Report on the national hand hygiene survey | He pūrongo rangahau ā-motu mō te horoi ringa

November 2022 | Whiringa-ā-rangi 2022

Contents | Ngā ihirangi

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Document purpose | Take o te pukapuka

This document summarises the findings of a survey conducted between June and August 2022 as part of a wider review of the Health Quality & Safety Commission's Hand Hygiene New Zealand programme.

Introduction | He kupu whakataki

Background

Hand Hygiene New Zealand (HHNZ) is one of two cornerstone national infection prevention and control (IPC) programmes at the Health Quality & Safety Commission (the Commission).[1] The HHNZ programme is a quality improvement initiative aimed at improving patient safety outcomes during inpatient stays in health care facilities. Since 2012 public hospitals have participated in the HHNZ programme – first through district health boards and then, since the health reforms, as Te Whatu Ora – Health New Zealand districts (districts). Private surgical hospitals (PSHs) joined in 2017.

The HHNZ programme uses the World Health Organization's multimodal hand hygiene improvement strategy to drive culture change and establish best practice. The programme has focused on stakeholder engagement to affect culture change among health care workers, so the '5 Moments for Hand Hygiene' ('5 Moments') have become part of business-as-usual practice in New Zealand hospitals.

Compliance with the '5 Moments' is measured through observational auditing, with the results published three times a year, and has a national hand hygiene compliance target of 80 percent for districts. Since auditing began in 2012, compliance has increased from 62.1 percent to 86.7 percent in 2022. The 80 percent target has been consistently exceeded since 2015.

The outcome measure is the rate of healthcare-associated *Staphylococcus aureus* bacteraemia events (HA-SAB) per 1,000 bed-days. This measure is reported quarterly through the Commission's quality and safety marker dashboard.

The HHNZ programme's success in improving hand hygiene practice have been well documented over the past 10 years. In 2014, an external rapid evaluation assessed the impact of the programme. This evaluation noted the improvements it had made to the hand hygiene rates and staff attitude to hand hygiene and signalled future emphasis on front-line ownership and continuous quality improvement as focus areas for the programme.

In 2015, the Commission undertook a perception survey to gain a snapshot of how well health care workers and districts understood and supported hand hygiene. Survey findings indicated national auditing results were widely distributed to promote and improve hand hygiene practice, and that public reporting of quality and safety markers and the support of senior leadership were integral to the programme's success.

In July 2019, the Commission made some changes to the auditing process to promote continuous auditing across all clinical areas ('spread') through each audit period. It also changed the number of minimum moments required, per hospital ward, per audit period.

Current situation

The COVID-19 pandemic has identified that there is considerable variation in individual facility operational structures for the HHNZ programme. For those districts where the programme was not well embedded, nor supported by adequate resource, the COVID-19

[1] The other programme is the Surgical Site Infection Improvement Programme.

pandemic has acted as a tipping point for its sustainability. At the same time there was a high turnover of experienced IPC staff and newly recruited staff often had no prior knowledge of IPC. The reduction in experienced IPC staff had a flow on effect with a reduction in the number of Gold Auditor (GA) trainers available to provide training, leading to challenges with maintaining the pool of GAs. A pause in data collection was offered to facilities in response to the demands of the Omicron surge for the March to June 2022 audit period.

This year the Commission celebrated the 10-year anniversary of the HHNZ programme. Reaching this landmark has prompted a Strategic IPC Advisory Group discussion about the structure of the programme and particularly whether it remains relevant with sustained high hand hygiene compliance levels. This discussion and feedback from the sector led to the decision that the Commission's IPC team would undertake an internal review of the HHNZ programme.

The review has three elements, which include:

- a national survey on the structure and sustainability of the HHNZ programme in all districts and PSHs
- an external literature review of academic literature, institutional guidance, and international, national and sub-national programmes on hand hygiene in health care settings to inform the review of the HHNZ programme
- a horizon scan through communicating with two agencies in Australia with similar programmes, Hand Hygiene Australia and the Australian Commission on Safety and Quality in Healthcare National Hand Hygiene Initiative.

This document reports the results of the first part of the review, the national survey. The Commission undertook this survey to gain a better understanding of how the programme is currently implemented, to inform future quality improvement activity of the programme.

Methodology | Te tikanga mahi

The Commission invited HHNZ stakeholders from all districts and PSHs to participate in the survey so they could share their views on the implementation of the HHNZ programme in their organisation. Semi-structured interviews were used to ask the survey questions via Zoom. One of three members of the IPC team – consisting of two programme specialists and the programme coordinator – conducted each interview.

