100 procedures		< 3 per 100 procedures

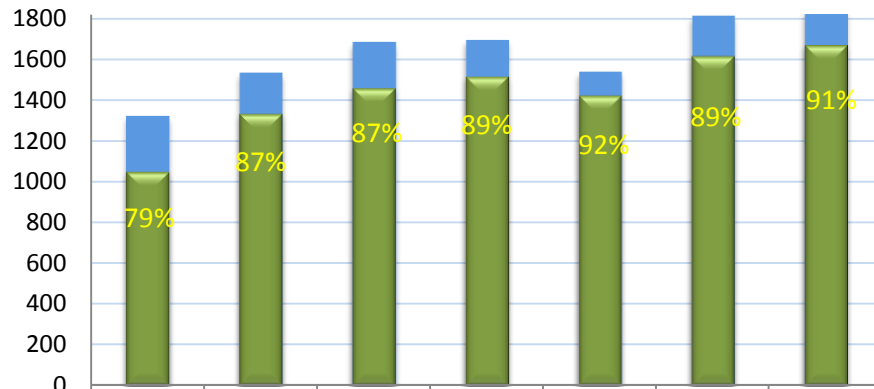
Surgical Site Infections (SSI) is the most common healthcare-associated infections as found in a prevalence study done by the CDC. SSI's remain a substantial cause of morbidity, prolonged hospitalization, and death.

Surgical procedures surveyed for infection include: Caesarean section, total abdominal hysterectomy, total primary hip replacement, total primary knee replacement, and bowel resection (not including the rectum). Surveillance of antibiotic prophylaxis given within one hour of surgical cut time is also monitored.



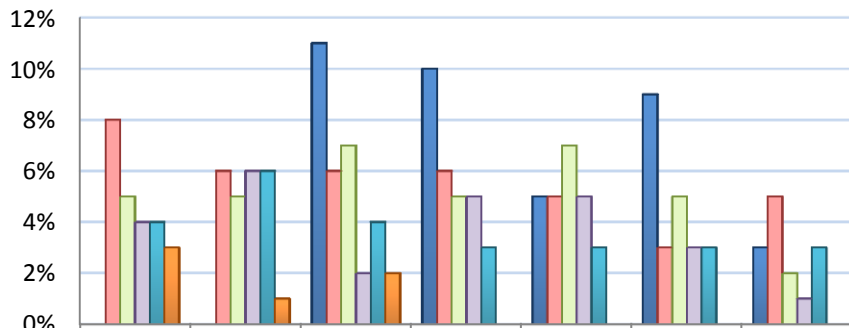
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## NH Overall Total Prophylactic Antibiotic 2008 - 2015



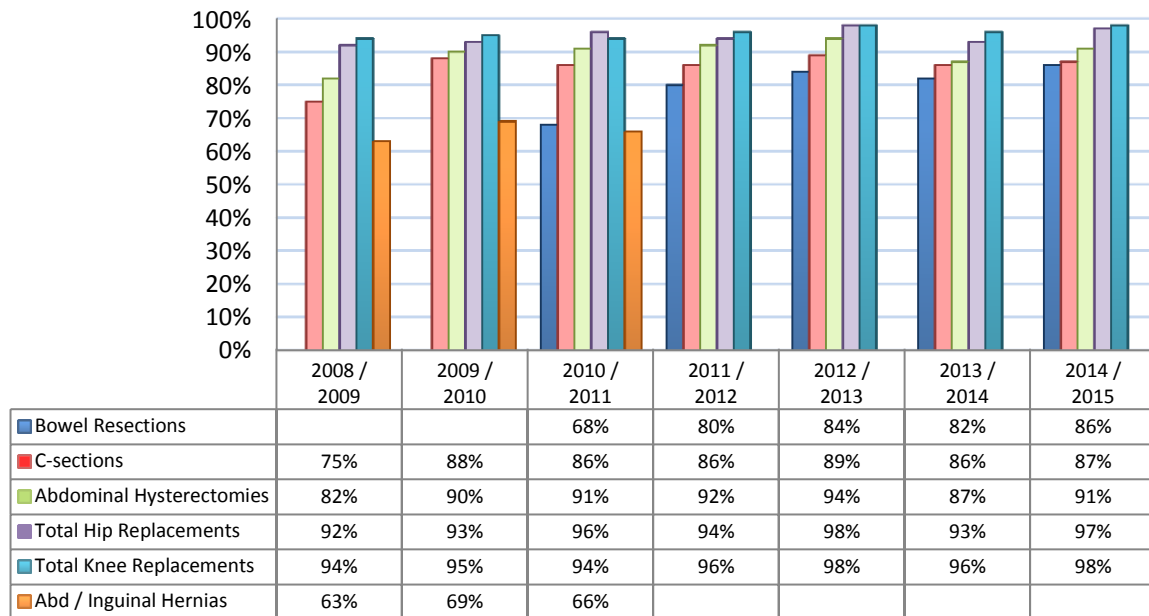
	2008 / 2009	2009 / 2010	2010 / 2011	2011 / 2012	2012 / 2013	2013 / 2014	2014 / 2015
<span style="color: blue;">■</span> NH Total # of Procedures	1322	1535	1685	1697	1541	1815	1843
<span style="color: green;">■</span> NH Total Prophylactic Antibiotic	1050	1335	1460	1517	1424	1617	1672

