



# NOVA SCOTIA

## Health and Wellness

# Protocol for Hand Hygiene Adherence Monitoring for Acute Care Hospitals in Nova Scotia

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### *Patient Safety Act*

Revised December 2015

The following protocol is an appendix to the Patient Safety Reporting Regulations for the *Patient Safety Act* pertaining to reporting of hand hygiene adherence rates. This protocol will provide a standardized process for the collection of hand hygiene adherence rates and subsequent process for reporting to the public and to the Health System Quality branch at the Department of Health & Wellness.

DISCLAIMER: Changes may occur to this protocol over time. Users must refer to the online version of this document located on the DHW IPCNS website (<http://ipc.gov.ns.ca/>) to ensure version accuracy.

## Protocol for Hand Hygiene Adherence Monitoring for Acute Care Hospitals in Nova Scotia

### Background

An Act to Improve Patient Safety and Health Systems Accountability (*Patient Safety Act*) and regulations requires that acute care facilities report adherence rates for hand hygiene of health care workers (HCWs) both publicly and to the Department of Health and Wellness (DHW). The Nova Scotia Health Authority (NSHA) and the IWK Health Centre (IWK) will follow this protocol to provide a standard for data collection and reporting.

#### What is hand hygiene?

Hand hygiene is the action of cleaning hands. There are two acceptable options for performing hand hygiene. These options include the use of an alcohol-based hand rub (ABHR) or soap and running water. When hands are visibly soiled, soap and water must be used.

While using an ABHR is the superior means for hand hygiene within health care settings, for some microorganisms (e.g. *Clostridium difficile*), cleaning hands with soap and water is preferred. In these instances, if a hand hygiene sink is not immediately available, ABHR can be used and then hands washed with soap and water as soon as possible.

#### Why are hand hygiene rates being publicly reported?

The single most common way of transferring the microorganisms that cause healthcare-associated infections (HAIs) is on the hands of HCWs. HCWs move from patient to patient and room to room while providing care and working in the patient environment. This movement provides many opportunities for the spread of microorganisms on hands that can cause infections. Monitoring hand hygiene practices is felt to be necessary to improving hand hygiene adherence rates and, in turn, reducing HAIs.

Public reporting of hand hygiene adherence rates is one of many interventions that may help shape and change HCW behaviour. Public reporting of adherence rates allows for heightened public awareness and education on the importance of hand hygiene in the prevention of infections. Public reporting can ensure and confirm a system-wide commitment to public accountability and transparency.

As outlined in Section 60 of the *Health Authorities Act*, the DHW is accountable for the strategic direction of the healthcare system including; developing and ensuring service delivery standards; monitoring, measuring and evaluating the quality, accessibility, and comprehensiveness of health services; and establishing requirements for information systems. By reporting hand hygiene adherence rates, the health authorities will assist the DHW in its capacity to comply with its roles and responsibilities as outlined under the *Health Authorities Act* and the *Patient Safety Act*.

#### What is the definition of hand hygiene adherence?

Hand hygiene adherence is defined as the performance of hand hygiene when indicated during patient care activities. The hand hygiene adherence rate is defined as the numbers of times hand hygiene is

performed correctly divided by the number of hand hygiene opportunities (i.e. the numbers of times hand hygiene is indicated during a patient care activity), multiplied by one hundred.

There are a number of ways that hand hygiene adherence rates can be determined. One way is by having staff members, who are trained, observe how often HCWs clean their hands before and after they come in contact with the patient and their environment. As described in the Canadian Patient Safety Institute's (CPSI) Hand Hygiene Challenge, the four indications or "moments" when hand hygiene should be performed are:

- Moment 1: Before initial patient/patient environment contact
- Moment 2: Before aseptic procedure\*
- Moment 3: After body fluid exposure risk
- Moment 4: After patient/patient environment contact

Hand hygiene in relation to Moment 1 (Before initial patient/patient environment contact) and Moment 4 (After patient/patient environment contact) will be measured and reported both publicly and to the DHW.

The DHW will not require reporting of Moment 2 (Before aseptic procedures) or Moment 3 (After body fluid exposure risk). While equally important, Moments 2 and 3 can be more difficult to observe.

\*An aseptic procedure could include: a) touching/manipulating a body site that should be protected against infections (e.g., wound care including dressing change and wound assessment); b) manipulating an invasive device that could result in infection of a body area (e.g. priming intravenous infusion set, inserting spike into opening of IV bag, flushing line, adjusting intravenous site, administering medication through IV port, changing IV tubing).

## Data Collection Methodology

### How will this information be collected and reported?

Facilities may and are encouraged to utilize the Observation Tool developed by Canadian Patient Safety Institute's (CPSI) Hand Hygiene Challenge (Safer Healthcare Now!). If facilities are using alternative forms for data collection including electronic observation tools/forms, these tools will need to collect the data points required to calculate the adherence rates that are required for reporting. All alternative data collection tools must be approved by the DHW prior to their use.