The questions in the survey tool (Appendix) for the interviews covered four main topics:

- governance of the programme
- gold auditor training
- education for all health care workers on the '5 Moments'
- challenges and enablers for the programme.

Interviews were conducted between 10 June and 11 August 2022 and lasted between 30 and 60 minutes. Responses were documented either through note taking during the interview or by recording interviews with the interviewees' consent and then transcribing their responses to the survey template.

Data analysis and collation

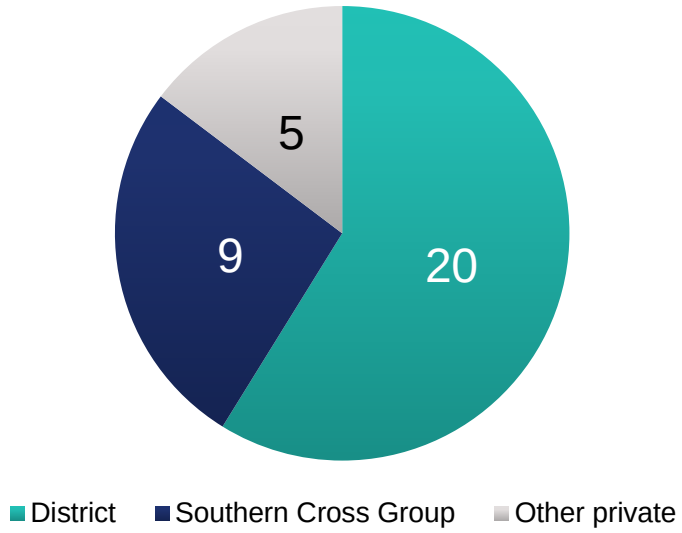
Both quantitative and qualitative methods were used to analyse the survey information. Data was collated in an MS Excel spreadsheet using the survey headings in the interview transcripts as a framework. Descriptive statistics were used to describe the demographics of respondents and the governance structure for the hand hygiene programme in the facilities. Transcripts were coded for recurring themes, concepts and pertinent comments.

Results | Ngā hua

Participants

The survey consisted of 33 interviews with 47 people from 34 different facilities and organisations (Figure 1). This represented 81 percent of HHNZ participating facilities. Interviews were conducted with all 20 districts. Of the 14 PSHs that participated, nine were either wholly owned by or joint ventures with Southern Cross Healthcare (the largest private health care provider) and five were independently owned.

Figure 1: Types of organisations participating in the HHNZ survey



Forty participants were IPC practitioners. Participants also included representatives from quality and risk teams in organisations where they were directly involved in the implementation of the programme. All hand hygiene coordinators for the participating facility or organisation participated in the interview and in some cases gold auditors also participated.

Governance structures

Of the 20 districts participating in the interviews, 19 had an IPC team running its hand hygiene programme and one had a quality and risk department running it. In the Southern Cross group of PSHs, IPC practitioners ran the programme locally, while the national IPC programme lead oversaw and monitored it nationally. In the other five participating PSHs, IPC practitioners ran the programmes.

Thirteen facilities reported hand hygiene auditing results to the IPC committee or equivalent. Of note, at least two districts reported they had non-functioning IPC committees, and both districts and PSHs reported their IPC committees had met less frequently during the pandemic.

Feedback indicated that overall, interviewees were happy with IPC teams overseeing the programme as subject matter experts, but repeatedly expressed the view that more leadership support and resourcing were needed. Fifteen districts and fourteen PSHs did not have dedicated full-time equivalent (FTE) staff or a specific hand hygiene coordinator role. The single district with a quality and risk team managing the hand hygiene programme felt that 'IPC are the subject matter experts, providing the training. It is a sign of failure if hand hygiene is an IPC job; it is a basic system/patient safety requirement.' A PSH participant stated that 'hand hygiene is considered the heart of the business.' IPC teams as subject matter experts was a common theme. Only one district indicated it had a hand hygiene steering group with multidisciplinary team members responsible for the hand hygiene programme.

Thirteen of twenty districts indicated the quality and risk team was involved in their hand hygiene programme. However, the level of involvement varied considerably. In some cases, the IPC teams directly reported to quality and risk, but in others the main interaction was forwarding hand hygiene reports to quality and risk teams and relevant meetings. In PSHs, the relationship with quality and risk teams varied. Interactions could include forwarding reports or attending quality and risk meetings or forums, including hand hygiene on the risk register or working collaboratively with the quality team. Feedback indicated the need for more involvement from quality and safety/risk departments in HHNZ programmes.

