

Northern Health Annual Infection Control Report

2011 - 2012



northern health
the northern way of caring

Table of Contents

Executive Summary	1
Introduction.....	3
Infection Prevention and Control Program.....	3
Acknowledgements	5
Infection Prevention and Control Team Members.....	5
Infection Prevention and Control Committees	6
Contact Information	8
Infection (HAI) Indicators.....	9
1. Hand Hygiene Compliance.....	9
2. <i>Clostridium difficile</i> Infections (CDI) Incidence Rate	13
3. Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) Incidence Rate	16
4. Vancomycin-Resistant <i>Enterococci</i> (VRE) Incidence Rate	18
5. Management of Carbapenem Resistant Gram Negative Bacilli (CRGNB).....	20
6. Surgical Site Infection (SSI)	21
Outbreak Management.....	24
Construction and Renovation.....	28
Education	29
Projects & Initiatives	31
Sterile Processing Department (SPD).....	32
Terminology & Abbreviations.....	35

Executive Summary

The annual report of the Northern Health Infection Prevention & Control Program affords the opportunity to highlight infection prevention and control activities throughout the Northern Health Authority, as well as illustrate the extensive and diverse scope of the Infection Prevention & Control Program.

Healthcare Associated Infections (HAIs) presented in this report include:

Methicillin-Resistant Staphylococcus aureus (MRSA)

Northern Health has seen an increase in MRSA. In 2010-2011 rates were 0.31 per 1000 patient days. For 2011-2012, NHA reported 0.65 for MRSA per 1,000 patient days. This trend could be attributed in part to overcapacity admissions, the provincial case definition criteria change and the continuance of the 30 day screening process. To combat this trend, infection prevention and control practitioners have increased education opportunities around hand hygiene, routine practices and have worked with housekeeping to ensure proper environmental cleaning.

Vancomycin-Resistant Enterococcus (VRE)

Northern Health has seen an increase in VRE. In 2011/2012 rates were 1.07 per 1000 patient days. For 2010/2011 rates were 0.78 per 1000 patient days. This trend could be attributed in part to overcapacity admissions, the provincial case definition criteria change and the continuance of the 30 day screening process. To combat this trend, infection prevention and control practitioners have increased education opportunities around hand hygiene, routine practices and have worked with housekeeping to ensure proper environmental cleaning.

Clostridium *difficile* Infection (CDI)

Northern Health CDI rates remain steady at 0.38 per 1000 patient days in 2011/2012, the NH incident rate remains below the benchmark (0.6 per 1000 patient days) as well as below provincial and national CDI rates.

Surgical Site Infection (SSI)

Rates of Surgical Site Infections in 2010/2011, in comparison to the previous year's rates, have varied - SSI rates for total primary hip replacements and caesarean sections have increased. SSI rates for total primary knee replacements and abdominal hysterectomies have decreased. Rates for bowel resection are slightly higher than benchmark; however the denominator data does not meet benchmark requirements of 100 procedures.

Rates of prophylactic antibiotic administration within one hour of procedure cut time have essentially remained stable when compared to 2010/2011 rates

All outbreaks of communicable disease throughout NH during 2011-2012

Northern Health experienced thirteen outbreaks in 2011/2012: eleven were due to gastrointestinal infections (five were confirmed Norovirus, six were an undetermined), and the remaining two were respiratory outbreaks that were undetermined.

In addition, this report includes a summary of the newly implemented hand hygiene action plan, the status of the NH Sterile Processing Department and the various projects undertaken by the Infection Prevention & Control Program.

Infection Prevention & Control Program achievements in 2011/2012 include:

- The continual development of the Hand Hygiene Program;
- The continuing development of a diverse portfolio of education material, ensuring that the widest possible range of learning needs are met;
- Evidence-based surveillance programs, informed by provincial, national and international guidelines, applied consistently across NH;
- The ongoing inclusion of IPCPs in healthcare facility construction projects, from initial stages of conception and design, and on throughout development and building.

Sterile Processing Department (SPD) achievements in 2011/2012 include:

- SPD website was developed, Decision Support Tools (DSTs), links to education session and much more are now available on iPortal site for NH staff;
- The provision of extensive education opportunities for SPD staff, including SPD full certification Sterile Technician Program at the College of New Caledonia (CNC) and Vancouver Community College (VCC);
- Auditing of 10 NH sites all showed increased performance results.
- In June, SPD went through its first accreditation process resulting in 3 commendations and 4 specific criteria that required attention.
- All SPD staff had the opportunity to write a competency test with an 87% competency achieved

Future directions of the NH Infection Prevention & Control Program:

- The continued implementation of the Hand Hygiene Program, building toward a holistic and sustainable program, addressing every aspect of hand hygiene necessary to ensure the best possible environment for client care;
- The development of accessible resources for a diverse group of staff, particularly tools to be used during Infection Prevention & Control challenges (e.g. outbreaks), in order to best facilitate staff capacity for addressing these challenges efficiently and effectively;
- The conversion of Infection Prevention & Control policies and procedures from the previous manual format to independent DSTs available on iPORTAL.

Based on this year's report, the key priorities for next year will be:

Priority 1:
To achieve a 15% increase in Hand Hygiene Compliance (baseline 61%)

Priority 2:
To achieve a 5% reduction in nosocomial infection rates in Northern Health

Priority 3:
Administration of pre-surgical prophylactic antibiotic within one hour will be 95%

Introduction

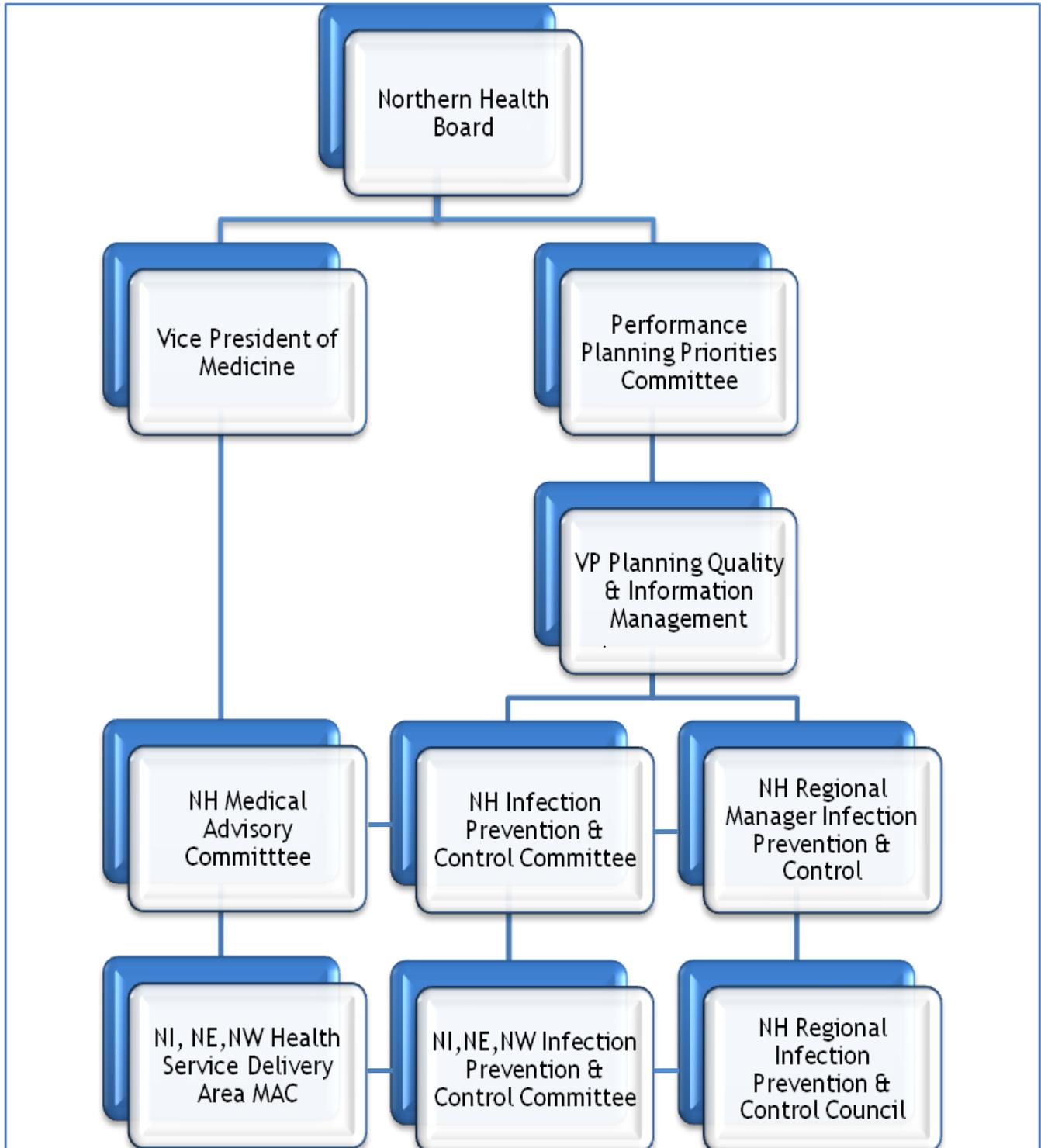
Infection Prevention and Control Program

Northern Health Infection Prevention and Control is a region wide health program dedicated to the prevention and reduction of healthcare associated illnesses in Northern British Columbia residents. The program acts as a quality and safety program within Northern Health. Infection surveillance, outbreak management and education for staff, visitors and clients are cornerstones to the success of the Infection Prevention & Control Program throughout the Northern Region. The Infection Prevention & Control Program incorporates evidence - based best practices when developing and implementing policies and decisions with stakeholders within Northern Health.

