

Achieving our aims

Evaluating the results of the pilot
CleanyourHands campaign

Contents

1	Background:	4
2	The campaign toolkit	5
3	The pilot	6
4	Purpose of the pilot:	7
5	Purpose of the patient only evaluation	8
6	Methods of evaluation	9
7	Extent of piloting	11
8	The evaluation timeframe:	12
9	Evaluation results	13
9.1	The staff survey	13
9.2	The respondents	13
9.3	The visual impact of the campaign posters:	13
9.4	Staff perceptions on the near patient alcohol hand rubs (NPAH)	14
9.5	The campaign effect on patients	14
9.6	What staff said	14
10	Patient survey and interview:	15
10.1	The respondents	15
10.2	Patient comments on involvement in hand hygiene	15
10.3	Patient comments on the campaign posters	16
10.4	What patients said	16
10.5	Diversity and ethnicity of patient respondents:	16
11	Interviews with the onsite pilot lead:	17
11.1	Interview findings:	17
11.2	What made the campaign work?	19
12	Diary and activity log:	20
13	Records of Pilot Site Local Working Group Meetings (PSLWG):	22

Contents continued

14	Observation of staff behaviour	23
15	Product usage:	24
16	Conclusion	25
	16.1 Did the campaign work?	25
	16.2 Under what circumstances did the campaign work?	25
	16.3 How did it work?	26
	16.4 For whom did it work?	26
17	Recommendations	28
	17.1 Immediate plans:	28
	17.2 National roll-out:	28
	17.3 Patient Safety Alert:	28
	17.4 Preconditions for local implementation:	29
18	Limitations of the evaluation	30
Appendix 1	The core pilot sites	32
Appendix 2	The patient only pilot sites	34
Appendix 3	The diversity and ethnic monitoring form	35
Appendix 4	Timeframe for evaluation	37
Appendix 5	Staff survey	39
Appendix 6	Staff survey: the staff respondents	42
Appendix 7	Staff survey: the impact of the campaign on hand hygiene awareness: Key questions	43
Appendix 8	The impact of the campaign on hand hygiene awareness: staff Experience and shift pattern	45
Appendix 9	The impact of the campaign on hand hygiene awareness: did the posters encourage discussion?	47
Appendix 10	Use of the alcohol cleaners	48

Contents continued

Appendix 11	Use of the alcohol cleaners: due to the alcohol do you clean your hands more frequently?	50
Appendix 12	Staff survey: patient involvement	51
Appendix 13	Patient involvement: what encourages patients to ask?	54
Appendix 14	Staff survey: what staff had to say	56
Appendix 15	Patient evaluation form	57
Appendix 16	Patient survey the respondents	59
Appendix 17	Should patients be involved in helping staff improve hand hygiene?	60
Appendix 18	Will patients ask staff?	62
Appendix 19	How useful have you found the patient posters, leaflets and stickers? (excludes three patient-only sites)	63
Appendix 20	What patients had to say?	64
Appendix 21	Breakdown of diversity and ethnicity	66
Appendix 22	Interviews with project lead	68
Appendix 23	The guide to implementation: table of contents:	71
Appendix 24	Details of the implementation strategy (NPSA guide to implementation)	72
Appendix 25	Categorical responses to the staff interview	73
Appendix 26	Pooled themes from diary, local working group & interview:	74
Appendix 27	Diary and local working group Log: structure	78
Appendix 28	Staff comments from PSLWG; staff interviews	79
Appendix 29	Observation of hand hygiene	81
Appendix 30	Summary observations	85
Appendix 31	Hand hygiene compliance	89
Appendix 32	Product usage	90

1 Background

The reasoning behind the Hand Hygiene Project is based on the unacceptably low levels of hand hygiene compliance amongst NHS staff and the affect this has on the spread of microbes capable of causing avoidable healthcare associated infections (HCAI). Better application of infection control principles, including improved adherence to national and local hand hygiene policies and guidelines, has been shown to reduce the spread of HCAI. The key targets for change are front line staff. Changes introduced by the project are designed to assist with implementation of the existing evidence based guidelines.

The objective is to *develop solutions that improve hand hygiene compliance and reduce Healthcare Associated Infections (HCAI)*. Such an objective is to be achieved through the development of a campaign and toolkit, which will be made available to acute NHS trusts in the first instance. Primary care trusts will be targeted in the future.

The project has been underpinned by practice and research information from the Oxford Radcliffe Hospitals NHS Trust (McGuckin et al 2001) and University Hospitals Lewisham (Rao et al 2002) and from a long term study conducted in Switzerland (Pittet et al 2000).

The campaign fits in with the broader Department of Health Infection Control Policy (England) to improve hygiene as detailed in *Winning Ways* (2003) and the Welsh Strategy for HCAI 2004. The campaign is also complementary to infection control improvement work currently being undertaken by NHS PASA, NHS Estates and the Chief Nursing Officer (England).

2 The campaign toolkit

The evidence gained from the studies listed above suggests that a sustained improvement in hand hygiene is best achieved through a range of methods that lead to long term behavioural change. The NPSA cleanyourhands campaign and toolkit has been developed with this in mind. The pilot campaign consisted of four separate yet inter-related strategies:

- Near patient alcohol hand rubs (NPAH): placed either at the point of patient care, affixed to a bed (or locker) or carried by staff in special settings only, such as in paediatric wards.
- A series of posters and supporting marketing materials: three sets of posters were developed. These were: general (core) posters; staff posters (featuring a named 'staff champion'); and posters aimed specifically at patients. The core posters comprised a themed series, changing every two weeks on the pilot wards. Staff champion posters displayed a photograph of role models. Posters aimed at patients with the phrase 'It's okay to ask' were displayed in areas most visible to them.
- Patient information and empowerment: a patient leaflet with three key objectives; raising campaign awareness; raising HCAI awareness; and encouraging patients to feel comfortable about asking if staff had washed their hands. Patient information was made available in languages other than English and in accessible formats. Staff were issued with badges and (later in the pilot) aprons with the campaign slogan 'it's okay to ask'.
- A guide to implementation was issued to all onsite pilot leads to guide them through the process. Each pilot trust decided who was to be their onsite lead. The guide outlined details of roles and responsibilities and provided advice on the day to day running of the campaign.

This report outlines the findings of the pilot evaluation.

3 The pilot

Six pilot sites were recruited from over 60 applicants. Advertisements had been placed in the Chief Executive Bulletin of England together with a mail shot to all infection control teams in England and Wales. The majority of responses were from infection control doctors and nurses with a small percentage from directors of nursing and senior managers (11 per cent). A team of three staff at the NPSA selected the six sites based on a criteria relating to:

- the quality of the application;
- the evidence of top level management support and commitment;
- the size of the trust;
- and its geographical location.

Fifteen trusts were short listed with the final six sites chosen in April 2003 (see Appendix 1).

Applicants had been asked to nominate an onsite project lead who would form the main point of contact between the NPSA project manager and the trust. In the six pilot sites the onsite lead was the infection control nurse, with additional support from the director of governance at one of the sites. Other key stakeholders were communications leads and Patient Advice and Liaison (PALs) leads. This was a deliberate attempt to share the ownership of the campaign across a range of disciplines.

A second mail shot to unsuccessful applicants identified three additional trusts willing to assist with work relating to patient involvement only (see Appendix 2). The results from these sites have been fed into the overall patient evaluation.

4 Purpose of the pilot

The main objective of the pilot was to test the usability and effectiveness of the toolkit in terms of uptake by staff and patients (where applicable). The pilot aimed to:

- evaluate the impact of the campaign on staff in terms of its effectiveness;
- evaluate changes in behaviour by staff;
- find out what patients thought about being involved in the campaign;
- find out what patients thought about staff hand hygiene;
- determine the suitability of each part of the campaign for use in the national rollout.

The pilot and subsequent evaluation have led to changes to the toolkit prior to national implementation.

5 Purpose of the patient only evaluation

The Patient Experience and Public Involvement Team (PEPI) at the NPSA extended the number of sites piloting the patient involvement aspect of the campaign to a further three trusts. The views of patients and the public outside of the 'artificial' environment of a pilot site added weight to the findings. Key stakeholders in the three patient-only sites were the PALs leads/patient representatives and the infection control leads. The patient survey was distributed to the trusts and minor adaptations were made to the evaluation form. One of the sites also held a focus group.

6 Methods of evaluation

The pilot was evaluated using the following:

- staff survey (twice during the pilot);
- patient survey and interviews;
- interviews with onsite lead;
- onsite lead diary and activity log;
- records of pilot site local working group meetings;
- observation of hand hygiene (over time);
- and product usage (before and at the end of pilot).

Provision was made to ensure that the views of patients were representative of the diverse patient population through the use of the NPSA diversity and ethnic monitoring form (Appendix 3).

Funding was available to support a local project worker in each of the six pilot trusts. Their remit was to ensure that evaluation (as listed above) took place. The funding equated to 0.4 whole time equivalent of an F or G grade nurse for six months.

The evaluation focused on four key questions relating to a number of premises around context and process. Context and process are described as key influencers of outcome in relation to multifaceted interventions (Pawson et al 1997). The four key questions were:

- Did the campaign work?
- Under what circumstances did it work?
- How did it work?
- For whom did it work?

The reasoning behind the use of these questions was:

- It was recognised that the campaign would not be effective for everyone but it would work for some people in certain situations. Consequently, the evaluation explored which people the campaign worked best for and, in particular, who benefited from what and in what circumstances.

- The evaluation takes into account the fact that, in practice, the campaign changed during implementation. What the evaluation explored through the diary and interviews was how it had been changed. Specifically, was the campaign re-ordered, redefined, abandoned or forgotten? The diary and interview attempted to explore who changed what aspect of the campaign.
- The campaign is likely to enter each person's imagination in a different way and the evaluation sought to question, through the surveys, what were the different 'call to attention' mechanisms?
- The campaign is likely to trigger certain mechanisms for change in each of the pilot sites. The evaluation sought to explore what these were. The interviews and diary attempted to find answers to this premise.
- Each pilot site had different contextual features which facilitated or constrained the workings of the campaign. The evaluation methods attempted to determine what these were. In particular, what were the socio-cultural conditions relating to the organisation, the teams and the individual members of staff, necessary for change mechanisms to operate?

7 Extent of piloting

The pilot was carried out in two wards of each of the participating trusts (see Appendix 1). The choice of wards was made by the NPSA project manager and the onsite lead, and they made sure that the toolkit was tested in a range of settings.

The NPSA project manager had a minimal onsite presence - the pilot encouraged local ownership and gave the onsite lead some opportunity to shape the project.

8 The evaluation timeframe

The pilot had been scheduled to take place over a six month period and overran by a period of one month due to unforeseen delays in starting.

