Hand Hygiene New Zealand auditing manual

A practical guide to auditing hand hygiene compliance in New Zealand hospitals

hand hygiene NZ
ringa horoia, aotearoa

CLEAN HANDS SAVE LIVES

www.handhygiene.org.nz

HEALTH QUALITY & SAFETY COMMISSION NEW ZEALAND
Kupu Taurangi Hauora o Aotearoa

Contents

Purpose

The *Hand Hygiene New Zealand auditing manual* is a practical 'how to' guide to hand hygiene auditing as part of a quality improvement programme. It is primarily intended for inpatient settings such as district health boards (DHBs) and private surgical hospitals.

Measuring hand hygiene performance rates with timely reporting of results helps to identify areas where improvement has taken place and those that require further attention. In this way it is a powerful tool to motivate and drive further improvements in practice.

This is the second revision of the auditing guide since the start of the programme (last revised 2013) and reflects how the programme has matured in DHBs. This guide includes new sections on selecting areas for auditing, following the auditing process and managing hand hygiene data. It also focuses on spreading hand hygiene improvement across an organisation to benefit patients and reduce the harm of healthcare associated infection.

As a quality improvement initiative Hand Hygiene New Zealand (HHNZ) has adopted the World Health Organization (WHO) 5 moments for hand hygiene programme. The WHO promotes a multimodal approach to increasing hand hygiene compliance in healthcare settings by addressing hand hygiene through a range of areas of activity. While the WHO's 5 moments for hand hygiene programme applies to all healthcare facilities, the **direct observational auditing process is best suited for inpatient settings**.

In clinical services where there is limited staff/patient activity and interaction (for example, in outpatient clinics, primary and residential care, mental health settings), only a small number of moments will be observed. In these settings, the resources required to undertake auditing may be better utilised measuring other aspects of hand hygiene. HHNZ recommends the use of other evaluation tools in these areas. These may include: staff knowledge surveys, hand hygiene technique audits, product placement or availability audits, and online learning programmes for staff (WHO 2012; Hand Hygiene Australia 2017).

Additional resources

Hand hygiene clinical area summary sheet (**Appendix 4** of this manual)

Hand Hygiene Australia Compliance Application (HHCApp) for Auditors URL for mobile devices **https://hhcapp.hha.org.au/mobile/**, URL for desktop access and administrators **https://hhcapp.hha.org.au/en_AU/HHA/**.

Hand Hygiene New Zealand Guidance. URL: **www.handhygiene.org.nz/index.php?option=com_content&view=article&id=13&Itemid=115** (accessed 26 May 2017).

Hand Hygiene New Zealand. 2013. *Hand Hygiene New Zealand Implementation Guidelines: A practical guide to implementing the Hand Hygiene New Zealand Programme in district health boards throughout New Zealand* (revised edn). Auckland: Hand Hygiene New Zealand. URL: **www.handhygiene.org.nz/images/Hand%20Hygiene%20New%20Zealand%20Implementation%20Guidelines%20Revised%20June%202013.pdf** (accessed 26 May 2017).

Hand Hygiene New Zealand. Gold Auditor Training Resources. URL: **www.handhygiene.org.nz/index.php?option=com_content&view=article&id=52&Itemid=295** (accessed 26 May 2017).

Hand Hygiene New Zealand online learning modules accessed via Hand Hygiene Australia online training site URL: **https://hha.southrock.com**.

Health Quality & Safety Commission. 2016. *From knowledge to action: A framework for building quality and safety in the New Zealand health system.* Wellington: Health Quality & Safety Commission. URL: **www.hqsc.govt.nz/publications-and-resources/publication/2669/** (accessed 26 May 2017).

HHNZ troubleshooting guide for mobile devices – Android **HHNZ Guidance**. URL: **www.handhygiene.org.nz/index.php?option=com_content&view=article&id=13&Itemid=115** (accessed 26 May 2017).

HHNZ troubleshooting guide for mobile devices – Apple **HHNZ Guidance**. URL: **www.handhygiene.org.nz/index.php?option=com_content&view=article&id=13&Itemid=115** (accessed 26 May 2017).

Ministry of Health. 2017. *Improving Together*. URL: **http://improvementmethodology.govt.nz** (accessed 26 May 2017).

Paper-based hand hygiene data collection form (**Appendix 3** of this manual).

Introduction

In 2011 the Health Quality & Safety Commission (the Commission) partnered with Auckland District Health Board to reinvigorate the Hand Hygiene New Zealand (HHNZ) programme in district health boards (DHBs). The aim of the HHNZ programme is to improve patient outcomes by reducing healthcare associated infections and the spread of antimicrobial resistant microorganisms.

The HHNZ programme is aligned with the World Health Organization (WHO) Clean Care is Safer Care global campaign (WHO 2009). This campaign recommends following a multimodal strategy that addresses hand hygiene through a range of areas of activity – in particular, system change, training and education, direct observation audits and feedback of measurement results, reminders in the hospital and a hospital safety climate.

HHNZ implemented the national programme in collaboration with Hand Hygiene Australia. The Hand Hygiene Australia database provides the platform for collecting observational audit data, national reporting for three audit periods ending in March, June and October each year and reporting for local improvement projects.

For consistency HHNZ also adopted the Australian definition of inpatient facilities for direct observation auditing. These facilities provide at least minimal medical, surgical or obstetrical services for inpatient treatment and/or care, and round-the-clock registered nursing services as well as other necessary professional services (The Australian Government: The Institute of Health & Welfare).

In 2016 the lead role in HHNZ moved to the Commission's Infection Prevention and Control programme. The Commission works with hand hygiene coordinators in DHBs and private surgical hospitals to improve hand hygiene practice.

The nationally standardised process for auditing hand hygiene compliance, based on the WHO 5 moments model, is a key component of the HHNZ programme. By taking a standardised approach, organisations can track and compare their hand hygiene performance over time and compare their progress with hospitals in New Zealand and in other countries, including Australia. For HHNZ, adopting this approach means it can tap into and contribute to the growing worldwide resource base around the 5 moments for hand hygiene.

Direct observation auditing

International experts recommend direct observation auditing in which trained observers ('gold auditors') monitor hand hygiene compliance in hospital settings because it is the only method that can identify all opportunities for hand hygiene within a patient care encounter and assess hand hygiene technique (Ellingson et al 2014). Direct observation auditing also allows the gold auditor to provide immediate feedback to correct practice if appropriate.

The 5 moments for hand hygiene audit tool is ideally suited to clinical areas that have a high level of activity and interaction between staff and patients. In these conditions, auditors can observe a relatively high number of 'moments' in shorter periods. In areas or facilities with limited contact between staff and patients (for example, in outpatient clinics, primary and residential care, and mental health settings), auditors will observe fewer moments. In these cases, services might make better use of the resources that would be otherwise required for auditing by measuring other aspects of the hand hygiene programme (for example, product placement and availability surveys, and education).

For these reasons HHNZ does not recommend that primary care or mental health settings undertake routine hand hygiene auditing with the 5 moments for hand hygiene as a process measure.

Spreading improvement in hand hygiene

Hand hygiene is well established in DHBs as a quality improvement activity. As the national programme has gained support across the sector, many DHBs have actively spread auditing across their organisations to engage more healthcare workers in improving hand hygiene and to prevent the formation of isolated 'pockets of excellence' (Massoud et al 2006). HHNZ actively supports the concept of 'spread' in hospital settings so that all patients benefit from improved hand hygiene compliance.

Spread means expanding the programme, including direct observation auditing, to all clinical areas considered to be 'high-risk' and/or 'standard-risk' in the medical, surgical and/or maternity services in hospitals.

High-risk clinical areas

From the start, the programme has made high-risk clinical areas a priority because of patients' vulnerable health status and frequent exposure to invasive procedures and medical devices. These risk factors for infection and the heightened potential for cross-transmission of multi-drug resistant organisms provide strong reasons for making sustained improvement in hand hygiene practice in high-risk areas. As spread occurs, the programme will continue to emphasise sustaining the achievements in high-risk areas, including intensive care units, haematology/oncology wards and day stay units, and haemodialysis units.

Standard-risk clinical areas

Standard-risk areas include all other clinical areas not in the high-risk group.

Chapter 3 discusses how to select wards to audit according to the annual audit cycle the organisation has planned. The aim is to audit:

- high-risk areas in every audit period
- all standard-risk areas during the year as part of the national programme.

Using this approach all areas will have access to their own local data to stimulate and track improvement in practice.

Key ideas

- Observational auditing followed by timely reporting can contribute to culture change and increase healthcare workers' use of best practice.

- Spread is a stimulus for making hand hygiene 'everybody's business' and improving the quality and safety of care for all patients.

- Spread ensures that all organisations audit all areas at least once a year and that staff are aware of hand hygiene compliance in their workplace.

Chapter 1: The 5 moments for hand hygiene

This chapter explains, for all those involved in the 5 moments for hand hygiene programme, when to perform the 5 moments for hand hygiene. It also sets out the reasons for recommending this approach.

The HHNZ programme follows the WHO 5 moments for hand hygiene approach. This approach accounts for the fact that hand hygiene with alcohol-based hand rub (ABHR), or soap and water, is not only useful to prevent transmission of pathogens between patients but also to prevent transfer of pathogens from contaminated to clean sites within the individual patient. As a result hand hygiene should not only be performed before and after patient contact, but also before and after a procedure, and after contact with patient surroundings.

The nationally standardised process for auditing hand hygiene compliance according to the WHO 5 moments model is a key component of the HHNZ programme. Taking a standardised approach allows HHNZ to work collaboratively with Hand Hygiene Australia and to share their data management infrastructure and extensive practical experience. By adopting the 5 moments approach, HHNZ are able to tap into the educational and promotional resource base that has already been established worldwide around the 5 moments for hand hygiene.

The 5 moments for hand hygiene at a glance

The 5 moments are:

- **moment 1:** Before patient contact
- **moment 2:** Before a procedure
- **moment 3:** After a procedure or body fluid exposure risk
- **moment 4:** After patient contact
- **moment 5:** After contact with patient surroundings.

The 5 moments for hand hygiene in detail

The following information provides detailed examples of each of the 5 moments when a healthcare worker should perform hand hygiene, along with the rationale to support this. You can also find this information on the HHNZ website in the education centre.

Moment 1: Before touching a patient

Why: To protect the patient against harmful microorganisms on a healthcare worker's hands.

When	Examples
Touching a patient in any way	Shaking hands, helping a patient to move, allied health interventions, touching any invasive medical device connected to the patient (eg, IV pump, indwelling urinary catheter)
Any non-invasive observations	Taking a pulse, blood pressure, oxygen saturation, temperature, chest auscultation, abdominal palpation, applying electrocardiogram (ECG) electrodes, cardiotocograph (CTG) recordings
Any personal care activities	Bathing, dressing, brushing hair, putting on personal aids such as glasses
Any non-invasive treatment	Applying an oxygen mask or nasal cannulae, fitting slings/braces, applying incontinence aids (including condom drainage)
Preparing and administering oral medications	Oral medications, nebulised medications
Oral care and feeding	Feeding a patient, brushing teeth or dentures

To prevent microorganisms on a healthcare worker from colonising a patient.