The Infection Prevention & Control team is composed of a Regional Manager, eight infection control practitioners and an Epi-technologist. The group provides onsite Infection Prevention & Control expertise to eight Acute Care facilities and a dedicated IPCP for Complex Care. The Infection Prevention & Control group provides consultation to over thirty-nine Complex Care facilities, Diagnostic & Treatment Centres and Residential Living Centers in a wide geographical area of Northern British Columbia covering Haida Gwaii to Dawson Creek and as far north as Fort Nelson. The program is further complemented by a Regional Coordinator for Sterile Processing whose role is to implement and monitor quality assurance processes and education of staff in Sterile Processing Departments across the region.

Northern Health is geographically divided into three Health Service Delivery Areas and each of these areas is represented by a multidisciplinary Infection Prevention and Control Committee. These committees report to the Northern Health Infection Prevention and Control Council. Any changes to existing policies and practices are forwarded through the committees for review and discussion so as to make the best possible decisions for Northern Health patients, staff and visitors.

The following organizational chart represents the reporting structure of the Infection Prevention & Control Program within NH:



Acknowledgements

The NH Infection Prevention & Control Team would like to acknowledge the continued dedication of the front line hospital staff that has helped facilitate continuous quality improvements to the Infection Prevention & Control Program within Northern Health. The ongoing commitment of the Medical Advisory Committees and the Hospital Site Administrators has ensured the success of the program in the prevention of Healthcare Associated Infections (HAIs) throughout Northern Health.

Infection Prevention and Control Team Members

Regional IPCP Manager

Deanna Hembroff

Infection Prevention & Control

Practitioners

Beth McAskill
Bonnie Schurack
Debora Giese
Debra Foster
Frances Beswick
Holly Lynn Nelson
Judy Klein
Kelsey Breault
Monica Sephton
Sylvia Eaton

Coordinator Sterile Processing

Penny Brawn

Sites:

Atlin Hospital
Bulkley Valley District Hospital -Smithers
Chetwynd General Hospital
Dawson Creek & District Hospital
Fort Nelson General Hospital
Fort St. John Regional Hospital
G.R.Baker Memorial Hospital - Quesnel
Kitimat General Hospital
Lakes District Hospital - Burns Lake
Mackenzie and District Hospital
Masset Hospital
McBride Hospital
Mills Memorial Hospital-Terrace
Prince Rupert Regional Hospital
Queen Charlotte Islands Hospital
St. John Hospital - Vanderhoof

Stuart Lake Hospital

University Hospital Northern BC-UHNBC
Wrinch Memorial Hospital - Hazelton

Complex Care Facilities

Health Centers

Diagnostic & Treatment (D&T) Centres

Residential Care Facilities

Acropolis Manor - Prince Rupert
Alward Place Seniors Assisted
Bulkley Lodge -Smithers
Dunrovin Park Lodge-Quesnel
Fraser Lake D &T Centre
Gateway Lodge -Prince George
Granisle Community Health Center
Home and Community Care
Houston Health Center
Hudson Hope Health Center
Jubilee Lodge - Prince George
Kitimat Multi Level Care Unit
Laurier Manor
North Peace Care Center
Parkside Care - Prince George
Peace River Haven -Pouce Coupe
Rotary Manor - Dawson Creek
Stewart Health Center
Stikine D&T Center
Stuart Nechako Manor
Terrace View Lodge
The Pines
Tumbler Ridge D&T Center
Valemount D&T Center

Infection Prevention and Control Committees

Northern Health Regional Infection Prevention and Control Committee

Dr. David Bowering, Chief MHO
Dr. Ronald Chapman, MHO NWHSDA
Dr. Charl Badenhorst, MHO NEHSDA
Dr. Willem Osei, MHO NIHSDA
Dr. Randall Dumont, Pathologist UHNBC
Dr. Kamran Azar, Pathologist NEHSDA
Dr. Abuobeida Hamour, Internal Medicine and Infectious Disease
Angela DeSmit, HSA North Peace NEHSDA
Deanna Hembroff, Regional Manager Infection Prevention and Control
Frank Talarico, Director Workplace Health and Safety Integrated Services
Fraser Bell, VP Planning, Quality and Information
Joanne Archer, Education/Consultant Provincial Infection Control Network
Kirsten Thomson, Regional Manager Risk Management
Lois Barney, Regional Director Support Services
Lynn MacDonald, Manager Workplace Health and Safety
Mary Margaret Proudfoot, Regional Manager Communicable Diseases
Mike Hickey, Director Facilities Management and Support Services
Penny Brawn, Regional Coordinator Sterile Processing
Ruby Fraser, Regional Director Quality and Risk Management

Northeast HSDA Infection Prevention and Control Committee

Dr. Charl Badenhorst, MHO NEHSDA
Dr. Kamran Azar, Pathologist
Ann Green, Communicable Disease, Public Health
Angela DeSmit, HSA North Peace NEHSDA
Audra Holloway, Manager Lab Service DCDH
Betty Asher, Nurse Manager Fort Nelson
Catherine Guy, Employee Health Advisor
Cheryl Danchuk, Manager of Support Services
Christine Morey, Health Services Administrator
Dave Callahan, Residential Care Program Manager
Deanna Hembroff, Regional Manager Infection Prevention and Control
Dionne Sanderson, Environmental Health Officer
Dixie Ross, ONHS WHS Integrated Services
Elaine Washington, Residential Program Manager
Frances Beswick, IPCP Dawson Creek
Harry Gelowitz, NE Manager Support Services
Jaret Clay, HSA, South Peace
Judy Klein, IPCP Fort St. John Hospital
Karen Davis, HSA DCDH
Kathy Peters, DOC Fort St. John Hospital
Kelsey Breault, IPCP, DCDH
Kendra Cournoyer, Director of Care DCDH

Lynn MacDonald, Manager Workplace Health and Safety
Norbert Fisher, Manager P&P DCDH
Ophelia Spencer, DOC Dawson Creek
Penny Brawn, Regional Coordinator Sterile Processing
Rick Bruce, Site Manager Chetwynd
Roger Lythall, Plant Services Fort St. John Hospital
Sarah MacDougall, Environmental Health Officer
Susan Worrall, Manager Hudson's Hope D&T Centre

Northern Interior HSDA Infection Prevention and Control Committee

Dr. Abuobeida Hamour, Internal Medicine and Infectious Disease
Dr. David Nelson, Orthopaedic Surgeon
Dr. Randall Dumont, Pathologist UHNBC
Dr. Richard Raymond, UHNBC Medical Director/Chief of Staff
Dr. William Abelson, Paediatrician UHNBC
Dr. William Osei, Medical Health Officer
Adrea Rusnak, HSA Valemount Community Health
Andrew Aucoin, Manager Housekeeping and Laundry Services
April Hughes, HSA St. John Hospital Vanderhoof
Arlene Crawford, Care Coordinator Jubilee Lodge
Barb Crook, HSA Mackenzie
Belinda Maidment, Manager Patient Care Services
Bill Carlson, Manager Plant Services UHNBC
Bonnie Schurack, IPCP/Regional Epi -Tech UHNBC
Catherine Guy, Employee Health Advisor
Cathy Antoniazzi, Clinical Practice Leader UHNBC
Carolyn Bouchard, PHN Manager Communicable Disease Team
Dawn Gauthier, Head Nurse Fort St James
Deanna Hembroff, Regional Manager Infection Prevention and Control
Dixie Ross, OHNS WHS Integrated Services
Heather Floris, Head Nurse Acute Care and Emergency Vanderhoof
Holly Nelson, IPCP GR Baker Hospital
Jan Trippel, Manager, Surgical Services UHNBC
Jaret Clay, Care Program Manager
Karen Desormeau, Registered Nurse McBride
Lana Armstrong, Clinical Standardization
Lois Barney, Director, Support Services
Loretta Jackson, Residential Care Program Manager
Marie Hunter, Site Manager Lakes District Hospital
Monica Sephton, IPCP Residential & Home and Community Care
Paula Tait, Environmental Health Officer
Penny Brawn, Regional Coordinator Sterile Processing
Sylvia Eaton, IPCP UHNBC
Vicky Rensby, Home & Community Care Manager
Virginia Schneider, Community Services Manager

Northwest HSDA Infection Prevention and Control Committee

Beth McAskill, IPCP BVDH
Catherine Guy, Employee Health Advisor
Deanna Hembroff, Regional Manager, Infection Prevention and Control
Debbie Foster, IPCP PRRH
Debora Giese, IPCP MMH
Deanna Hawkins, Housekeeping Supervisor
Dixie Ross OHNS WHS Integrated Services
Edna McLellan, NW Public Health Nurse
Helen Smith, MMH Lab Tech/QA
Jennifer Hogan, NW Safety Advisor
John Short, Nurse Manager & Clinical Educator Northern Haida Gwaii Hospital
Kim Trombley, Nursing, Winch Memorial Hospital
Leanne Derow, MMH OR Manager
Linda McMynn, NW Manager Support Services
Lori McWilliams, NW HSDA Regional Laboratory Technologist
Lynn MacDonald, Manager Workplace Health and Safety
Martha Murray, Public Health Nurse
Penny Brawn, Regional Coordinator Sterile Processing
Sheila Nelson, Nurse Supervisor QCI
Dr. Willem Lombard, General Surgeon KGH

Contact Information

Deanna Hembroff, Regional Manager Infection Prevention and Control
Deanna.hembroff@northernhealth.ca
Prince Rupert Regional Hospital
Ph.250-622-6247
Fx.250-622-6522