9 Evaluation results

9.1 The staff survey

The objective was to determine the overall impact of the campaign on staff. Questions asked about the impact of the poster campaign, the near patient alcohol handrub (NPAH) and the involvement of patients. Details on staff type, experience and shift pattern were also asked. Questionnaires (Appendix 5) were posted to all staff in the pilot wards. Onsite leads provided a staff distribution list which included registered nurses, healthcare assistants (non-registered nurses), doctors, occupational therapists, physiotherapists, specialist nurses, pharmacists, radiologists, radiographers, ECG technicians, ultrasound technicians, dieticians, catering staff, secretarial staff, students, porters, housekeepers, domestic staff, volunteers and chaplains.

A first survey was distributed two months after the campaign. An extension to the project timescale meant that survey two was distributed after six months.

9.2 The respondents

The average response rate to both surveys was 42 per cent (survey 1: 45 per cent and survey 2: 38 per cent). Table 1 (appendix 6) lists the response rates by staff group across the two surveys. The same population was targeted in both surveys although there may have been changes due to staff turnover or movement of staff. Across the two surveys a total of 708 staff replied. The respondents were predominantly medical/nursing staff (86 per cent) with a little over half (57 per cent) having more than five years experience (Figure 1, appendix 6).

The low response rate to the second survey may have been due to many staff believing that the survey was the same as the first one. Reports from project workers indicated that this did occur although attempts to overcome this possibility were made in the covering letter, which emphasised that the survey contained additional questions.

9.3 The visual impact of the campaign posters

Nearly all respondents (97 per cent in the first survey and 99 per cent in the second) had seen the posters (Appendix 7). In the first survey 76 per cent of respondents noted that the posters made them think about their own hand hygiene. By the time of the second survey this had increased to almost 84 per cent. This increase was broadly the same across all staff categories and experience (see Appendix 8). Appendix 9 shows that over 60 per cent of staff said that the posters encouraged discussion of hand hygiene between patients and staff.

9.4 Staff perceptions on the near patient alcohol hand rubs (NPAH)

92 per cent of medical/nursing staff who responded said that they had used the NPAH and this was broadly the same in the second survey (appendix 10). The first survey asked staff how often they used the NPAH. Of the medical/nursing staff 44 per cent reported that they used them before and after touching every patient, a further 8 per cent used them before touching every patient and another 24 per cent used them after touching every patient (Figure 6, Figure 7 and Figure 8). Whilst the correlation between self reporting of hand hygiene and observed behaviour tends to be inaccurate, due to over estimation by staff who self report (O'Boyle et al 2001), in this instance the self reported compliance figures are broadly in line with those from the observations of actual behaviour (see Table 7 appendix 30). Over 70 per cent of nurses and 60 per cent of doctors agreed that the presence of NPAH encourages them to clean their hands (Appendix 11).

9.5 The campaign effect on patients

34 per cent of all staff respondents had been asked by patients about hand washing or NPAH. Nearly all (97 per cent) of these staff members were comfortable with such questions (Figure 12 appendix 12). Patients predominantly asked nursing staff (64 per cent). Patients also tended to ask those staff with more experience (46 per cent of those asked had five or more years experience and a further 23 per cent had between one and five years experience). This is represented in Figure 11 (Appendix 12). However, it may be that these more experienced staff were likely to respond to the survey.

The aprons, with the message 'It's OK to ask', seem to be more effective than campaign sticker badges at eliciting questions from patients. During the second survey, 73 per cent of staff who were asked about hand washing by patients wore the apron, while for those staff that wore the campaign stickers the figure is only 57 per cent. The aprons may therefore have raised awareness and prompted questioning by patients (Figure 10 and Figure 13 , Appendix 14).

Staff also said that the posters played a significant role in encouraging patient involvement (Figure 15, Appendix 13).

9.6 What staff said

The staff survey generated a lot of 'free text' comments. Generally staff were positive about the posters and the increased availability of NPAH's. However, a number of staff expressed dissatisfaction in terms of the quality of the NPAH, making their skin feel dry. This is an issue being looked into by NHS PASA. Comments relating to patient involvement were broadly in support, with some caution relating to how this is introduced. A breakdown of the themes that emerged, together with illustrative comments, can be found in Appendix 14.

10 Patient survey and interview

PALS leads in the six pilot sites agreed to undertake a minimum of 25 patient surveys/interviews (Appendix 15) and diversity and ethnic monitoring surveys during the six month period (Appendix 3). In some trusts, PALS assistants, volunteers and rehabilitation assistants carried out the interviews with patients.

PALS leads and patient representatives in the three patient only trusts agreed to undertake a minimum of 25 patient surveys/interviews and diversity and ethnic monitoring surveys. One of the sites sought feedback through a focus group.

Prior to the start of the pilot a number of sites raised concerns about the appropriateness of including questions about sexuality and religion in the diversity form. It was thought that they may cause offence or appear intrusive. Staff were advised on how to manage questions in a sensitive way. There were no concerns raised by patients and the forms were completed at the discretion of individual patients.

10.1 The respondents

A total of 374 patients, relatives and carers from nine trusts responded (see Appendix 16). A full report on the patient evaluation is available from the NPSA.

10.2 Patient comments on involvement in hand hygiene

71 per cent of respondents said that patients and the public should be involved in helping staff improve hand hygiene. Just over half (53 per cent of these) said they would ask staff if they had washed their hands (Appendix 17). However, when a real life situation was put to them, a much lower number (26 per cent) said they would ask a member of staff who was about to have direct contact with them (Appendix 18).

Interestingly, 90 respondents (24 per cent) said that they would not ask a member of staff if they had washed their hands before direct contact but then went on to state that they would tell the member of staff directly if they thought that they had not washed their hands (Appendix 18). This could indicate a difference of perspective based on the patients own perception of risk. If patients think they are at direct risk they may ask staff.

10.3 Patient comments on the campaign posters

74 per cent of patients found the posters, stickers and leaflets useful in conveying campaign messages (Appendix 19).

10.4 What patients said

The patient evaluation generated a large amount of 'free text' information. Interestingly, many patients felt that they should not be involved, whilst at the same time an equally large number made comments supporting greater involvement. Patients generally reported a positive response to seeing staff clean their hands and in some instances this led patients to feel more confident in the care they were receiving. The themes are categorised in Appendix 20.

A number of patients said that they thought staff were often too busy and they (patients) did not want to be perceived as a nuisance by asking questions. If patient involvement is to work there is a significant amount of developmental work required in preparing and supporting both staff and patients through such an approach.

Many patients placed a high importance on the visible cleanliness of the hospital and linked this with the potential to 'catch' an infection in hospital.

Specific patient information for children and vulnerable groups needs to be developed (appendix 26). In discussion with the PALS and a play therapist, feedback from staff indicated the hand hygiene message could be introduced appropriately using existing methods to relay health information. This further highlights the importance of targeting patient information not only at the patient but also relatives, carers and visitors.

10.5 Diversity and ethnicity of patient respondents

The charts in Appendix 21 illustrate the diversity of those patients contributing to the pilot. Not all sites returned the diversity and ethnic monitoring forms and this accounts for the lower numbers compared to the patient surveys return. The diversity and ethnicity survey was undertaken as part of the NPSA's commitment to equality and diversity. The data collected was to be used to inform future work of the NPSA's Patient Experience and Public Involvement Team. This would enable the NPSA to identify under or over representation of specific groups or communities and to redress any imbalance.

11 Interviews with the onsite pilot leads

The aim of these interviews was to gain practical insight into the local implementation of the pilot and to learn lessons that could inform the national rollout. In particular, the interviews could help to find out what worked, for whom and in what circumstances. The interview is in Appendix 22. Questions were structured around the implementation strategy as detailed in the written guide to implementation which all onsite leads were provided with at the start of the campaign. The guide was designed to act as a framework for implementation and evaluation. Details of the strategy and a list of requirements as laid down in the guide can be found in Appendix 23 and Appendix 24.

All interviews were undertaken by the NPSA project manager and occurred one month after the campaign started (11 – 27 August 2003) and in its last weeks (5 – 23 January 2004).

11.1 Interview findings

There was overall satisfaction with the guide (Appendix 25).

The score for the helpfulness of the guide was greater than 8 (0 being 'not at all helpful' and 10 being 'extremely helpful'). All sections of the guide relating to the campaign tools achieved this score.

The themes that emerged from the interviews relating to implementing the pilot are summarised below:

a. Training and preparation of staff

- All sites outlined the importance of preparing staff on the pilot wards.
- Local methods tended to work better than formal training materials provided by the NPSA.
- Training needed to be short, sharp and visual.

b. Near patient alcohol handrub (NPAH)

- This was seen as the most critical aspect of the campaign as it raised awareness. Indeed, one of the leads stated that without NPAH the rest of the campaign would fail with another describing it as an 'enabler'. This was mirrored across all other sites.
- There were some concerns from two of the sites that wall-mounted products were

continuing to be used. However, this was not found to be the case when the NPAH were monitored.

- Staff on the pilot wards became frustrated when going to other wards that did not have NPAH.

c. Posters and marketing methods

- Staff didn't like the colours in the themed posters.
- The frequent changes of posters was felt to be too often and it was suggested that monthly or six weekly would be adequate.
- The time taken to put up the posters depended on the numbers, with each ward choosing different quantities. Where a member of the ward team was designated as the 'poster-changer' the system worked well, with only minor increases to work loads.
- In some cases the project worker assumed the role of poster-changer, which then yielded benefits in that patient and staff views on the campaign were collated during the changes.
- The enamel campaign badges were the favourite marketing material.
- Aprons received positive comments from all but one site.

d. Patient involvement

- The leaflet and posters require further development in terms of content, imagery and length.
- Staff need to be prepared for the fact that they may be asked questions about hand hygiene by patients.
- Patients need to know when and how staff should be cleaning their hands.
- Child-friendly materials need to be developed.
- Patient hand hygiene is inevitably raised during such an awareness campaign and staff need to be equipped to manage this.
- Patients' perceptions of the cleanliness of the environment and the impact this has on their response to the campaign should not be underestimated. One of the interviewees shared a letter that had been written to the trust managers applauding them on the campaign yet pointing out dissatisfaction with what they perceived to be 'dirty wards' in the hospital.
- Three out of the six main pilot sites fed back that patients had commented that the campaign ward 'felt different' in a positive way, to other wards they had been in-patients on.
- The appropriateness of patients and relatives using the NPAH needs clarification by the NPSA.

e. Ward housekeeper (or equivalent role)

- It is important that a member of staff takes responsibility for the basic elements of the campaign (particularly products replacement).

- The housekeepers should be able to assist in distribution of leaflets and other materials.
- The role is critical for making sure that posters are changed frequently.
- One site suggested that the housekeepers, with the support of ward managers, should take a strong role in the day-to-day running of the campaign.

f. Pilot Site Local Working Group (PSLWG)

- The group was useful for gaining momentum at the start of the pilot but became less useful on some sites over time.
- The frequency of meetings ranged from fortnightly to monthly.
- Fewer meetings would be feasible if the reflective element was dropped.
- Circulating the minutes widely was important.
- Strong senior management endorsement was key but not all secured this through the PSLWG. Only three sites reported constant senior management attendance.