CPSI has created tools to support the collection of hand hygiene observations. These data collection tools are accessible from the CPSI Patient Safety Metrics web-based data collection and reporting tool: <https://psmetrics.utoronto.ca/metrics/login.aspx>

A printable CPSI Observation Tool can be obtained through the following link: <http://www.patientsafetyinstitute.ca/en/About/Programs/HH/Documents/Tools%20and%20Templates/Hand%20Hygiene%20Observation%20Tool.pdf>

Guidelines for conducting hand hygiene observations include the following:

1. Observers are trained. Training is conducted by staff/individuals experienced in hand hygiene observation methodology through theoretical and practical training methods. Training tools to

for observers conducting HH audits, including PowerPoint presentations and training videos, are available on the *Just Clean Yours Hands* website.

[http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/JustCleanYourHands/Pages/Monitoring-and-Observation-\(Auditing\).aspx](http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/JustCleanYourHands/Pages/Monitoring-and-Observation-(Auditing).aspx)

2. Observations are conducted through direct observation.
3. Observations are conducted overtly (openly), without interfering with ongoing work.
4. Observations are applicable for routine care and not emergent situations aimed at sustaining life, limb and /or vital organ (e.g. Code Blue).
5. Data collection does not identify the individual HCW.
6. Observations can be carried out for a minimum of 20-30 minute period.
7. Data collection includes observations that vary across time and place (e.g. day of the week, time of day).
8. Acute care inpatient units and emergency departments will have hand hygiene adherence measured at least once annually.
9. Hand hygiene adherence measurements will be reflective of the types of HCWs, rather than just repeated or prolonged observations on a small number or single type of HCW.
10. It is easier to observe one HCW at a time; however observation of more than one HCW can be carried out simultaneously provided you are confident you can observe the complete sequence of events.

A resource containing comprehensive instructions on how to use the hand hygiene observation tools and principles for conducting observations can be found through *Safer Healthcare Now! Canada's Hand Hygiene Challenge* (see page 2):

<http://www.patientsafetyinstitute.ca/en/About/Programs/HH/Documents/Tools%20and%20Templates/Hand%20Hygiene%20Observation%20Tool.pdf>

### **Who will be observed?**

Hand hygiene adherence rates will be calculated according to HCW category. Observations will be completed on a variety of HCWs such as: nurses, physicians, students, social workers, pastoral care, IV/blood collection team, physiotherapists, environmental services workers, patient transporters, radiology technologists, respiratory therapists, dieticians, volunteers and personal care assistants. Excluded in hand hygiene adherence rate observations are visitors, including family members.

### **Where will the observations take place?**

Observations may be done in any unit of the acute care facility, but is to include acute care inpatient units and emergency departments. The selection of care areas/units monitored will be made in conjunction with the appropriate committee at the organization (e.g. Infection Prevention and Control Committee, Hand Hygiene Committee, Quality Committee).

As hand hygiene is the single most important element to prevent healthcare-associated infection, care areas known to have greater potential for high infection rates (e.g. acute care units) will be targeted. Improvements in hand hygiene adherence rates in these care areas will have the greatest impact on the prevention of infection and provide a safer environment for patients. Generally, these units also have the greatest staff/patient activity and interaction, which results in higher numbers of 'Moments' being observed in shorter time periods.

## Calculating the hand hygiene adherence rate

The number of times that hand hygiene was performed for each of the indications is divided by the number of observed hand hygiene indications for that specific indication, and the results are multiplied by 100.

### Moment 1:

*Before Initial Patient/Patient Environment Contact:*

$$\frac{\text{\# of times hand hygiene performed before initial patient/patient environment contact}}{\text{\# observed hand hygiene indications before initial patient/patient environment contact}} \times 100$$

### Moment 4:

*After Patient/Patient Environment Contact:*

$$\frac{\text{\# of times hand hygiene performed after patient/patient environment contact}}{\text{\# observed hand hygiene indications after patient/patient environment contact}} \times 100$$

This calculation represents the adherence rate for hand hygiene for the reporting facility. For example, if hand hygiene was performed 60 times before initial patient/patient environment contact by HCWs for 100 initial patient/patient environment contact episodes, the hand hygiene adherence rate is 60%.

## How many observations are the NSHA/IWK required to make?

To ensure that the data is valid, a minimum number of observations will be captured based on the number of funded acute care beds within the health authority. This number excludes beds in long term care or level 2 units/wards, residential mental health units and withdrawal management units. The number of funded acute care beds to be used for calculation purposes will be determined annually, at the beginning of the fiscal year, through mutual agreement by the DHW and the NSHA/IWK. The calculation below will ensure that a district with 100 beds will complete at least 200 observed moments for hand hygiene for each quarter.

