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FREQUENTLY ASKED QUESTIONS

Hand Hygiene Observation and Analysis

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Introduction

Hand hygiene observation and analysis are important elements that help identify gaps and areas for improvement to prevent health care associated infections. This resource can be used by infection prevention and control (IPAC) leads seeking answers to some common questions related to hand hygiene observation and analysis.

Preparing for an Audit

Q1. What training is needed for hand hygiene auditors?

Hand hygiene auditors need to know the 4 moments for hand hygiene, proper hand hygiene technique, and how to observe and assess hand hygiene practices. Auditors should review and understand the following:

- Principles of Hand Hygiene presentation
- Hand hygiene Observation Tool
  - For further practice, review audit training videos and record the appropriate opportunities on the Observation Tool for each scenario.
  - Where available, experienced hand hygiene auditors can support training and help validate observation and auditing practices

Conducting an Audit

Q2. What are the considerations before starting an audit?

Here are some suggestions:[1]

- Determine how you will identify the types of health care workers you may be observing.
- Select a convenient place to observe without disturbing care activities. You may move to follow the health care worker, but do not interfere with their work. You may provide feedback after the session.
- Address any concerns the health care workers may have with your presence. Your presence should be as discreet as possible and in no way infringe on the actions of the health care worker. If a health care worker feels uncomfortable with your presence, they have the right to ask you to leave and you must do so if asked.

- You may observe multiple health care workers sequentially during one observation session.
  - Note: Observing multiple health care workers performing sequential tasks may limit your ability to accurately record hand hygiene opportunities.
- Limit observation periods to no more than 20 minutes to minimize the Hawthorne effect (i.e., increase in hand hygiene compliance due to awareness of being observed). A session may be extended to observe a care sequence to its end[1].

Q3. Should the auditor introduce themselves to health care workers prior to an auditing session?

Refer to your organization's approach to hand hygiene audits to determine if and how auditors should introduce themselves before the start of an observational auditing session. If auditing is new to a unit or care area, the auditor may introduce themselves and the purpose of their audit to staff. In organizations where auditing is routinely conducted as part of the hand hygiene program, a more discrete option that does not involve introductions at the start of the session may be used. If auditors are asked about their presence in the care environment, their response should be to explain their auditing as part of ongoing hand hygiene quality improvement.

Q4. Where is the use of gloves, nails and jewellery recorded, and why is it necessary?

The misuse of gloves, nails and jewellery is recorded in the note box section of the hand hygiene observation tool. Recording this information helps identify gaps in practice, particularly when missed opportunities for hand hygiene are associated with glove use (e.g., do health care workers miss hand hygiene after gloves are removed or are they attempting to perform hand hygiene while wearing gloves?). This can highlight the need for targeted education and quality improvement initiatives.

Q5. Why might the number of opportunities and the number of moments not align on the observation tool?

When observing hand hygiene practices, auditors may observe one hand hygiene opportunity that meets the criteria for more than one moment. For example, if a health care worker completes a care task for one patient/resident/client, performs hand hygiene and then immediately begins a care task for a new patient/resident/client, the hand hygiene opportunity acts as both moment 1 and moment 4. The observation tool allows you to record both the moment and opportunity.

Analyzing Results

Q6. What is a minimum sample size for meaningful results?

It is important to have a large enough sample size to ensure hand hygiene audit results are meaningful. Collecting too few opportunities can result in unreliable compliance rates that may not accurately reflect the hand hygiene practices in your organization.

To determine the minimum sample size:[2]

- **For organizations with 50 beds or more**, multiply the total number of beds by 2 to determine the minimum number of observed opportunities required per year. For example, a 100-bed organization would need to collect approximately 200 observed opportunities per year for reliable compliance rates.

- **For organizations with less than 50 beds**, a minimum of 50 observed opportunities are required. For example, if your facility only has 10 beds you would still require 50 observed opportunities per year to ensure statistical validity.

