

# HAND HYGIENE COMPLIANCE MONITORING BY INDIRECT MEASURES TOOLKIT

Interior Health would like to recognize and acknowledge the traditional, ancestral, and unceded territories of the Däkelh Dené, Ktunaxa, Nlaka'pamux, Secwépemc, St'át'imc, syilx, and Tšilhqot'in Nations where we live, learn, collaborate, and work together.

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A **PRINTED** copy of this Toolkit may not be the most recent version.

## IPAC HAND HYGIENE TOOLKIT

Hand Hygiene Compliance Monitoring  
by Indirect Measures

DATE: OCTOBER 19, 2023

REVISED DATE: SEPTEMBER 3, 2024

## Purpose

Performing hand hygiene remains the most effective strategy for minimizing the spread of microorganisms. It is recommended that hand hygiene compliance rates for IH staff and physicians be assessed through direct observation review, however in clinical areas where direct observation is not reasonable or practical, an alternative approach involves considering alternative auditing methods.

It is recognized that alternative methods are not as robust as direct observation in acute inpatient settings; however, they offer valuable data for monitoring hand hygiene compliance in rural acute and long-term care, outpatient, and other non-traditional health care settings (e.g., pre-hospital care, outreach, mental health services, and community health).

To comply with [Accreditation Hand Hygiene Compliance Required Organizational Practice](#), **a combination of two or more alternative indirect methods is required** to provide a more accurate picture of compliance with hand hygiene practices. Accreditation Canada offers 4 alternative methods of measuring compliance. Each alternative method has their own advantages and disadvantages to be considered. The methods are:

1. Healthcare Providers (HCPs) use *Self-auditing Surveys* to measure their perceived compliance
2. *Measurement of Products* used, such as soap and ABHR
3. *Patient, Visitor and Family Surveys* that ask questions about their HCPs hand hygiene practices during their interactions
4. *Measurement of Hand Hygiene Technique* that gauge's quality of HH practice

These methods are listed below, together with their appreciated advantages and disadvantages to consider. For those interested in implementing indirect measurement methods in their respective areas or programs, please reach out to [ipac@interiorhealth.ca](mailto:ipac@interiorhealth.ca) for additional assistance or collaboration as needed.

## Self-Auditing Surveys

A self-audit survey records data directly from the HCP regarding their perceived compliance with accepted hand hygiene practices. Self-audit surveys may be completed through an online survey or paper-based tool. Online surveys are conducted by using REDCap, a secure web application for building and managing online surveys. See *Appendix A* for the paper-based templates of the REDCap surveys.

### 1. Advantages of this method:

Surveys are an inexpensive way of gathering information regarding the HCPs knowledge and understanding of hand hygiene moments, methods, and technique, as well as the education they have received in an identified period. Surveys can gather information regarding impediments (e.g., hand/wrist jewelry and nail adornments) and barriers to hand hygiene (e.g., no point of care products available), and provide a useful reminder on the importance of hand hygiene. Survey data can be easily shared and allows for data driven, meaningful Quality Improvement (QI).

### 2. Disadvantages of this method:

Surveys do not measure hand hygiene technique. HCPs may overestimate their compliance with hand hygiene. Survey platforms have their own unique disadvantages to consider.

### 3. Specific program considerations:

Programs should determine the best way to deliver the survey while taking into consideration program-specific practices and barriers. For example, BCEHS uses Survey Monkey as its best suited to the mobility of paramedics. QR codes can be used when utilizing hand hygiene self-audit with Paramedics at emergency department. \*Note: Survey Monkey is America owned and subject to American Law, REDCap is the preferred online survey method at Interior Health.

It will be the responsibility of the program leaders to determine how the survey would best be delivered in their setting. This will ensure front-line ownership and sustainability of the ongoing quality improvement requirements mandated by Ministry of Health (MoH). See *Appendix D* for suggested phases for implementing self-auditing measurement tools.

## Measurement of Products

Using the [HH Product Usage Tracker tool](#) to measure the amount of ABHR and soap used, is an indirect way of measuring HCPs adherence to hand hygiene guidelines.

