National Hand Hygiene NHS Campaign

Compliance with Hand Hygiene - Audit Report

Germs. Wash your hands of them

Prepared for the Scottish Government Health Directorate HAI Task Force by Health Protection Scotland
Acknowledgements

This report would not have been completed within schedule without the cooperation and support of Local Health Board Co-ordinators and other staff within NHS Boards who participated in hand hygiene audits. Their collaboration is gratefully acknowledged. In addition, this report would not have been completed without the help and support of the project team and others within HPS. Support from the SGHD HAI Task Force is also gratefully acknowledged.

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For further information go to:

http://www.washyourhandsofthem.com
http://www.hps.scot.nhs.uk/haic/ic/index.aspx
http://www.scotland.gov.uk/Topics/Health/NHS-Scotland/19529/2005
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**Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHP</td>
<td>Allied Health Professional</td>
</tr>
<tr>
<td>HAI</td>
<td>Healthcare Associated Infection</td>
</tr>
<tr>
<td>HPS</td>
<td>Health Protection Scotland</td>
</tr>
<tr>
<td>ICM</td>
<td>Infection Control Manager</td>
</tr>
<tr>
<td>IHI</td>
<td>Institute for Healthcare Improvement</td>
</tr>
<tr>
<td>ICNA</td>
<td>Infection Control Nurses Association (now known as the Infection Prevention Society)</td>
</tr>
<tr>
<td>LHBC</td>
<td>Local Health Board Co-ordinator</td>
</tr>
<tr>
<td>NPSA</td>
<td>National Patient Safety Agency</td>
</tr>
<tr>
<td>RAG</td>
<td>Red, Amber, Green</td>
</tr>
<tr>
<td>SE</td>
<td>Scottish Executive</td>
</tr>
<tr>
<td>SEHD</td>
<td>Scottish Executive Health Department</td>
</tr>
<tr>
<td>SGHD</td>
<td>Scottish Government Health Directorate</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>

For the purposes of this report the term hand hygiene refers to the process of cleaning hands by performing hand washing or using alcohol hand rub solutions.
1. Executive Summary

The Scottish Government Health Directorate (SGHD) Healthcare Associated Infection (HAI) Task Force requested that a Hand Hygiene Campaign be rolled out across NHS Scotland. Health Protection Scotland (HPS) was asked to lead on this work and there was a requirement that NHS Boards would take part in Campaign activities.

Scotland’s Hand Hygiene Campaign, ‘Germs. Wash your hands of them’ was officially launched in January 2007. As part of the NHS element of this Campaign, monitoring of hand hygiene compliance within NHS Boards was deemed appropriate in helping to achieve the Campaign’s aim of reducing avoidable illness amongst patients and staff.

It is well recognised that hand hygiene is the single most important factor in reducing and preventing avoidable illnesses, e.g. healthcare associated infections. All staff within healthcare settings in particular must recognise this and perform hand hygiene effectively and in a timely fashion\(^1\,^2\). Audit is one of a number of effective approaches identified by the World Health Organisation (WHO) in ensuring compliance with hand hygiene in healthcare settings\(^1\).

All operational NHS Boards as well as one special NHS Board in Scotland have taken part in monitoring staff compliance with hand hygiene, utilising an audit tool and complimentary protocol produced to support a standardised approach in Scotland. Boards submit results of their hand hygiene compliance audits to HPS following mandatory audit periods.

The overall result for hand hygiene compliance during this 2nd Quarter audit period in 2008 was 90% (4th to 15th August 2008). Compliance percentages within NHS Boards ranged from 85%-98%. Overall results for compliance with hand hygiene opportunities between staff groups ranged from 80%-94%. This compares favourably to the overall result for hand hygiene compliance during the 1st Quarter audit period 2008, which was 88% (5th to 16th May 2008). Compliance percentages within NHS Boards in this 1st Quarter ranged from 79%-100% and the overall results for compliance with hand hygiene opportunities between staff groups ranged from 75%-92%.

Details of each NHS Board’s hand hygiene compliance are featured within this report. There are a number of limitations to this type of data collection which are also described.
2. Introduction

“Hand hygiene is the entrance door to better infection control and safer patient care”

This report was prepared for the SGHD HAI Task Force. It provides results on hand hygiene compliance for Scotland, by NHS Board and by staff group at quarterly intervals. Data are presented in graphical format (tables featuring the results can also be found in the appendices) and data are presented against the ‘at least 90%’ hand hygiene compliance target set by the Cabinet Secretary for Health and Wellbeing in November 2007. Scotland’s 14 operational NHS Boards are represented as is one special NHS Board (Golden Jubilee National Hospital National Waiting Times Centre).

