National Hand Hygiene
NHS Campaign

Compliance with Hand Hygiene - Audit Report

It takes just 15 seconds to clean your hands.

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 Scottish Government Health Directorate (SGHD) Healthcare Associated Infection (HAI) Policy Unit is also gratefully acknowledged.

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First published July 2009

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Reference this report as: Health Protection Scotland (HPS) (July 2009) National Hand Hygiene NHS Campaign Compliance with Hand Hygiene - Audit Report Health Protection Scotland (Report): Glasgow

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For further information go to:
http://www.washyourhandsofthem.com
http://www.scotland.gov.uk/Topics/Health/NHS-Scotland/19529/2005

Acronyms

1. Executive Summary

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

This is the 2nd bi-monthly report on hand hygiene compliance across NHSScotland prepared for the Scottish Government Health Directorate Healthcare Associated Infection (HAI) Task Force. It forms part of the zero tolerance approach to hand hygiene launched by the Cabinet Secretary for Health and Wellbeing on 26 January 2009. The report presents graphical data from Scotland’s fourteen territorial NHS Boards along with one special NHS Board (NHS National Waiting Times Centre Board, Golden Jubilee National Hospital). Please refer to the main report published in May 2009 for a full description of the methodology and limitations associated with this report. The report is available at:

http://www.hps.scot.nhs.uk/haic/ic/nationalhandhygienecampaign.aspx

This 2nd bi-monthly report, as with previous National Audit Reports, describes occasions when NHS staff have taken the opportunity to carry out hand hygiene at the points in delivering clinical care as described in the World Health Organization (WHO) published guidance on “Your 5 moments for hand hygiene”. Compliance with taking the opportunity for hand hygiene has increased from 68% in the first audit period to 93% in this 2nd bi-monthly report.

NHS Boards submit the results of their hand hygiene compliance audits to Health Protection Scotland (HPS) following mandatory bi-monthly audit periods. Results for the 2nd bi-monthly audit period are summarised below.

Table 1: Summary of Results

<table>
<thead>
<tr>
<th></th>
<th>1st Bi-monthly Audit Period 9-20 March 2009 (Mean % plus Confidence intervals)</th>
<th>2nd Bi-monthly Audit Period 11-22 May 2009 (Mean % plus Confidence intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Compliance</td>
<td>92% (91% to 93%)</td>
<td>93% (92% to 94%)</td>
</tr>
<tr>
<td>National Compliance: Nurse</td>
<td>92% (90% to 94%)</td>
<td>94% (93% to 95%)</td>
</tr>
<tr>
<td>National Compliance: Medical</td>
<td>86% (82% to 90%)</td>
<td>86% (82% to 90%)</td>
</tr>
<tr>
<td>National Compliance: Ancillary/Others</td>
<td>93% (90% to 96%)</td>
<td>93% (90% to 96%)</td>
</tr>
<tr>
<td>National Compliance: AHP</td>
<td>96% (94% to 98%)</td>
<td>95% (92% to 98%)</td>
</tr>
</tbody>
</table>
2. Introduction

Hand hygiene is considered one of the most effective measures in reducing and preventing the incidence of avoidable illness, in particular healthcare associated infections (HAI)\(^4\,5\). All staff within healthcare settings should be aware of this and perform hand hygiene effectively and in a timely fashion\(^3\,6\). Audit is one of a number of effective approaches, identified by the WHO, in promoting compliance with hand hygiene in healthcare settings\(^3\).

Results showing compliance with hand hygiene opportunities are often reported in the published literature. For example, hand hygiene compliance data from various countries, published by the WHO, describe results ranging from 5\% to 76\% before interventions and 30\% to 92\% after interventions\(^3\). Seminal work conducted in Geneva found a baseline compliance rate of 48\% rising to 66\% after interventions\(^7\). Similarly, the introduction of a hand hygiene culture-change program in Australia reported a base-line compliance level of 20\% increasing to 53\%, 12 months after the introduction of interventions\(^8\). Pilot work conducted in two wards within six Trusts across England between June 2003 and January 2004, as part of the ‘cleanyourhands’ campaign, found results ranging from 39\% to 70\% across the six Trusts that took part\(^9\). The success of the pilot campaign led to its introduction across an entire Trust with individual ward compliance levels ranging from 29\% to 66\%\(^10\). 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.