Healthcare workers may have any number of organisms on their hands. If they do not practise hand hygiene before touching a patient, they can transfer these microorganisms to the patient.

Moment 2: Before a procedure

Why: To protect the patient from potential pathogens, including their own, from entering the body during a procedure.

When	Examples
Inserting a needle into a patient's skin, or into an invasive medical device	Venipuncture, blood glucose level, arterial blood gas, subcutaneous or intramuscular injections, IV flush
Preparing and administering any medications given via an invasive medical device, or preparing a sterile field	IV medication, nasogastric (NG) feeds, percutaneous endoscopic gastrostomy (PEG) feeds, baby feeds, dressing trolley set up
Administering medications where there is direct contact with mucous membranes	Eyedrop instillation, suppository insertion, vaginal pessary
Inserting or disrupting the circuit of an invasive medical device	Procedures involving: tracheostomy, nasopharyngeal airways, suctioning of airways, urinary catheter, colostomy/ileostomy, vascular access systems, invasive monitoring devices, wound drains, PEG tubes, NG feeds, secretion aspiration
Any assessment, treatment and patient care where contact is made with non-intact skin or mucous membranes	Wound dressings, burns dressings, surgical procedures, digital rectal examination, invasive obstetric and gynaecological examinations and procedures, digital assessment of newborn palate

To prevent endogenous and exogenous infections in patients.

Healthcare workers may have any number of organisms on their hands, or they may pick up microorganisms from a patient's skin or inanimate objects (patient surroundings). If they do not practise hand hygiene immediately before a procedure, these microorganisms can enter the patient's body.

Moment 3: After a procedure or body fluid risk

Why: To protect the healthcare worker and the healthcare surroundings from harmful microorganisms that the patient may be carrying.

When	Examples
After any moment 2	See moment 2
After any potential body fluid exposure	Contact with a used urinary bottle/bedpan, contact with sputum either directly or indirectly via a cup or tissue, contact with used specimen jars or pathology samples, cleaning dentures, cleaning spills of urine, faeces or vomit from patient surroundings, after touching the outside of a drain or drainage bag Contact with any of the following: blood, saliva, mucous, semen, tears, wax, breast milk, colostrum, urine, faeces, vomitus, pleural fluid, cerebrospinal fluid, ascites fluid, organic body samples (eg, biopsy samples, cell samples), lochia, meconium, pus, bone marrow, bile

To prevent colonisation or infection in healthcare workers and/or cross-contamination of the healthcare environment and other healthcare workers.

After touching a patient, the healthcare worker has the patient's microorganisms on their hands. They can pass on these microorganisms to whatever or whoever they are in contact with next.

Moment 4: After touching a patient

Why: To protect the healthcare worker and the healthcare surroundings from harmful microorganisms the patient may be carrying.

When	Examples
After any moment 1 except where a potential body fluid exposure has occurred	See moments 1 and 2

To prevent infection in healthcare workers and/or cross-contamination of the healthcare environment and other healthcare workers.

After touching a patient, the healthcare worker has the patient's microorganisms on their hands. They can pass on these microorganisms to whoever or whatever they are in contact with next.

Moment 5: After touching a patient's surroundings

Why: To protect the healthcare worker and the healthcare surroundings from harmful microorganisms that frequently contaminate the patient's surroundings.

When	Examples
After touching the patient's immediate surroundings when the healthcare worker has not touched the patient	Patient surroundings include: bed, bedrails, linen, table, phone, bedside chart, bedside locker, call bell/TV remote control, light switches, personal belongings (including purses, books, mobility aids, mobile phones, etc), chair, foot stool, monkey bar

To prevent infection in healthcare workers and/or cross-contamination of the healthcare environment and other healthcare workers.

After touching a patient, the healthcare worker has the patient's microorganisms on their hands. They can pass on these microorganisms to whoever or whatever they are in contact with next.

Chapter 2: Selecting and training hand hygiene 'gold auditors'

You need to think carefully about who are the most suitable people to conduct the hand hygiene audits in your organisation. Who is appropriate and how many auditors you need will vary between facilities.

Selecting gold auditors

Having auditors from a variety of health professions and levels within an organisation can help promote widespread acceptance and ownership of and participation in activities to improve hand hygiene. Auditors who have a clinical background can more easily assess when auditing is appropriate and how to carry out auditing activities with minimal disruption to patients and clinical staff.

Questions to ask when selecting auditors

- Are they available to attend gold auditor training?
- Does their workload allow them to conduct audits?
- Do they have a good understanding of auditing, feedback and education processes?
- Do they have a background as a clinical health professional?
- Do they acknowledge and understand safety and privacy concerns of patients and staff?
- Will they provide immediate feedback to staff on good hand hygiene practices and educate staff on correct hand hygiene practice?

How many auditors to select

The number of auditors needed to collect the required amount of hand hygiene compliance data to submit to the HHNZ database will vary depending on the size of the healthcare facility and the approach taken to auditing.

Training for gold auditors and gold auditor trainers

The HHNZ programme involves two types of auditor training.

- **Training of gold auditor trainers:** The DHB hand hygiene networks in the Northern, Midland, Central and Southern regions facilitate this training. It involves training gold auditor trainers to train other healthcare workers to be gold auditors (see **Appendix 5** for a position description). HHNZ recommends that each healthcare facility has at least one gold auditor trainer.

- **Training of gold auditors:** Gold auditor trainers train gold auditors to audit hand hygiene compliance and educate other healthcare workers (see **Appendix 6** for a position description). Each organisation, through its gold auditor trainer or with the help of gold auditor trainers in other facilities, keeps up the numbers it needs in its own pool of gold auditors.

Gold auditor training

To make the auditing programme and validation of auditors consistent across the country, **only gold auditor trainers can train gold auditors**. An individual is a validated gold auditor for their facility after they have completed training and have demonstrated that they fully understand what they must do for auditing and data entry.

To become a gold auditor, a person needs to attend a workshop that their gold auditor trainer runs. The workshop covers:

- definitions of the 5 moments
- a hand hygiene DVD
- a practical auditing session
- a DVD test of knowledge
- an open forum, question-and-answer session.

All gold auditor workshop participants must pass the following assessments to become a validated gold auditor:

- HHNZ pre-training online test with a score of 100 percent
- DVD workshop test of knowledge with a score of at least 90 percent
- appropriate auditing in the clinical area.

If a participant does not pass the assessments, they must achieve **one** of the following:

- pass a supplementary quiz
- pass the HHNZ written quiz
- have further follow-up with an accredited gold auditor trainer
- repeat the training workshop.

Note: The participant's total score on the workshop assessments and follow-up will dictate which of the above criteria they must meet.

Table 1: Roles of gold auditor trainers and gold auditors

	Can teach 5 moments	Can conduct audits	Can teach how to audit
Gold auditor trainers	Yes	Yes	Yes
Gold auditors	Yes	Yes	No

Hand hygiene coordinators

The hand hygiene coordinator is an operational role that is critical to the success of the hand hygiene programme. The coordinator, with the support of the hand hygiene steering group, plays a key role in engaging frontline staff and senior management in improving hand hygiene, and planning the annual audit cycle (for more information, see the **HHNZ Implementation Guidelines** (HHNZ 2013)).

The hand hygiene coordinator is the main point of contact for anything to do with hand hygiene and should, ideally, understand hand hygiene and infection control. The hand hygiene coordinator may also have professional experience of quality and safety practices in providing health care.

Once a gold auditor is validated, the hand hygiene coordinator gives them a login and password to access the data collection tool. HHNZ uses the Hand Hygiene Australia Compliance Application (HHCApp) to collect compliance data through each organisation's preferred device. The coordinator also advises the gold auditor on which clinical areas they must audit for the national data set and when they must collect and submit compliance data.

If any issues about auditing protocol come up, gold auditors can raise them with the hand hygiene coordinator, who will then address any relevant issues with the gold auditor trainer.

Table 1 outlines the differences between the role of the gold auditor trainer and gold auditors.

Chapter 3: Selecting clinical areas to audit

This chapter outlines how to select clinical areas for national hand hygiene auditing.

Hand hygiene is the most important way of preventing healthcare associated infections and directly contributes to reducing patient harm. By making good hand hygiene practice an essential part of what your organisation does, you will contribute to the quality of care and the culture of patient safety.

How to choose clinical areas for auditing

In selecting clinical areas for national auditing, you need to consider:

- the number of inpatient beds in each organisation (see Table 2)
- the number of gold auditors available to undertake hand hygiene observations
- your approach to selecting auditing areas.

HHNZ recommends that the hand hygiene steering group and the hand hygiene coordinator select areas for audit using the following criteria.

High-risk areas

High-risk areas contain patients who are at higher risk of developing a healthcare associated infection. These areas may include adult, paediatric and/or neonatal intensive care, haematology/oncology, transplant, renal dialysis, and areas with immunocompromised patients. Other areas that may be considered high-risk are those with known or suspected high rates of healthcare associated infection, those with a high prevalence of multi-resistant organisms, and clinical areas where multiple medical interventions take place.

The majority of patients who are admitted to hospital are assessed in the emergency or acute assessment departments. These departments are often busy with a high throughput of patients. During their clinical assessment, patients may require a number of medical interventions. For these reasons individual DHBs may choose to include their emergency and/or acute assessment departments as high-risk areas.

Standard-risk areas

Standard-risk areas include all other clinical areas not in the high-risk group. Standard-risk areas may include, but are not limited to: medical, surgical, orthopaedic, maternity and rehabilitation wards.

Planning your annual audit cycle

Your approach to auditing will depend on the size of your healthcare facility and the number of high-risk areas (see Figure 1 and Table 2). It should also include the expectation that over time your whole organisation will be following the hand hygiene programme appropriately. HHNZ recommends that each organisation identifies its own high-risk areas as part of its annual auditing plan.

Figure 1: Annual auditing cycle according to number of inpatient beds

A. Organisations with more than 400 beds

Audit **all** high-risk areas for a minimum number of moments every audit period according to the annual auditing plan (see Table 2)

AND either:

- audit each standard-risk area for a minimum of 100 moments every audit period **or**

- rotate standard-risk areas and audit each area for a minimum of 300 moments over three audit periods from 1 July.

B. Hospitals with 400 beds or less

Audit **all** high-risk areas for a minimum number of moments every audit period according to the size of the organisation and the annual auditing plan (see Table 2)

AND

Audit **all** standard-risk areas for a minimum number of moments every audit period according to Table 2.