Considering that hand hygiene is recognised as the single most important factor in reducing and preventing avoidable illnesses such as HAI, compliance results are often found in the published literature. Hand hygiene compliance data, from various countries, published by WHO, describe results ranging from 5% to 76% before interventions and 30% to 92% after interventions\(^1\). Seminal work conducted in Geneva found a baseline compliance rate of 48% rising to 66% after interventions\(^4\). Pilot work conducted in England between June 2003 and January 2004, as part of the cleanyourhands campaign, found results ranging from 39% to 70% in the six Trusts that took part\(^5\). Such results tend to be based on single clinical areas, hospitals or at times groups of hospitals and compliance rates are dependant on definitions and methods employed for audit, which do differ. This is the 4th report on hand hygiene compliance in NHSScotland and presents data at a national level, unlike other studies in the literature presenting hospital or hospital grouping level results.
3. Methodology

3.1 Method

- Following rapid review of available hand hygiene audit tools, permission was given to adapt the Infection Control Nurses Association tool (ICNA)\(^6\),\(^7\). Modifications were made to the tool in January 2007 and again in April 2008.
- The electronic tool developed was installed on Tablet PCs that were provided to all Local Health Board Coordinators (LHBCs) for use when auditing throughout each NHS Board.
- Training days were held to provide LHBCs, and other associated infection control staff, with guidance on using the tool to ensure a standardised approach to collecting the audit data. The tool was tested during this training. This was facilitated by observing healthcare activities on video while the LHBCs completed an audit ‘real time’.

3.2 Definitions and Approach

- The HPS National Minimum Audit Dataset Protocol and Resource Pack produced to complement the audit tool detailed information on definitions and on a recommended standardised approach\(^a\).

3.2.1 Definitions

- An audit was defined as the monitoring conducted in one physical location e.g. observations undertaken within one ward. An audit was recommended to be completed within one day.
- WHO’s ‘Your 5 moments for hand hygiene’\(^8\),\(^9\) was approved as appropriate for use in monitoring the opportunities taken for hand hygiene at the most important times (see Appendix I).
- In order to reflect staff groups’ compliance in NHSScotland, four groups were defined as; nurses, doctors, allied health professionals (AHPs) and ancillary/others, as per Scottish Executive Workforce Planning information\(^10\) (see Table 1 in Appendix II). Example percentages were given in relation to the opportunities that could be observed within those staff groups, reflecting the staffing balance within NHSScotland\(^11\).
- “Achieving national target” – as quoted within audit reports is defined as compliance with hand hygiene opportunities of ‘at least 90%’, as per the Cabinet Secretary for Health and Wellbeing’s announcement of 26th November 2007. This target was set for November 2008.

“1st Quarter” as quoted within the reports relates to the national audit period of:
- 5 - 16 May 2008

“2nd Quarter” as quoted within the reports relates to the national audit period of:
- 4 - 15 August 2008
- 3rd Quarter will be – 3 - 14 November 2008

\(^a\)The other elements of the audit tool and associated protocol, for example, hand hygiene technique, were included to support further monitoring and regular feedback to staff at local level and are not detailed as part of this report. The protocol can be found at http://www.washyourhandsofthem.com/hand_hygiene_and_nhs_scotland/08-05-22-audit-and-appendices.pdf.
3.2.2 Approach

Approach at NHS board level

- The approach at NHS Board level included LHBCs, or those others they had trained, going to a range of clinical settings, which were defined within the protocol, and performing audits.

- Twenty opportunities were recommended to be observed during an audit, i.e. in one day, in order to monitor the compliance of a range of staff with the “Your 5 moments for hand hygiene”\(^9,9\).

- This implied that at least 15 audits could be performed during the mandatory audit periods of two weeks (or 10 working days). This number of audits followed agreement on modifications to the electronic tool in April 2008 and the possibility that audits could be conducted within a specific timescale.

- It was recommended that audit data results were fed back to staff.

- Transfer of data to HPS was conducted based on advice given by HPS and detailed within the protocol.

Approach at HPS level

- Throughout this time HPS project support was available to answer queries.

- An approach within HPS to ensure safe and secure data management was adhered to, as detailed within the protocol.