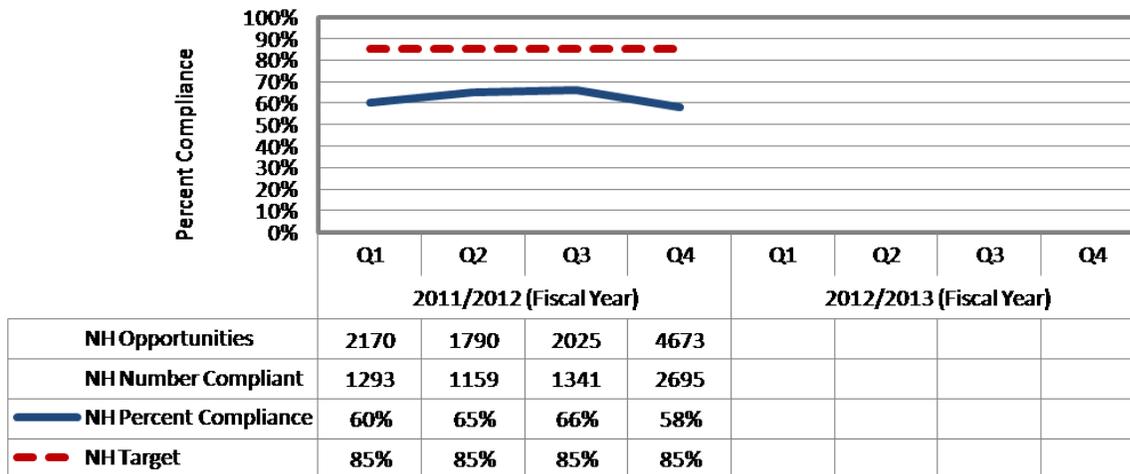
Infection (HAI) Indicators

1. Hand Hygiene Compliance

Trend* =	Target 100%	Actual 61%
-------------	----------------	---------------

Optimal hand hygiene in healthcare facilities has been recognized as being of primary importance in the prevention of Healthcare Associated Infections. The NH Hand Hygiene Program includes a comprehensive, staged plan to introduce a multi-tiered program of hand hygiene policy, education, promotion and evaluation, with the ultimate goal of achieving optimal hand hygiene practices across NH. This initiative continued in 2011-12 to include all acute care hospitals in NH, with Residential Care facilities gradually being included in this initiative. One primary challenge has been recruiting Hand Hygiene Audit volunteers at sites to sustain a viable hand hygiene auditing process. Education of Health Care Providers, patients and visitors remains an ongoing endeavour in the NH Hand Hygiene Program. To facilitate this, NH Infection Prevention developed the Hand Hygiene Resource Kit for all acute care healthcare sites, including a patient Hand Hygiene Bookmark which can be included in all admission packages.

Hand Hygiene Compliance - Northern Health



* ↑ = 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

What is being measured?

Hand Hygiene (HH) rates are based on compliance with Northern Health Hand Hygiene policy. Compliance with Hand Hygiene is defined as a percentage of the number of compliant Hand Hygiene events over the total number of Hand Hygiene opportunities and is expressed in the following formula:

$$\text{Compliance (\%)} = \frac{\text{Compliant HH events}}{\text{Total HH opportunities}} \times 100$$

Methodology: How was the data collected?

All healthcare providers are expected to perform hand hygiene before and after touching any client and/or client environment. In addition, all healthcare providers are expected to perform hand hygiene before donning and after doffing gloves, before and after handling medications and food, and after using the bathroom.

A case definition of having performed correct hand hygiene is, at appropriate moments (as noted above), either:

- Using appropriate Alcohol-Based Hand Rub (ABHR) - choosing an ABHR with at least 70% alcohol content, using a quarter-sized amount of ABHR on hands, rubbing for at least 20 to 30 seconds, until ABHR has completely dried, prior to contact with the client and/or client's environment.
- Washing hands and wrists with soap and water for 40-60 seconds, ensuring that areas inclined to harbour pathogens (i.e. cuticles, between fingers) are scrubbed effectively, drying hands with paper towels and turning off faucet with paper towel to avoid re-contamination.

Data collection is conducted through direct observation (the gold standard methodology in determining Hand Hygiene compliance, according to the World Health Organization). HH compliance data collection was initiated by Infection Prevention & Control Practitioners (or, in smaller sites without IPCP present on-site, managerial representatives). By September 30, 2011, many NH acute care facilities had trained facility staff from a variety of departments to conduct the audits themselves as part of their general duties. By November 30, 2011 some Residential Care facilities had trained facility staff from different departments to conduct the audits themselves as part of their general duties. The IPCP continues to collect the completed weekly audit forms and enter the data into the HH database. It is believed that integrating HH audits into regular staff duties will increase staff engagement in the data collection process and also serve to increase staff awareness of optimal HH practices.

Hand Hygiene audit forms and audit guidelines designed for, and standard throughout the province of British Columbia, continue to be used in Northern Health for HH compliance data collection. Category of staff, contact type (before or after) and whether or not Hand Hygiene is completed for each opportunity are listed on the form, and each form provides space for the recording of 20 opportunities. Each audit should take no more than 30 minutes

to complete (aspiring to the ideal of 20 opportunities observed and recorded in that time, with as close to equal numbers of before and after opportunities documented as possible).

Data continues to be entered into a Northern Health shared database. All Infection Prevention & Control Practitioners are responsible for entering hand hygiene audit data into the database, and a single IPCP is responsible for compiling the data on both a monthly (by site) and quarterly (across Northern Health as an overall HH compliance rate, as well as broken down by facility and by healthcare provider category) and providing that data to the rest of the IPCPs for dissemination throughout their respective sites. Quarterly data is also provided to PICNet for inclusion in provincial HH compliance statistics.

What is the Annual Target the organization seeks to reach?

Northern Health’s ultimate hand hygiene compliance target, as outlined in the Hand Hygiene Policy, is 100% hand hygiene compliance in non-emergency situations. However, in regards to annual target and in keeping with Provincial Hand Hygiene Working Group recommendations, NH intends to increase hand hygiene compliance by 15% each year for the first three years; for 2011/2012 the hand hygiene compliance rate was 61%.

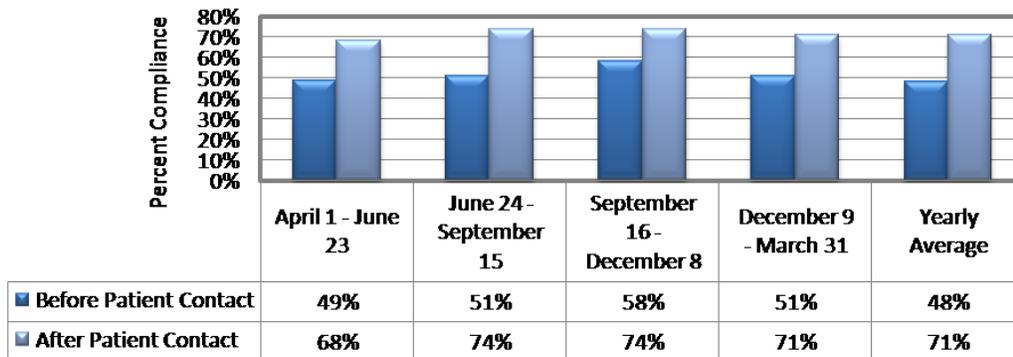
Benchmark & Comparators: How does the rate compare to other areas?

Internationally, according to the World Health Organization’s *Guidelines on Hand Hygiene in Health Care: a Summary* (2009), “Adherence of [Healthcare providers] to recommended hand hygiene procedures has been reported as variable, with mean baseline rates ranging from 5% to 89% and an overall average of 38.7%”. Northern Health’s 2011-12 Hand Hygiene compliance rate of 61% may be above the average found by the World Health Organization, but certainly affords a great deal of room for improvement.

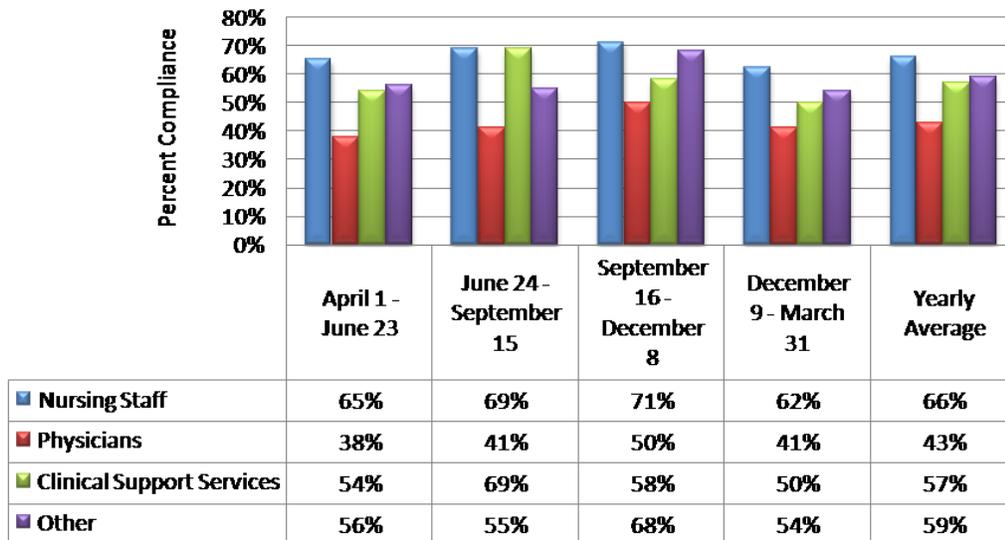
Trend: What does the data show?

The Hand Hygiene data collected established the baseline year at 61% for 2011-12 for NH. The anticipation is that there will be a 15% increase for 2012-13.

Hand Hygiene Compliance in Northern Health – Before and After Patient Contact



Hand Hygiene Compliance in Northern Health per Health Care Provider



Limitations: What may have affected the quality of this measure?

Clear and consistent methodology, observer training and periodic inter-rater reliability testing will ensure that the data collected minimizes observational limitations. These limitations include:

- The potential influence an observer may have on Healthcare Provider behaviour (The Hawthorne Effect);
- Variation in an observer’s classification over time (intra-observer variability);
- Variation between observer classifications (inter-observer variability).