### 1. Advantages of this method:

Measuring product use can be conducted at any time and allows tracking over a period of time. It is an unobtrusive way of measuring compliance by monitoring for significant variances in volume of product and reflects overall hand hygiene activity.

It does not indicate when the HCP is performing hand hygiene or if accepted hand hygiene practices are being followed. Product may be used by patients and family, therefore not reflecting true HCP usage.

## Patient, Visitor and Family Surveys

Surveying patients, visitors and family is an indirect way of assessing hand hygiene compliance. These surveys would gather observational data on hand hygiene activities that the patient, visitor, or family witnesses their HCP perform. Anonymous surveys are preferred to increase participation without fear of challenging authoritative hierarchies resulting in a decrease to quality of care received. See *Appendix B* for an example of survey questions.

### 1. Advantages of this method:

Measures patient, visitor, and family satisfaction with HCPs hand hygiene. Can be incorporated into PHSA patient satisfaction survey. Can be tailored to site/unit and administered in several ways, such as in person interviews, by telephone, or paper/electronic methods while onsite.

### 2. Disadvantages of this method:

If not delivered in a timely manner, recall bias can be an issue. Electronic methods may present a barrier to those who are not technologically literate. Some moments of hand hygiene may not be witnessed (e.g., if done outside environment door immediately prior to entering space) and result in a falsely lower score. In addition, the want to thank and please the person providing care may result in inaccurate data.

It will be the responsibility of the program leader to determine how the survey would best be delivered in their setting. This will ensure front-line ownership and sustainability of the ongoing quality improvement requirements mandated by MoH.

Note: As per IH Information Privacy Office, posters with QR codes are recommended to be posted close to registration/unit/nursing desks to decrease risk of QR code alteration.

## Measurement of Hand Hygiene Technique

Measuring hand hygiene technique is a way to assess the quality of HCPs hand cleaning practices. HCPs participate in hand hygiene activities that simulate the spread of microorganisms and evaluates how well they clean their hands with soap and water or ABHR. Activities can be done through the use of ultraviolet gels/lotions (e.g., Glo Germ) or paints/foods. See *Appendix C* for activity details.

### 1. Advantages of this method:

Interactive way for the HCP to identify knowledge and skills they need to obtain or make improvements on (e.g., identify commonly missed areas while cleaning their hands). Activity items can be inexpensive and/or may already be found at the work site (e.g., gloves).

It requires more time for the HCPs and their respective program leaders. This may be more difficult to implement in areas with higher workloads and/or areas where HCPs are not often together in larger groups (home care). As such, may require more sessions to complete for all HCPs. Sustainability of education initiatives and moving to model of front-line ownership education will be challenging.

## Retrieving Results of Self-Assessment and Patient Satisfaction Surveys

Survey results should be requested quarterly at a minimum, or biannually at a maximum.

Survey results will be provided by the IPAC Epidemiologist in raw data form and can then be used to determine compliance rates. Based on compliance rates, site leadership can identify what is going well and areas that may need improvement and implement changes needed to increase compliance.

To request REDCap results, please fill out the [Hand Hygiene Compliance Request Form](#) and submit to the email noted on the form. The IPAC Epidemiologist will provide the raw data results and instructions on how to convert that data into a hand hygiene compliance display sheet.

## Quality Improvement Initiatives

If you identify or have concerns around areas of hand hygiene practice in your department or facility, and would like assistance in selecting and implementing some quality improvement initiatives, please reach out to IPAC at [ipac@interiorhealth.ca](mailto:ipac@interiorhealth.ca) or to your [Quality Improvement Consultant](#).

## Appendix A: - Hand Hygiene Self-Assessment Tools

**Please complete the short survey below. Please note that all responses are anonymous and confidential, and only aggregate\* data will be shared. Do not include any identifying information in your response.**

\*Aggregate data combines all data collected from various healthcare workers to give a compliance percentage.

\*\*For the purpose of this self-assessment, the term 'patient' is interchangeable with resident or client.