- Quality assurance and reporting standard operating procedures were also followed within HPS. Validation of the data was addressed through the use of Microsoft Access quality assurance queries.

- Quality assurance was also enhanced by the fact that the audit tool was designed with built in rules to reduce the risk of missing data or impossible or illogical entries. Further cross checking of the final audit results produced from the database with an NHS Board was performed.

- The method for establishing the Scotland-wide compliance percentage and staff group compliance results involved weighting NHS Board compliance results by the total number of staff in each Board, and also by the number of staff they have for the four defined staff groups\(^11\).

- The confidence intervals for each NHS Board’s compliance rate were calculated. These take into account the overall number of hand hygiene opportunities observed.

Notes

The above noted calculations were added following discussions on the data contained in the first three national audit reports\(^12,13,14\) and the fact that the number of audits being collated were increasing, therefore, allowing for more meaningful representation of the results.
4. Results

4.1 Audit results for Compliance with Hand Hygiene Opportunities - Scotland

Based on the data submitted by NHS Boards, audit results for compliance with hand hygiene opportunities have been established for Scotland as a whole, for each national quarterly audit period (commencing July 2008).

Figure 1: Audit Results for Compliance with Hand Hygiene Opportunities - Scotland

(The vertical line represents the ‘at least 90%’ compliance target set by the Cabinet Secretary for Health and Wellbeing in November 2007)

Figure 1 indicates that compliance increased from 88% in the 1st Quarter 2008 to 90% in the 2nd Quarter 2008. This overall 90% result shows a continued improvement in compliance for NHSScotland.

See Appendix III for Table 2: Audit results for Compliance with Hand Hygiene Opportunities – Scotland.
4.2 Audit Results for Compliance with Hand Hygiene Opportunities by NHS Board

Audit results for compliance with hand hygiene opportunities are presented for each NHS Board, for each national quarterly audit period (commencing July 2008).

Figure 2: Audit Results for Compliance with Hand Hygiene Opportunities by NHS Board

(The vertical line represents the ‘at least 90%’ compliance target set by the Cabinet Secretary for Health and Wellbeing in November 2007)

Figure 2 indicates that compliance percentages for the 1st Quarter 2008 ranged from 79% to 100% (mean 88%) and for the 2nd Quarter in 2008 they ranged from 85% to 98% (mean 90%). The lowest compliance scores for each period were reported by different Boards however, the highest for both periods was reported by the same Board. Of the 15 Boards, eight had an observed compliance of ‘at least 90%’ in this quarter and it should also be noted that for a further six Boards the target of ‘at least 90%’ falls within the 95% confidence interval for the compliance rate.

See Appendix IV for Table 3: Audit results for Compliance with Hand Hygiene Opportunities by NHS Board. This gives details of the numbers of opportunities observed and taken within each NHS Board, along with 95% confidence intervals.

\(^a\)The National Waiting Times Centre is categorised as a Special Board as its circumstances are exceptionally different to other NHS Operational Boards (for example there are not multiple hospitals within this Board)
4.3 Audit results for Compliance with Hand Hygiene Opportunities by Staff Group

Overall audit results for compliance with hand hygiene opportunities are presented for each of the defined staff groups, for each national quarterly audit period (commencing July 2008).

Figure 3: Audit Results for Compliance with Hand Hygiene Opportunities by Staff Group

(The vertical line represents the at least 90 % compliance target set by the Cabinet Secretary for Health and Wellbeing in November 2007)

Figure 3 indicates that compliance percentages for the defined staff groups for the 1st Quarter 2008 ranged from 75% to 92% and for the 2nd Quarter 2008 ranged from 80% to 94%. The target of ‘at least 90%’ follows within the confidence interval for the compliance rates for three staff groups in this quarter.

Also see Appendix V for Table 4: Audit Results for Compliance with Hand Hygiene Opportunities by Staff Group including 95% confidence intervals.
5. Discussion

This is the fourth report to present hand hygiene compliance data at a country level and provides an ongoing description of compliance throughout NHSScotland.

To date there have been five national audit periods; three in 2007 and two so far in 2008.

In 2007 compliance increased from 68% to 87%\(^{12,13}\), and then in 2008 from 88% in Quarter 1 to 90% in this latest report. The results for 2007 and 2008 suggest that compliance in Scotland compares favourably to rates from hospitals / single clinical areas of 5% to 92% within the published literature\(^{1,4,5}\). It also demonstrates a continued improvement in compliance from each audit period to the next. The difference between the 1st report in December 2007 and this report clearly demonstrates a statistically significant increase over time (p<.001).