## Surgical Sites Infection Rate (%)



	2008 / 2009	2009 / 2010	2010 / 2011	2011 / 2012	2012 / 2013	2013 / 2014	2014 / 2015
<span style="color: blue;">■</span> Bowel Resections Total %			11%	10%	5%	9%	3%
<span style="color: red;">■</span> C-sections Total %	8%	6%	6%	6%	5%	3%	5%
<span style="color: green;">■</span> Abdominal Hysterectomies Total %	5%	5%	7%	5%	7%	5%	2%
<span style="color: purple;">■</span> Total Hip Replacements Total %	4%	6%	2%	5%	5%	3%	1%
<span style="color: teal;">■</span> Total Knee Replacements Total %	4%	6%	4%	3%	3%	3%	3%
<span style="color: orange;">■</span> Abd / Inguinal Hernias Total %	3%	1%	2%				

## Antibiotics Given within 1 Hour of Cut Time (%)



Northern Health SSI rates decreased from 4 per 100 procedures in 2013-14 to 3 per 100 procedures in 2014-15. The projected 2015-16 target is a continual decrease to < 3 per 100 procedures.

Rates of antibiotic prophylaxis administered within one hour of procedure cut time have increased from 2013-14 in all of the surgeries followed. Difficulty in finding prophylactic antibiotic administration information on the patient chart continues to be an ongoing challenge.



Benchmark and Rate Comparison with previous years:

Procedure	Benchmark*	SSI 2011/2012	SSI 2012/2013	SSI 2013/2014	SSI 2014/2015
Abdominal Hysterectomy	1.10-4.05 per 100 procedures	4.8 per 100 procedures	7 per 100 procedures	5 per 100 procedures	2 per 100 procedures
Caesarean Section	1.46-3.82 per 100 procedures	6.5 per 100 procedures	5 per 100 procedures	3 per 100 procedures	5 per 100 procedures
Bowel Resection	**3.99-9.47 per 100 procedures	10 per 100 procedures (denominator data <100)	5 per 100 procedures (denominator data <100)	9 per 100 procedures	3 per 100 procedures
Total Primary Hip Replacement	0.67-2.40 per 100 procedures	5.0 per 100 procedures	5 per 100 procedures	3 per 100 procedures	1 per 100 procedures
Total Primary Knee Replacement	0.58-1.60 per 100 procedures	3.3 per 100 procedures	3 per 100 procedures	3 per 100 procedures	3 per 100 procedures

\*Benchmark data from National Healthcare Safety Network (NHSN) report: Data Summary for 2006 through 2008, issued December 2009. Doi: 10.1016/j.ajic.2009.10.001

Actions Taken in 2014 - 2015:

- Patients educated on infection prevention and wound management.
- Development of the Infection Prevention for Caesarian Section (C/S) information sheet
- 30 day follow up for C/S, total abdominal hysterectomy (TAH) and bowel resections
- Patients are monitored for up to 1 year for total hip replacement (THR) and total knee replacement (TKR)
- Some NH sites increased prophylactic antibiotics given within 1 hour of cut time from 1g Cefazolin to 2g according to best practice

# Outbreak Management

Responsible Organism	# of Staff Affected	# of Patients Affected	Dates / Length of Outbreak	Facility Type
GI, Norovirus	7	22	April 20-30, 2014	Simon Fraser Lodge <b>(Complex Care)</b>
Scabies	3	2	May 27-29, 2014	Prince Rupert Regional Hospital <b>(Acute care)</b>
GI, Unknown	3	3	June 4-6, 2014	Queen Charlotte Islands Hospital <b>(Acute Care)</b>
GI, Unknown	3	4	September 14-22, 2014	Simon Fraser Lodge <b>(Complex Care)</b>
GI, Unknown	0	4	September 24-29, 2014	Simon Fraser Lodge <b>(Complex Care)</b>
GI, Unknown	0	6	January 13-19, 2015	Peace Villa <b>(Residential Care)</b>
GI and ILI	0	10	January 17 – 21, 2015	UHNBC – Rehab <b>(Acute Care)</b>
Influenza A	0	20	February 1-10, 2015	Jubilee Lodge <b>(Complex Care)</b>
Influenza A – H3N2	15	9	February 5-15, 2015	Bulkley Valley Lodge <b>(Residential Care)</b>
Influenza A	15	19 (1 death)	March 10-30, 2015	Terraceview Lodge <b>(Complex Care)</b>
GI, Norovirus	0	12	March 26-30, 2015	Stuart Nechako Manor <b>(Complex Care)</b>
GI, Norovirus	6	12	March 26-April 1, 2015	Rainbow Lodge <b>(Complex Care)</b>

Northern Health uses a multidisciplinary approach to manage outbreaks, and includes representatives from IPAC, Workplace Health & Safety (WH&S), administration, nursing, medical staff, support services and external resources such as Public Health.