Date: \_\_\_\_\_ Name of Facility: \_\_\_\_\_ Unit/Department: \_\_\_\_\_

Type of facility:

- |   |   |
|---|---|
| <input type="checkbox"/> Acute          | <input type="checkbox"/> Ambulatory         |
| <input type="checkbox"/> Long Term Care | <input type="checkbox"/> Home and Community |
| <input type="checkbox"/> Other          |   |

1. In the past 12 months, have you received any hand hygiene (HH) education (e.g., attending any HH education sessions or completion of Learning Hub module on Hand Hygiene)? (Select all that apply).

- ☐ iLearn module on HH
- ☐ In person teaching/demonstration sessions (e.g., during huddles)
- ☐ In the moment teaching (e.g., provided by peers, Educators, IPAC)
- ☐ Other, specify \_\_\_\_\_
- ☐ No

2. Do you wear any of the following when you provide care to the patient? (Select all that apply).

- ☐ Rings
- ☐ Bracelets/wrist adornments
- ☐ Nail polish/gel nails/nail enhancements
- ☐ Watches, including smart watch or fitness tracker
- ☐ Do not wear any of the above

3. Consider your last patient contact. Did you clean your hands **BEFORE** patient contact (e.g., before entering exam room)? (Moment 1)

- ☐ Yes
- ☐ No

4. Consider the last time you performed a clean or aseptic procedure (e.g., collection of specimens, administering injections, wound care). Did you clean your hands **BEFORE** this procedure (Moment 2)?

- ☐ Yes
- ☐ No
- ☐ Not Applicable

5. Consider your last activity that involved an exposure to blood or body fluids (e.g., after specimen collection, administering injections, examining a wound). Did you clean your hands **AFTER** this activity? (Moment 3)

- ☐ Yes
- ☐ No
- ☐ Not Applicable

6. Did you clean your hands **AFTER** your last patient contact or contact with the patient's environment (e.g., after removal of gloves or PPE, after leaving the patient's environment)? (Moment 4)

- ☐ Yes
- ☐ No

7. When cleaning your hands, did you use ABHR or soap and water?

- ☐ ABHR
- ☐ Soap and Water

## Sample Email Template to Distribute Self-Assessment Survey QR Code:

Hello,

Observing hand hygiene compliance is a required organizational practice of Accreditation Canada. More so, it is the single most effective way to reduce the transmission of microorganisms. Practicing quality hand hygiene with the 4 Moment's for Hand Hygiene helps to keep our (patients/residents/clients), visitors, families, and ourselves safe and healthy.

Direct observation of hand hygiene is the gold standard to ensure compliance. Due to various factors, such as care in patient homes, low census facilities, and rural geography, direct observation by a trained observer is not always possible. Our (team/facility) falls under one of those factors and as such does not have direct observation auditors.

Our (program/facility) is participating in the Hand Hygiene Self-Assessment Audit process which incorporates 2 indirect methods of monitoring hand hygiene compliance. One of those methods is the Hand Hygiene Self-Assessment survey that can be done individually during your workday. You simply scan the QR code below, fill out the required fields and submit! The survey is anonymous, and the data is collated every (3/6) months to show us our compliance rate. We then can use that data to determine what we are doing well and identify areas where we can make improvements.

We are required to maintain consistent hand hygiene compliance monitoring so please aim to submit this survey (insert #) times per work shift.

Please complete the following education and review the associated materials. Once completed, scan the QR code and keep hand hygiene a top priority!

- o Complete ilearns #853 & 854
- o [IH Hand Hygiene Guideline](#)
- o [HH Powerpoint](#)
- o [Hand Care Toolkit for Staff Working in Health Care](#)





## Appendix B: Example Questions of Patient Hand Hygiene Satisfaction Surveys

As part of our ongoing commitment to providing safe patient care, we are asking patients to participate in a short survey. The purpose of this survey is to collect feedback on your experience and observations of health care worker's hand hygiene practices. Your feedback is important to us and will be used for quality improvements to hand hygiene programs throughout Interior Health.

**Please note your participation is voluntary and all responses are anonymous and confidential, and only aggregate\* data will be shared.** \*Aggregate data combines all data collected to give a compliance percentage.