11.2 What made the campaign work?

- The initial launch was the most difficult aspect. Once the pilot was up and running, minimal input was required from infection control teams.
- Local and managerial leaders are crucial.
- The impact spread beyond the pilot wards and this had a positive effect on wider trust's perceptions.
- The change in behaviour and culture drove improvements in hand hygiene.
- The positive support of medical staff was critical but was not achieved across all sites due to difficulties in engaging this group of staff.
- The involvement of infection control link nurses was important because they acted as ambassadors for the campaign.
- Involvement of ward managers was crucial at all sites in constantly reinforcing the campaign.
- The presence of the project worker was useful in eliciting day-to-day feedback and two sites will try to secure a permanent hand hygiene member of the infection control team.

The leads recommended a national helpline when the campaign is implemented across the NHS.

More detail on the themes that emerged from the interviewee comments can be found in Appendix 26.

12 Diary and activity log

The objective of the diary was to gather process information relating to progress of the pilot and to give an insight into factors which helped or constrained the progress of the pilot. Both subjective and objective material was sought.

The lead was tasked with keeping a contemporaneous record of the campaign using an electronic or hard copy diary (Appendix 27). The diary had a simple structure. Leads were requested to record brief notes on significant events and encouraged to allocate ten minutes within formal meetings to discuss learning points. The type of information which leads were advised to complete related to activities undertaken to ensure the pilot was working on a day-to-day basis. Any thoughts on why the campaign was not working (or how it could work more effectively) were recommended.

The broad themes emerging from the diaries were:

a. Near patient alcohol handrub (NPAH)

- 'Staff-power' resulted in the inter-related elements of the toolkit working effectively.
- The feedback was generally positive but there were some concerns about product quality, particularly in terms of the feel and effect on skin.
- Visitors were impressed with the system but were uncertain whether they were able to use it.

b. Posters and marketing materials

- Staff champion posters emerged as the most favoured.
- Location is important. Visibility of all posters by patients as well as staff was important.

c. Patient involvement

- Time to discuss patient involvement and prepare patients and staff is not to be underestimated.
- The appropriateness and sensitivity of patient involvement is important.
- It is possible to have an open and honest dialogue with patients on a complex and sensitive patient safety issue without invoking fear.
- Children's issues need addressing.
- Patients' perceptions of dirty hospitals can be a risk to success.

d. Benefits of the campaign

- Positive impact on staff and their personal responsibility.
- There has been a 'ripple effect' to other wards in that they had approached the infection control teams requesting running a similar campaign.
- Raised the profile of infection control not just hand hygiene.

e. Key staff

- Top level management support was overwhelmingly stated as critical.
- Local senior staff support was also described as key.
- Ward sisters and head nurses and modern matrons are important drivers and supporters.
- Ward housekeepers can be excellent role models.

f. Issues of concern

- Some staff groups on some sites were difficult to engage (medical staff). This tended to be sites with less strong top level management support.
- The pace of local implementation will be different and will need handling carefully.
- Ward staff must feel that they own the problem and the solution.
- The involvement of multidisciplinary staff is key.
- There is an initial time burden to implement and trusts must be aware of this before they commit.

Appendix 26 summarises key findings from the diary.

13 Records of Pilot Site Local Working Group Meetings (PSLWG)

Project leads were advised to provide the NPSA project manager with copies of any records associated with Pilot Site Local Working Group meetings and these were reviewed with the diary entries.

These meetings give a good indication of the mechanisms which contributed to the campaigns progress on each site. Attendance at the meetings was generally high and the opportunities for networking and communication were valuable. Where attendance was low, wide dissemination of the minutes was used to update working group members on progress. The meetings served a purpose which was more important in some sites than others. This is illustrated in Appendix 26.

The PSLWG meetings and interviews with onsite leads yielded a range of comments on the campaign. In general staff perceived a positive benefit from participating in the campaign and they reported that this impacted on behaviour relating to hand hygiene at ward level. Staff were also generally supportive of the aspirations of the campaign. The PSLWG worked to gain local ownership of the campaign and a number of them reported a spread of good practice to other areas in the trust. These themes are presented in Appendix 28.

14 Observation of staff behaviour

Observing staff behaviour has previously been used in the UK (Appendix 29) and a tool was made available to the onsite leads. The lead chose, using the guide to implementation for advice, a member of staff to undertake the observations.

The objective was to feedback to the staff on the pilot wards about their hand hygiene behaviour – a key feature of previous successful multimodal strategies on which the campaign was based (Pittet et al 2000). Limitations surrounding the significance of any temporal improvement in hand hygiene behaviour were made explicit from the outset including the possibility of the Hawthorne Effect, although efforts were made to minimise this.

Two of the six pilot sites (trusts F and I) undertook baseline observation prior to the start of the pilot (June 2003). A minimum of two periods of observation (September and December 2003 and January 2004) was required from all sites. The two observation periods were scheduled to last two weeks with a minimum of three, 20 minute periods of observation on each ward on alternate days.

Over the period from June 2003 to January 2004 there were a total of 373 x 20 minute observation periods; approximately 124 hours. There were 4,316 hand hygiene opportunities (35 per hour). Encouragingly, the rate of compliance in the six pilot sites increased over the reporting period from 2 per cent in the first two months to 56 per cent by month three and 63 per cent in the final months. Appendix 30 illustrates this and Appendix 31 provides a graphical illustration of the improvement. Pittet et al (2000) reported that compliance at the outset of their campaign was 48 per cent and improved over a three year period to 66 per cent.

15 Product usage

The NHS PASA and NHSLA assisted in collecting and collating figures on usage of NPAH. Baseline information was collected from all sites prior to the launch of the campaign. Monitoring took place during a two week period (6 - 30 June 2003). Product usage figures were also collated monthly and fed back to pilot wards. The usefulness of this over the short time frame was low. A second monitoring was repeated during the last two weeks of the campaign (19 January - 2 February 2004) in order to allow for comparison of usage over time.

Volume usage rose from 1171mls during June to 2943mls during January 2004 – representing more than a two-fold increase in usage (Appendix 32).

16 Conclusion

The realistic evaluation of the pilot used process evaluation and relies on qualitative data (diary and interview) to draw conclusions relating to the success criteria necessary for implementing the campaign. However the collection of quantitative data to assess outcome (observations and product usage) ensured a combined approach. Redfern et al (2003) argues that such an approach is necessary to elicit a balanced realistic evaluation. The evaluation presented here used both methods and provides an insightful and comprehensive account of the testing of the pilot.

The evaluation has shown that the pilot impacted positively on the key stakeholders involved. Whilst all sites had management commitment, those sites with the strongest managerial commitment appear to have had the most success in implementing the campaign.

The development of the pilot and toolkit was based on available evidence relating to behavioural and social marketing techniques. Evaluation of the pilot sites took place over a short period with the principle objective of assessing whether the pilot worked for the staff and patients.

For hand hygiene improvements to impact on infection reduction it is necessary to achieve a sustained improvement. The pilot was not designed to illustrate this. A four year research project funded by the Department of Health's Patient Safety Research Programme will address this over the long term.

This evaluation sought to answer four key questions (Pawson et al 1997):

16.1 Did the campaign work?

The sites reported that the pilot had exceeded their initial expectations and had changed both practice and the thought processes of stakeholders across and sometimes beyond the pilot wards. The changes described were overwhelmingly positive. The quantitative measures also indicated an improvement in specified outcomes, for example, NPAH usage.

16.2 Under what circumstances did the campaign work?

The evidence from Geneva and other studies clearly pointed to the critical factors which are required for a hand hygiene improvement strategy to be successful both in the short and long term. The pilot evaluation mirrored the findings of these studies.

The onsite lead was crucial for kick starting the pilot locally. However, once launched, the mere presence of the tangible elements of the campaign (NPAH, posters and other materials) were enough to maintain impetus. Support and endorsement across all levels of the organisation were essential coupled with the identification and input from locally identified staff champions. Each ward identified champions specific to their area and these included nursing, medical and AHP staff. Patient involvement contributed to overall improvements and a small but significant group of patients said they wanted to work with staff to improve hand hygiene.

16.3 How did it work?

The interplay of all related facets of the campaign resulted in a change in the way staff perceived the practice of hand hygiene from low priority to a core element of daily practice which could be easily achieved. The placement of the NPAH emerged as the cornerstone and has been described as the 'enabler'. Observation and feedback were perceived in a positive light by onsite leads and clinical staff. The numbers of patients asking staff about hand washing was relatively low. However, raising awareness amongst patients seemed to contribute to overall changes in the behaviour of staff. Staff said that the posters made them think about their hand hygiene practices. Staff on the pilot wards (and beyond in some sites) perceived the benefits of buying in to the campaign and subsequently changed their practice with doctors described as the 'silent implementers' in one site. The importance of engaging medical staff was commented upon by all pilot site leads and the staff champion posters can act as an important way of engaging them. This staff ownership is essentially what made the pilot a success.

16.4 For whom did it work?

The dramatic improvement in observed behaviour and product usage suggests that patients as well as staff benefited from the improvement. Many patients reported feeling safer and expressed a perceived improvement in cleanliness simply by seeing staff clean their hands more often. Clinical managers benefited in that they perceived an overall enhancement of infection control. Onsite leads benefited in their ability to influence a national agenda and all of the onsite leads commented that they had a positive experience. Top level managers benefited in being seen to show commitment to improving practice and safety.

The pilot achieved its objectives for the NPSA and the participating sites. There is valuable feedback on which to develop the campaign further has been achieved. What emerged from all sites was the critical importance of high level management support which endorsed the campaign and this mirrors the findings of others. Local leadership of the onsite lead, together with ensuring all elements of the toolkit were and remained in place, were also key. The need for a supportive culture within the trusts and a commitment to hand hygiene improvement were critical features which drove success. The acknowledgement that the campaign involved the process of change management and the requirement for a credible onsite change agent were

key features of success. The critical factors are summarised below:

a. Management level

- Engaging managers at the organisational level.
- Engaging managers at the ward level.
- Effective communications.

b. Ward level

- Clinical commitment.
- Identification of staff to change the posters.
- Identification of staff to ensure the handrubs and other hand hygiene products remain in place.

c. Individual level

- Sensitivity when working to engage patients – in particular creating the right atmosphere for patients to ask about their healthcare.
- Sensitivity when preparing staff for the engagement of patients – in particular encouraging staff to be open to being asked to clean their hands without fear of feeling undermined or criticised.
- Identifying staff champions willing to commit to the campaign.
- Motivating staff.
- The importance of acknowledging the different organisational contexts into which the campaign will be launched. The sites on which this evaluation is based were highly motivated and although differing in the extent of top level commitment, this was a pre-requisite for inclusion. This will not be the case when the campaign is launched nationally.