The target of ‘at least 90%’ compliance by November 2008, set by the Cabinet Secretary for Health and Wellbeing in November 2007, could be achieved in Scotland if the level of continued improvement is at least maintained.

Results for each individual NHS Board, ranged from 50%-94% and 59%-94% in the 1st and 2nd audit periods\(^{12}\) respectively, 75% to 97% in the 3rd audit period\(^{13}\), 79% to 100% in the 1st Quarter of 2008\(^{14}\) and 85% to 98% in this report. This also compares favourably to the published literature\(^{1,4,5}\). Further comparisons are hampered by the absence of any other published reports of hand hygiene compliance on a country wide level.

By presenting 95% confidence intervals around the NHS Board results, it is possible to assess the accuracy of these observed results (which are an estimate of the true overall compliance obtained through observation of a sample).

Of the 15 Boards, eight had an observed compliance of ‘at least 90%’ in this Quarter and it should be noted that for a further six Boards the target of ‘at least 90%’ falls within the 95% confidence interval for the compliance rate. Although one other Board’s confidence intervals do not currently cover the target, if their level of continued improvement is at least maintained they should meet the target by November 2008. Additionally, two Boards demonstrated a statistically significance increase in their compliance between Quarter 1 and this Quarter for 2008. Any other small changes presented that show either minimal increase or decrease in their compliance percentages within NHS Boards should be interpreted with caution as these are not statistically significant and Boards might still see future fluctuations with a potential for the ‘at least 90%’ target to not always be met.

The results for the NHS Boards over time also show that the range from the lowest to the highest compliance has narrowed. Although such comparisons should be interpreted with caution this implies that there is less variation in hand hygiene practice across NHSScotland. Nevertheless the results for each NHS Board reflect the diverse range of challenges they face in achieving, surpassing and sustaining compliance levels of ‘at least 90%’.

The results previously reported for the staff groupings also concur with the evidence found within the published literature, which states that overall certain staff groups are consistently associated with low compliance\(^1\). The results featured in this report indicate that all staff groups’ compliance have improved. As a range of studies show that compliance varies between staff groups, it is necessary to understand any variation in order to target interventions at relevant groups to improve compliance with hand hygiene. These results suggest that the
medical staff group needs further focus to ensure they will meet the target by November 2008.
WHO clearly summarises that there are many factors that influence adherence to hand hygiene compliance, including skin irritation, lack of supplies and time pressures. In addition, sustainability over time can also be an ongoing challenge. Efforts continue throughout NHS Scotland to ensure that both recommended initiatives such as the supply of hand hygiene solutions and locally identified actions to improve compliance are implemented. Other elements of the Campaign have also been aimed at promoting sustainable improvements in hand hygiene throughout Scotland.

The exact combination of activities that will have the greatest impact on achieving and sustaining hand hygiene compliance is not currently known. Local activities to improve compliance will differ based on local assessment of need. The fact that overall awareness to hand hygiene appears to have increased throughout the life time of the Campaign, is in itself a marker of success and is essential for such an attitude driven activity if NHSScotland is to change behaviours and sustain long term compliance.

In summary, hand hygiene compliance within NHSScotland is improving, however, a continued focus is required to support compliance with the target of ‘at least 90%’ to ensure long term sustainability in all NHS Boards.
6. Limitations

- It should be noted that hand hygiene is only one, albeit the most important, factor in reducing avoidable illness such as HAI. Therefore, caution should be taken when attempting to review these results against any available infection rates.

- Caution should also be taken when attempting to make any comparisons between NHS Boards as Boards differ in their composition. The overall aim of presenting these results is to allow monitoring within Boards and to give an indication of hand hygiene compliance amongst staff.

- It was not the aim of this national report to describe any other aspects of hand hygiene performance outwith compliance with opportunities, e.g. use of the correct hand hygiene technique.

- It should be acknowledged that in the context of this Campaign, auditing aims to measure processes that contribute to effective hand hygiene performance. Audit results do not present the same robust scientific data as surveillance data, however, aim to provide valuable and contextual information that can help target hand hygiene activities to improve compliance where required in each area by utilising a cyclical approach. This involves feeding back of results.