Table 2: Number of auditing areas and required moments per audit period according to the number of inpatient beds*

Number of high-risk and standard-risk inpatient beds in organisation	Recommended auditing approach to spread hand hygiene improvement**	Minimum number of moments per high-risk area per audit period	Minimum number of moments per standard-risk area per audit period	Total minimum hand hygiene moments per audit period
>400	A	250	See Figure 1	2450
301–400	B	250	100	2100
201–300	B	200	100	1750
101–200	B	200	100	800
51–100	B	50	50	200
25–50	B	50	50	100

* Inpatients include any person that a healthcare organisation formally admits.

** See Figure 1 for details on approaches A and B.

Do not include healthy newborn infants unless they stay more than 10 days, or are the second or subsequent birth in multiple births. Table 2 uses inpatient beds as a guide based on an organisation's size and the level of care it provides in relation to auditing requirements. It does not exclude clinical areas such as dialysis units, day stay chemotherapy units, day stay surgical units or post-anaesthesia care units from annual auditing cycles.

Local auditing of hand hygiene compliance

You may wish to build a broader picture about hand hygiene compliance across your organisation by collecting data in other clinical areas not included in the national hand hygiene compliance audit. Regular, rotational, local auditing is useful to quickly identify the need for further education and quality improvement activities.

Starting out on an organisational hand hygiene programme

HHNZ recommends that you make high-risk areas the first focus of your hand hygiene programme and that you rotate auditing in standard-risk areas to increase the range of healthcare workers who are engaged with improving hand hygiene. It is important to start with an area where healthcare workers are highly motivated and interested, and where a substantial health benefit is likely through improved hand hygiene, as early success will help the programme as it rolls out to other clinical areas. HHNZ recommends that, at first, your annual audit cycle rotates:

- **all** high-risk areas every audit period
- a limited number of standard-risk areas each audit period.

For example, if your facility has 101–200 beds with one high-risk area, you will audit the high-risk area for a minimum of 200 moments every audit period. In total, your organisation must audit at least 800 moments each audit period. So the remaining 600 moments focus on standard-risk wards, which you rotate every audit period and audit at least 100 moments for each audited ward per audit period.

Chapter 4: The hand hygiene auditing process

Auditing hand hygiene compliance is a way of measuring progress and motivating staff throughout the organisation to engage in improving hand hygiene. The overall aim of the auditing process is to increase patient safety and improve health outcomes through healthcare workers consistently following good hand hygiene practice. For general information on getting started with auditing, go to **planning your hand hygiene audit** on the HHNZ website.

This chapter provides a step-by-step guide to performing a hand hygiene audit. This includes information on:

- what equipment you need
- what information to provide to the healthcare workers you are auditing, as well as to the patients and their families and whānau
- how to conduct an audit
- overcoming bias in auditing.

What equipment you need

To conduct a **digital audit**, you need:

- a smartphone or tablet with the hand hygiene compliance application (HHCApp)
- unique login information and password for HHCApp from your hand hygiene coordinator (generic logins should not be used).

To conduct a **manual audit**, you need:

- a clipboard and pen
- an HHNZ coding sheet (**Appendix 2**)
- a paper-based audit data collection form (**Appendix 3**)
- a paper-based hand hygiene summary sheet (**Appendix 4**).

What information to give patients, families, whānau and healthcare workers

Before performing a hand hygiene audit, it is important to be open and honest with healthcare workers and patients about what you are doing. For the healthcare worker, you should explain what type of data you are collecting, that the data is anonymised and what will happen to the data.

HHNZ also recommends that the hand hygiene coordinator informs the charge nurse/ manager of each of the clinical areas where hand hygiene auditing will take place. The nurse/ manager can then inform staff to expect a gold auditor in the clinical area.

In addition, HHNZ recommends informing patients that your organisation regularly conducts hand hygiene audits as a quality improvement activity. Patients or their families and whānau may request they are not involved in an audit. It is also important to take into account the Code of Health and Disability Services Consumers' Rights (the Code). The Code gives a number of rights to all consumers of health and disability services in New Zealand and places corresponding obligations on providers of those services.

The Code became law on 1 July 1996 as a regulation under the Health and Disability Commissioner Act 1994. For a summary of the Code, go to the Health and Disability Commissioner's website **http://www.hdc.org.nz/the-act--code/the-code-of-rights/the-code-(summary)**.

During gold auditor training sessions, participants have asked how to take account of the Code during the auditing process, particularly in relation to privacy and informed consent under the Code. These questions come up because gold auditors must be present in the patient's immediate environment and be able to readily observe healthcare workers as they interact with and carry out procedures on hospital patients.

At the start of the programme, HHNZ consulted with the Office of the Health and Disability Commissioner about these issues. Senior advisors in the Office confirmed that, given the importance of auditing in terms of quality assurance and patient safety, taking a common sense approach should be all that is necessary to meet Code requirements.

For example, in a common sense approach auditors might wear suitable identification badges, explain their presence where necessary and simply move on if the patient or their family or whānau raises any concerns at the time. You might also consider providing written information about the programme to patients and staff immediately before each auditing round or as part of routine admission procedures.

How to conduct a hand hygiene audit

The gold standard to monitor hand hygiene compliance is for trained auditors to directly observe practice. However, gold auditors should show discretion in where they place themselves and move while conducting audits.

Before conducting a hand hygiene audit, be aware that in some circumstances it may not be appropriate to perform an audit. For example, do not conduct a hand hygiene audit:

- in emergencies where hand hygiene is secondary to patient safety (for example, when any hospital code is called)
- in palliative care
- if the patient or their family or whānau objects
- during private discussions between medical staff and the patient or their family or whānau.

How long you need to complete the required number of observations will vary depending on the level of clinical activity, the experience of the auditor, the number of gold auditors available and the time of day they are conducting the audit.

Your audits should cover a cross-section of the healthcare workers in your organisation. In this way your hand hygiene compliance rates will reflect a broader picture across the organisation than you would get by making repeated or prolonged observations on a few healthcare workers.

Table 3 lists and defines different types of healthcare workers. During an audit, you record the type of healthcare worker who is performing hand hygiene so that compliance data is attributed consistently to the relevant group of healthcare workers.

Table 3: Healthcare worker codes and definitions

Code	Type of healthcare worker (HCW)	Extended definition
AC	Administration staff	All administration and clerical staff
AH	Allied health staff	All allied health staff, physiotherapists, occupational therapists, speech therapists, dieticians
BL	Blood collection staff, phlebotomist	Phlebotomists, dialysis technicians
D	Domestic	All cleaning staff and meal delivery staff
DR	Medical doctor	All doctors, consultants, registrars, visiting consultants, general practitioners, dentists
HCA	Healthcare assistant	Ward nursing assistants
NM	Nurse/midwife	All nurses, midwives, agency nursing staff
O	Other	All healthcare workers not categorised elsewhere (eg, orderlies)
SAH	Student allied health worker	Students of physiotherapy, occupational therapy, speech and language, dietician students etc
SDR	Student doctor	All student doctors
SHCA	Student healthcare assistant	All student healthcare assistants
SNM	Student nurse/midwife	Students of nursing, midwifery

To follow the HHNZ hand hygiene auditing method, trained and validated gold auditors directly observe healthcare workers to monitor compliance with the 5 moments for hand hygiene.

Select clinical areas for national reporting

- The hand hygiene coordinator allocates each gold auditor to particular clinical areas, which they are to audit for national reporting, following the process that is described in **Chapter 3**.

Allocate time to conduct auditing

- Auditing usually starts 6–8 weeks before the data submission deadline for that audit period. This allows auditors to complete the auditing in a timely way.

- Audit at different times of the day, including both morning and afternoon shifts, to avoid selection bias.

- Busy periods are the best times to make hand hygiene observations.

- Individual healthcare workers may vary in their hand hygiene compliance from day to day. For this reason it is better to run auditing sessions over several days or weeks.

- An audit session has no specific timeframe; the gold auditor can conduct it for as much time as they have. It is, however, important for the gold auditor to have adequate time in their working day to undertake auditing.

- Give information about when the observation sessions will occur to charge nurses/managers before the auditing starts.

Reduce barriers to good hand hygiene performance

- Ask clinical areas to ensure alcohol-based hand rub (ABHR) products are in all the appropriate places before auditing starts (see the **HHNZ Implementation Guidelines** (HHNZ 2013) for guidance on placement).

- If an area has barriers to hand hygiene (for example, no ABHR, soap or paper towels are available), report these issues to the shift or unit manager before leaving the area.

How to start a hand hygiene audit

- When you arrive at the clinical area, introduce yourself to the shift or unit manager and tell them about your role.

- Always perform hand hygiene yourself when you enter an area to audit. It is very important to lead by example.

- Be open and honest about what you are doing. Show the audit tool and how the data you collect about staff, patients and visitors is anonymous.

- At least one patient and a healthcare worker must be present in a room for you to start auditing. If neither is present, move to another room.

- Find a position where you can see the patient bed (or chair), sink and ABHR area.

- When a patient's bed curtains are drawn, ask for permission from the relevant healthcare worker and patient to continue to view activities in the area. On some occasions observation may not be appropriate, but these are uncommon. To observe healthcare worker activities in an intensive care unit, you often need to go behind closed curtains.

- Assess hand hygiene compliance of all types of healthcare workers who enter the clinical rooms or bays you are observing. One influence on your choice of rooms or bays for observation may be whether they have a convenient location from which you can observe patient beds and hand hygiene facilities.

How to record hand hygiene compliance

- Fill in only one moment per line.

- The number of healthcare workers observed at one time depends on their level of activity and the competency of the auditor. You can observe more than one healthcare worker at the same time, provided you can accurately observe and record their hand hygiene moments. If this is not possible, then do not record the compliance of additional healthcare workers until the healthcare worker you are focusing on has left the room or has stopped their activity.

- It is better to record fewer moments accurately than many moments inaccurately. If no activity occurs, move to another room.

- A clinical room or bay may have no activity to observe because:
  - no healthcare worker is present in the room
  - healthcare workers performed their activities unobserved behind closed curtains
  - all patients leave the room during the observation session
  - the healthcare worker continues with one moment for a long time. For example, in an allied health assessment, moment 1 may take 20 minutes, or a nursing procedure may take 15 minutes.

- Try not to observe the same healthcare worker for the entire audit session. The aim is to audit a cross-section of all types of healthcare workers who work in the clinical area. Record their use of gloves.

When not to record a moment

- Do not record moments before a healthcare worker has undertaken them. If you are unsure whether a healthcare worker has performed any hand hygiene, then do not record it.

- Only document a hand hygiene moment when you can accurately observe the healthcare worker and they have finished the moment. If you are unsure whether the healthcare worker you are observing performed hand hygiene, then do not record the moment.

- If you are unclear about a particular activity and hand hygiene moment, write down the sequence of events and discuss it with your hand hygiene coordinator, gold auditor trainer or another gold auditor before entering the data.