The evaluation relied heavily on the conclusions of similar programmes of improvement. The long term success of the clean**your**hands campaign will be dependent upon lessons learned from the pilot and will require a range of evaluation methods.

17 Recommendations

The following recommendations are made:

17.1 Immediate plans

- a. The NPSA have further developed all aspects of the campaign taking account of learning from the pilot. A detailed strategy is being prepared by the Communications team at the NPSA.
- b. The NPSA rollout the campaign in partnership with the Department of Health across all acute trusts.

17.2 National rollout

- a. Rollout occurs phased over 2004-5.
- b. The NPSA worked with a range of partners including the Health Protection Agency, and Strategic Health Authorities to support the planned national rollout.
- c. The NPSA Patient Safety Managers (PSMs) will play an important role.
- d. Trusts applying to become NPSA cleanyourhands sites will agree to a range of pre-conditions for local implementation and these must be agreed prior to implementation. These trusts will declare a state of readiness on completion of the pre-conditions for adoption.

17.3 Patient Safety Alert

- a. A Patient Safety Alert will be issued to all acute trusts (timing to be confirmed). The Patient Safety Alert will advise all acute trusts to implement NPAH.
- b. Work to determine the numbers of acute trusts with NPAH already in place has been undertaken by NHS PASA and NPSA and is informing a roll out plan.

17.4 Preconditions for local implementation

Trusts wanting to become cleanyourhands:

- a. Ensure commitment and support from:
 - trust board;
 - strategic health authority;
 - directorate (or equivalent) level;
 - departments and wards.
- b. Identify someone who can be the local co-ordinator.
- c. Commit dedicated time to oversee implementation using Ready, Steady, Go - the full guide to preparation and implementation of the cleanyourhands campaign
- d. Evaluate any past local efforts to improve hand hygiene.
- e. Identify possible local champions from across a range of disciplines that will be able to assist the campaign. For example, directorates or equivalent will need to nominate staff champions for including in staff posters.
- f. Those trusts already having near patient alcohol (NPAH) at bedsides, or carried by staff, will need to evaluate success to date at making sure it is consistently available at the point of care. Trusts which have not yet implemented near patient alcohol will be required to do so as part of the campaign (and must be working towards this in order to fulfil the requirements of the NPSA Patient Safety Alert 04).
- g. Trusts will be advised to address how they currently monitor the impact of hand hygiene policies.
- h. Determine how established and involved patient involvement groups and patient forums are in hand hygiene improvement projects. In particular, have the Patient Advice and Liaison Service (PALS)/ CHC's been involved in any hand hygiene improvement projects.
- i. Determine how active link worker systems are and whether link workers could become involved in operationalising the campaign. Link workers may be able to change posters, distribute leaflets to patients and check the availability of near patient alcohol.
- j. Determine whether and to what extent the ward housekeepers can be involved in implementation. Ward housekeepers or an equivalent role are key to making sure campaign materials are regularly updated.

18 Limitations of the evaluation

The pilot of the clean**your**hands campaign has provided valuable information. However, it is important to be aware of the limitations surrounding:

- a. **The response rate:** while the response rate was low across the two staff surveys (42 per cent) this nonetheless provides valuable feedback from clinical and non-clinical staff. The lowest response rates were from allied health professionals (31 per cent) and medical staff (32 per cent). The response rate from those health care workers having the most prolonged contact with patients was 39 per cent for nurses and 78 per cent from healthcare assistants.
- b. **Statistical analysis:** The limited sample makes it difficult to draw any meaningful statistical conclusions. However, the report outlined here provides compelling anecdotal evidence of the campaign's potential for improvement.
- c. **Scope:** The campaign was only tested in a limited number of clinical areas. However, national and international learning shows that different yet linked strategies can be successfully implemented in the entire range of healthcare settings.

The clean**your**hands campaign forms the first stage in a process of behaviour change amongst staff. For its aspirations to be realised the support of all those working with patients is paramount.

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Appendix 1 The core Pilot Sites

The campaign and toolkit were piloted in the following sites:

Site	Ward	Speciality
1. Royal Devon & Exeter	Bramble Unit Clyst ward	Paediatrics Stroke Unit
2. St Georges NHS Trust	Caesar Hawkins Gray Ward	Plastics Unit General Medicine
3. North Lincolnshire and Goole NHS Trust	Ward B2 Ward 2	General & Vascular Surgery Female Medical
4. York NHS Trust	Ward 16 Ward 33	Surgery & High Dependency Medicine/ Renal
5. Queens Medical Centre Nottingham	Ward D8 Ward E 16	Regional Spinal Unit General & Vascular Surgery
6. Aintree University Hospitals NHS Trust	Ward 29 Ward 25	Maxillo-facial unit Haematology/ Rheumatology Unit

Appendix 2 The Patient only Pilot Sites

Sites

1. East Kent Hospitals
2. Morecambe Bay NHS Trust
3. Gwent NHS Trust

Appendix 3 The diversity and ethnic monitoring form

The National Patient Safety Agency is committed to equal opportunity and the promotion of diversity. Please help us to ensure we are achieving our aims by filling in this form.

Please tick the box that best describes you

1. Sex

Male Female

2. Do you consider yourself to be living with a:

Physical disability

Sensory impairment (e.g. you are deaf, hard of hearing, blind, partially sighted)

Learning disability

Mental Health problem

Other disability – please state

3. What is your ethnic origin?

White

British Irish Any other white background – please state

Mixed

White and Black Caribbean White and Black African White and Asian

Any other mixed background – please state

Asian or Asian British

Indian Pakistani Bangladeshi

Any other Asian background – please state

Black or Black British

Caribbean African Any other Black background – please state

Other ethnic group

Any other ethnic group – please state

3. Religion

Christian Muslim Sikh Jewish Hindu Buddhist
Other – please state None

5. Age (years)

Under 18 years 18-25 26-45 46-65 66-75 76-85
Over 85

6. You would consider yourself to be

Heterosexual Lesbian Gay Bisexual Transgender

7. Where do you live?

England North East North West Midlands East Midlands West
South East South West Wales North Wales Mid Wales
South Wales

Thank you for taking the time to complete this form.

Appendix 4 The evaluation timeframe

June 2003

- collection of product usage information

July 2003

- Project launch
- Collection of evaluation material:
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)

August 2003

- Collection of evaluation material:
 - Staff survey (project lead)
 - Interview of local project lead (project manager)
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)

September 2003

- Collection of evaluation material:
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)
 - 2 week period of observation (project lead) – awaiting successful outcome of ethical submission

October 2003

- Collection of evaluation material:
 - PALS representatives to check on patient evaluation form/diversity & ethnic monitoring forms – awaiting successful outcome of ethical submission.
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)

November 2003

- Collection of evaluation material:
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)

December and January 2004

- Collection of evaluation material:
 - Staff survey (project lead)
 - Interview of local project lead (project manager)
 - 2 week period of observation (project lead) – awaiting successful outcome of ethical submission
 - PALS representatives to check on patient evaluation form/diversity & ethnic monitoring forms – awaiting successful outcome of ethical submission
 - Core material: product usage information (NHS Logistics)
 - Core material: records of meetings (project lead)
 - Core material: diary (project lead)

Appendix 5 Staff Survey

Thank you for taking part in this survey which will help to improve the safety and well being of patients by improving hand hygiene behaviour. Please note this survey is not a test. We are trying to make sure that hand cleaning is improved and that patients are as safe from the risk of infection as is possible.

We want to know how useful the Clean**your**hands campaign has been in your ward.

You can help us by answering a few questions as honestly as possible.

Thank you again.

Q. 1 Do you usually work on this ward/dept?

Yes

No

Q. 2 Have you noticed the Clean Your Hands Campaign posters?

Yes

No

Not sure

Q. 3 Have the posters made you think about your own hand cleaning?

Yes

No

Not really

Q. 4 How often do you think the posters are changed?

Every week

About every month

Haven't noticed

Q. 5 Have you noticed the alcohol hand cleaners at the end of beds?

Yes

No If no go to question 9

Q.6 Have you used the alcohol hand cleaners at the end of the beds?

Yes

No If no go to question 9

Q.7 If you have used the alcohol cleaners, how often would you say you used them?

- At least once so far
- At least once a day
- Before I touch every patient
- After I touch every patient
- Before and after I touch every patient
- Before I touch some patients
- After I touch some patients
- Before and after I touch some patients
- Not at all

Q.8 Does the alcohol at the end of the bed help you to clean your hands more frequently than you used to before?

- Yes
- No
- Not sure

Q.9 Do you know who is leading the Clean Your Hands Campaign? (please state)

- Yes
- No

Q.10 Have any patients (and/or their relatives) asked you about hand washing or the alcohol rubs?

- Yes
- No If no go to question 13

Q.11 If "yes" - how many patients (and/or their relatives) asked?

- At least 1
- Between 1 and 5
- Between 5 and 10
- More than 10

Q.12 If "yes" did you feel comfortable being asked about hand washing or the alcohol rubs?

- Yes
- No

Q.13 Did you wear the sticker badges encouraging patients to ask you about hand cleaning?

- Yes
- No please explain your answer in the space below:

Q.14 This survey is totally anonymous but it would be useful for us to be able to identify which staff groups have given feedback. This will assist in the identification of areas requiring further information. How would you describe yourself?

Medical

Nursing

Healthcare Assistant

Allied Health (Physio/OT)

Porter

Dietician

Housekeeper/Domestic

Other (please state)

Q.15 What shift pattern do you usually work:

Mainly days

Mainly nights

Days & nights

Afternoons

Evenings

Mornings

Varies

Q.16 How long have you been qualified (if applicable)

Less than 1 year

1-5 years

More than 5 years

Appendix 6 Staff survey: the staff respondents

The following two charts show the mix of staff that responded to the Staff survey. During the two survey periods a total of 708 staff replied (385 during the first period and 323 during the second). There was no noticeable difference in the mix of staff responding to the two surveys.



Figure 1: The staff respondents pooled across both surveys

	Medical	Nursing	Health Care Assistant	Allied Health	Other	No Response	Grand Total
Questionnaires sent	503	831	103	138	116	0	1691
Respondents	159	325	80	43	83	18	708
Response Rate	31.6%	39.1%	77.7%	31.2%	71.6%		41.9%

Table 1: Response rates across the two staff surveys

Appendix 7 Staff survey: the impact of the campaign on hand hygiene Awareness: key questions

The table below summarises the staff responses to the key questions relating to the impact of the campaign. Questions which received no response have been ignored

For the second survey percentages in blue represent an increase from the first survey, while those in red represent a decrease.

Clearly the campaign posters were visible throughout the entire campaign and awareness of them did not decline, but it is perhaps more interesting to note that the impact of the campaign posters seemed to increase between the two surveys, there was an almost 10 per cent increase in the number of staff responding who said that the posters made them think about their own hand hygiene.