The national approach to compliance monitoring being undertaken across Scotland is different from other methods reported in the literature which monitor compliance with hand hygiene at hospital or hospital grouping level.
3. Results

3.1 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 the 1st and 2nd bi-monthly audit periods.

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

Figure 1 indicates that national compliance with hand hygiene increased from 92% (91% to 93%) in the 1st bi-monthly audit period to 93% (92% to 94%) in the 2nd bi-monthly audit period.
3.2 Audit Results for Compliance with Hand Hygiene Opportunities by NHS Board

Audit results for compliance with hand hygiene opportunities have been established for each NHS Board for the 1st and 2nd bi-monthly audit periods.

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

Figure 2 indicates that compliance percentages for the 1st bi-monthly audit period ranged from 85% to 98% (mean 92%) for each NHS Board. For the 2nd bi-monthly audit period overall compliance with hand hygiene across each NHS Board ranged from 86% to 99% (mean 93%).

In summary:

- Five NHS Boards measured an increase in hand hygiene compliance compared to the 1st bi-monthly audit report, although no increase in compliance was statistically significant.
- Four NHS Boards sustained the same level of compliance with hand hygiene as measured during the 1st bi-monthly audit period.

Also see Appendix I for Table 2: 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.

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

Audit results for compliance with hand hygiene opportunities have been established for each of the defined staff groups for the 1st and 2nd bi-monthly audit periods.

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

<table>
<thead>
<tr>
<th>Staff Group</th>
<th>1st Audit Period</th>
<th>2nd Audit Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>92%</td>
<td>94%</td>
</tr>
<tr>
<td>Medical</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>Ancillary/Others</td>
<td>93%</td>
<td>93%</td>
</tr>
<tr>
<td>AHP</td>
<td>86%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Figure 3 indicates that the compliance percentage for defined staff groups in the 1st bi-monthly audit period ranged from 86% to 96%. Compliance with hand hygiene among defined staff groups in the 2nd bi-monthly audit period ranged from 86% to 95%. Compliance with hand hygiene was highest among the AHP staff group at 95% (CI 92% to 98%). The nurse and ancillary/others staff group compliance with hand hygiene was 94% (CI 93% to 95%) and 93% (CI 90% to 96%) respectively. Compliance with hand hygiene among the medical staff group was 86% (CI 82% to 90%).

In summary:

- Nurse – Hand hygiene compliance increased from 92% in the 1st bi-monthly audit period to 94% in this 2nd bi-monthly audit period, although this increase is not statistically significant.
- Medical – Hand hygiene compliance was sustained at 86% in this 2nd bi-monthly audit period.
- Ancillary/others – Hand hygiene compliance was sustained at 93% in this 2nd bi-monthly audit period.
4. Discussion

This is the 2nd bi-monthly report to present hand hygiene compliance data at a national level throughout NHSScotland.

Compliance with opportunities for hand hygiene increased from 92% in the 1st bi-monthly audit period to 93% in this 2nd bi-monthly audit period, although this increase is not statistically significant. The results obtained for both the 1st and 2nd bi-monthly audit periods suggest that compliance with opportunities for hand hygiene in Scotland compares favourably to rates from hospitals/single clinical areas of 5% to 92% within the published literature\cite{3,7,8,9}.