- Audit hand hygiene by moments, **not** by hand hygiene action. It is important to understand that you do not record hand hygiene actions that do not correspond to a moment. For example, if a healthcare worker walks into a patient's room, performs hand hygiene and then walks out without touching anything, you do not record a moment.

How to tell when a moment has finished

A moment finishes when a healthcare worker:

- moves from one patient to another
- leaves the room after completing patient care
- touches the curtain partition in a multi-patient room
- moves from touching a patient to doing a procedure or vice versa.

A moment can also finish in another area outside a patient room if the healthcare worker has not yet completed patient care. For example, if a healthcare worker takes a bedpan to the sluice room, you can follow them to observe whether they perform hand hygiene after disposing of the bedpan.

How to record missed moments

- You must fill in an action for every moment you observe.
- If you observe no hand hygiene action for a moment, record it as a missed action.
- As note 3 in the rules of hand hygiene states (Table 3), to record an action as a moment you must observe the healthcare worker perform hand hygiene as they approach the patient. If you observe no hand hygiene at this time, record it as a missed action.
- If the healthcare worker performs hand hygiene and then touches their face, nose or mouth or touches items in the healthcare environment before touching the patient, recorded this as a missed hand hygiene action.
- If you observe the healthcare worker performing hand hygiene incorrectly (for example, one-handed, minimal volume of ABHR or no soap), record this as a missed action.

How to deal with safety and quality aspects

- If you observe any unsafe practices during hand hygiene auditing, address them immediately or report them to the appropriate manager for follow-up; for all other observations, report compliance rates after you have completed the audit.
- Quality aspects: In the 5 moments approach to auditing, you do not assess either the length of the hand hygiene action or other quality aspects of hand hygiene such as the technique of hand hygiene, type of gloves used, length of fingernails or presence of jewellery. However, you should record very poor practice of ABHR use or hand washing (for example, one-handed hand rub) as a missed hand hygiene action.
- Once your facility has a well-established hand hygiene programme, you may wish to address other aspects of quality such as those listed above while conducting the hand hygiene audit, but you need not report them to HHNZ.

What to record in and outside the patient zone

- If a healthcare worker comes in and out of the patient zone and touches curtains or doors but does not touch anything in the patient zone, there is nothing to audit.

- If you witness a healthcare worker practising hand hygiene outside of the patient zone (for example, at a wall-mounted dispenser in the corridor) before or after a moment, record it as a hand hygiene action, even though it is not best practice, as long as they have not touched anything else on the way (for example, opened a door or touched curtains).

- If you observe a healthcare worker making a used bed that is unoccupied (for example, because the patient has been discharged or is in the bathroom), class this action as a moment 5. This is the moment where the healthcare worker touches something in the patient zone (for example, the bed, the call bell, the patient table), but never touches the patient.

What to do when two or more patients are in the same patient zone

Two or more patients may be in such close contact that they occupy the same physical space and touch each other frequently; for example, a mother and her newborn child.

- You may consider the two close patients as occupying a single patient zone.

- Healthcare workers must still practise hand hygiene when entering or leaving the common patient zone, and before and after procedures. However, practising hand hygiene when moving between the two patients is probably of little preventative value because they are likely to share the same microbial flora.

Bonus moments: two moments of hand hygiene

- Two moments for hand hygiene may sometimes fall together. Typically, this occurs when a healthcare worker moves directly from one patient to another without touching anything in between. In this situation a single hand hygiene action will cover the two moments for hand hygiene, as moments 4 and 1 coincide.

- Another example of simultaneous moments is when a healthcare worker moves from touching a patient to performing a procedure on that same patient – moment 4 and moment 2 coincide.

- When auditing in either situation, you record both moments as individual moments on the audit tool.

Table 4: Rules for auditing the 5 moments

Moment 1	Record **hand hygiene moment 1** only when the healthcare worker touches the patient.
Moment 2	Record **hand hygiene moment 2** immediately before any procedure. After the healthcare worker has performed hand hygiene, they cannot touch anything else in the patient's environment before the procedure starts.
Moment 3	Record **hand hygiene moment 3** immediately after a procedure or body fluid exposure risk. The healthcare worker should not touch anything else between finishing the procedure and performing hand hygiene. If they touch the outside of a drain or drainage bag (eg, urinary catheter, wound drain, chest tube drain, CSF drain, even when the circuit is not broken), this is a body fluid exposure risk. You may record **moment 3** as a standalone hand hygiene moment when there is a body fluid exposure risk, but the healthcare worker has not touched the patient (eg, when cleaning a spill of vomit, urine or faeces).
Moment 4	Record **hand hygiene moment 4** after the healthcare worker touches the patient. When the healthcare worker touches the patient surroundings after touching the patient, record this as a single **moment 4**. If after **moment 3** the healthcare worker touches the patient surroundings, record this as a **moment 4**.
Moment 5	Record **hand hygiene moment 5** when the healthcare worker leaves the patient zone after touching the patient's immediate surroundings but without touching the patient. When they touch multiple items in the patient's surroundings, record only one **moment 5**.
Note 1	Generally, for every 'before' moment you should record an 'after' moment, unless you do not observe the action. • **Moment 1** is generally followed by a **moment 3** or **moment 4**. • **Moment 2** is generally followed by a **moment 3**. • **Moment 5** is not paired with other moments. In a very few situations you will record two 'afters' in a row. However, you will never have two 'before' moments in a row.
Note 2	You must observe the healthcare worker performing hand hygiene as they approach the patient to record it as a moment. If you observe no hand hygiene, record it as a 'missed' action (ie, the healthcare worker has not performed hand hygiene).
Note 3	You cannot record a 'before' moment if you begin auditing after the healthcare worker is already touching a patient, or in the process of performing a procedure. You cannot record an 'after' moment unless you observe the moment.
Note 4	Patient bed curtains are outside the patient zone as they are frequently contaminated. Touching the curtains is leaving the patient zone. The healthcare worker should perform hand hygiene between touching the curtains and touching the patient.
Note 5	The HHNZ 5 moments for hand hygiene audit tool rewards staff who clean their hands at the most important times. For example, when a healthcare worker moves from touching a patient to performing a procedure, you record M1, M4, M2, M3 as four moments, but the healthcare worker is only required to perform three hand hygiene actions.

What to do when someone refuses to be audited

- Patient: If a patient declines to have their healthcare worker audited while they are being treated, please respect their wishes and move away and observe another healthcare worker. Most patients, however, are interested in the hand hygiene audit and like to see it in practice.

- Healthcare worker: All participating organisations have pledged their involvement in the HHNZ programme.

  - Senior executives are aware that the hand hygiene practice of their healthcare workers will be audited and that the data is submitted to the Commission.

  - Technically, a healthcare worker cannot refuse to be audited. If you cannot resolve their refusal with a brief explanation of what you are doing, either move away or, if you are in a position to do so, take the healthcare worker to one side and discuss their concerns privately. Try to alleviate these concerns and use the opportunity to feed back and educate about the 5 moments for hand hygiene. If the healthcare worker still refuses or has concerns, please move onto the next healthcare worker. Record the name of the refusing healthcare worker and refer the matter to your hand hygiene coordinator and the healthcare worker's manager.

How to complete a hand hygiene auditing session

- Complete your audit tool by either:

  - saving and submitting the session on the electronic device, or

  - filling in the finish time and duration of session on the paper-based data collection form (if applicable), and by tallying up the total moments collected and the total correct moments collected.

- Thank the shift manager and highlight any problems that need addressing immediately (for example, if no hand hygiene product is available).

- Perform hand hygiene yourself before leaving the clinical area you are auditing.

- In addition, the hand hygiene auditing team should remain alert to data reliability problems and come up with strategies to reduce them. During the first few days of data collection, the hand hygiene programme coordinator should review data for consistency and query any inconsistencies. Hand hygiene auditors should discuss and resolve difficulties with the observational process or recording, either with other gold auditors or by contacting their hand hygiene coordinator, who will refer the enquiry to the DHB's gold auditor trainer.

Overcoming bias in auditing

- Auditor bias is introduced by inter-auditor variation in the observation. That is, the true situation differs from the one the auditor observes because of the way the auditor perceives or interprets the situation. HHNZ has created its training schedule of auditor validation to minimise this bias.

- Selection bias is introduced by selecting healthcare workers, care settings and observation times with specific hand hygiene behaviour. In practical terms, you can minimise this bias by randomly choosing locations (in your reporting areas) and times of the day to audit.

Chapter 5: Data entry and management

This chapter outlines how to use the two tools that you can choose between to conduct hand hygiene auditing: the mobile hand hygiene compliance application tool (HHCApp) and the paper-based auditing tool.

HHNZ highly recommends using HHCApp so that you can instantly upload data to the hand hygiene compliance database. With this option you will save a significant amount of time because you do not need to do any additional data entry. In contrast, with the paper-based auditing tool you must input and upload the collected data into a desktop application.

How to use HHCApp

You can use HHCApp on any smartphone or tablet device that has an HTML5-compliant internet browser such as Safari. Devices with Microsoft Internet Explorer 8 or above are compatible.

Accessing and logging in to HHCApp

To access the mobile HHCApp, you can either:

- select the HHCApp icon on the front screen of your device. You will be redirected to the latest version of HHCApp automatically; you may need to wait a moment for this to occur, or

- enter **https://hhcapp.hha.org.au/mobile/** in your device's internet browser. If you have any technical issues with logging in to the application, first discuss them with your hand hygiene coordinator and/or review the Android and Apple **troubleshooting guide published on the HHNZ website**. If you are still unable to resolve the issue, contact **HHNZ@hqsc.govt.nz**.

Next, HHCApp takes you to the login page. Here you enter your case-sensitive auditor username and password, which your hand hygiene coordinator gives you. If you cannot log in, check that you are entering the correct username and password.

Note: If you change your password, you will not be able to access any sessions you have not yet synchronised (that is, submitted to the HHCApp database). Please make sure you have synced all data before you change your password.

Login with your personalised login

Add data by pressing Add Session
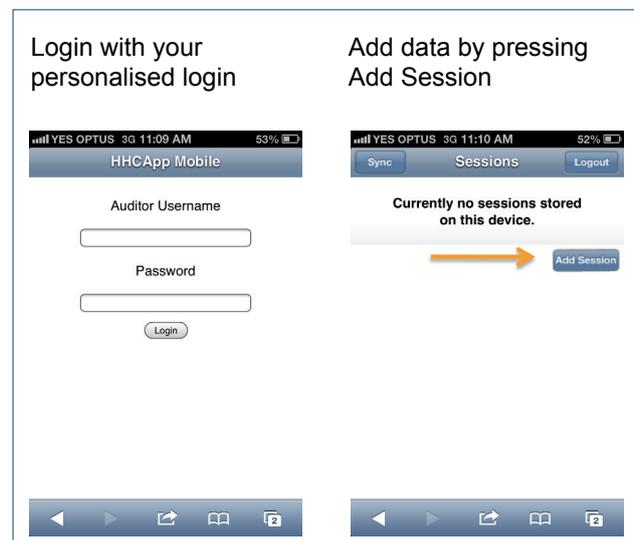
Once you log in, you can see the audit periods for your hospital, clinical areas, wards or departments and for national audit.