The staff survey also provides some insight as to the effect of the poster campaign on the patients, a larger proportion of staff were asked by patients about hand washing during the second survey.

	Survey after one month						Survey after six months					
	Yes		No		Not Sure		Yes		No		Not Sure	
Q2: Have you noticed the Campaign Posters?	377	(97.9%)	2	(0.5%)	6	(1.6%)	320	(99.1%)	2	(0.6%)	1	(0.3%)
Q3: Have the posters made you think about your own hand cleaning?	287	(75.7%)	24	(6.3%)	68	(17.9%)	271	(83.9%)	21	(6.5%)	31	(9.6%)
Q8: Due to the alcohol do you clean your hands more frequently?	260	(74.3%)	68	(19.4%)	22	(6.3%)	215	(74.7%)	43	(14.9%)	30	(10.4%)
Q10: Have any patients asked you about hand washing?	116	(30.5%)	264	(69.5%)	0	(0.0%)	123	(38.9%)	193	(61.1%)	0	(0.0%)

Table 2: Responses to key question in the staff survey

The following figure shows graphically how 'Yes' responses to the key questions compared between the two surveys.

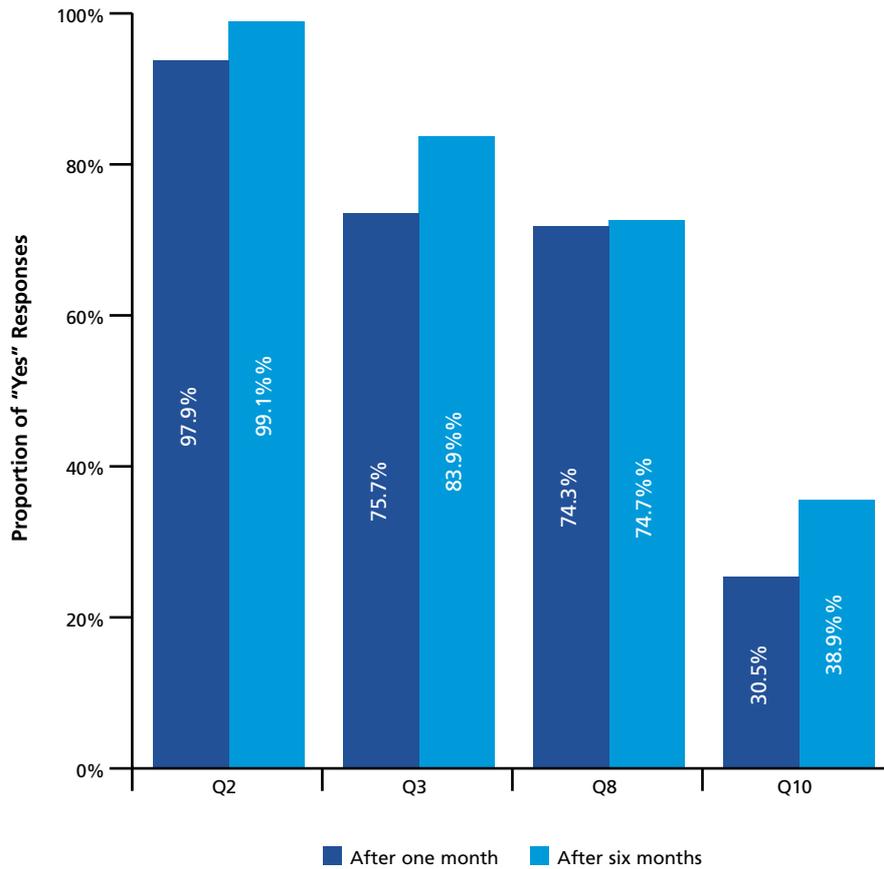


Figure 2: 'Yes' responses to key questions in the staff survey

Appendix 8 The impact of the campaign on hand hygiene awareness: staff experience and shift pattern

The charts below show that the impact of the poster campaign was felt by all staff regardless of their experience and shift pattern.

Interestingly, by the time of the second survey, it was the more experienced staff (at least one years experience) who were more greatly influenced by the poster campaign to think about their own hand hygiene. There was no noticeable difference between the two surveys for the less experienced staff.

In terms of the staff’s shift pattern, by the time of the second survey, it was the staff working mainly nights who were more greatly influenced by the poster campaign.

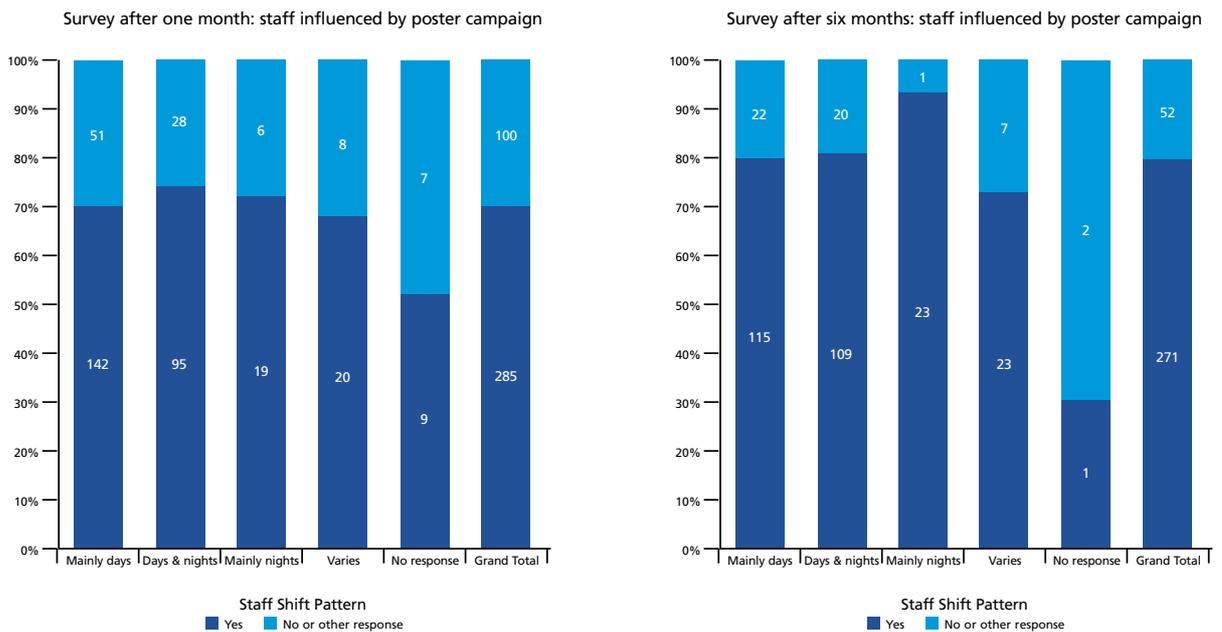


Figure 3 Staff survey. Does shift pattern have a bearing on the impact of the poster campaign?

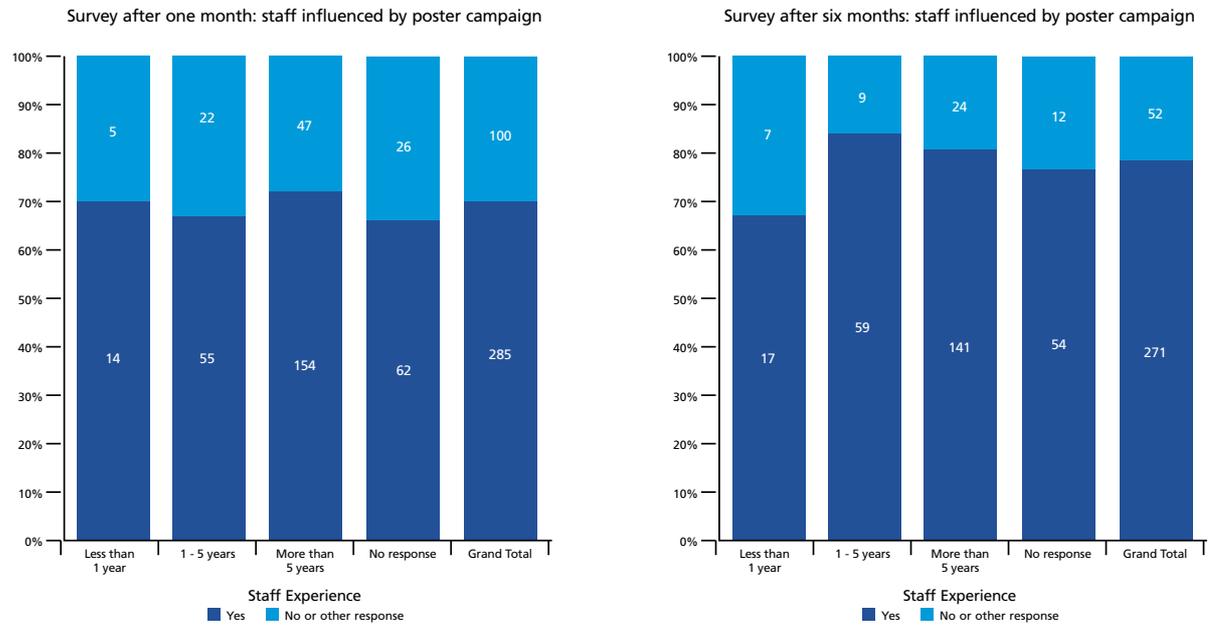


Figure 4 Staff survey. Does experience have a bearing on the impact of the poster campaign?

Appendix 9 The impact of the campaign on hand hygiene awareness: did the posters encourage discussion?

During the second survey staff were asked if they felt that the posters encouraged discussion about hand hygiene. For the most part the response to this question was positive, with over 60% of staff answering yes. These responses in conjunction with those to Q3 would suggest that the posters have more influence individually, rather than encouraging discussion.