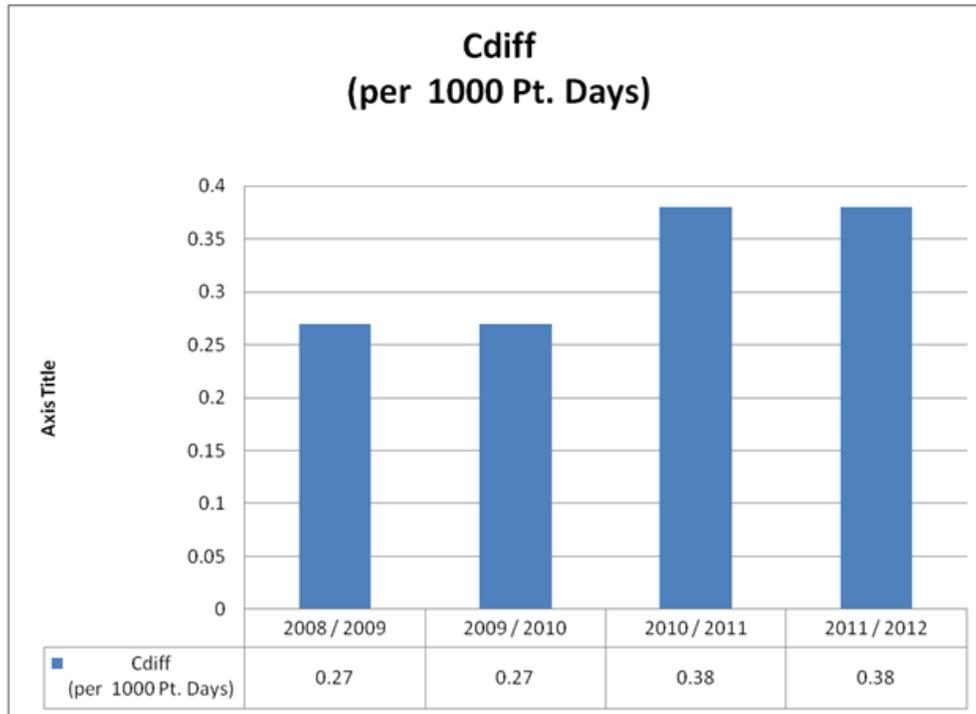
What actions have been taken over the last year?

Ongoing development and implementation of the NH Hand Hygiene Action Plan started in 2010-11 year. Ongoing actions for 2011-12 included:

- Hand Hygiene Audits implemented in NH acute care facilities and initiated in residential care facilities, with site rates posted monthly on each unit.
- NH Hand Hygiene Policy (Issued May 2011)
- Educational information for staff and physicians was posted on the NH Infection Prevention and Control IPortal site.
- Participation in the Provincial Hand Hygiene Perception Survey - 20% of health care workers and physicians of NH participated.
- Creation of a Hand Hygiene Toolkit committee tasked with the development of a multi-focal hand hygiene toolkit for distribution to all Northern Health sites.

2. *Clostridium difficile* Infections (CDI) Incidence Rate

Trend* =	Target <0.6 per 1000 pt. days	Actual 0.38 per 1000 pt. days
-------------	----------------------------------	----------------------------------



What is *Clostridium difficile* infection?

Clostridium difficile infection (CDI) is the most common cause of healthcare associated infectious diarrhea in Canada. This organism is easily transferred to patients in the healthcare setting and the ability of the organism to produce spores enables the organism to survive for long periods of time in the environment. Symptoms of infection include abdominal pain and cramping with diarrhea to the most serious complication of toxic megacolon which may result in the patient having surgery. The elderly and immunocompromised are at extreme risk of infection and death may result in severe cases. *Clostridium difficile* (*C. difficile*) has been responsible for major outbreaks in Acute and Complex Care facilities across Canada.

What is being measured?

The annual rate of *Clostridium difficile* infection (CDI) per 1000 patient days is being measured. This is the number of new cases in NH facilities of CDI acquired by clients as a

* ↑ = 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

result of their stay in the hospital, divided by the number of patient days, multiplied by 1000. This is reported as both an overall NH rate as well as site-specific incidence rates.

Methodology: How was the data collected? / Where did the data come from?

Information is collected daily by the IPCPs from microbiology reports and all positive Toxin A/B assays are reviewed to determine if the result meets the standard definition set out by PICNet. Once the case has been determined to meet the definition it is entered into a shared computer database and the data is sent to the various sites within Northern Health on a quarterly basis.

The PICNet definition is based on national guidelines and is as follows:

A diagnosis of CDI applies to a person with:

- Acute onset of diarrhea (> 3 loose stools within a 24 hr period) without another etiology (loose stool is defined as that which takes the shape of the container that holds it).

And one or more of the following:

- Laboratory confirmation (positive toxin or culture with evidence of toxin production).

OR

- Diagnosis of typical pseudo-membranes on sigmoidoscopy or colonoscopy or histological/pathological diagnosis of CDI.

OR

- Diagnosis of toxic megacolon.

What is the Annual Target the organization seeks to reach?

Northern Health's goal is to reach a 20% reduction in CDI across the region from a rate of 0.38 per 1000 pt days to 0.30 cases per 1000 pt days. Achieving this goal would result in incidence rates similar to those seen in previous years.

Benchmark & Comparators: How does the rate compare to other areas?

Indicators show that Northern Health rates are below the National and Provincial rates. The Canadian Nosocomial Infection Surveillance Program's 2007 CDI Report identifies a national rate of 0.72/1000 patient days. The Provincial Infection Control Network of British Columbia (PICNet) 2010/11 CDI Report identifies the provincial rate as 8.3 / 10,000 patient days (0.83/1000 patient days).

Trend: What does the data show?

The data indicates that the facilities within Northern Health for the most part continue to display rates of CDI that are below the provincial level and below the benchmark set at 0.6 cases/1000 pt days.

Limitations: What might have affected the quality of this measure?

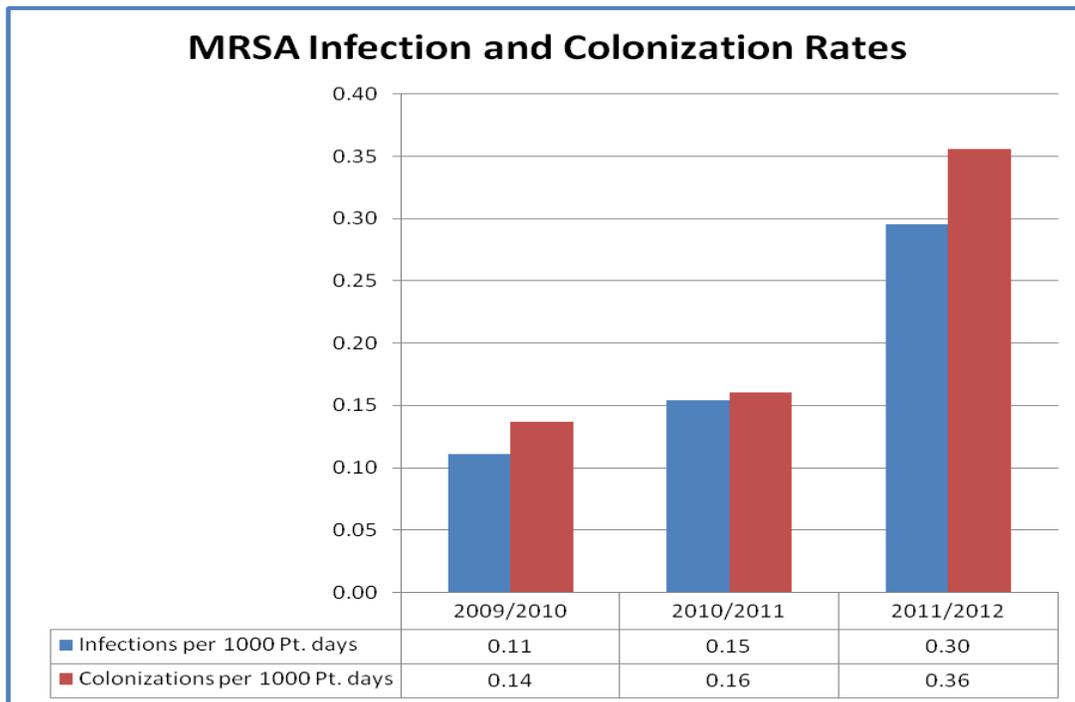
Delay in the identification by hospital staff of patients who should be tested for CDI when presenting with diarrhea.

What actions have been taken over the last year?

Northern Health continues to aim for below benchmark rates of CDI. Regular education sessions for housekeeping staff concerning appropriate cleaning methods and for healthcare providers to ensure high suspicion of CDI, as well as emphasising the necessity for early implementation of Contact Precautions for clients with diarrhea have been successful in keeping the number of cases low.

3. Methicillin-resistant *Staphylococcus aureus* (MRSA) Incidence Rate

Trend* 	Target < 0.5/1000 Pt days	Actual Infections 0.30/1000 Pt. days Colonization 0.36/1000 Pt. days
--	-------------------------------------	---



What is being measured?

The annual rate of Methicillin-resistant *Staphylococcus aureus* (MRSA) per 1000 patient days; which is the number of new cases of MRSA (infection & colonization) acquired by clients as a result of their stay in hospital, divided by the total number of inpatient days, multiplied by 1000.

Methodology: How was the data collected?

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

- Laboratory identification of MRSA :
 - Includes *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 an acute care facility

*  = 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

Data is collected by the Infection Prevention & Control Practitioners throughout Northern Health, and compiled in the NH MRSA database.

Source: Where did the data come from?