Participants gave a resounding call for increased support from senior managers, governance and leadership and medical staff, including through taking on proactive or performance-driven responsibilities. Staff stated they wanted a plan that supports IPC programmes, ownership and feedback on results from governance and leadership, more resourcing and FTE resource, and ward-level ownership directed by senior leaders. One PSH reported that, 'previously there had not been good governance but with the pandemic there was much better engagement … the executive leadership team now understand hand hygiene more and like being a part of the improvement process'.

The dedicated FTE resource for overseeing the hand hygiene programme varied (Table 1). Five districts had FTE allocation for delivering the hand hygiene programme. Only one hospital had a 1.0 FTE hand hygiene role (although this role often was pulled into supporting other IPC work as well). For 15 districts, the IPC practitioner role descriptions included reference to implementation ('implementing or delivering') of the hand hygiene programme but did not specify any dedicated FTE for this work. All PSHs reported that hand hygiene was incorporated into the IPC role.

Table 1: FTE allocation for the HHNZ programme

FTE equivalent	S	Private, n = 14	Total, n = 34
Part of job description	15	14	29
FTE 0.2	2	0	2
FTE 0.3	1	0	1
FTE 0.5	1	0	1
FTE 1.0	1	0	1

Reporting audit results

Local audit results were commonly reported three times a year in line with national reports. However, three facilities indicated they reported monthly. One district had a 'live' dashboard on the intranet showing compliance and updating results daily.

Reporting formats and methods varied. All facilities used the HHNZ database reporting function to pull data for their reports. The removal of the access to the dial on the HHNZ website was raised, with requests for it to return online as it was widely used in reporting. Some facilities produced written reports with graphs, analysis, trends, news and reminders. Others reported results through presentations at meetings or visually on noticeboards, or they distributed data in a newsletter.

Who the audit reports were distributed to within the facility varied. It could include some combination of chief executive officer and board, direct line managers, IPC committees, hand hygiene auditors and IPC representatives, quality and risk team and senior medical officers. Some facilities published their reports on websites (both internal and externally).

Staff engagement

Participants were asked about staff engagement with and support for the programme. Eighteen respondents reported good support and engagement from staff, although four districts and a PSH indicated generally low support or varying support between different staff groups. Seventy-one percent of participants reported doctors, surgeons and anaesthetists were the most challenging group to engage. Participants reported doctors did not understand the five moments or why observational auditing was undertaken.

PSHs had the added challenge of surgeons being considered their customers, which made the feedback and engagement process more challenging. An interviewee from one district reported their chief executive officer was very supportive and believed in the programme and another reported that one auditor in the intensive care unit was able to change the culture of the whole department. Other districts indicated their staff had programme fatigue after receiving the same message for five years.

Gold auditors

Maintaining a pool of gold auditors has become a major challenge. Both the lack of gold auditor trainers and constant time constraints limited gold auditor training sessions. While this was an issue before 2020 the COVID-19 pandemic exacerbated it. Other factors contributing to the challenge of maintaining a pool of auditors included high and frequent turnover of staff, as well as auditors having no protected time to audit, becoming disengaged with the task after the first two or three years and receiving no recognition or remuneration for the role. Some smaller hospitals bucked the trend of high turnover of auditors and reported they had a small pool of committed, long-staying staff in this role.

All the districts and PSHs reported that registered nurses made up the majority of the auditors. Three facilities reported anaesthetic and radiology technicians worked as auditors, two districts reported a doctor audited, and three districts reported the director of nursing or associate director of nursing undertook auditing (Table 2). Although six facilities engaged health care assistants as auditors, others commented that health care assistants found the training challenging and, without a professional clinical background, found it difficult to apply the '5 Moments' in the clinical setting.

Table 2: Types of health care worker trained as gold auditors

Role	Public	Private	All
Registered nurses	20	13	33
Director of nursing/associate director of nursing	3	0	3
Nurse educators	3	0	3
Anaesthetic/radiology technicians	2	1	3
Doctors	2	0	2
Health care assistants	6	0	6
Allied health (physiotherapists/occupational therapists)	6	0	6
Quality and risk team members	1	0	1