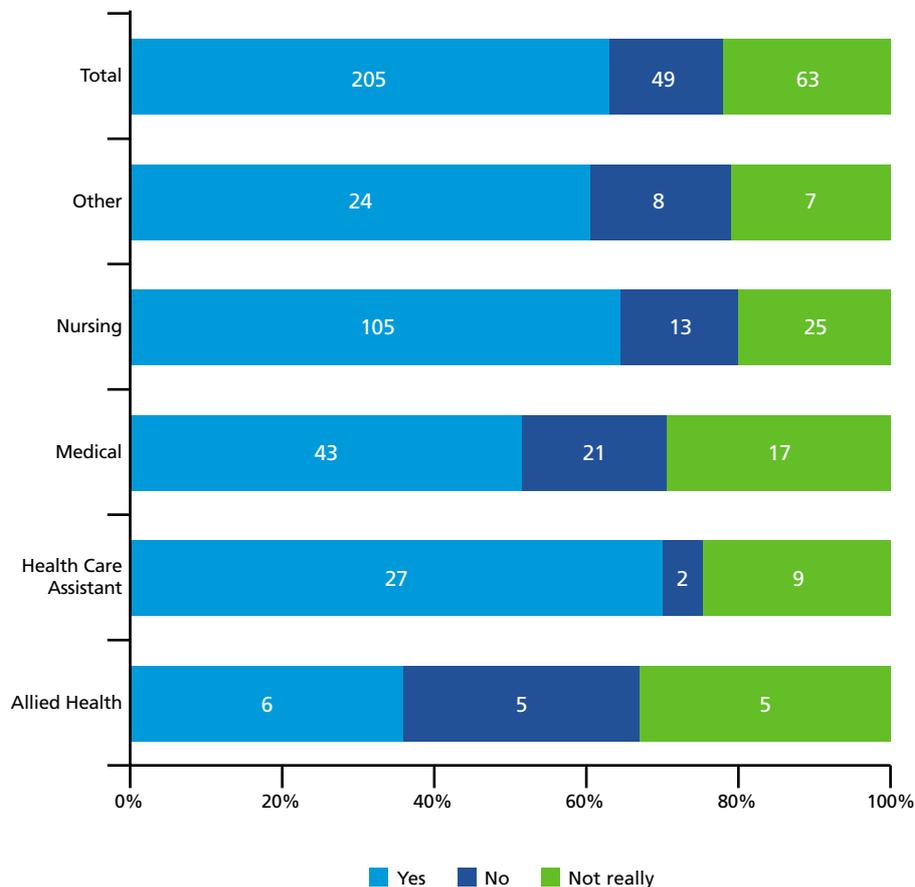


Figure 5: Staff survey. Did the posters encourage discussion?

Appendix 10 Use of the alcohol cleaners

Almost 92 per cent of staff who responded to the question of whether they use the alcohol cleaners or not said that they did. The chart below shows the responses for each staff category. Those staff that did not respond have been omitted.

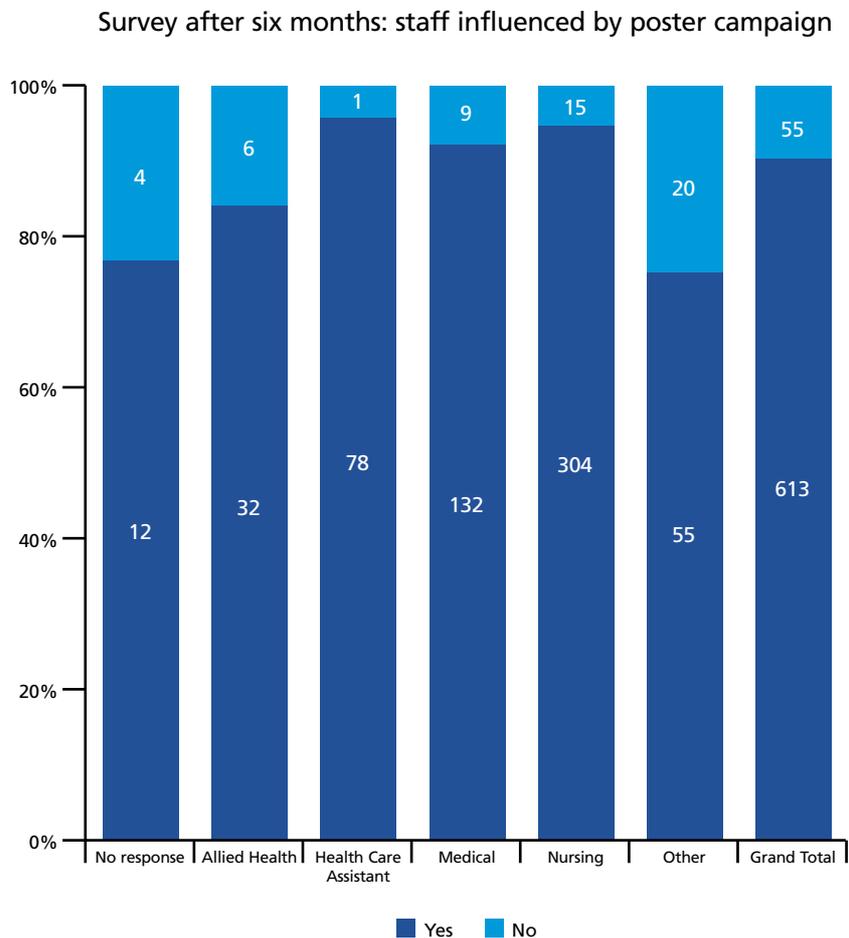


Figure 6: Use of alcohol by staff category

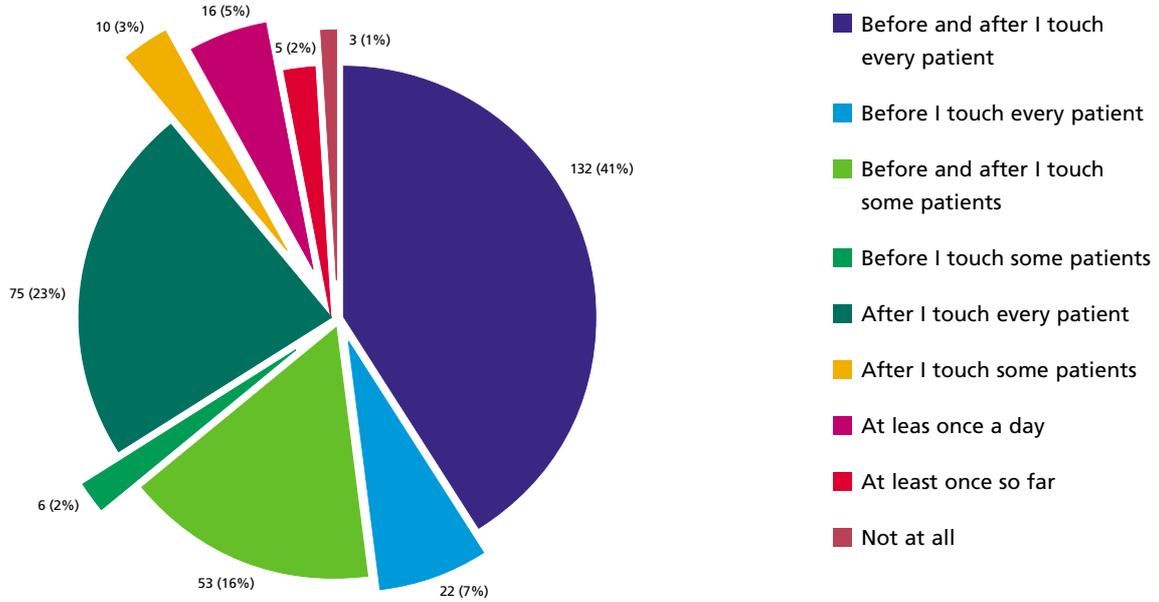


Figure 7: Frequency of use of alcohol

Closer inspection of the responses to this question shows that nursing and healthcare assistants self report their hand hygiene compliance to be most in alignment with the ideal. The figure below gives a detailed breakdown of hand hygiene compliance for each staff category.

We were also able to see if staff’s experience had any bearing on their hand cleaning practices. The following figure presents the same data broken down by experience.

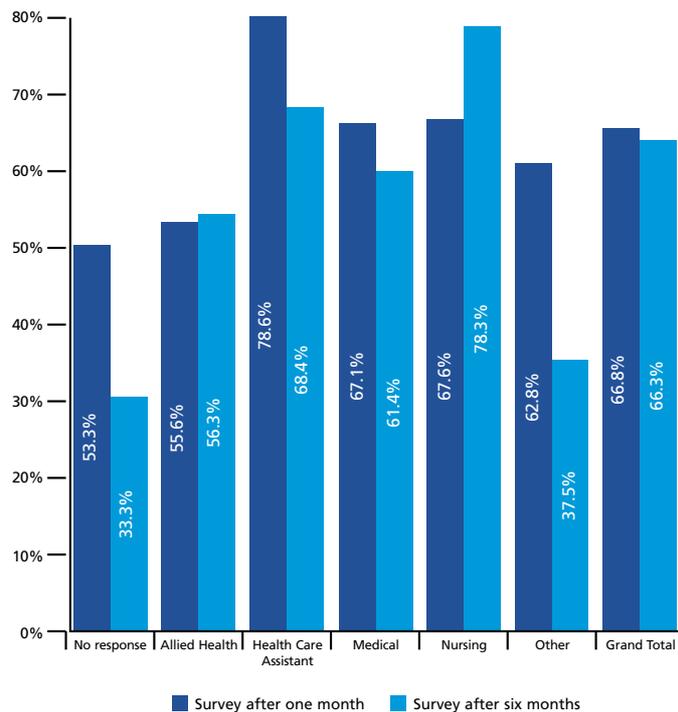


Figure 8: Staff Survey. How often do you use the alcohol cleaners?

Appendix 11 Use of the alcohol cleaners: due to the alcohol do you clean your hands more frequently?

The presence of the alcohol does seem to encourage staff to clean their hands more frequently: the majority of all staff categories responded 'yes' to this question.

Comparing the two surveys shows that there does not appear to be any significant change in staff's response after one month or after six months.

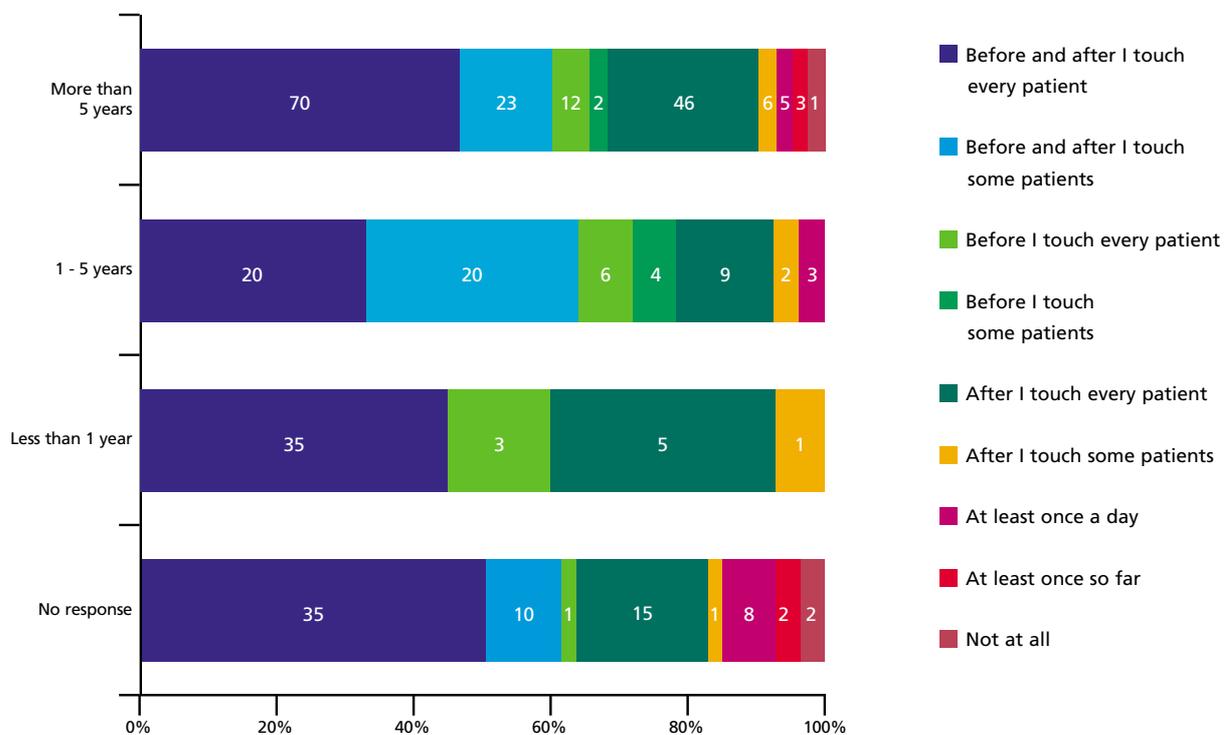


Figure 9: Staff survey. Due to the alcohol do you clean your hands more frequently?