Entering session information

Once logged in, you will see the sessions screen. The sessions screen contains any auditing sessions that you have completed on the device but have not yet synced to the hand hygiene compliance database. HHNZ recommends you synchronise your sessions regularly while you are auditing.

To start a new auditing session, push the 'Add Session' button. This will take you to the observation screen:

On the observation screen you can:

- select the name of the hospital you are auditing

- select which audit period you are completing this session for (either a national audit period or a local period created by your hand hygiene coordinator)

- select which clinical area or department you are completing the session in

- name or number your session to track and record sessions for your local information. This is not compulsory.

Once you have completed all the information for this session, select the 'Done' button on your keyboard and then select the 'Moments' button at the top of the observation screen.

Choose the audit and dept you are going to start auditing on

Note: The date and time are automatically added to the session information. Check that these settings are correct on your device.

Entering data

HHCApp will now take you to the moments screen. Here you can access your standard auditing data options. You can select:

- the healthcare worker (HCW) code for the moment you are observing

- the relevant action the healthcare worker is completing, which may be rub, wash or missed

- the number of the moment you are observing.

You also have the option of recording the healthcare worker's use of gloves as on, off or continued.

- Record 'continued' if a healthcare worker keeps the same pair of gloves on when they either go on to have contact with another patient or move from dirty to clean sites on the same patient.

- Record gloves as 'on' when a healthcare worker puts them on in a 'before' moment.

- Record gloves as 'off' when a healthcare worker takes them off in an 'after' moment.

- If the healthcare worker uses no gloves at all, leave this box blank.

This page is like the paper data form

Fill in the moment data: HCW, Action, Moment, Gloves
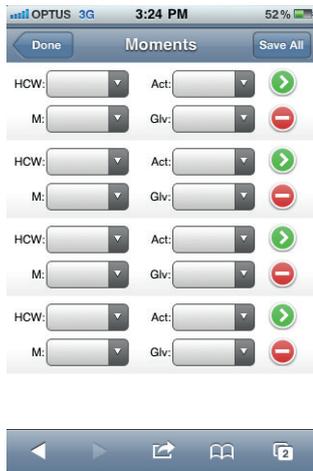

Deleting a moment

If you make an error while auditing a moment and wish to delete it, select the red circle next to the moment you wish to delete.
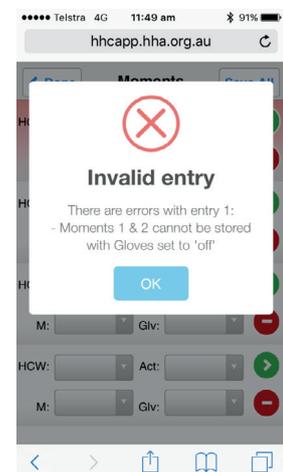
Saving a moment

The moments screen provides space to audit four moments on the screen. To save and clear the screen of completed moments, you can select either:

● the green arrow next to an individual moment

● 'Save All' to save and clear multiple moments.

Save all moments by using Save All
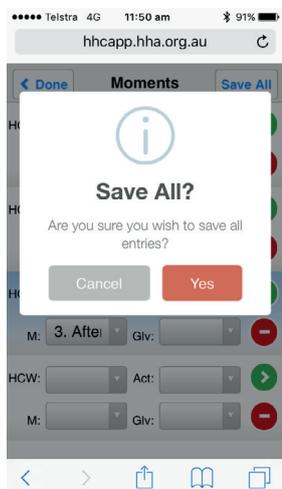
Save one moment at a time by using the green arrow

Data validation rules assist with accurate data collection

If you have filled in a moment incorrectly, HHCApp will highlight it in red and tell you what you need to correct. Select 'OK' and make the required change to the moment field highlighted in red.

Note: Once you have saved a moment to your session, you cannot edit it on your device. To edit the moment, you will need to log in to HHCApp on your desktop computer, find the session that needs editing and make the required changes there (this is why naming or numbering your auditing sessions can be helpful). During the session, write down the error and you can correct this on the database at a later date. Your hand hygiene coordinator is also able to correct it.

Finishing a session

When you have completed the required number of moments for your session, select the 'Done' button at the top of the moments screen. This will return you to the sessions screen where you will see a summary of the sessions you have completed (including the area you have audited, the date and time, and the number of moments in the session).

Finished collecting data – press Done
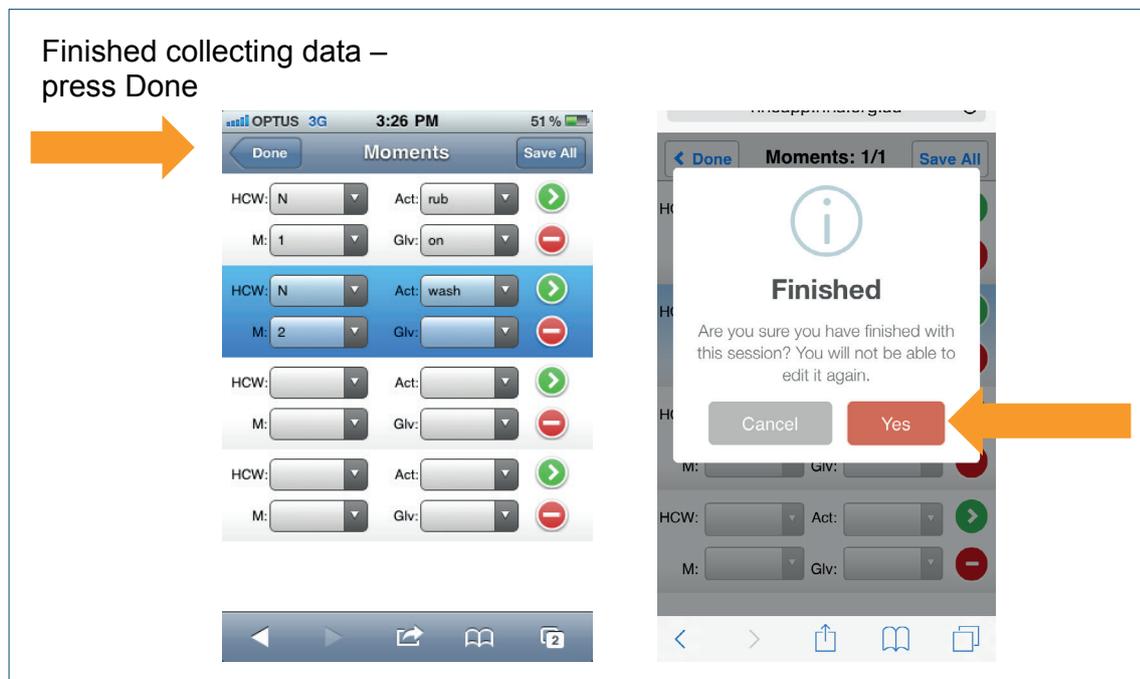
Selecting the green arrow next to the session will take you to the session details screen. This screen provides further details, including the individual moments you have collected for that session (select 'Back' to get out of the session details screen and return to the sessions screen). You can continue to add new sessions to your device, for example, if you are continuing to another area or submitting to a different audit period.

Syncing a session with HHCApp

To submit the session(s) that you have completed to HHCApp, you need to sync your session(s) to send the data directly to the HHCApp database and clear the session(s) data from your device.

Finished data collection session on one ward – sync data with database before collecting more data
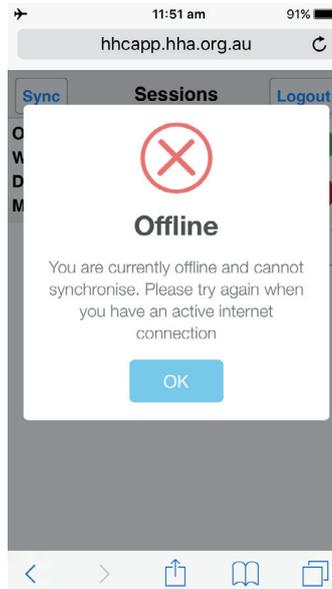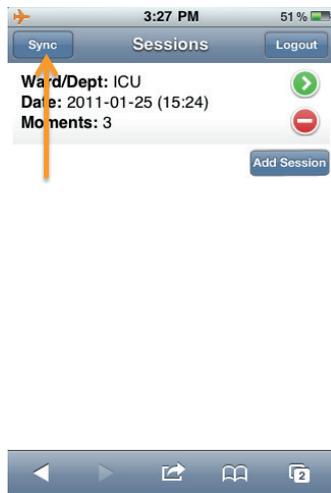
Need to be connected to the internet to enable syncing with the database

- **Syncing all the sessions stored on your device:** To submit all the sessions you have completed to the HHCApp database, select the sync button at the top of the screen. Sync after you have completed each session or, at a minimum, at the end of each day to prevent data syncing issues.

- **Syncing an individual session:** To submit a session individually, select the green arrow next to the relevant session.

Deleting a session without syncing

To delete a session and remove it from the device without submitting it to the HHCApp database, select the red circle next to the relevant session. Any session(s) you delete will be permanently deleted and cannot be recovered.

Logging out

If more than one auditor is using the same device, HHNZ recommends that you log out at the end of every session to prevent data syncing issues.

How to use the paper-based hand hygiene data collection form

For the paper-based data collection form, **see Appendix 3**.

Recording general details

For each session, when you arrive in the target area fill in the demographic details on the top of the form.

- 'Organisation' is your DHB or hospital.
- 'Session no.' is the audit session number for that particular area, which you later transfer to the hand hygiene summary sheet (**see Appendix 4**). For example, you record the:
  - first audit in a specific clinical area as session no. 1
  - second audit in the same clinical area as session no. 2
  - first audit in a different clinical area as session no. 1 in that area.

'Start time' and 'Finish time' are for your own personal statistics so that you can calculate how long it takes to conduct each audit.

Recording moments

For each moment you observe, record the following on the audit form:

- the type of healthcare worker involved in the 'HCW' box
- the number of the moment you observed in the 'Moment' box.

Fill in only one moment for each box. If you observe multiple moments, then you fill in multiple boxes.

You should fill in an action for every moment you observe.

- If you observe no hand hygiene action, then record it as a 'missed' action.
- If the healthcare worker performs hand hygiene and then touches their face, nose or mouth, or touches items in the healthcare environment before touching the patient, then record this as a 'missed' action.
- If you observe a healthcare worker performing hand hygiene incorrectly (for example, one-handed, with minimal volume ABHR or no soap), record this as a 'missed' action.