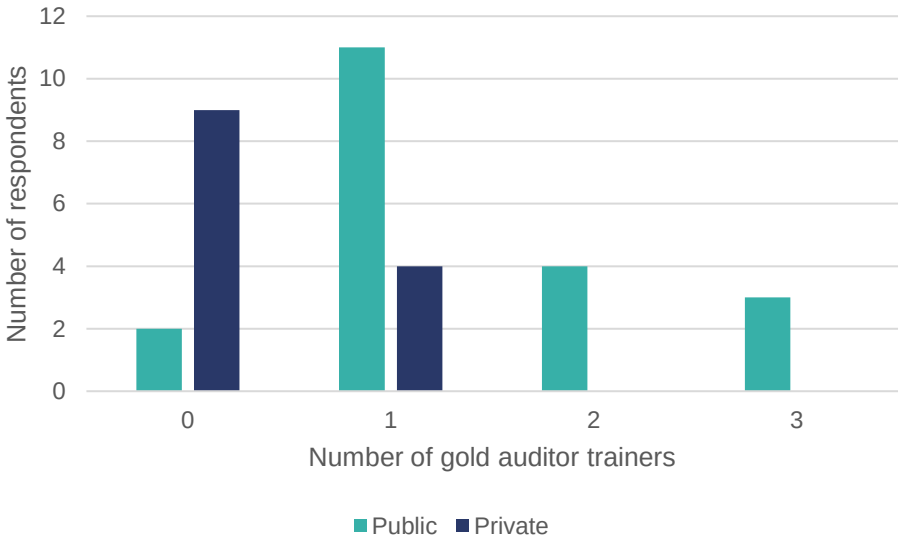
Only three districts (15 percent) and six PSHs (42 percent) indicated that their auditors were allocated time to undertake auditing. For others, the lack of time led to difficulty with achieving the required number of moments for auditing. Some auditors ended up auditing in their own time, including on their days off.

Hand hygiene coordinators frequently had to chase up auditors to complete the collection of moments, resulting in much of the auditing happening towards the end of a reporting period. Some facilities indicated that the IPC team ended up taking on the auditing role when the facility was falling short of meeting moment targets. One participant commented that auditors 'just audit when they can' and they 'recommend 5 to 10 moments per day as they are no longer allocated any time to audit'. Another comment was that completing a smaller number of moments each week is more achievable, provides a more accurate picture of everyday practice and helps to sustain the programme. Most participants reported their auditors tended to audit their own areas with little crossover into other wards and areas. This practice introduces a potential risk of bias.

Gold auditor training

Gold auditors collect data on compliance with the '5 Moments' through observational auditing. Gold auditors receive their training locally from staff who have completed a gold auditor training course. The training is a face-to-face course over two days and uses training scenario videos from Hand Hygiene Australia. Currently all trainers are IPC practitioners. The number of trainers varied across districts and PSHs (Figure 2). Larger districts had two or three trainers. However, most districts had one, and two had no trainers at the time of survey. Southern Cross hospital group had two trainers, one for each main island.

Figure 2: Number of gold auditor trainers in districts and PSHs



Reasons participants gave for a lack of gold auditor trainers included the size of the organisation and turnover of IPC staff. As stated earlier, the COVID-19 pandemic has created difficulties for gold auditor training. Many districts mentioned they have not had the time or capacity to provide training and they have had to cancel training days during the pandemic response. Some PSHs reported that they have staff ready to be trained but are unable to access gold auditor trainers to support the training sessions. Some districts reported opening up their training sessions to facilities without trainers.

Several gold auditor trainers reported the training videos used during training were outdated. Others felt that having two days of training was too long and one day would be more manageable. While some participants supported the 'train the trainer' approach, many asked for centrally run training of gold auditors.

Hand hygiene education and knowledge

All districts and PSHs indicated that the orientation of new staff included hand hygiene, either as an online e-learning module or in person during induction days. Several districts and PSHs had a mandatory hand hygiene refresher every one or two years, but most organisations appeared to have no formal process to make this happen. Several organisations mention a hand hygiene refresher course as part of the automated electronic reminders they send to staff for annual competency requirements.

The three main e-learning platforms facilities used to deliver education on the ‘5 Moments’ were:

- Hand Hygiene Australia
- HealthLearn
- Ko Awatea modules.

Many pointed to the pandemic and staffing shortages as a challenge in delivering education. Consistent feedback from both districts and PSHs was that in-service education sessions on hand hygiene had been infrequent, especially during the pandemic, and it has only occurred when a department requested it or local auditing results indicated the need for targeted education.