*There are open-ended questions in this survey. We do not wish to collect any information that might identify you or a staff member. We encourage you not to provide any identifying information, such as names or ages, in your answers to open ended questions. The data will be reviewed by a third party to ensure all potential identifiers are removed before data collation occurs. If you have any questions about the survey, please contact Infection Prevention and Control at [IPAC@interiorhealth.ca](mailto:IPAC@interiorhealth.ca).*

Date: \_\_\_\_\_ Name of facility: \_\_\_\_\_ Unit/Department: \_\_\_\_\_  
Type of facility:

- ☐ Acute
- ☐ Long Term Care
- ☐ Ambulatory
- ☐ Home and Community
- ☐ Other

1. Has anybody talked to you about hand hygiene?

- ☐ Yes
- ☐ No

2. Do you know where the hand sanitizer is?

- ☐ Yes
- ☐ No

3. Are you seeing the staff/health care providers clean their hands with soap and water or hand sanitizer before caring for you?

- ☐ Yes
- ☐ No
- ☐ Sometimes

4. Do you feel comfortable asking your health care providers if they have washed their hands?

- ☐ Yes
- ☐ No

5. Are you seeing the staff/health care providers clean their hands with soap and water or hand sanitizer after caring for you?

- ☐ Yes
- ☐ No
- ☐ Sometimes

Wall Poster for Patient Hand Hygiene Satisfaction Survey QR Code:



The poster features a background image of several hands being washed together in a sink. In the top left corner is the Interior Health logo. The title 'Patient Hand Hygiene Satisfaction Survey' is centered in a black box. Below the title, a quote in blue italicized text states: 'Hand Hygiene is the single most effective way to reduce the spread of harmful germs and maintain health and wellness.' This is followed by the text 'Please tell us how we did today!' and 'Scan the QR code below to provide anonymous feedback on our hand hygiene practices!'. A large QR code is centered below this text. At the bottom, a multi-colored horizontal bar is followed by a paragraph acknowledging traditional, ancestral, and unceded territories of the Däkelh Dené, Ktunaxa, Nlaka'pamux, Secwépemc, St'át'imc, Syilx, and Tšilhqot'in Nations.

Interior Health

## Patient Hand Hygiene Satisfaction Survey

*Hand Hygiene is the single most effective way to reduce the spread of harmful germs and maintain health and wellness.*

Please tell us how we did today!

**Scan the QR code** below to provide anonymous feedback on our hand hygiene practices!



Interior Health would like to recognize and acknowledge the traditional, ancestral, and unceded territories of the Däkelh Dené, Ktunaxa, Nlaka'pamux, Secwépemc, St'át'imc, Syilx, and Tšilhqot'in Nations where we live, learn, collaborate and work together.

## Appendix C: Infection Prevention Hand Hygiene Activities

Here are two activities that you can use with your colleagues to assess how you clean your hands. They are simple and only require a few materials: Glo-Germ kit and items available on your work site.

### Chocolate Pudding Activity

#### **You will need:**

- Chocolate/vanilla pudding or red (washable) paint/ketchup
- Gloves of a variety of sizes
- Needles or scissors\*
- Timer

#### **Instructions:**

1. Ask your group to clean their hands with alcohol-based hand rub (ABHR) and wear the appropriate sized gloves.
2. Take the pudding or red paint/ketchup and place a loonie sized amount in each palm.
3. Ask the group to close their eyes and perform hand hygiene as they normally would.
4. Set a timer for 20 seconds OR ask the group to sing/hum: happy birthday twice, or Lady Gaga Pokerface, or Twinkle Twinkle Little Star.
5. When the timer is off or the singing has stopped, ask the group to STOP and open their eyes.
6. Each member of the group should look at their hands to see if there are any missed spots—these areas will be missed when hand hygiene is being performed.
7. Now, ask the participants to remove their gloves and inspect their hands. Glove removal can cause the contamination of hands, which is why it is essential to clean hands after using gloves.
8. Clean Hands! \*\*

\*You can also create small holes in the gloves to demonstrate that gloves are not completely impervious. Evidence shows that micro perforations in gloves can allow the microbes to pass through onto our hands. The participants will see small spots of pudding or paint/ketchup on their hands. Note: ensure that the box of gloves is labeled for use for this activity and NOT returned to the patient care environment.