Inputting data

After you have completed an auditing session on a paper-based form, you must use HHCApp to input the data you have collected to the HHNZ compliance database. To access HHCApp:

- go to **www.handhygiene.org.nz**
- click on the Auditing tab and select 'Hand hygiene compliance application'.

For detailed instructions on how to input your data to this database, go to the auditing section of the HHNZ website.

For efficient and accurate data entry and safe storage, follow these practices.

- After each auditing session, fasten the forms together and number them (for example, 'page 1 of 2').

- Make a cumulative tally of the number of hand hygiene moments you observed and record it on the hand hygiene summary sheet (**see Appendix 4**) to check that you have made the target number of observations. The hand hygiene coordinator can analyse this data at the end of each day.

- Before starting to enter data, account for each data collection form by cross-checking with the hand hygiene summary sheet.

- Once you have uploaded data to the HHNZ compliance database, store the data sheets in a safe and secure place.

Data submission dates

Submit hand hygiene compliance data to HHNZ three times per year for the audit periods set out in Table 5. The hand hygiene coordinator for your organisation is responsible for making sure you are aware of data submission dates.

Table 5: Audit periods

Start date	End date
1 July	31 October
1 November	31 March
1 April	30 June

Chapter 6: Data analysis and reporting results

Overall rates of hand hygiene compliance (including 95 percent confidence intervals) are reported nationally three times per year. The Commission analyses all national data submitted and feeds back its findings to participating organisations in its national compliance report (available at **www.handhygiene.org.nz**). The Commission's quality and safety marker reports also contain hand hygiene data – go to: **www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/quality-and-safety-markers**

Reporting hand hygiene compliance in your own organisation

Feeding back results of your audit to those who perform hand hygiene is a powerful promotional tool. You achieve even greater impact if you report back as soon as possible after auditing. However, if audits show a series of ongoing low compliance, avoid giving continual feedback about the results unless you are actively working with staff to improve engagement and practice. Hand hygiene coordinators are able to run local reports (including 95 percent confidence intervals) and HHNZ recommends that they provide them for clinical areas regularly.

Hand hygiene compliance rates are both a useful outcome measure for a hand hygiene culture change programme and a useful educational tool for healthcare workers. Reporting results of hand hygiene observation to healthcare workers is an essential element of a multimodal strategy to improve hand hygiene practices. For example, you can post results in an area that is readily accessible for staff and the public, and managers can give the information during staff meetings and organisation-specific or department-specific quality improvement meetings.

Given the importance of providing early feedback, the hand hygiene coordinator, along with the hand hygiene steering group, should oversee education and feedback on hand hygiene compliance. They should give reports for clinical areas to the managers of these areas in a timely manner, who then report the results to all staff. Further training then follows as required based on the findings of the audits.

The hand hygiene coordinator should present organisation reports to the hospital management at regular intervals. These reports should also become a standard agenda point at hospital board meetings.

Finally the hand hygiene coordinator should report hand hygiene compliance rates to key stakeholders in a clear and timely manner once auditing is complete. Such reports can highlight:

- overall hand hygiene compliance rates
- hand hygiene compliance rates in relation to:
  - each of the 5 moments
  - type of healthcare worker
  - type of areas (high-risk and standard-risk areas)
  - glove data.

With HHCApp, it easy to calculate all these rates (at profession, area and hospital levels), and report hand hygiene compliance according to the above criteria.

Chapter 7: Validation of the auditing process

Consistency over time is important to achieve a valid auditing process. The HHNZ programme uses a range of approaches to ensure data collection is reliable and consistent. Table 6 summarises these approaches.

Table 6: Methods to validate hand hygiene auditing

Method	Description	Frequency
Initial and annual review for gold auditors and gold auditor trainers	Gold auditors have an initial training workshop and annual validation testing to minimise observer bias (must collect a minimum of 100 moments per year and complete and pass online auditing skills validation test annually).	Initial and annual
Paired gold auditor observation sessions	Two gold auditors conduct direct observations in the same area and each completes an observation form separately while observing the same healthcare worker and the same care sequence. Results are then compared and differing results discussed for lessons learned.	Annual
Cross-area auditing for intra-auditor validation	Auditing locations and time of day are chosen randomly – ie, not in the auditor's own clinical area – in order to minimise selection bias.	Each audit period
Hand hygiene coordinator's internal data review	1. Check auditors have collected the right number of moments for the facility or clinical area.	End of each audit period
	2. Check data is entered correctly (national vs local audits) and detect any anomalies.	End of each audit period
	3. Evaluate compliance rates by individual auditors (reviewing an auditor if they are consistently recording markedly different rates from other auditors).	End of each audit period
	4. Review compliance rates by moment (there are usually more moments before and after patient contact than the other three moments).	End of each audit period
HHNZ data review	A member of the Commission's Infection Prevention and Control team reviews data to detect anomalies as a further way of validating it at the national level.	End of each audit period

Gold auditor trainer and hand hygiene coordinator regional conference calls with the Commission's Infection Prevention and Control team	Review data, answer questions, identify barriers and concerns.	Annual (each region)

Annual review for gold auditors and gold auditor trainers

It is recognised skills can fade over time if gold auditors perform 5 moments auditing irregularly. All gold auditor trainers and gold auditors are required to complete an online auditing skills validation test every year. To maintain their status as auditors, all gold auditor trainers and gold auditors should also collect a minimum of 100 moments each year.

Reliability and paired gold auditor observation sessions

Hospitals should measure the reliability of auditors' assessments in two ways.

- **Inter-auditor reliability (between auditors):** Inter-auditor reliability is a measure of the agreement or consistency between two or more hand hygiene auditors, after they have observed the hand hygiene compliance of several healthcare workers. Calculate this rate for every gold auditor before they begin in the role and every year that they continue in this role.

- **Intra-auditor reliability (within auditor):** HHNZ recommends calculating intra-auditor reliability in each audit period to measure the consistency of each gold auditor across their own ratings when making two or more ratings on a series of subjects.

In measuring reliability, you need to pay careful attention to ensure that auditors are recording observations correctly and consistently, both within individual auditors' own ratings (intra-auditor reliability) and between the various auditors (inter-auditor reliability).

The hand hygiene auditing team should discuss any issues about inter-auditor and intra-auditor reliability as they arise with their local hand hygiene coordinator. The hand hygiene coordinator, in turn, should take the issues or questions to the relevant gold auditor trainer to resolve.

Gold auditor training workshops address inter-rater reliability by pairing up gold auditors to observe the same session and then comparing the observations they have recorded under direction from a gold auditor trainer. Workshops also use the HHNZ 5 moments programme DVD to promote intra-rater reliability.

Once they are trained, gold auditors may continue to need practice sessions before each data collection period to ensure reliable results. During these practice sessions, auditors should:

- observe the hand hygiene training DVD (provided during workshops and available on the HHNZ website), in pairs or small groups where possible so that they can compare their observations

- record compliance data, while observing the training DVD, on the standard paper-based data collection form (**see Appendix 3**)

- seek agreement with the other gold auditor(s) on all their recordings (for example, on type of HCW, HCW activity, number of hand hygiene moment).

Cross-area auditing for intra-auditor validation

HHNZ recommends using cross-area auditing to address potential bias when auditors are regularly auditing their own clinical area and clinical staff know them well. It involves randomly choosing the locations and time of day for each auditor. You may conduct cross-area auditing for at least one but preferably two or more auditing sessions during an audit period.

Hand hygiene coordinator's internal data review

At the end of each audit period, before submitting data to the national database, the hand hygiene coordinator:

- checks auditors have collected the correct number of moments for the organisation (see Table 2) and for each high-risk and standard-risk clinical area

- checks national data is entered correctly and whether there are any potential anomalies in compliance (for example, exceptionally high or low rates; data is designated as national or local audits appropriately)

- considers compliance rates of individual auditors (reviewing an auditor if they are consistently recording markedly different rates from other auditors)

- reviews compliance rates by moment (there are usually more moments before and after patient contact than the other three moments).

For the hand hygiene coordinator's audit data validation checklist, see **Appendix 7**.

HHNZ data review

At the end of each auditing period, a member of the Commission's Infection Prevention and Control team will review the data that organisations have submitted to detect anomalies as a further way of validating it at the national level.

Regional conference calls with the Commission's Infection Prevention and Control team

The Commission will schedule annual conference calls in consultation with regional gold auditor trainers and hand hygiene coordinators. The purpose of these calls is to review data, answer questions and identify barriers and concerns.

Chapter 8: Spreading and sustaining improvement

As the HHNZ programme has become established in New Zealand hospitals, it has increasingly focused on spreading auditing and improvement activities across organisations to benefit all patients.

Meaning and purpose of 'spread'

Spread means expanding the programme, including direct observation auditing, to all clinical areas considered to be 'high risk' and/or 'standard risk' in the medical, surgical and/or maternity services in hospitals.

The purpose of spreading hand hygiene improvement activities is to ensure healthcare workers practise good hand hygiene in all clinical areas. While larger organisations may not audit all standard risk areas every audit period, they will audit all areas during the year as part of the national programme. In this way all clinical areas will have access to their own data to stimulate conversation and innovation and track improvement in practice.

Linking spread to improvement and engagement

Increasing the range of clinical areas audited is part of the strategic approach that local hand hygiene steering groups take to strengthen the whole organisation's engagement in and support for hand hygiene improvement. Embedding good hand hygiene practice across an organisation takes high-level support, teamwork and access to effective tools and resources to help achieve culture change.

The aim of the hand hygiene programme is to make hand hygiene an essential part of caring for 'every patient, every time' to reduce the risk of healthcare associated infection and cross-transmission of pathogenic microorganisms. Direct observation auditing provides a key process measure to monitor and report improvement. The extent to which auditing activities are spreading across an organisation is an indication of how engaged clinical leaders and their teams are in encouraging and sustaining hand hygiene improvement.

How to support spread

Some key approaches and practices to support and sustain spread across organisations are to:

- gain senior management support for improvement activities

- engage staff in locally grown solutions

- empower frontline staff to make changes to support improvement

- report audit findings regularly to showcase progress to the public and the whole organisation

- make improvement tools and resources available – for example, the **Improving Together website** and *From knowledge to action* (Health Quality & Safety Commission 2016)

- keep up the number of gold auditors available through regional collaboration.

The results from hand hygiene audits are just the start of quality improvement. It is then important to use the data to understand where you need to direct effort to improve outcomes, as well as to celebrate achievements. For further information on quality improvement approaches, go to the **HHNZ Implementation Guidelines** (HHNZ 2013).

Reporting on organisational spread

The Commission will report information on the progress of organisational spread of hand hygiene audits in the national audit reports, which it publishes three times a year (representing audit periods ending in March, June and October).