Data is collected through:

- Routine ARO screening upon admission to any acute care NH facility;
- Routine testing of all clients for every 30 consecutive days spent in any NH acute care facility;
- Routine testing of all client infections;
- Selective testing based on clinical evidence (e.g. persistent, difficult to treat infection, non-responsive to standard antibiotic treatment).

What is the Annual Target the organization seeks to reach?

The annual target for MRSA is a 10% decrease in incidence in 2012/2013.

Benchmark & Comparators: How does the rate compare to other areas?

Canadian Nosocomial Infection Surveillance Program (CNISP) rates are recommended:

<http://www.phac-aspc.gc.ca/nois-sinp/projects/res2009/index-eng.php>

The CNISP 2009 Surveillance Report found a national average of 1.237 MRSA cases per 1,000 patient days.

The Northern Health Authority discontinued separating rates of MRSA into Healthcare-Associated (HA) MRSA and Community-Associated (CA) MRSA, to preferred MRSA rate in 2010. For 2011-2012, NHA reported 0.65 for MRSA per 1,000 patient days.

Trend: What does the data show?

Incidence of MRSA has increased: Infections 0.15 per 1000 patient days in 2010/2011 to 0.30 per 1000 patient days for 2011-2012 and colonization's 0.16 per 1000 patient days in 2010/2011 to 0.36 per 1000 patient days for 2011-2012.

Limitations: What may have affected the quality of this measure?

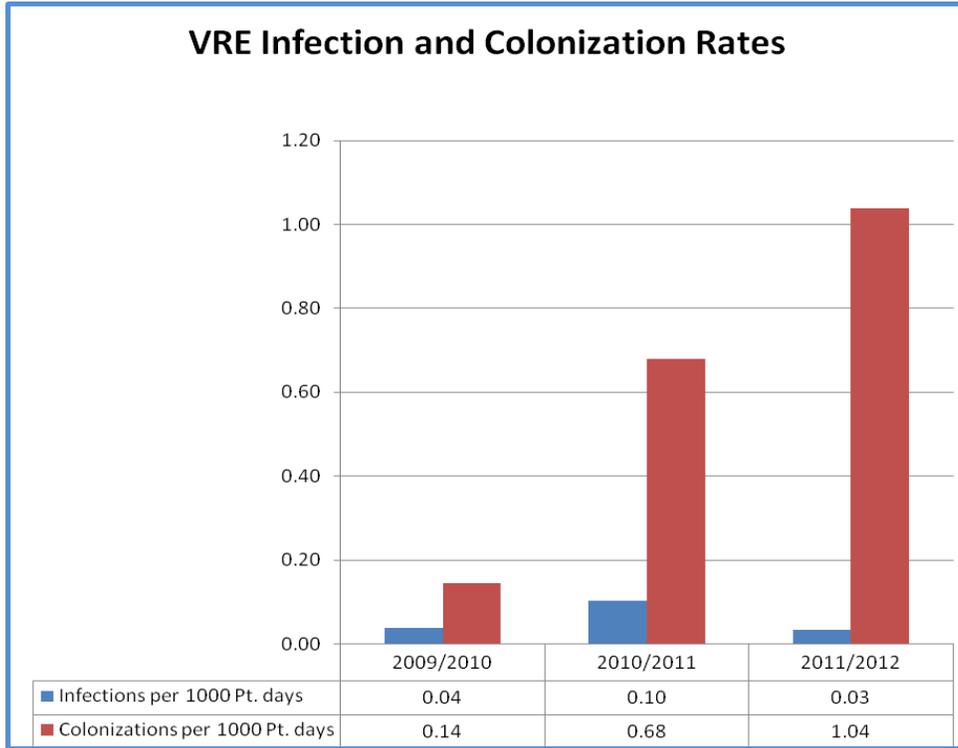
Delay in the identification by hospital staff of patients who should be tested for MRSA upon admission to acute care facilities. Over-capacity admissions may also partly account for the increase.

What actions have been taken over the last year?

The inpatient 30 day length of stay ARO screening process continues. Antibiotic resistant organism (ARO) case definitions criteria changed in 2011/2012 year as determined by Provincial Infection Control Network of BC (PICNet). ARO algorithms implemented were based on in-patient or out-patient criteria to determine where-acquired status of patient.

4. Vancomycin-Resistant *Enterococci* (VRE) Incidence Rate

Trend* 	Target < 0.8/1000 Pt. days	Actual Infections 0.03/1000 Pt. days Colonization 1.04/1000 Pt. days
--	--------------------------------------	---



What is Vancomycin Resistant *Enterococcus* (VRE)?

Vancomycin-Resistant *Enterococcus* is a type of bacteria from the genus *Enterococcus* that is resistant to the antibiotic Vancomycin. *Enterococci* are normal inhabitants of the gastrointestinal tract of humans and mammals. Infection and colonization by *Enterococcus* is thought to be endogenously acquired but infection and colonization in hospitalized patients may be through transmission of the organism from patient to patient through fomites in the environment and health care workers' hands.

What is being measured?

The annual rate of Vancomycin-resistant *Enterococcus* (VRE) per 1000 patient days; which is the number of new cases of VRE (infection & colonization) acquired by clients as a result of their stay in hospital, divided by the total number of inpatient days, 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

Methodology: How was the data collected?

Data is collected by the Infection Prevention & Control Practitioners throughout NH via microbiology reports, and compiled in the shared NH VRE database. At some sites, including Quesnel, Dawson Creek, PRRH and FSJ, those preliminary lab culture reports suggesting VRE are forwarded to the PHSA laboratory for confirmation, and the IPCP responsible for the area in which the culture was collected is copied on both the original lab report as well as the confirmation report from PHSA. At other sites, including Mills Memorial Hospital and UHNBC, confirmation testing is performed on-site.

Source: Where did the data come from?

Data is collected through:

- Routine ARO screening upon admission to any acute care NH facility;
- Routine testing of all clients for every 30 consecutive days spent in any NH acute care facility;
- Selective testing based on clinical evidence (e.g. persistent, difficult to treat infection, non-responsive to standard antibiotic treatment).

What is the Annual Target the organization seeks to reach?

The annual target for VRE is a 10% decrease in incidence in 2012/2013.

Benchmark & Comparators: How does the rate compare to other areas?

Currently there is no established Provincial benchmark with which to compare Northern Health rates.

Trend: What does the data show?

The data indicates that there has been an increase from the previous year (0.68 per 1000 patient days in 2010/2011 to 1.04 per 1000 patient days in 2011/2012) in the number of VRE colonization's isolated across NH.

Limitations: What may have affected the quality of this measure?

Delay in the identification by hospital staff of patients who should be tested for VRE upon admission to acute care facilities. Over-capacity admissions may also partly account for the increase.

What actions have been taken over the last year?

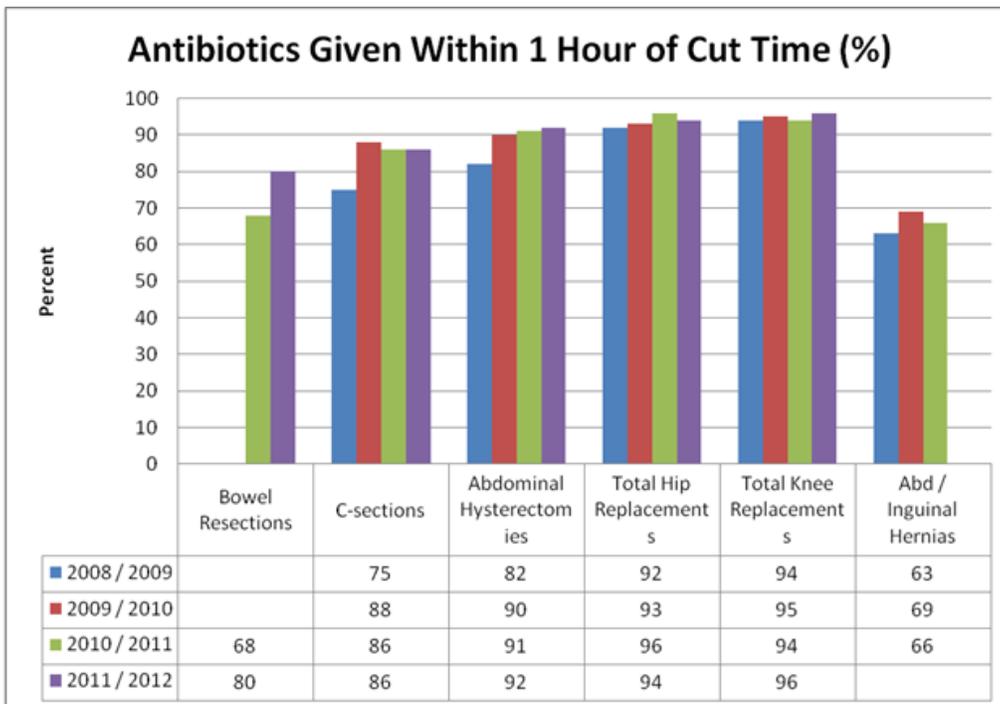
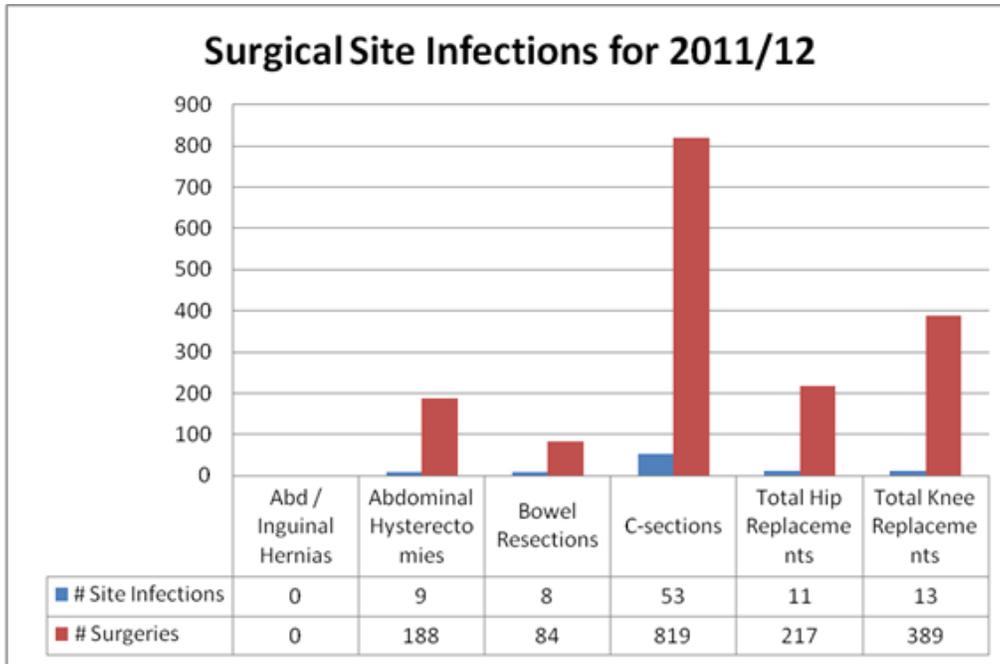
The inpatient 30 day length of stay ARO screening process continues. Antibiotic resistant organism (ARO) case definitions criteria changed in 2011/2012 year as determined by Provincial Infection Control Network of BC (PICNet). ARO algorithms implemented were based on in-patient or out-patient criteria to determine where-acquired status of patient.