Appendix 12 Staff survey: patient involvement

Staff were asked if patients asked them about hand washing or alcohol rubs. Only 34 per cent (239) said that they had been asked, with the majority (164) of these being asked by between 1 and 5 patients.

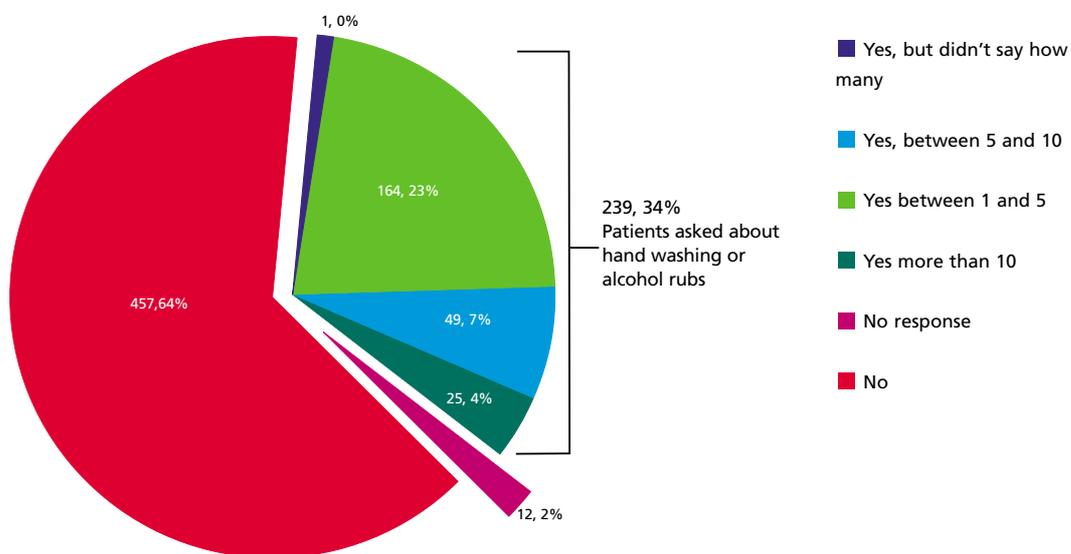


Figure 10: Staff survey. Did patients ask?

Closer inspection of the responses to this question show that patients tend to ask the more experienced nursing staff during the day.

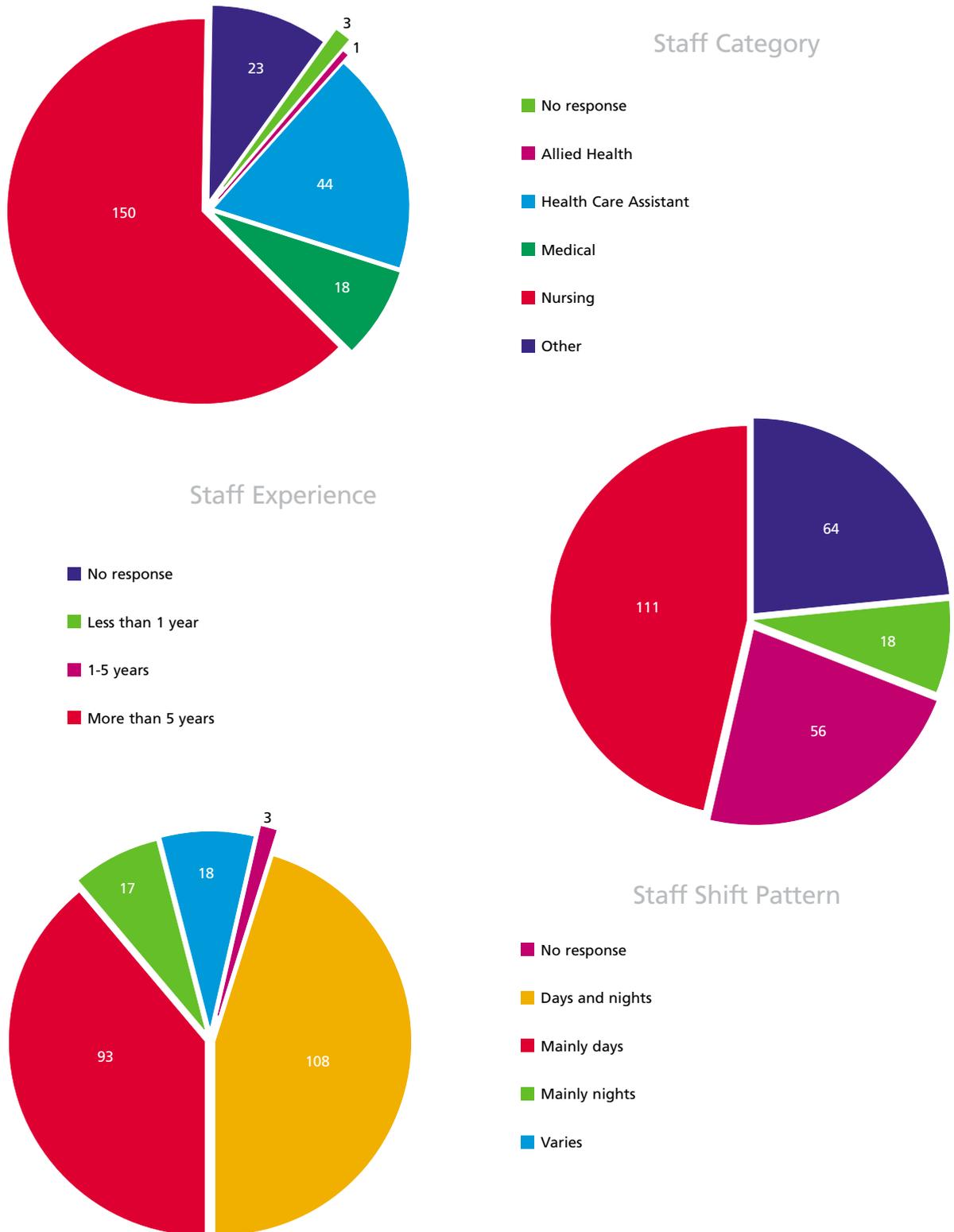


Figure 11: Staff survey. Who did the patients ask about hand hygiene?

Closer inspection of the responses to this question show that patients tend to ask the more experienced nursing staff during the day.

The vast majority (231 out of 239) who were asked by patients about hand washing were comfortable being asked. Only 6 staff were uncomfortable being asked.

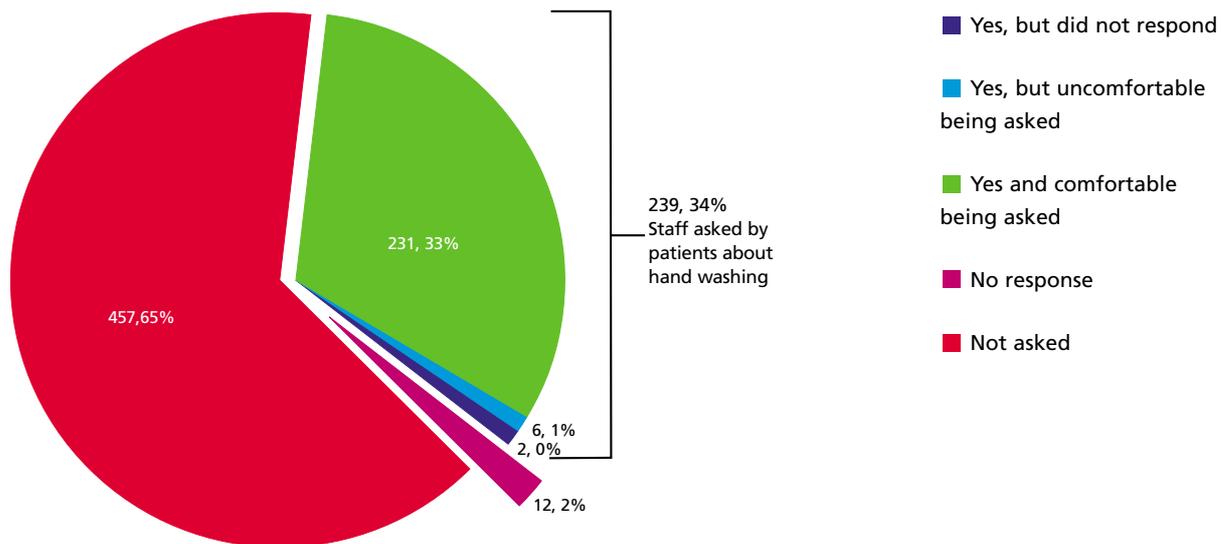


Figure 12: Staff survey. Were you comfortable being asked by patients about hand washing?

Appendix 13 Patient involvement: what encourages patients to ask?

At the launch of the campaign, staff wore stickers with the message 'Its okay to ask', to encourage patients to ask about hand hygiene. The effectiveness of the stickers is inconclusive as only 127 (53 per cent) of the 239 staff who were asked by patients were actually wearing the stickers. This reflects problems encountered by the stickers with staff reporting that they were constantly 'falling off'.