Some participants were using different strategies to deliver education such as including IPC and hand hygiene in ward rounds, making hand hygiene part of everything they teach, running an IPC study day and providing on-the-spot education that targeted scenarios where hand hygiene applies in real life. A few organisations had developed local hand hygiene education modules specifically for non-clinical staff and doctors. These modules were not currently shared among organisations. Two PSHs reported that completing hand hygiene modules was a requirement in staff performance appraisals. Districts and PSHs celebrated World Hand Hygiene Day, which provided a focus day for promoting hand hygiene and the ‘5 Moments’ messaging.

Three districts reported their staff found the ‘5 Moments’ concept confusing and suggested alternatives such as ‘4 Moments’ or ‘before and after care’. Participants often mentioned surgeons and anaesthetists had a poor understanding of the ‘5 Moments’. Some asked whether undergraduate programmes for the medical profession could cover the ‘5 Moments’ (although we note that this does currently occur at the undergraduate level). Many noted poor hand hygiene leadership by senior medical officers. Other feedback was that the ‘5 Moments’ is clinically focused and non-clinical staff find it difficult to grasp.

Quality improvement initiatives to improve hand hygiene compliance

Participants agreed that the programme has been successful and compliance with hand hygiene has improved since it began. Many districts and PSHs reported, because of the programme, they had been able to embed hand hygiene into their organisation. One participant stated, ‘The programme has shone a light on hand hygiene’ and another stated, ‘It’s a testament to the programme that it has continued during the pandemic.’

Although the HHNZ programme is a quality improvement initiative, few participants indicated that quality improvement activities associated with the programme were common in their facility. Examples of recent quality improvement activities included a programme led by a quality and risk team; and a team who had implemented ‘take a moment’, as a quality improvement initiative to encourage staff to pause or take a moment to consider the place of hand hygiene in their clinical practice.

Some raised concerns that auditing had become a tick-box exercise with few quality improvement opportunities now. Several commented that wards have improvement plans to address areas with low compliance. Others reported mixed levels of engagement with the quality and risk team, a lack of feedback at ward or departmental level, and variable practices in disseminating results and reports.

Suggestions for improvement

Eighty-five percent of participants indicated that HHNZ works well as a national programme in providing resources, data collection, technology, reporting and support. All participants reported they are satisfied with the role the Commission plays.

All participants suggested ways of improving the programme to make it sustainable at both local and national levels. Some of these suggestions were to:

- have senior leadership support and engagement with the programme
- review gold auditor training requirements to include more online learning delivery
- update the audio-visuals used during the gold auditor training sessions to make them more relevant to current clinical environments
- formally recognise the contribution of gold auditors to the programme
- have a hand hygiene-focused study day, seminar or forum for hand hygiene leads, gold auditor trainers and gold auditors, organised by the Commission
- reinstate national or regional networking and provide an opportunity for hand hygiene leads to meet
- refresh the currently tired programme messaging with new posters and resources
- develop a toolbox of resources to help promote hand hygiene in hospitals
- include other hand hygiene focus topics at a national level – for example, addressing skin issues associated with hand hygiene
- provide training on how to give feedback effectively
- provide targeted training for different health care worker groups (eg, ambulance staff) and guidance for auditing specialist areas (eg, theatres, dialysis, isolation rooms and maternity)
- consider periodic or intermittent observational audit periods in place of continuous auditing
- recognise the influence of the Hawthorne effect (behaviour change caused by awareness of being observed) on direct observation auditing and identify ways to overcome it
- consider including other modes of auditing compliance such as electronic monitoring or volume of alcohol-based hand rub used
- invest in marketing, communications and industrial psychology to promote the programme
- look at patient satisfaction, focusing on patient experience.

Challenges for the programme

We list below the key challenges to the programme's success.

- The COVID-19 pandemic has challenged local hand hygiene teams, due to resources being redeployed elsewhere, staff shortages, and overall fatigue in IPC and the health sector.
- The programme needs support and engagement from senior leadership and governance levels.
- IPC has no dedicated FTE to implement the programme.
- A high turnover of IPC staff has led to a shortage of auditors and limits the capacity to deliver gold auditor training sessions.
- Maintaining a pool of gold auditors and staff shortages have been challenging, and gold auditors are allocated little if any time to complete audits.
- Limits on the effectiveness of the gold auditor training programme are the limited pool of gold auditor trainers, the need to commit two days to the training and attend in person, and outdated teaching resources.
- Observational methods have a Hawthorne effect on auditing rates.