5. Management of Carbapenem Resistant Gram Negative Bacilli (CRGNB)

In 2011, NH had its first admission of a client cultured positive for CRGNB to UHNBC. This client had a history of recent travel and surgery in a facility outside of Canada. As part of management of inpatients with CRGNB, Provincial Infection Control Network (PICNet) guidelines (February 2011) were followed. These guidelines included Contact Precautions in single room and twice daily cleaning of high touch surface areas.

Afterward, as part of CRGNB management within NH, Carbapenem Resistance was added to the Infection Control alerts in Cerner software, to be visible in the Disease Alert field, Nursing Conversation and on printed facesheets (ER Record, Ambulatory Care Record, Outpatient Ambulatory Record and Admission/Separation Form). In addition, NH laboratories are to be monitoring for these organisms. If identified, a comment will be added to the patient's culture report and printed out on candidate report. These organisms will be identified on infections only. Active screening would only be done under the mandatory direction of the BC Association of Medical Microbiologists.

6. Surgical Site Infection (SSI)



What is being measured?

The annual rate of surgical site infections, as defined by the Center for Disease Control (CDC) and the Canadian Nosocomial Infection Surveillance program (CNISP), in Northern Health (expressed per 100 procedures). The surgical procedures surveyed for infection include: caesarean sections, total primary hip replacements, total primary knee replacements, abdominal hysterectomies and bowel resections. For 2011-12, total primary hip replacements and total primary knee replacements surveillance was started for Kitimat General Hospital for quarter 4 and so partial data for that site has been added in to NH total.

The frequency of antibiotic prophylaxis given within one hour of surgical cut time is also monitored, as it has been found that the provision of antibiotic prophylaxis outside of the one hour time period is a significant risk factor for postoperative infection. This measurement is expressed as a percentage of the whole number of each type of surgical procedure conducted.

Methodology: How was the data collected?

Northern Health surveillance targets specific surgical procedures in facilities where Infection Prevention & Control Practitioners have sufficient knowledge and training to collect reliable data (8 sites). IPCPs track all clients taking part in those specific procedures, first while in the facility and continuing on after discharge. This post-discharge follow-up is done through phone calls to clients, electronic medical records and laboratory reports. Total primary hip and knee replacements are followed periodically for twelve months, and the remaining targeted surgical procedures are followed for one month (30 days) time period. During follow-up phone calls, IPCPs ask a series of questions pertaining to the client's experience of wound healing after the procedure, signs & symptoms of infection, and any follow-up experiences the client may have had with their physician and/or surgeon.

Source: Where did the data come from?

- Client medical records (chart & electronic records)
- Laboratory reports
- Client self-reporting

What is the Annual Target the organization seeks to reach?

The NH target for 2011/2012 is a 10% reduction in SSI rates and the optimal target for antibiotic prophylaxis given within one hour of cut time is 100%.

Benchmark & Comparators: How does the rate compare to other areas?

Procedure	Benchmark*	SSIs 2010/2011	SSIs 2011/2012
Abdominal Hysterectomy	1.10-4.05 per 100 procedures	7.1 per 100 procedures	4.8 per 100 procedures
Caesarean Section	1.46-3.82 per 100 procedures	5.84 per 100 procedures	6.5 per 100 procedures
Bowel Resection	3.99-9.47 per 100 procedures	10.7 per 100 procedures	10 per 100 procedures (denominator data <100)
Total Primary Hip Replacement	0.67-2.40 per 100 procedures	2.3 per 100 procedures	5.0 per 100 procedures
Total Primary Knee Replacement	0.58-1.60 per 100 procedures	4.1 per 100 procedures	3.3 per 100 procedures

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

Trend: What does the data show?**Surgical Site Infections:**

Rates of Surgical Site Infections in 2010/2011, in comparison to the previous year's rates, have varied - SSI rates for total primary hip replacements have increased significantly, caesarean sections have had a slight increase and total primary knee replacements have had minor decreases in SSI rates. SSI rates for abdominal hysterectomies have decreased significantly. Rates for bowel resection are slightly higher than benchmark, however the denominator data does not meet benchmark requirements of 100 procedures.

Antibiotic prophylaxis within one hour of cut time:

Rates of antibiotic prophylaxis administration within one hour of procedure cut time have shown an improvement.

Limitations: What may have affected the quality of this measure?

One of the challenges of tracing antibiotic prophylaxis rates is reliability of documentation. The antibiotic prophylaxis may be administered within the one hour window, but if healthcare providers do not correctly document the administration time (e.g. omit the precise time the antibiotics are administered), the surveyor must classify the antibiotic prophylactic treatment as being given outside the one hour window. This has previously been a challenge for SSI surveillance in some NH facilities.

What actions have been taken over the last year?

A great deal of teaching has taken place - with healthcare providers concerning such issues as the importance of administering antibiotic prophylaxis within one hour of cut time; and with clients and family about post-operative wound care and the signs & symptoms of infection.

Outbreak Management

In response to outbreak situations in Northern Health, the Medical Health Officers (MHOs), in conjunction with the Infection Prevention & Control team, developed a system wherein the MHO office would organize an AD-HOC Action Committee immediately after declaring an outbreak. The purpose of this committee is to advise on, and participate in, the control and management of outbreaks and public health emergencies in Northern Health.

The function of the committee is to discuss, review and evaluate precautions and restrictions imposed as a result of the MHO declaration of any outbreak or health emergency. The committee also reviews the resources available in members' respective departments for such responses and make recommendations concerning how to proceed. The committee also forwards issues that require additional resources or policy clarification to the appropriate Regional Committee such as the Regional Infection Control Committee. Finally, the committee meets to debrief and evaluate the response prior to dissolving once an outbreak or public health emergency is declared over. The Action Committee members report back to the affected department supervisors, communicating directives and required actions to be taken.

The committee is made up of the following members:

- Medical Health Officer (MHO)
- NH - Workplace Health and Safety
- NH - Infection Prevention & Control
- NH - Preventive Public Health Nursing
- NH - Environmental Health Officer
- NH - Human Resources (Staffing and/or Human Resources Manager)
- Managers of affected facility
- HSA of affected area

The following are members that may be brought in as needed in the management of the outbreak or emergency:

- NH - Communications
- NH Licensing Officer or
The Assisted Living Registrar
- BC Ambulance Services
- Fire Department / RCMP
- Provincial Emergency Response
- Representative of external facility
- NH Business Continuity Lead

This committee formation has resulted in faster response and implementation of control practices in addition it has streamlined the communication process so that the people that need to know the information are receiving it in a timely, organized and consistent manner.

Outbreaks within Northern Health 2011-12

Type of Outbreak	Responsible Organism	# of Staff Affected	# of Patients Affected	Dates / Length of Outbreak	Facility Type
GI	Undetermined	7	8	Dec 6 - Dec 11	Dunrovin Park Lodge
GI	Norovirus	9	10	Feb 16 - Feb 24	Dunrovin Park Lodge
RI	Undetermined	9	7	Feb 13 to Feb 23	Dunrovin Park Lodge
GI	Norovirus	12	15	Jan 2 - Jan 9	Bulkley Lodge
GI	Norovirus	8	3	Jan 20-Jan 31	Bulkley Lodge
GI	Undetermined	0	6	May 10 - May 13	Jubilee Lodge
RI	Undetermined	8	24	July 10 - July 15	Jubilee Lodge
GI	Undetermined	3	12	Nov 3 - Nov 8	Gateway Assisted Living
GI	Undetermined	0	4	Nov 16 - Nov 20	Fort St John Hospital
GI	Norovirus	21	7	Jan 17 - Jan 27	QCI Hospital
GI	Undetermined	1	8	July 20 - July 25	Terrace View Lodge
GI	Norovirus	2 staff 1 nsg student	4	Nov 9 - Nov 14	Mills Memorial Hospital
GI	Undetermined	0	4	Nov 3 - 8	North Peace Care Centre

Outbreak Discussion

Dunrovin Park Lodge - GI Outbreak December

The cause of the gastrointestinal (GI) outbreak at the Dunrovin Park Lodge that was declared December 6 affected 8 residents and 7 staff remained undetermined, with collected stool specimens confirmed negative for Norovirus by BCCDC. The predominant symptoms were vomiting and diarrhea. Infection Control outbreak measures were immediately started under MHO direction, such as appropriate Transmission Precautions, visitor restrictions, enhanced housecleaning, cohorting of staff and residents and vigilant hand hygiene emphasized. The outbreak was declared over by the MHO on December 11, 2011.