This information will be based on five criteria. Specifically the organisation must:

1. audit all high-risk areas in each audit period

2. report a minimum number of moments (by organisation size) for each high-risk area in each audit period

3. audit all standard-risk areas as per Table 2 (from 1 July 2017)

4. report a minimum number of moments (by organisation size) for each audited standard-risk area in each audit period

5. have achieved totals in all of the above that are equal to or more than the minimum number of moments by organisation size.

The Commission will work with hand hygiene coordinators to ensure the database is up to date on number and type of clinical areas. It will ask them to update this data twice a year.

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Glossary

Alcohol-based hand rub (ABHR)	An alcohol-containing preparation designed to apply to the hands in order to reduce the number of viable organisms as effectively and quickly as possible.
Bacteraemia	The presence of bacteria in the blood.
Body fluid	Any body fluid or substance, with the exception of sweat, including: • ascites fluid • biliary fluid • blood • breast milk • cerebrospinal fluid • faeces • gastric and respiratory secretions • organic body samples – eg, biopsy samples, organs and cell samples • pleural fluid • saliva • secretions from mucous membranes • sperm • tears • urine • vomitus • wax.
Body fluid exposure risk	Any situation where contact with body fluids may occur. Such contact may pose a contamination risk to either the healthcare worker or the environment.
Colonisation	When bacteria are commonly found on the body without causing an illness. Sometimes known as carriage.
Contact	The touching of any patient or their immediate surroundings, or performing any procedure.
Endogenous	Originating from the patient's own body.
Exogenous	Originating from factors outside of the patient's own body.
Gold auditor	A hand hygiene auditor whose data collection and entry have been validated by a gold auditor trainer.
Gold auditor trainer	A validated gold auditor who has undertaken and passed an additional 'train the trainer' workshop in order to train and manage a pool of gold auditors.

Hand hygiene	A process that reduces the number of organisms on hands. Hand hygiene is a general term applying to the use of soap or solution (non-antimicrobial or antimicrobial) and water, or a waterless antimicrobial agent to the surface of the hands (eg, alcohol-based hand rub).
Hand hygiene compliance	Practising hand hygiene in circumstances where it is considered necessary and is classified as one of the 5 moments for hand hygiene. If a healthcare worker practises hand hygiene when there is no indication and it has no impact in terms of preventing microbial transmission, then it is not an act of hand hygiene compliance.
	The denominator is the number of moments for assessing hand hygiene compliance. The rate of hand hygiene compliance is the actual number of hand hygiene actions undertaken divided by the number of moments observed.
Hand hygiene coordinator	A person in the operational role of leading and managing the hand hygiene programme. They are the link for communication between HHNZ and their organisation.
Hand hygiene inter-auditor reliability	A measure of the agreement or consistency of ratings between two or more hand hygiene auditors, after they have observed the hand hygiene compliance of a series of healthcare workers.
Hand hygiene intra-auditor reliability	A measure of agreement or consistency of two or more ratings by a single auditor observing a series of subjects.
Hand hygiene product	Any product used for the purpose of hand hygiene, including soap and water.
Hand hygiene steering group	A multi-disciplinary group of key individuals responsible for implementing the hand hygiene programme in an organisation
Hand washing	Applying plain or antimicrobial soap and water to the surface of the hands.
Healthcare associated infection	An infection that originates from, or is related to, a healthcare setting or the delivery of healthcare.
Healthcare worker (HCW)	Any employee of a healthcare institution who has care responsibilities for and contact with patients.
Healthcare zone	All areas outside the patient zone.
Invasive medical device	Any item of equipment that enters a patient's skin or body cavity. This includes the entire device (eg, IV line, IV pump, IV pole).
Microorganism	Organism of microscopic size.
Outcome measure	A measure of the effects of care on the health status of patients and populations (eg, infection rate).
Patient zone	The patient and the patient's immediate surroundings.

Appendix 1: Examples of when healthcare workers must peform the 5 moments

The following examples highlight situations in which healthcare workers must perform hand hygiene. They provide a quick refresher for auditors to run through before they start auditing.

1. **Healthcare worker walks in, silences IV alarm, then leaves.**

Moment by moment

☐ 1 – before touching patient

☐ 4 – after touching patient

2. **Healthcare worker changes IV fluid bag, then leaves.**

Moment by moment

☐ 2 – before disconnecting IV

☐ 3 – after reconnecting IV

3. **Healthcare worker prepares oral medications with medications sitting on patient medical chart, then signs chart while giving medications to patient, then moves curtain aside.**

Moment by moment

☐ 1 – before giving medications to patient

☐ 4 – before moving curtain

4. **Healthcare worker walks in, touches the patient, moves the over-bed table, adjusts the sheets, moves the chair and gets the patient out of bed, then leaves.**

Moment by moment

☐ 1 – before touching patient

☐ 4 – after touching the patient

5. **Healthcare worker walks in, picks up indwelling catheter (IDC) to read it, puts it down, then leaves.**

Moment by moment

☐ 1 – before IDC as IDC is considered to be a part of the patient

☐ 3 – after IDC (potential body fluid risk)

6. Healthcare worker walks into the room, picks up IDC to read it, puts it down, writes on the medical chart then leaves.

Moment by moment

☐ 1 – before IDC as IDC is considered to be a part of the patient

☐ 3 – after IDC (potential body fluid risk)

☐ 4 – after chart – after continuum of patient care

7. Healthcare worker walks in and cleans up urine from the floor, then leaves.

Moment by moment

☐ 3 – after clean-up (potential body fluid exposure risk)

8. Healthcare worker walks in, cleans up vomit from the floor and moves patient furniture, then leaves.

Moment by moment

☐ 3 – after clean-up (potential body fluid exposure risk)

☐ 5 – after touching patient surroundings

9. Healthcare worker walks into patient room, touches patient, then picks up IDC to read it, then touches patient again, then leaves the room.

Moment by moment

☐ 1 – before touching patient

☐ 3 – after touching IDC (body fluid exposure risk)

☐ 1 – before touching patient

☐ 4 – after touching patient

10. Healthcare worker walks into the room, picks up IDC and drains it, puts it down, writes on the medical chart at the foot of the bed, then leaves.

Moment by moment

☐ 2 – before IDC

☐ 3 – after IDC (potential body fluid risk)

☐ 4 – after chart – after continuum of patient care

11. Healthcare worker picks up medication chart, gets medications out of patient drawer, prepares medication, gives medication via NGT, signs chart, then leaves.

Moment by moment

☐ 2 – immediately before preparing medications

☐ 3 – after giving medications

☐ 4 – after chart – after continuum of patient care

12. Healthcare worker walks into patient room, touches patient, then moves curtain, then touches patient.

Moment by moment

☐ 1 – before touching patient

☐ 4 – after touching patient and before touching curtain

☐ 1 – after touching curtain and before touching patient

☐ No moment 4 is recorded as healthcare worker has not left the room

13. Healthcare worker walks into patient room, touches patient, then moves curtain, then moves the over-bed table, then leaves.

Moment by moment

☐ 1 – before touching patient

☐ 4 – after touching patient and before touching curtain (by touching the curtain the healthcare worker has left the patient zone)

☐ 5 – after patient surroundings (new moment as re-entered room)

14. Healthcare worker walks into patient room, moves curtain back, then walks out again.

Moment by moment

☐ Nil as curtain is outside the patient zone

15. Healthcare worker picks up medication chart, puts it down and walks out.

Moment by moment

☐ 5 – after chart – contact with patient environment

16. Healthcare worker picks up medication chart and walks out with it.

Moment by moment

☐ Nil as the moment has not finished

17. Healthcare worker walks in, touches patient, does hand hygiene, touches the chart, then leaves.

Moment by moment

☐ 1 – before touching patient

☐ 4 – on leaving (after chart – after continuum of patient care)

The healthcare worker was not required to perform the hand hygiene that they did in this scenario.

18. Healthcare worker walks in, touches patient, empties IDC, then leaves.

Moment by moment

- [ ] 1 – before touching patient
- [ ] 4 – after touching the patient
- [ ] 2 – before emptying the IDC
- [ ] 3 – after empting the IDC

19. Healthcare worker walks up to a single room with a patient who has VRE, puts gloves on, walks in, touches patient, empties IDC, then leaves.

Moment by moment

- [ ] 1 – before touching patient
- [ ] 4 – after touching the patient
- [ ] 2 – before emptying the IDC
- [ ] 3 – after emptying the IDC

20. Healthcare worker walks in, picks up IDC to read, puts it back, picks up NGT drainage bag to review, puts it back, picks up wound drain to review, puts it back, then leaves.

Moment by moment

- [ ] 1 – before touching the patient (IDC)
- [ ] 3 – after body fluid exposure risk (IDC)
- [ ] 1 – before touching the patient (NGT drainage bag)
- [ ] 3 – after body fluid exposure risk (NGT drainage bag)
- [ ] 1 – before touching the patient (wound drain)
- [ ] 3 – after body fluid exposure risk (wound drain)

Appendix 2: Hand hygiene observation coding sheet

CODE: Type of healthcare worker (HCW)		
AC	Administration staff	All administration and clerical staff
AH	Allied health staff	All allied health staff, physiotherapists, occupational therapists, speech therapists, dieticians
BL	Blood collection staff, phlebotomist	Phlebotomists, dialysis technicians
D	Domestic	All cleaning staff and meal delivery staff
DR	Medical doctor	All doctors, consultants, registrars, visiting consultants, general practitioners, dentists
HCA	Healthcare assistant	Ward nursing assistants
NM	Nurse/midwife	All nurses, midwives, agency nursing staff
O	Other	All healthcare workers not categorised elsewhere (eg, orderlies)
SAH	Student allied health worker	Students of physiotherapy, occupational therapy, speech and language, dietician students etc
SDR	Student doctor	All student doctors
SHCA	Student healthcare assistant	All student healthcare assistants
SNM	Student nurse/midwife	Students of nursing, midwifery
CODE: Hand hygiene action		
Rub	Healthcare worker used alcohol-based hand rub (ABHR)	
Wash	Healthcare worker washed hands with soap and water	
Missed	Moment for hand hygiene observed but not performed	
CODE: Glove use		
On	Healthcare worker put gloves on	
Off	Healthcare worker took gloves off	
Cont	Healthcare worker continued to wear the same pair of gloves	
Leave blank if the healthcare worker wore no gloves		

CODE: Moments for hand hygiene

Moment 1: Before touching a patient. This moment occurs before the healthcare worker touches the patient in any way. It applies when the healthcare worker enters the patient's immediate surroundings to make contact with the patient – eg, for personal care activities, non-invasive observations, non-invasive treatments, to prepare and administer oral medications, for oral care and feeding – before touching any invasive medical device connected to the patient. This moment occurs when the healthcare worker makes contact with the patient's surroundings during any of the above.