The number of observed moments will be calculated using the following:

$$\frac{\text{\# of funded acute care beds/authority} \times 200 \text{ observation opportunities}}{100} = \text{Minimum \# observed moments/quarter}$$

For example: A health authority with 242 beds will complete a minimum of 484 observed moments per district for each quarterly reporting period.

As situations may occur that may make completion of the required number of observations difficult (e.g. outbreaks), NSHA/IWK will contact the Infection Prevention and Control Nova Scotia (IPCNS) division of the Health System Quality branch at the DHW for approval to defer or adjust quarterly data submission. It will be the expectation that the health authority ensure that the minimum number of observations based on the number of inpatient beds is still met for the fiscal year.

This represents only a minimum data set required. Facilities may choose to increase the number of observations if a patient safety incident which results in harm, outbreak or opportunity allows or requires them to do so. If more than the minimum number of observations required is completed, all observations must be included in the reporting data.

## Process for Public Reporting

### What will be publicly reported?

NSHA/IWK are encouraged to conduct observations and collect data for the four moments of hand hygiene, however only two of the moments will be required to be publicly reported.

**Moment 1:** Before initial contact with the patient/patient's environment AND

**Moment 4:** After contact with the patient/patient's environment.

Facilities within the NSHA/IWK who are collecting adherence rates for all four moments are encouraged to report this at the health authority or facility level.

### Reporting process to the DHW

1. Hand hygiene adherence rates will be completed quarterly using the principles and practices as described through this protocol.
2. The minimum number of observations will be completed quarterly.
3. Hand hygiene adherence rates will be entered on CPSI *Patient Safety Metrics* online portal within 1 month after the end of the quarter (See "Reporting process through *Patient Safety Metrics*")

Quarterly data entry deadlines:

Quarter 1 (April 1- June 30): August 15

Quarter 2 (July 1- September 31): November 15

Quarter 3 (October 1-December 31): February 15

Quarter 4 (January 1-March 31): May 15

4. NSHA/IWK will post hand hygiene adherence rates on their public websites. Organizations may choose their own methods to display their hand hygiene adherence results (e.g. graphs, charts) or provide a link to the DHW webpage containing their publicly reported patient safety indicators.
5. The hand hygiene adherence rates will be accompanied by a narrative that will allow the public to interpret the rates and indications being measured. This narrative will be developed and reviewed in collaboration between the NSHA/IWK and the DHW to ensure consistent messaging.

### Reporting process through *Patient Safety Metrics*

Authorities will report their hand hygiene adherence rates for Moments 1 and 4 through the CPSI Patient Safety Metrics web-based data collection and reporting tool:

<https://psmetrics.utoronto.ca/metrics/login.aspx>

Facilities within the NSHA and IWK will have a confidential login accounts through CPSI. NSHA/IWK shall populate the numerator and denominator information for Moments 1 and 4 and verify the automated hand hygiene adherence rate calculation. Access to all provincial hand hygiene rates entered through *Patient Safety Metrics* will be available to the specified team within the IPCNS division of the Health System Quality branch at the DHW.

### **What will the health care system do with this information?**

Like the public reporting in other indicators, monitoring hand hygiene adherence rates is about overall performance improvement. The information gathered, in addition to other outcome measures, may assist hospitals in evaluating the effectiveness of their infection prevention and control interventions and make further improvements based on this information.

The DHW will review this data on a quarterly basis to evaluate overall effectiveness, and identify and share best practices and improvements from a provincial perspective. IPCNS at the DHW will provide external consultative support to organizations through voluntary consultation or as indicated.

### **How will DHW present the data?**

The DHW will present zone level hand hygiene adherence rates for the NSHA and a rate for the IWK on the DHW website on a quarterly basis. In addition, DHW will determine a provincial rate for hand hygiene adherence by aggregating the data for the NSHA and IWK.

An annual report will be produced and posted publicly beginning after the first fiscal year of quarterly reporting data.

### **How should the data be interpreted?**

The rates presented on the NSHA/IWK and the DHW websites are best used to measure individual district performance over time. It can also be used to ask informed questions to healthcare facility representatives about their infection prevention and control program. It is not intended to be a source for making decisions about healthcare nor should it be used to make generalizations about the quality of care provided by facilities.

### **References:**

Australia Hand Hygiene (2010). *Five moments of hand hygiene*. Australian Commission on Safety and Quality in Health Care.

Canadian Patient Safety Institute. (2012). *Canada's hand hygiene challenge: Hand hygiene toolkit*. Canadian Patient Safety Institute.

Ontario Ministry of Health and Long-Term Care (2012). *Patient Safety: hand hygiene*. Retrieved from, [http://www.health.gov.on.ca/en/public/programs/patient\\_safety/hh/](http://www.health.gov.on.ca/en/public/programs/patient_safety/hh/)

The Joint Commission (2009). *Measuring hand hygiene adherence: Overcoming the challenges*. The Joint Commission, Illinois.

World Health Organization (2009). *Hand hygiene technical reference manual*. World Health Organization, Geneva.