Members of the Outbreak Prevention and Management Team (OPMT) service to the affected patients and/or units and work collaboratively to ensure a timely and coordinated response to an outbreak.

The primary components of outbreak management include:

- Confirmation of the presence of an outbreak based on case definition and outbreak definition criteria
- Notification of stakeholders
- Implementation of control measures
- Ongoing communication with all stakeholders
- Staff education and support as required throughout the outbreak episode
- Overseeing timely/accurate specimen collection
- Ongoing surveillance/monitoring of outbreak cases (new versus recovery)
- Evaluating effectiveness of interventions – Infection Control (IC) input provided around this during team meetings
- Organizing post outbreak team meeting – overall review

## Medical Device Reprocessing Department (MDRD)

In 2014 the Coordinator for Medical Device Reprocessing (MDR) retired and the position was filled in the fall. Visits and audits to the 10 larger sites were completed before the end of the year. The overall average score was 93.45%. When compared to the last two years the percentage of compliance appears to be dropping. Yet if we look at some standards individually it is noted that each site scored low on the Education and Training Standard. This is partly due to the competencies not being completed in the 2014 year. Another area that received low scoring was the Assessment of Purchase of Medical Devices. Although some sites are recognizing the importance of including all stakeholders, equipment is still being purchased without input from staff. These two standards have brought the overall percentage down. Overall the 10 sites have worked hard at meeting many of the standards.

Facilities Audited	2012 Percentage	2013 Percentage	2014 Percentage
Bulkley Valley District Hospital - Smithers	94.44	97.14	93.3
Dawson Creek and District Hospital	87.67	92.68	95.5
Fraser Lake D&T Centre	93.04		
Fort Nelson General Hospital	94.96		
Fort St John Hospital	97.51	97.73	95.2
GR Baker Memorial Hospital - Quesnel	96.13	96.36	91.06
Kitimat General Hospital	99.56	97.33	96.3
Lakes District Hospital - Burns Lake	97.05		
Mackenzie and District Hospital	89.55		
Mill Memorial Hospital - Terrace	94.00	93.75	88.46
Prince Rupert Regional Hospital	92.54	87.04	93.2
Queen Charlotte Islands Hospital	98.07		
St John Hospital - Vanderhoof	98.64	97.51	95.3
Stewart Health Centre	99.02		
Stikine D&T Centre - Dease Lake	93.81		
University Hospital of Northern BC - Prince George	95.42	92.68	97.2
Wrinch Memorial Hospital - Hazelton	97.71	96.04	96.88

The three lower scoring sites have been identified and action plans for improvements have been initiated with ongoing follow-up. Educational needs are being identified since the audit was done. The priority is to provide frequent opportunities for training and education.

Audits for 2012 average score was 95.24

Audits for 2013 average score was 94.82

Audits for the 2015 year will begin in April for all sites.

### Residential Care Facilities Audited

Residential Care Facilities were not audited in the 2014 year. The following scores reflect 2013 percentage for each audited site.

<b>Residential Care Facilities Audited</b>	<b>2013 Percentage</b>
Acropolis Manor – Prince Rupert	73.33
Bulkley Lodge - Smithers	72.73
Chetwynd Hospital & Health Centre	89.47
Dunrovin Park Lodge - Quesnel	88.00
Gateway Lodge – Prince George	100
Wrinch Memorial LTC - Hazelton	83.33
Jubilee Lodge – Prince George	94.74
Mountain View Lodge - Kitimat	71.43
Peace Villa – Fort St John	100
Parkside Care – Prince George	100
Rotary Manor – Dawson Creek	78.26
Stuart Nechako Lodge - Vanderhoof	75.00
Terrace View Lodge	91.67
The Pines – Burns Lake	84.62

In 2015 audits will take place at one third of the residential sites with the remaining audits completed in 2016. Residential audits are to be completed with results provided to the Ministry of Health every three years.