Moment 2: Before a procedure. This moment occurs before the healthcare worker performs any procedure where there is a risk of directly introducing a disease-causing organism into the patient's body. It applies before the healthcare worker inserts a needle into the patient's skin, or into an invasive medical device. This moment occurs when:
• preparing and administering any medications given via an invasive medical device
• administering medications where there is direct contact with a patient's mucous membranes
• inserting, or disrupting, the circuit of an invasive medical device
• making any assessment, treatment and patient care where contact is made with non-intact skin
• preparing a sterile field.

Moment 3: After a procedure or body fluid risk. This moment occurs after any procedure or potential or actual body fluid exposure risk. It applies at the end of the procedure or after the healthcare worker's hands have actually or potentially been exposed to a body fluid risk. For example, this may be after:
• a moment 2 contact
• contact with a used urinary bottle/bedpan
• contact with sputum either directly or indirectly via a cup or tissue
• contact with used specimen jars or pathology samples
• cleaning dentures
• cleaning spills or urine, faeces or vomit from the patient's surroundings.

Moment 4: After touching a patient. This moment occurs after the healthcare worker has touched the patient. For example, it may occur when doing personal care activities, making non-invasive observations, providing non-invasive treatments, preparing and administering oral medications, oral care and feeding, or making contact with the patient's surroundings during any of the above.

Moment 5: After touching a patient's surroundings. This moment occurs after the healthcare worker has touched the patient's immediate surroundings when they have not actually touched the patient, eg, when changing bed linen, holding a bed rail, clearing the bedside table. It applies when the healthcare worker leaves the immediate patient surroundings after touching any objects. Patient surroundings include bed, bed rails, linen, table, bedside chart, bedside locker, call bell/TV, phone, light switches, personal belongings (including books, mobility aids), electronic devices, chair, footstool.

Appendix 3: Paper-based hand hygiene data collection form

Hand hygiene observation – data collection form

Organisation:	
Clinical area:	
Date:	
Auditor:	Session no:
Start time:	Finish time:
Duration of session:	mins

Five moments for hand hygiene:

1. **Before touching a patient**
2. **Before a procedure**
3. **After a procedure or body fluid risk**
4. **After touching a patient**
5. **After touching a patient's surroundings**

HCW	Moment	Action	Glove	HCW	Moment	Action	Glove	HCW	Moment	Action	Glove
○	1	☐ rub	○ on	○	1	☐ rub	○ on	○	1	☐ rub	○ on
○	2	☐ wash	☐ off	○	2	☐ wash	☐ off	○	2	☐ wash	☐ off
	3	☐ missed	☐ cont		3	☐ missed	☐ cont		3	☐ missed	☐ cont
	4				4				4		
	5				5				5		
HCW	Moment	Action	Glove	HCW	Moment	Action	Glove	HCW	Moment	Action	Glove
○	1	☐ rub	○ on	○	1	☐ rub	○ on	○	1	☐ rub	○ on
○	2	☐ wash	☐ off	○	2	☐ wash	☐ off	○	2	☐ wash	☐ off
	3	☐ missed	☐ cont		3	☐ missed	☐ cont		3	☐ missed	☐ cont
	4				4				4		
	5				5				5		
HCW	Moment	Action	Glove	HCW	Moment	Action	Glove	HCW	Moment	Action	Glove
○	1	☐ rub	○ on	○	1	☐ rub	○ on	○	1	☐ rub	○ on
○	2	☐ wash	☐ off	○	2	☐ wash	☐ off	○	2	☐ wash	☐ off
	3	☐ missed	☐ cont		3	☐ missed	☐ cont		3	☐ missed	☐ cont
	4				4				4		
	5				5				5		
HCW	Moment	Action	Glove	HCW	Moment	Action	Glove	HCW	Moment	Action	Glove
○	1	☐ rub	○ on	○	1	☐ rub	○ on	○	1	☐ rub	○ on
○	2	☐ wash	☐ off	○	2	☐ wash	☐ off	○	2	☐ wash	☐ off
	3	☐ missed	☐ cont		3	☐ missed	☐ cont		3	☐ missed	☐ cont
	4				4				4		
	5				5				5		
HCW	Moment	Action	Glove	HCW	Moment	Action	Glove	HCW	Moment	Action	Glove
○	1	☐ rub	○ on	○	1	☐ rub	○ on	○	1	☐ rub	○ on
○	2	☐ wash	☐ off	○	2	☐ wash	☐ off	○	2	☐ wash	☐ off
	3	☐ missed	☐ cont		3	☐ missed	☐ cont		3	☐ missed	☐ cont
	4				4				4		
	5				5				5		

Total correct moments: Total moments:

Appendix 4: Paper-based hand hygiene summary sheet

HAND HYGIENE SUMMARY SHEET						
Clinical area:						
Audit period:						
Session number	**Date**	**Observer initials**	**Duration of session**	**Total correct moments**	**Total moments**	**Running total**

Appendix 5: Gold auditor trainer – position description

Gold auditor trainers perform a critical role in the HHNZ programme by ensuring that audits of hand hygiene compliance continue to be of high quality.

Each gold auditor trainer is responsible for training, revalidating and managing their own organisation's pool of gold auditors. They are also responsible for answering email and telephone enquiries from gold auditors within their own organisation.

Role description

Gold auditor trainers must:

- manage all aspects of running gold auditor training within their organisation. This includes pre-training administration and organisation, running training on the day and any required follow-up (for example, organising certificates for those who pass, and providing feedback and follow-up with any participants who have not passed)

- liaise with their hand hygiene coordinator to plan gold auditor training so that the organisation continues to have enough gold auditors to run the programme.

Criteria for becoming a gold auditor trainer

To become a gold auditor trainer, an individual must:

- attend a train the trainer workshop and pass the required assessments

- hold and maintain a validated gold auditor status – scoring 100 percent in the annual online HHNZ revalidation test

- have written agreement and commitment from their organisation for this individual to carry out this role

- be interested in hand hygiene and patient safety

- be able to commit to the time for initial training

- have time available to run training workshops and associated follow-up with participants (up to three times a year)

- have a background as a clinical health professional

- have previous experience in teaching and assessing others

- be able to provide immediate feedback to participants

- have good interpersonal skills and good written and oral communication skills

- have a good understanding of auditing, feedback and education processes
- provide ongoing support for gold auditors (which may involve face-to-face visits)
- be able to travel to help a neighbouring organisation with training if required.

Requirements in the role of gold auditor trainer

To fulfil their role, gold auditor trainers will be trained to:

- accurately measure hand hygiene compliance by using a hand hygiene compliance assessment tool
- collect, enter and analyse compliance data
- achieve a minimum of 90 percent inter-rater agreement in all recordings (for example, type of HCW, HCW activity, number of hand hygiene moment, hand hygiene performance).

Number of gold auditor trainers in an organisation

A maximum of two gold auditor trainers is recommended at any one time. This approach will help an organisation to plan and manage gold auditor training so that it continues to have enough gold auditors to collect the required hand hygiene compliance data for each of the three auditing periods and to support spread of hand hygiene improvement.

This approach will also:

- keep training costs reasonable and use limited resources in the most cost-effective way
- maintain consistent, high auditing and training standards nationally (through improved inter-observer reliability and validation).

Appendix 6: Gold auditor – position description

In New Zealand, the term 'gold auditor' describes lead personnel who perform a critical role in the Hand Hygiene New Zealand programme. Gold auditors accurately assess hand hygiene compliance in line with published guidelines using a standardised assessment tool. Gold auditor trainers train gold auditors.

Criteria for becoming a gold auditor

Gold auditors should:

- preferably hold an infection prevention and control (IPC) position[1] or hold a position as a clinical health professional
- be able to commit to the time for initial training
- have the time to conduct audits at least three times per year
- have experience in teaching and assessing others
- have good interpersonal skills and good written and oral communication skills
- have a good understanding of auditing, feedback and education processes
- achieve a minimum of 90 percent inter-auditor agreement in all recordings (for example, type of HCW, HCW activity, hand hygiene moment, hand hygiene performance) during the gold auditor workshop.

Requirements of the role of gold auditor

To fulfil their role, gold auditors must:

- accurately measure hand hygiene compliance using a hand hygiene compliance assessment tool
- collect, enter and analyse compliance data
- effectively present and disseminate the results of data analysis
- collect at least 100 moments each year
- achieve 100 percent in the annual online HHNZ auditor revalidation test.

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1 IPC practitioners as auditors:
  - know hand hygiene guidelines
  - can intervene and educate on the spot to correct unacceptable performance
  - can provide immediate feedback to staff on good hand hygiene practices
  - are usually already involved in teaching and training all staff in correct hand hygiene principles.

Number of gold auditors in an organisation

The number of gold auditors in an organisation should be enough for the organisation to be able to audit the minimum number of moments specified under the hand hygiene programme. The more moments that it must audit, the more gold auditors it will need. This approach helps:

- to maintain consistent, high auditing and training standards nationally (through improved inter-observer reliability and validation)
- the organisation to submit the required hand hygiene compliance data on time for each of the three auditing periods each year.

Appendix 7: Audit data validation checklist for the hand hygiene coordinator

HHNZ recommends that the hand hygiene coordinator of each facility uses this checklist at the end of each national hand hygiene audit period before they finalise their data submission.

TASK	COMPLETED?	
Minimum moments review	**Yes**	**No**
Check auditors have collected the correct number of moments for your facility (**see Table 2**)		
Required ward moments review	**Yes**	**No**
Confirm auditors have collected the minimum number of moments required for each area (**see Table 2**)		
Submitted data category review	**Yes**	**No**
Verify data is entered correctly:		
1. Ensure inpatient beds are correct for your organisation		
2. User details: transition users and organise a transition to one personalised login if:		
• any logins are generic (eg, no specific name for the login?)		
• any users are listed more than once		
• the Org Admin has no separate auditor login		
3. Department details – make updates needed if:		
• any departments with the 'type' is listed as 'other'		
• any departments with a name that includes 'do not use' or 'ZZ' that have not been marked as 'inactive'		
• national vs local audit data is entered incorrectly		
– The areas to include as local data only are:		
• operating theatre		
• mental health inpatient areas		
Data plausibility review	**Yes**	**No**
Areas of review for anomalies (the reports below are on the hand hygiene database homepage)		
1. Compliance rate by department report:		
• Do any wards have significantly higher hand hygiene compliance than other departments?		
2. Combined compliance rate by moment and HCW type report:		
• Does the 'Combined Compliance Rate by Moment and HCW Type' report follow the 'normal pattern' (there are usually more moments 3 and 4 are than the other three moments)		
• Are **all 5** moments included in auditing?		
• Do any HCW groups have unexpectedly high or low hand hygiene compliance?		
3. Auditor and sessions report (verify all auditors have met the annual auditor validation requirements):		
• Have any auditors recorded hygiene compliance that is significantly higher or lower than the majority of auditors?		
• Have any auditors recorded hand hygiene compliance of 95% or above?		