Dunrovin Park Lodge - GI Outbreak February

The cause of the gastrointestinal (GI) outbreak at the Dunrovin Park Lodge that was declared February 16 affected 10 residents and 9 staff was confirmed as Norovirus by BCCDC from two collected stool specimens. The predominant symptoms were vomiting and diarrhea. Infection Control outbreak measures were immediately started under MHO direction, such as appropriate Transmission Precautions, visitor restrictions, enhanced housecleaning,

cohorting of staff and residents and vigilant hand hygiene emphasized. The outbreak was declared over by the MHO on February 24, 2012.

Dunrovin Park Lodge - RI Outbreak February

The etiology of the respiratory illness (RI) outbreak at the Dunrovin Park Lodge that was declared February 13 that affected 7 residents and 9 staff remained undetermined, with no suitable specimen obtained. Infection Control outbreak measures were immediately started under MHO direction, such as appropriate Transmission Precautions, visitor restrictions, enhanced housecleaning, cohorting of staff and residents and vigilant hand hygiene emphasized. Six residents live in Maple House (Geriatric Psych) and difficulties were experienced in maintaining Transmission Precautions. The outbreak was declared over by the MHO on February 23, 2012.

Bulkley Lodge Long Term Care

The cause of both of the 2012 gastrointestinal outbreaks at the Bulkley Lodge Long Term Care facility in Smithers were confirmed to be Norovirus. The first outbreak was declared on Jan 2 and 15 residents and 12 staff met symptoms case definition criteria as determined by the MHO. The facility was closed to reduce disease spread. The outbreak was declared over by the MHO on January 9, 2012. The second outbreak was declared on January 20 and 3 residents and 8 staff met case definition criteria as determined by the MHO. The outbreak was declared over by the MHO on January 31. Bulkley Lodge nursing and housekeeping staff worked diligently to contain the outbreaks.

Jubilee Lodge Long Term Care - GI Outbreak

Etiology of the gastrointestinal (GI) outbreak at Jubilee Lodge Long Term Care facility declared on May 10 that affected 6 residents and no staff remained undetermined. The main symptom was diarrhea. NHA IC outbreak precautions were immediately initiated, including increased housekeeping efforts, Contact Precautions for all symptomatic residents, etc. The importance of Hand hygiene was emphasized with all staff. The outbreak was declared over by the MHO on May 13.

Jubilee Lodge Long Term Care - RI Outbreak

Etiology of the respiratory illness (RI) outbreak at Jubilee Lodge Long Term Care facility declared on July 10 that affected 24 residents and 8 staff remained undetermined, with BCCDC confirming swabs negative for influenza. NHA IC outbreak precautions were immediately initiated, including increased housekeeping efforts, Transmission Precautions for all symptomatic residents, etc. The importance of hand hygiene was emphasized with all staff. The outbreak was declared over by the MHO on July 15.

Gateway Assisted Living - GI Outbreak

Etiology of the gastrointestinal (GI) outbreak at Gateway Assisted Living facility declared by the MHO on Nov 3 remained undetermined, with BCCDC confirming collected stool specimens negative for Norovirus. 12 residents and 3 staff met the outbreak case definition criteria as determined by the MHO. NHA IC outbreak precautions were immediately initiated, including increased housekeeping efforts, Contact Precautions for all symptomatic residents, etc. The

importance of hand hygiene was emphasized with all staff. The outbreak was declared over by the MHO on November 8.

North Peace Care Centre/Complex Care

Etiology of the gastrointestinal (GI) outbreak at North Peace Care Centre declared by the MHO on January 11 was not determined. The predominant symptoms affecting 4 residents and no staff were diarrhea and vomiting. Actions taken: Staff outbreak education inservicing, Contact/Droplet Precautions for all symptomatic residents, Day Care Programs cancelled, admissions/discharges restricted, enhanced housekeeping and cohorting of staff. The outbreak was declared over by MHO January 16. Future actions were determined to be continued vigilance regarding GI symptoms in residents or staff, vigilant handwashing and Contact Precautions for these cases.

Fort St. John Hospital

Etiology of the gastrointestinal (GI) outbreak at Fort St John Hospital declared by EHO November 16 was not determined, with BCCDC confirming collected single stool specimen negative for Norovirus. The predominant symptoms affecting 4 patients and no staff were diarrhea and vomiting. Actions taken: Staff outbreak education inservicing, Contact Precautions for all symptomatic patients, enhanced housekeeping and cohorting of staff/patients. The outbreak was declared over by MHO Nov 20. Future actions were determined to be continued vigilance regarding GI symptoms in residents or staff, vigilant handwashing and Contact Precautions for these cases.

Queen Charlotte Island Hospital

Etiology of the gastrointestinal (GI) outbreak at QCI Hospital declared by the MHO January 17 was confirmed by BCCDC to be Norovirus. A total of 21 staff and 7 residents met the case definition criteria determined by MHO. Infection Control outbreak measures were carried out appropriately. The outbreak was declared over by the MHO January 27. Areas of improvement for future were identified as enhanced housekeeping for both wards and staff eating areas.

Mills Memorial Hospital Acute Care

The cause of the GI outbreak at Mills Memorial Hospital in Terrace was confirmed by BCCDC to be Norovirus. The initial case was identified on November 5 and the outbreak was declared by the MHO on November 9. The predominant symptoms affecting 4 patients and 2 staff and 1 nursing student were diarrhea and vomiting. Actions immediately taken: Staff outbreak education inservicing, Contact Precautions for all symptomatic patients, enhanced housekeeping and cohorting of staff/patients. The outbreak was declared over by the MHO November 14. Staff hours lost was undetermined.

Terrace View Lodge/Complex Care

The cause of the gastrointestinal (GI) outbreak at Terrace View Lodge reported July 20 was not determined. The predominant symptoms affecting 8 residents and 1 staff were diarrhea and vomiting. Environmental Health implemented GI outbreak measures immediately in the facility with Infection Control consult, and the outbreak was declared over by the MHO July 25.

Construction and Renovation

Construction and Renovation in health care facilities is regulated under the Canadian Standards Association (CSA). Infection Prevention and Control Practitioners are given the following responsibilities:

- (a) be an active member of the multidisciplinary team throughout the life of the construction project, from the planning stage to the final evaluation after completion of the work;
- (b) ensure that the appropriate preventive measures are initiated and adhered to; and
- (c) have the authority to stop construction if there is a significant failure to adhere to the required preventive measures.

(Infection control during construction, renovation, and maintenance of health care Facilities, CAN/CSA - Z317.13-07; 6.8.2.2)

In 2011-2012, there were a number of renovations and new construction that IPCP's were involved with. Of note was the new hospital in Fort St. John and the renovation of UHNBC to accommodate the new Cancer Clinic.

With the use of a construction/renovation matrix, the IPCP's identified the population group that was impacted and assessed their risk potential, from lowest to highest risk. The construction/renovation activity was noted and a construction/renovation permit was created. If construction activity did not follow CSA standards IPCP's issued a violation ticket. In 2011/2012 there was a total of 195 construction permits issued and 12 violation tickets.

Education

Type	Description	Participants
Hand Hygiene (NH wide)	The development and implementation of the Hand Hygiene Action Plan, started in 2010/2011, and continued in 2011/2012. It required a significant amount of education on the topic, presented to a wide range of NH staff and physicians. This included education concerning the necessity of the program; education about changes in practice and/or documentation associated with the action plan; and education about the audit process. The education was presented in both formal scheduled sessions and informal learning opportunities as they arose. Hand Hygiene Toolkits were distributed to all acute sites.	All NH staff and physicians, in varying contexts.
Orientation (NH wide)	Infection Prevention & Control Practitioners are involved in both general staff orientation as well as nursing-specific orientation sessions. Generally, the Infection Prevention & Control orientation sessions involve lecture-style teaching, using a standard NH PowerPoint presentation, with the possible addition of teaching aides (e.g. the Glitter bug handwashing tool). New staff is also required to complete of Infection Prevention & Control and hand hygiene online education modules.	All newly hired staff during 2011/2012, as well as some staff interested in a review of orientation information.
Education given within Northern Health	The Infection Prevention team were involved in providing education to a variety of disciplines within Northern Health. Education was given with the use of PowerPoint presentation as well as a hand washing demonstration. General infection control principals were also taught and many resources made available for individual's further consideration.	Allied Health care team, diagnostic team retreat, ambulance personnel, housing lifeline coordinators, community response unit (CRU), mental health and addictions.
Education within the community	Building on Northern Health's mission statement, the Infection Prevention and Control Practitioners have reached into the community to provide education on hand hygiene and general infection control practices. The use of power points, visual aides, brochures and other instructional resources were used to bring to the public the infection control message.	AIMHI Simon Fraser Lodge Schaeffer Residence Healthy Living Forum Dementia Conference Aboriginal Health Conference and even a Kindergarten class
Decision Support Tool (DST) Revisions (NH wide)	The Infection Prevention & Control team continued to review and restructure all Northern Health IP&C policies & procedures, in the interest of moving away from the large manual format to separate Decision Support Tools for each topic. As such, many of the Infection Prevention & Control policies and procedures have been altered to adhere to new best practice findings. Staff education has been provided accordingly, to ensure that staff practice reflects the updated policies & procedures.	Staff participating in the education has varied, dependent upon the content of the updated DST. Those affected by the change have been informed of any changes made to the policies / procedures.