\*\* It can be difficult to remove gloves without contaminating your hands during removal, as removal may transfer organisms from the gloves to your skin. A recent study (<https://pubmed.ncbi.nlm.nih.gov/26457544/>) demonstrated that 52.9% of glove removals resulted in contaminating either skin or clothing. Gloves are not a substitute for hand hygiene.

This educational video can be played to the group before/after activity if desired:

<https://www.youtube.com/watch?v=M8AKTACyiB0B0>.

## Glo Germ Activity

### **will need:**

- Glo-Germ
- Blue Light

### **Instructions:**

1. Shake the bottle of Glo-Germ or powder well and place a small amount, about the size of a quarter, into the palm of one hand. Spread over both hands completely as if using ABHR. Scrape fingernails on palms to “infect” with “germs” under nails. \*
2. Use the blue light to view your hands- this works best in a darkened room.
  - a. Where your hands glow/glitter- this is where you would have used ABHR on your hands to clean them.
  - b. Where you are not glowing- this is where your hands have not been cleaned.
3. The participants should now wash their hands with soap and water.
4. Use the blue light to view “glowing germs” that remain on your hands- this works best in a darkened room.
  - a. The blue light reveals the remaining “germs” on your hands. Where hands glow/glitter, this is a miss!
  - b. Pay attention to the thumbs, webbing between fingers, cuticle area and wrists.
5. You can ask participants to rewash if glow remains- note the amount of effort required to remove the simulated germs is equal to that of removing most bacteria. \*\*
6. Complete removal of Glo-Germ with normal washing is more difficult if skin is chapped or cracked\*\*, indicating that bacteria is also harder to remove.

For a demonstration, please see this video (Glo-Germ Kids and Experiments):  
<http://www.youtube.com/watch?v=BfRVZsPbDJA>

\*Do not let the Glo-Germ come into contact with clothing as staining may result.

\*\*If any of the participants have hand care issues (e.g., dry and cracked), refer them to the [Hand Care Toolkit for Staff Working in Healthcare](#). Consider connecting them with their supervisor and the workplace health call centre to report ongoing skin issues for further follow-up. Phone: 1-866-922-9464. Website: <http://www.whcallcentre.ca/>.

## Appendix D: Implementation Plan for Indirect Measurement of Hand Hygiene Compliance

We propose a 4 phased approach for implementing hand hygiene alternative methods of compliance:

### Phase 1: Hand Hygiene Education for Health Care Providers

- Managers and inter-professional practice partners should verify if HCPs within their program have completed the IPAC Hand Hygiene for HCW and associated quizzes on iLearn (course 853 & 854). Reminders to do it again as an annual refresher can be helpful.
- There are several educational resources on InsideNet IPAC-Hand Hygiene page that can be shared with HCWs for review:
  - [IH Hand Hygiene Guideline](#)
  - [HH Powerpoint](#)
  - [Hand Care Toolkit for Staff Working in Health Care](#)

### Phase 2: Select 2 self-auditing methods

- Program leadership to determine which indirect methods best suits their program.
- Examples of aspects to consider:
  - What costs are associated with these methods?
  - What are the disadvantages/barriers to each method to consider?
  - What resources make most sense for our program? (REDCap, paper based)

### Phase 3: Executing selected methods

- Once the clinical program has selected indirect methods, they are responsible for executing.
- Examples of aspects to consider:
  - What is the timeline? Which months do we want to self-audit?
  - How will we communicate this to the health care professionals?
  - Who will be responsible for hands-on activities? (e.g., Glo-Germ)
  - Who do we need to collaborate with? (e.g., IPAC, inter-professional practice)

### Phase 4: Evaluation and planning for new initiatives

- Examples of important aspects to evaluate include the selected indirect methods themselves (i.e., the success and drawbacks of each method) and the compliance results.
- Recommended to obtain feedback from the HCPs who participate in the indirect methods:
  - What worked well?
  - What barriers did they experience? Do they have recommendations for changes?

## References

*Hand Care Toolkit for Staff Working in Healthcare*. Interior Health. [Occupational Health \[IH\]-Hand Care Toolkit.pdf - All Documents \(sharepoint.com\)](#).

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