- **Collecting more than the minimum number** of observed opportunities per year may be beneficial. A larger sample size of observed opportunities can provide a more accurate picture of hand hygiene practices and better inform quality improvement actions. Organizations should consider the feasibility of performing additional audits and the use of other hand hygiene metrics (such as electronic monitoring) when creating an observation auditing schedule.

Observed opportunities should be scheduled throughout the year, rather than at a single point in time, and conducted across multiple shifts to capture variations in care patterns among different health care workers. To meet the minimum amount of required observed opportunities, the frequency of conducting audits may vary (monthly or quarterly) based on organizational priorities. However, the time frame for an audit period should be at least 2 weeks or longer. Smaller organizations may need to collect observations over a longer period to achieve minimum required number of observed opportunities.

Q7. How can data be aggregated if the Just Clean Your Hands (JCYH) Excel workbook is no longer available?

The JCYH Excel workbook was previously provided to support aggregating hand hygiene data, however this Excel workbook is no longer available.

The updated hand hygiene Observation Tool will automatically calculate hand hygiene compliance by each moment. This will be done for all categories of health care workers for that particular session (by using the equation outlined in figure 2). You can use this to aggregate your data. **If you are interested in aggregating your data, we recommend that you connect with your organization's quality performance team or equivalent (if available) to help with data management and analysis.**

An example of how to aggregate hand hygiene compliance data by moment is in the Appendix.

References

1. Yin J, Reisinger HS, Vander Weg M, Schweizer ML, Jesson A, Morgan DJ, et al. Establishing evidence-based criteria for directly observed hand hygiene compliance monitoring programs: a prospective, multicenter cohort study. Infect Control Hosp Epidemiol. 2014;35(9):1163-8. Available from: https://doi.org/10.1086/677629
2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Hand hygiene: observation and analysis [Webinar]. Version 1.4. Toronto, ON: Queen's Printer for Ontario; 2009.

Appendix: Example of How to Aggregate Data

You have completed a month's worth of hand hygiene audits and want to provide hand hygiene compliance for each moment. Using the Observation Tool, you can aggregate the data per month.

At the end of each audit session, the Observation Tool will automatically provide per moment:

1. The number of times hand hygiene was performed
2. The number of moments

Figure 1: Observation Tool and the Calculations Performed

Calculations:

	Moment 1:	Moment 2:	Moment 3:	Moment 4:
Number of hand hygiene performed:	0.00	0.00	0.00	0.00
Number of moments:	0.00	0.00	0.00	0.00
Compliance (%):	0.00%	0.00%	0.00%	0.00%

Follow these steps to aggregate the data:

Step 1

Collect all the completed Observation Tools for that month and tally the **number of times hand hygiene was performed** for **each specific moment** and the total **number of hand hygiene moments** for that specific moment. Compile results into a table. Table 1 provides an example of how you can format your table. Note: the compliance column will not be filled out until step 3.

Step 2

Calculate the compliance rate for each moment by using the equation outlined in Figure 2.

Figure 2: Formula for Hand Hygiene Compliance

$$\frac{\text{\# times hand hygiene was performed for a specific moment}}{\text{\# observed hand hygiene moments for a specific moment}} \times 100 = \text{\% compliance}$$

For example, based on the data entered in table 1 the compliance for moment 1 is 78%.

Figure 3: Example Compliance Calculation for Moment 1

$$\frac{35}{45} \times 100 = 78\%$$

Step 3

Enter compliance rates for each moment into your table.

Table 1: Completed Compliance for Example Scenario

Moment	Number of times hand hygiene was performed	Number of observed hand hygiene moments	Compliance (%)
1 (before initial p/r/c or their environment)	35	45	78%
2 (before aseptic procedure)	5	10	50%
3 (after body fluid exposure risk)	3	4	75%
4 (after p/r/c contact or their environment)	27	50	54%

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