- A number of limitations may be associated with ‘being observed’ and the role of auditors:

  - It has been recognised that ‘being observed’ in practice, e.g. during auditing, can lead to falsely elevated compliance rates. Entry into wards in order to conduct audits was considered and a variety of strategies suggested in an attempt to ensure changes in staff practices related to being observed were minimised as far as possible, e.g. it was preferable that LHBCs said they were in an area to observe aspects of infection control practices if asked about this, without focussing on the subject of hand hygiene in particular. On one hand it is often expected that over time any effects of being observed should diminish. On the other hand, it is acknowledged that awareness of the role of LHBCs could be raised over time and this might impact on results. However, it should be considered that the staff being observed are busy people with a range of considerations on their minds when providing care and any effect of ‘being observed’ might not always be present. Additionally, in the broadest terms, any way in which hand hygiene compliance can be improved in both the short and long term is welcomed, bearing in mind that hand hygiene is essentially an attitude driven activity.

  - It has been considered that there may be a risk of bias associated with auditors (LHBCs) not being fully ‘independent observers’, particularly over time, and unconsciously introducing bias or personal opinion to the results they enter in the audit tool. As has been described previously, a data quality assurance exercise is being considered.

  - Additionally, to address any concerns related to scoring of staff against the ‘Your 5 Moments for Hand Hygiene’, guidance on their application as well as new ‘Your 5 Moments for Hand Hygiene’ images/posters have been distributed to NHS Boards to inform and encourage consistency with scoring.
• The areas within NHS Boards/hospitals audited during the national audit periods were not expected to be the same, however, this may happen at times. If they were, or are, exactly the same for each audit there would be no guarantee that the practices of the same staff would be audited, therefore, such data are not necessarily comparable.

• Areas to be audited were recommended within the protocol, however, there will have been variation between NHS Boards due to their ranging compositions. The numbers of audits completed by each NHS Board also varies as can be seen in Appendix IV.
7. Way Forward

It has been proposed by the SGHD that national hand hygiene auditing and reporting is undertaken on a more frequent basis, i.e. two monthly. Plans for this are being progressed.

A range of on-going national and local activities to enhance compliance are planned and should support the SGHD’s current view of ‘zero tolerance’ to non-compliance. Collaborative work with those leading on the Scottish Patient Safety Programme is also in progress.
8. References


6. ICNA. Audit tools for monitoring infection control standards. 2004:ICNA, UK.

7. ICNA. Audit tools for monitoring infection control guidelines within the community setting. 2005:ICNA, UK.


9. Appendices

Appendix I - WHO ‘Your 5 moments for hand hygiene’

Your 5 moments for HAND HYGIENE

1. BEFORE PATIENT CONTACT
   WHEN? Clean your hands before touching a patient when approaching him or her
   WHY? To protect the patient against harmful germs carried on your hands

2. BEFORE AN ASEPTIC TASK
   WHEN? Clean your hands immediately before any aseptic task
   WHY? To protect the patient against harmful germs, including the patient’s own germs, entering his or her body

3. AFTER BODY FLUID EXPOSURE RISK
   WHEN? Clean your hands immediately after an exposure to body fluids (and after glove removal)
   WHY? To protect yourself and the health-care environment from harmful patient germs

4. AFTER PATIENT CONTACT
   WHEN? Clean your hands after touching a patient and his or her immediate surroundings when leaving
   WHY? To protect yourself and the health-care environment from harmful patient germs

5. AFTER CONTACT WITH PATIENT SURROUNDINGS
   WHEN? Clean your hands after touching any object or furniture in the patient’s immediate surroundings, when leaving - even without touching the patient
   WHY? To protect yourself and the health-care environment from harmful patient germs

Germs. Wash your hands of them.
Appendix II - Table 1: Staff Group Definitions

For the purposes of the audit the staff groups provided as options are defined, however, this is not an exhaustive list.11.