Hand hygiene compliance at the NHS Board level for this 2nd bi-monthly audit period ranged from 86% to 99%. 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). Therefore, we can be 95% confident that the true compliance figure can be found within these intervals. In the 2nd bi-monthly audit period, five NHS Boards measured an increase in the level of hand hygiene compliance compared to the 1st bi-monthly audit period, although no increase in compliance was statistically significant. Furthermore, four NHS Boards sustained the same level of compliance with hand hygiene in this 2nd bi-monthly audit period as was measured in the 1st bi-monthly audit period. Hand hygiene compliance in six NHS Boards decreased in this 2nd bi-monthly audit period compared to the previous audit period, although no decrease in compliance was statistically significant. Although ranges of compliance results and confidence intervals are presented within the report, caution should be taken when attempting to make any comparison between NHS Boards as they can differ in their composition. The overall aim of presenting these results is to allow monitoring within NHS Boards and to provide an indication of hand hygiene compliance amongst staff. Any small differences presented that show either minimal increase or decrease in compliance percentages between NHS Boards should be interpreted with caution as these are unlikely to be statistically significant.

The results presented in this report show that staff group compliance ranged from 86% to 95%. Compliance with hand hygiene in the nurse staff group increased from 92% in the last audit period to 94% in this 2nd bi-monthly audit period, although this increase was not statistically significant. The medical and ancillary staff group compliance levels were sustained at 86% and 93% respectively in this 2nd bi-monthly audit period. A 1% reduction in compliance with hand hygiene was observed in the AHP staff group as compliance decreased to 95%, although this decrease was not statistically significant. A range of studies show that compliance varies between staff groups\cite{3,10,11}, therefore, it is necessary to understand the reasons for variation in order to target interventions at relevant groups to improve compliance with hand hygiene. As a result, a new range of campaign materials aimed at NHS healthcare staff was launched by the Cabinet Secretary for Health and Wellbeing on 25th March 2009. A range of other campaign activities planned for the year ahead include a focus on community healthcare staff and development of relevant campaign materials.

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\cite{3}. Efforts continue throughout NHSScotland to ensure that both recommended initiatives such as the supply of hand hygiene solutions\cite{12} and locally identified actions to improve compliance are implemented. Other elements of the Campaign have been aimed at promoting sustainable improvements in hand hygiene throughout Scotland to aid NHSScotland’s approach to zero tolerance.
5. References

6. Appendix

Appendix I - Audit Results for Compliance with Hand Hygiene Opportunities by NHS Board including 95% confidence intervals

Table 2: Audit results for Compliance with Hand Hygiene Opportunities by NHS Board including 95% confidence intervals

<table>
<thead>
<tr>
<th>NHS Board</th>
<th>1st Bi-monthly Audit Period (%) 9-20 March 2009</th>
<th>2nd Bi-monthly Audit Period (%) 11-22 May 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Opps Obs*</td>
<td>Opps Taken**</td>
</tr>
<tr>
<td>NHS Western Isles</td>
<td>300</td>
<td>278</td>
</tr>
<tr>
<td>NHS Tayside</td>
<td>300</td>
<td>273</td>
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<tr>
<td>NHS Shetland</td>
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<td>288</td>
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<tr>
<td>NHS Orkney</td>
<td>300</td>
<td>255</td>
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<tr>
<td>NHS Lothian</td>
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<td>NHS Lanarkshire</td>
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<tr>
<td>NHS Highland</td>
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<td>261</td>
</tr>
<tr>
<td>NHS Greater Glasgow &amp; Clyde</td>
<td>300</td>
<td>264</td>
</tr>
<tr>
<td>NHS Grampian</td>
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<td>NHS Forth Valley</td>
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<td>294</td>
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<tr>
<td>NHS Fife</td>
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<td>292</td>
</tr>
<tr>
<td>NHS Dumfries &amp; Galloway</td>
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<td>282</td>
</tr>
<tr>
<td>NHS Borders</td>
<td>300</td>
<td>287</td>
</tr>
<tr>
<td>NHS Ayrshire &amp; Arran</td>
<td>300</td>
<td>280</td>
</tr>
<tr>
<td>National Waiting Times Centre</td>
<td>300</td>
<td>283</td>
</tr>
</tbody>
</table>

*Opps Obs = opportunities observed  
**Opps Taken = opportunities taken