Type	Description	Participants
<p>Resource Development (NH wide)</p> <ul style="list-style-type: none"> • Decision Support Tools (DSTs) • “Did You Know” Newsletter • Information Pamphlets • Power Point Presentations 	<p>IPCPs continue to work through the process of revising and updating Infection Prevention & Control policies and procedures, moving away from the manual format to separate DSTs for each topic.</p> <p>“Did You Know” Newsletter - One page newsletter created for delivery of quick pertinent information points to staff and clients. Each “Did You Know” newsletter concerns a single topic (e.g. scabies, MRSA, Influenza) and can be posted throughout facilities, distributed to appropriate staff groups as well as found online.</p> <p>Information pamphlet is a continual process, often informed by events or issues as they arise, indicating the need for resources (bed bug pamphlet due to bed bug incident in acute care facility).</p> <p>Power Point presentations were developed to facilitate education sessions throughout NH, including presentations concerning hand hygiene, plant & property management and infection prevention as well as presentations introducing changes in practice.</p>	<p>All staff throughout NH, to varying degrees, depending upon context and need.</p>
<p>Teaching resources and education sessions for Optimization Clinic (UHNBC)</p>	<p>Education sessions were held for the Optimization Clinic (joint replacements) with clients about infection prevention and control practice from a client’s perspective. Hundreds of clients took advantage of this clinic.</p>	<p>Educational pamphlet available to clients of optimization clinic</p>
<p>Infection Control Week (NH wide)</p>	<p>Infection Control Week (October) provided an excellent opportunity for a variety of education opportunities with staff and clients throughout NH. Fun activities, posters/banners and education sessions allowed the IPCPs to increase awareness of their role in NH as well as share pertinent information with an attentive audience.</p>	
<p>Student teaching (NH wide)</p>	<p>In addition to holding education sessions for staff and physicians, a number of IPCPs have taken the initiative to offer learning opportunities to outside groups, such as student healthcare providers (RNs, LPNs & Care Aides).</p>	

Projects & Initiatives

Hand Hygiene

The purpose of this project was to implement a Health Authority wide Hand Hygiene Program. The goal of the project was to increase the awareness and importance of hand hygiene with staff, patients and visitors. An auditing process for hand hygiene and a reporting structure of the compliance to hand hygiene were key issues.

Status: The Hand Hygiene Program has been implemented in all NH Acute Care Sites as well as many Residential Care sites.

Activities and Milestones: Northern Health's Hand Hygiene Program was developed and accepted in 2010/2011 and 2011/2012 marked the year in which baseline data was available. Infection Prevention and Control Practitioners encouraged NH facilities to participate in the "Stop clean your hands" day initiative from Canadian Patient Safety Institute. IPCPs distributed hand hygiene toolkits to facilitate learning about hand hygiene. A webpage was created on iPortal to focus attention on hand hygiene and bring resources to staff at Northern Health. Northern Health participated in the Provincial Hand Hygiene Working group's Hand Hygiene Perception Survey.

Organizational Impact: NH has partnered with the Provincial Hand Hygiene Working group (PHHWG), the Ministry of Health and the Office of the Auditor General to improve patient care by increasing hand hygiene compliance in healthcare.

Accreditation

Northern Health facilities went through the accreditation process in June 2011 and Infection Prevention and Control as well as the Sterilization and Processing Departments (SPD) were part of the focus.

Status: Accreditation was completed June 2011

Activities and Milestones: Infection prevention and Control had a total of 103 criteria to meet, of those 96 were met, 3 did not apply to NH and 3 require additional work to complete. The SPD had a total of 99 criteria to meet, 93 criteria were met, 3 criteria did not apply and 3 criteria require additional attention. The IC group was commended for the work put forth to develop the Hand Hygiene Education and Auditing process. The SPD was commended on the dedicated work put forward in developing the SPD program within Northern Health and for encouraging and enabling SPD staff in achieving CSA certification.

Sterile Processing Department (SPD)

Accreditation

In June of 2011, Sterile Processing went through its first accreditation survey across Northern Health. Sites specifically surveyed were UHNBC, Mills Memorial Hospital and Fort St John Hospital.

Commended for:

- 1) Dedicated work towards developing a strong sterilization and reprocessing (SPD) program across the Health Authority, including a comprehensive set of policies and procedures.
- 2) For ensuring its staff clearly understand their contribution to Infection prevention and control and patient safety
- 3) For encouraging and enabling staff to achieve Canadian Standards association(CSA) certification in reprocessing

There are 4 specific criteria that require attention:

- 1) The organization appropriately contains and transports items to the reprocessing unit or area
- 2) The organization conducts baseline and annual competency evaluations of staff member in SPD
- 3) Before releasing a sterilizer for use, the organization completes appropriate installation testing for sterility assurance using a process challenge device (PCD) equipped with chemical and biological indicators
- 4) The organization completes daily testing of its sterilizers using a PCD equipped with biological indicators, and documents the results.

All four criteria have been addressed by the Coordinator Sterile Processing and sent to Regional Manager Infection, Prevention and Control.

Education

In August 12 staff members from throughout the region successfully wrote the CSA Medical Device Reprocessing Exam to upgrade their skills.

A competency test was written by all Sterile Processing staff and achieved a higher pass rate than the prior year. (87% achieved 2011) This complies with the Sterile Processing Audit document.

A successful Sterile Processing Technician Course took place September through December, with all students graduating. Only one of the students did not pursue employment after the course. The others have all found employment throughout BC and one found work in Whitehorse.

Mini education sessions continue on a monthly basis as do Monthly Sterile Processing Council Meetings.

Terrace

Mills Memorial Hospital ceased to use the Ethylene Oxide sterilizer due to many deficiencies in current standards. Sterile Processing is waiting for capital funding to replace the sterilizer with a different low temperature sterilizer.

Audit Activities

Only the large sites (those running operating rooms) were audited in 2011. Ten sites in all were audited and showed increased performance results. All sites performing any reprocessing will be audited in 2012 throughout Northern Health.

SITE:	2010	Score	2011	Score
	Date:		Date:	
Queen Charlotte City	Aug 23rd	97.74%		
Masset	N/A		N/A	
Stewart	Aug 16th	93.93%		
Burns Lake	June 7th	94.54%		
Granisle	N/A		N/A	
Fort St James	N/A		N/A	
Fraser Lake	May 19th	97.35%		
Kitimat	June 9th	98.54%	July 12th	99.51%
Smithers	Sept 7th	99.52%	June 27th	99.50%
Hazelton	June 8th	97.87%	July 8th	98.37%
Terrace	June 8th	96.80%	July 12th	97.88%
Houston	June 7th	92.30%	N/A	
Vanderhoof	May 19th	98.17%	June 15th	98.52%
Quesnel	May 7th	91.50%	July 12th	95.33%
Valemount	N/A		N/A	
McBride	N/A		N/A	
Fort St John	April 22nd	97.53%	Aug 15th	98.17%
Fort Nelson	May 26th	97.32%		
Mackenzie	April 21st	96.96%		
Chetwynd	N/A		N/A	
Dawson Creek	April 22nd	96.71%	Aug 16th	97.56%
Hudson's Hope	April 23rd	95.94%		
Tumbler Ridge	N/A		N/A	
Atlin	Aug 18th	69.84%	N/A	
Dease Lake	Aug 17th	97.05%		
Prince Rupert	June 9th	96.20%	April 27th	97.73%
Prince George	Aug 13th	99.02%	July 26th	98.48%

The audit tool has been revised by the Provincial Reprocessing Working Group for 2012, so expectation of results will be different.

Development of the SPD web site on iPortal. Contains links to Education sessions, Best Practice Guidelines, Policies and Procedures and much more!

Terminology & Abbreviations

ABHR - Alcohol-Based Hand Rub

ARO - Antibiotic Resistant Organism

BVDH -Bulkley Valley District Hospital

CA-MRSA - Community-Associated Methicillin-Resistant Staphylococcus aureus.

CDAD - Clostridium difficile Associated Diarrhoea

CDC - Center for Disease Control & Prevention

CDI - Clostridium difficile Infection

CNC - College of New Caledonia

CNISP - Canadian Nosocomial Infection Surveillance Program

DCDH - Dawson Creek & District Hospital

DOC - Director of Care

DST - Decision Support Tool

EHO - Environmental Health Officer

FSJH - Fort St. John Hospital

GI - Gastrointestinal Illness

HAI - Healthcare-Associated Infection

HA-MRSA - Healthcare-Associated Methicillin-Resistant Staphylococcus aureus

HH - Hand Hygiene

HSA - Health Service Administrator

HSDA - Health Service Delivery Area

IDC -Innovations and Development Commons

IPCP - Infection Prevention & Control Practitioner

KGH - Kitimat General Hospital

LPN - Licensed Practical Nurse

MAC - Medical Advisory Committee

MHO - Medical Health Officer

MMH - Mills Memorial Hospital

MRSA - Methicillin-Resistant Staphylococcus aureus

NEHSDA - Northeast Health Service Delivery Area

NEMAC - Northeast Medical Advisory Committee
NH - Northern Health
NHIPCP - Northern Health Infection Prevention & Control Program
NHSN - National Healthcare Safety Network
NIHSDA -Northern Interior Health Service Delivery Area
NIMAC - Northern Interior Medical Advisory Committee
NNIS - National Nosocomial Infection Surveillance
NWHSDA- Northwest Health Service Delivery Area
NWMAC - Northwest Medical Advisory Committee
UHNBC - University Hospital of Northern British Columbia
OR - Operating Room
PHHWG - Provincial Hand Hygiene Working Group
PHN - Public Health Nurse
PHSA - Provincial Health Services Authority
PRRH - Prince Rupert Regional Hospital
QCCH - Queen Charlotte City Hospital
RCMP - Royal Canadian Mounted Police
RI - Respiratory Illness
RN - Registered Nurse
SHEA - Society for Healthcare Epidemiology of America
SPD - Sterile Processing Department
SSI - Surgical Site Infection
VCC - Vancouver Community College
VIHA - Vancouver Island Health Authority
VP - Vice President
VRE - Vancomycin-Resistant Enterococcus