<table>
<thead>
<tr>
<th>Staff Group</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>All nurses, midwives, health visitors – both registered and non-registered, i.e. including healthcare support.</td>
</tr>
<tr>
<td>Medical</td>
<td>All doctors and dentists – qualified and in-training, including consultants, GPs, staff and associate specialists.</td>
</tr>
<tr>
<td>Allied Health Professionals (AHP)</td>
<td>Arts therapists, podiatrists, dieticians, occupational therapists, orthoptists, physiotherapists, radiographers, speech and language therapists, prosthetists and orthotists, and including healthcare support that work within these groups, e.g. dietetic assistants.</td>
</tr>
<tr>
<td>Ancillary staff and professionals who have patient contact</td>
<td>Pharmacists, psychologists, Medical Technical Officers (MTO) or Healthcare Scientists, for example, cardiac, respiratory and audiology technicians, phlebotomists, medical photographers, medical records staff, domestic staff, housekeeping staff, porters, catering staff.</td>
</tr>
</tbody>
</table>
### Appendix III - Table 2: Audit Results for Compliance with Hand Hygiene Opportunities – Scotland

<table>
<thead>
<tr>
<th>1st Quarter National Audit Period 5 - 16 May 2008</th>
<th>2nd Quarter National Audit Period 4 - 15 August 2008</th>
<th>3rd Quarter National Audit Period 3 - 14 November 2008</th>
<th>4rd Quarter National Audit Period TBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>88%</td>
<td>90%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NHS Board</td>
<td>1st Quarter Audit Period (%) 5 - 16 May 2008</td>
<td>2nd Quarter Audit Period (%) 4 - 15 August 2008</td>
<td>3rd Quarter Audit Period (%) 3 - 14 November 2008</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Opps Obs</td>
<td>Opps Taken</td>
<td>% (CI)</td>
</tr>
<tr>
<td>NHS Western Isles</td>
<td>300</td>
<td>289</td>
<td>96% (94%, 98%)</td>
</tr>
<tr>
<td>NHS Tayside</td>
<td>300</td>
<td>258</td>
<td>86% (82%, 90%)</td>
</tr>
<tr>
<td>NHS Shetland</td>
<td>200</td>
<td>157</td>
<td>79% (73%, 85%)</td>
</tr>
<tr>
<td>NHS Orkney</td>
<td>300</td>
<td>299</td>
<td>100% (99%, 100%)</td>
</tr>
<tr>
<td>NHS Lothian</td>
<td>420</td>
<td>367</td>
<td>87% (84%, 90%)</td>
</tr>
<tr>
<td>NHS Lanarkshire</td>
<td>320</td>
<td>260</td>
<td>81% (77%, 85%)</td>
</tr>
<tr>
<td>NHS Highland</td>
<td>300</td>
<td>278</td>
<td>93% (90%, 96%)</td>
</tr>
<tr>
<td>NHS Greater Glasgow &amp; Clyde</td>
<td>300</td>
<td>262</td>
<td>87% (83%, 91%)</td>
</tr>
<tr>
<td>NHS Grampian</td>
<td>660</td>
<td>547</td>
<td>83% (80%, 86%)</td>
</tr>
<tr>
<td>NHS Forth Valley</td>
<td>440</td>
<td>426</td>
<td>97% (95%, 99%)</td>
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<tr>
<td>NHS Fife</td>
<td>300</td>
<td>272</td>
<td>91% (88%, 94%)</td>
</tr>
<tr>
<td>NHS Dumfries &amp; Galloway</td>
<td>300</td>
<td>274</td>
<td>91% (88%, 94%)</td>
</tr>
<tr>
<td>NHS Borders</td>
<td>320</td>
<td>289</td>
<td>90% (87%, 93%)</td>
</tr>
<tr>
<td>NHS Ayrshire &amp; Arran</td>
<td>320</td>
<td>300</td>
<td>94% (91%, 97%)</td>
</tr>
<tr>
<td>National Waiting Times Centre</td>
<td>300</td>
<td>244</td>
<td>81% (77%, 85%)</td>
</tr>
</tbody>
</table>

(*Opps obs = opportunities observed)
### Appendix V - Table 4: Audit Results for Compliance with Hand Hygiene Opportunities by Staff Group including 95% confidence intervals

<table>
<thead>
<tr>
<th>Professional Staff Group</th>
<th>1st Quarter Audit Period (%) 5 - 16 May 2008</th>
<th>2nd Quarter Audit Period (%) 4 - 15 August 2008</th>
<th>3rd Quarter Audit Period (%) 3 - 14 November 2008</th>
<th>4th Quarter Audit Period (%) TBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>92% (91% to 93%)</td>
<td>94% (93% to 95%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Medical</td>
<td>75% (70% to 80%)</td>
<td>80% (76% to 84%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ancillary/Others</td>
<td>85% (82% to 88%)</td>
<td>87% (84% to 90%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AHP</td>
<td>89% (86% to 92%)</td>
<td>91% (88% to 94%)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>