### Capital Equipment:

- University Hospital of Northern British Columbia in Prince George replaced the two Medivator DSD201's in the endoscopy unit with two new Olympus OER-PRO's.
- Bulkley Valley District Hospital in Smithers replaced two Medivator DSD201's in the OR with two new Olympus OER-PRO's.
- A new Steris sterilizer along with a Steris washer/disinfector was purchased and has been installed in the new facility in Burns Lake.
- Portable Ultrasound units were identified at many of the sites and will be added to the capital equipment list and monitored, as one of the ultrasound probes requires High Level Disinfection.
- No other capital equipment was purchased in 2014

# Accreditation

## Accreditation 2014:

Accreditation surveys of the Sterile Processing Departments and Infection Prevention Departments in NH were completed in June 2014. On site survey's included Wrinch Memorial, UHNBC, Prince Rupert Regional Hospital (PRRH), St. John's Hospital as well as Parkside Long Term Care Facility and Rotary Manor.

Several areas required attention and have since been resolved including but not limited to:

- 1.2.2- Staff and service providers are aware of the infection rates and recommendations from outbreak reviews.
- 1.3 – The organization limits the use of Immediate Use Steam Sterilization (IUSS), also referred to as Flash, to Emergency use only. A revised document containing the reason for IUSS, description of device, the patient's and surgeon's name, time and date of procedure and all parameters of the sterilization process is in place, and includes follow-up using the PSLS reporting system..
- 1.4 – Regional Coordinator Medical Device Reprocessing position was filled September 8, 2014.
- 6.2- The organization's senior leaders encourage and support implementation of education and training on hand hygiene for staff, service providers, and volunteers.
- 7.1 -The organization has improved the process to select and purchase equipment based on criterion.
- 7.3- Information provided to clients and families is documented in the client record.
- 7.6 - The organization ensures routine monitoring of sterilizers including the use of Biological Indicators each day a sterilizer is used and documents.
- 8.2- The organization stores and handles linen, supplies, devices, and equipment in a manner that protects them from contamination.
- 11.2- The organization considers used equipment and devices to be contaminated and potentially infectious, and transports them appropriately to a designated decontamination or disposal area.
- 11.4-The team follows specific procedures to handle, clean, and disinfect mobile client equipment.
- 12.7- The organization considers used equipment and devices to be contaminated and potentially infectious, and transports them appropriately to a designated decontamination or disposal area.
- 12.9- The organization appropriately contains and transports contaminated items to the reprocessing unit or area.



The following criteria are being addressed by the specific sites with help from the Coordinator of Medical Device Reprocessing and the Manager of Infection Control.

- 3.5 – The organization is finding it difficult to meet this standard as the HVAC systems are outdated. The organization monitors temperature and humidity with Hygrometers in the decontamination and sterile areas.
- 3.6 – The organization requires some finishing of work surfaces that promote ease of washing and removal of work surfaces that shed particles of fibre.
- 6.5.1- The organization audits its compliance with hand hygiene practices.
- 12.2.2.1- There is evidence that reprocessing processes and systems are effective ( cart washers at UHNBC)

# Appendix 1 – Surveillance Case Definitions

## **Clostridium *difficile* infection (CDI):**

A diagnosis of CDI applies to a person with:

- Presence of diarrhea (e.g. three liquid or loose stools within a 24 hour period) 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)
- Diagnosis of typical pseudo-membranes or sigmoidoscopy or colonoscopy or
- Histological/pathological diagnosis of CDI with or without diarrhea

A CDI case is considered hospital acquired when:

- Patient develops symptoms in hospital equal to or greater than 72 hours after admission; or
- Symptoms occur in a patient that has been hospitalized or discharged within the previous 4 weeks, and the patient is not in a residential care facility

## **Antibiotic Resistant Organism (ARO) Case Definition:**

An ARO case is defined as meeting ALL of the following criteria:

- Laboratory identification of an ARO;
- Patient must be admitted to an acute care facility
- ARO must be newly identified from the specimen collected at the time of hospital admission or during hospitalization
- Patient must have no known history of either infection or colonization with an ARO in any BC acute care facilities

This includes:

- ARO identified for the first time during hospital admission
- ARO newly identified in the emergency dept. and then admitted to your acute care facility;

This does not include:

- ARO cases previously identified by NH or other BC acute care facilities
- ARO cases identified in the ER or outpatient clinics but are not subsequently admitted
- ARO cases re-admitted

An ARO case is considered hospital acquired based on the following criteria:

- Length of time in acute care facility is >48 hours prior to ARO identification
- Prior healthcare facility admission >24 hours within the previous 12 months
- Prior history of chemotherapy, dialysis, or surgery in healthcare facility within the previous 12 months

- Indwelling catheter or other medical device (excluding foley catheters and peripheral IV's) at time of admission which was installed at your facility

**Surgical Site Infection:**

Surgical procedures surveyed for infection include: caesarean sections, total abdominal hysterectomies, total primary hip and knee replacements, and bowel resections that do not involve the rectum.