Conclusion | He whakakapi

In most facilities around the country, infection prevention and control teams are overseeing the HHNZ programme. Although they were responsible for implementing the programme, many IPC practitioners indicated having no dedicated FTE for this role and no resourcing of a specific hand hygiene role. Many participants indicated they would like to see more proactive and performance-driven engagement and interest from senior leadership, including senior clinical leaders. They saw an improved relationship with quality and safety/risk teams as essential, observing that where there is good engagement with these teams, the programme is strongly embedded.

The COVID-19 pandemic created challenges with maintaining a pool of auditors for many districts and PSHs. As a result of high turnover of staff and general staffing shortages, hand hygiene auditing now is often of low priority. Gold auditor trainers also face challenges, with many trainers leaving and those that remain having limited or no time for training gold auditors. Trainers also find the current training methodology challenging and indicate they would prefer one day of training rather than the current two days.

Some participants asked for updated posters and resources, for the return of national and regional networking and for online training. In addition, many requested hand hygiene seminars or study days for hand hygiene leads, gold auditor trainers and gold auditors.

Overall, participants supported the role the Commission plays in overseeing the HHNZ programme. Most acknowledged the success of the programme in embedding and improving hand hygiene compliance.

The most common programme issues identified were the impact of the COVID-19 pandemic leading to high IPC and general staff turnover and shortage of gold auditors, the lack of time allocated to audits, the limited opportunity for training new gold auditors and the Hawthorne effect. Participants recognised the importance of observational auditing, but some districts

requested that the audit be changed to collect fewer moments or to run over shorter data collection periods. Others suggested the need for other ways to monitor auditing to supplement the observational method and counteract the Hawthorne effect.

Acknowledgements | He whakamihi

The Commission would like to acknowledge the ongoing commitment and hard work of IPC teams in contributing to patient safety through their hand hygiene programmes. This work has been particularly challenging during the current pandemic when IPC resources have been diverted to COVID-19 related activities.

We would also like to thank all the districts and in particular those individuals who found time to provide the data requested for this investigation.

Appendix | Āpitihanga

Survey questions

Governance of hand hygiene programme

In your organisation –

1. Where does the hand hygiene programme fit within the overall structure, eg, within the infection prevention and control (IPC) programme, as part of a separate quality and risk programme?
    a. Is the hand hygiene programme managed by the IPC team or another department/team, eg, quality and risk/nursing services?
    b. Is quality and risk involved in the hand hygiene programme and if so how?
2. Is there a designated role for coordinating or managing the programme?
    a. What is the role title and how much full-time equivalent (FTE)?
3. What is the reporting line for the programme through to the chief executive officer (CEO)/board?
4. Are the hand hygiene compliance reports and/or data reported internally?
    a. If yes, who do they get reported to, eg, at wards/service/facility level; infection control committee; clinical committee; board sub-committee, directly (even if summarised) to CEO or Board?
    b. In what format are reports produced?
5. What changes in governance would you like to see in your organisation?
6. How would you describe clinician engagement and support for the programme?
    a. Which specific health care groups are challenging to engage in good hand hygiene behaviour?

Gold auditor training

7. How many gold auditor trainers are there for your organisation?
8. How do you maintain your pool of gold auditors?

If there are no gold auditor trainers:

9. Who provides gold auditor training now?
10. When was the last time there were gold auditor trainers?
11. What are the reasons why there are no gold auditor trainers?
    a. What are the specific challenges in maintaining a pool of gold auditor trainers?
12. Are there any plans to get some gold auditor trainers?

Gold auditors

13. Which clinician groups undertake auditing? (highlight applicable groups)
    a. Mostly or exclusively IPC team members
    b. Registered nurse

c. Enrolled nurse
d. Quality and risk staff
e. Allied health
f. Doctors
g. Other

14. Are auditors given dedicated time to do the auditing?
15. Do auditors' complete audits just in their usual ward(s), or do they go to other wards?
16. Are auditors' validation status checked? If yes, how often?

Training in the '5 Moments for Hand Hygiene'

17. Which groups of health care workers undertake online training in 'The 5 Moments for Hand Hygiene'? If relevant, please specify the course.
18. Is training mandatory? What is the frequency?
19. Do you provide any in-service or other hand hygiene training for staff and what is the frequency of education?

Challenges and enablers for the programme

20. Which parts of the programme are working well?
    a. Why are these successful?
21. Which parts of the programme are not working so well?
    a. What are the barriers or issues?
22. Have you any suggestions for improving the sustainability of the programme:
    a. At your local organisational level?
    b. At a national/Health Quality & Safety Commission level?
23. Do you have any suggestions about what the Health Quality & Safety Commission can do to support you and your team with the Hand Hygiene New Zealand programme?