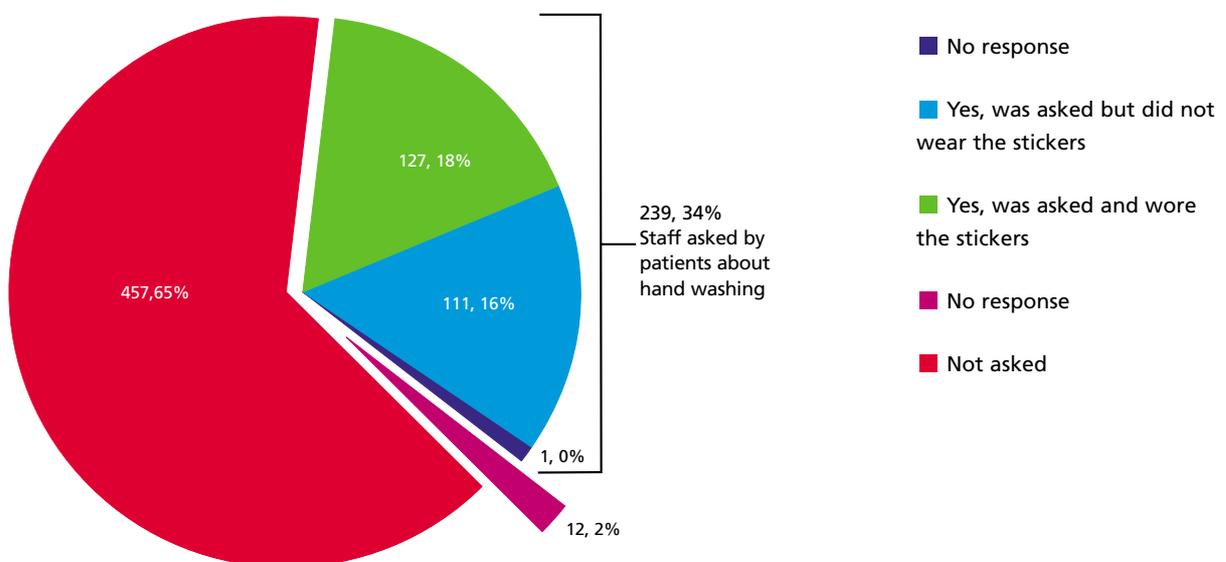


Figure 13: Staff survey. Did you wear the campaign stickers?

Because of the problem with the stickers, a quantity of 20,000 plastic aprons were produced displaying the campaign message 'Its okay to ask'. These seemed to be more effective; during the second survey 90 (73%) of the 123 staff who were asked by patients were actually wearing the aprons.

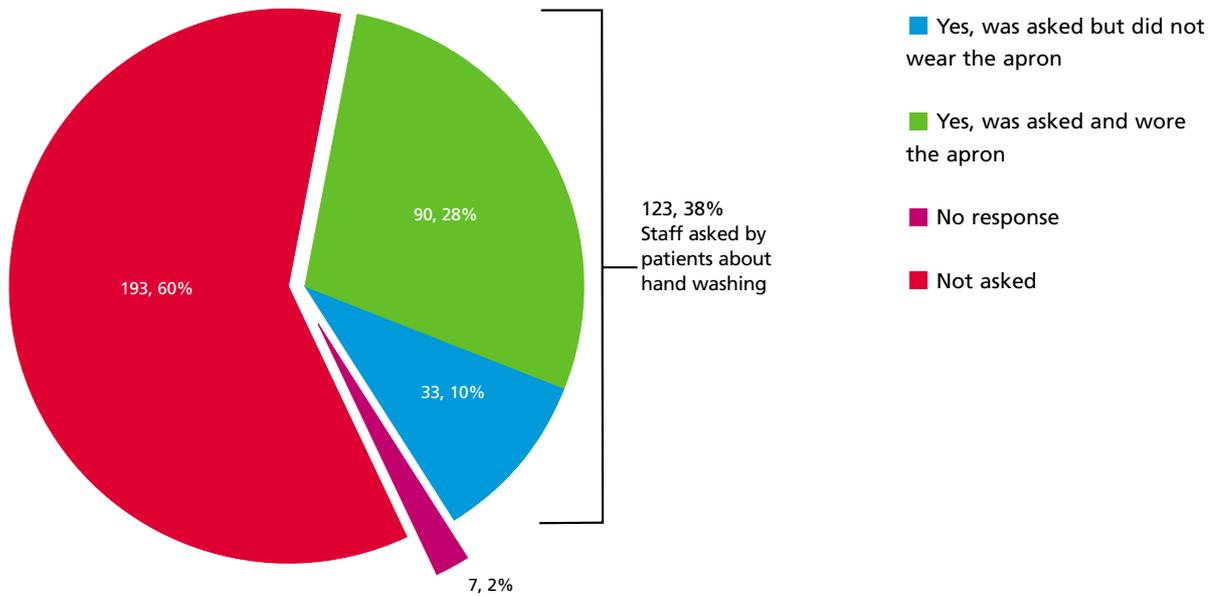


Figure 14: Staff survey. Did you wear the campaign apron?

During the second survey those staff that were asked by patients about hand hygiene were asked if they thought that the posters encouraged discussion. The majority (89 out of 123) felt that this was the case.

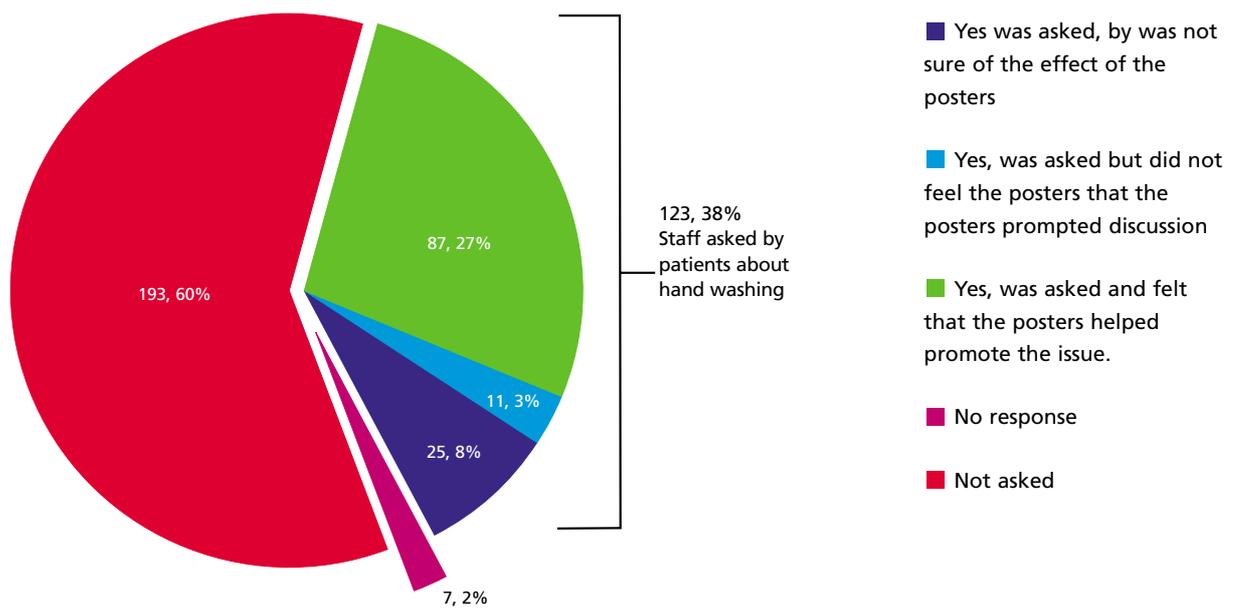


Figure 15: Staff survey. Did the posters prompt discussion?

Appendix 14 Staff survey: what staff said

Broad themes from staff are summarised using sample quotes from the surveys:

Posters	Positive	<ul style="list-style-type: none"> • Posters keep reminding you all the time (nurse) • Posters are eye catching and quick to read - very good (doctor) • Very useful - Keeps the campaign in our minds (not stated) • The posters made me think about what I touch (AHP) • Particularly useful when other members of staff from hospital are seen on posters as this is amusing and I think reinforces the posters message (doctor)
	Negative	<ul style="list-style-type: none"> • Already aware of importance (nurse) • They have not changed my cleaning practices • Don't need posters to remind me (HCA) • Need to be more eye catching (nurse)
NPAH	Positive	<ul style="list-style-type: none"> • Unsure about them at first - now converted (not stated) • Excellent (doctor) • This is a good idea having them at the end of the beds (HCA) • Excellent idea - please make them available on the end of every bed (doctor) • They are far more convenient than soap and water (nurse)
	Negative	<ul style="list-style-type: none"> • I prefer to wash hands at the sink with soap, the alcohol leaves a residue (doctor) • Dislike smell, makes hands sticky (nurse) • They get in the way and get knocked off/broken (nurse)
Patient involvement	Positive	<ul style="list-style-type: none"> • I always feel comfortable answering any questions no matter what the reason (nurse) • Was not asked - but it would be fine (doctor) • It helps relatives understanding of cross infection (HCA)
	Negative	<ul style="list-style-type: none"> • Not comfortable being challenged by patients - it empowers them and changes doctor - patient relationship (doctor) • Depends on question and how it is asked (nurse) • How the challenge is done is important (doctor)

Appendix 15 Patient evaluation form

The Healthcare Team caring for you has been chosen by the National Patient Safety Agency (NPSA) to take part in a campaign to remind staff about the importance of clean hands when caring for patients. The NPSA and the staff in your hospital want to know what you think about the clean**your**hands campaign and how you would like to be involved in helping to keep your hospital safe.

One way you can help us is fill in this form and the diversity and ethic monitoring form. This will let us know what the patients and the public think about the clean**your**hands campaign and help us find out the views of the diverse communities we live in.

To make sure the information you give us is anonymous we will not ask for your name or address. These forms will be sent to the NPSA and held confidentially. The information will be used to help improve patient safety in hospitals in the future.

Q1 In the last 24 hours have you seen staff clean their hands?

Yes

No

Sometimes

Don't know

Any other comments

Q2 How useful have you found the patient posters, leaflets and stickers?

Very useful

Quite useful

Not very useful

Not at all useful

Comments

Q3 Do you think patients and the public should be involved in helping staff improve hand hygiene in hospitals?

If yes please explain

If no please explain

Q4 What would you do if you thought a member of staff had not cleaned their hands?

- a. nothing
- b. tell the member of staff directly
- c. tell the PALS officer
- d. tell your visitor/ family member
- e. contact an advice line
- f. other please explain

Q5 Would you ask a member of staff if they had washed their hands before they have direct contact with you?

- Yes
- No
- Not sure

Q6 What else do you think staff, patients and visitors can do to improve hand cleaning in your hospital?

Please indicate if you are a:

- Patient
- Relative
- Carer
- Other

Thank you for taking the time to complete this form. Your feedback is very valuable and will help to inform future projects.

Appendix 16 Patient survey: the Respondents

A total of 374 patients, their carers or their relatives completed the evaluation form in 9 trusts. Table 3 below shows the number of respondents from each of the trusts that participated.

Trust	A	B	C	D	E	F	G	H	I
No. of respondents	43	27	108	35	17	43	41	33	27

Table 3: Patient evaluation. Number of responses by trust.

Figure 13 shows in more detail who actually responded. With the exception of trust E the majority of respondents were the patients themselves. We would have expected this result from trust E because the patient groups on these wards may not have been able to complete the survey themselves.

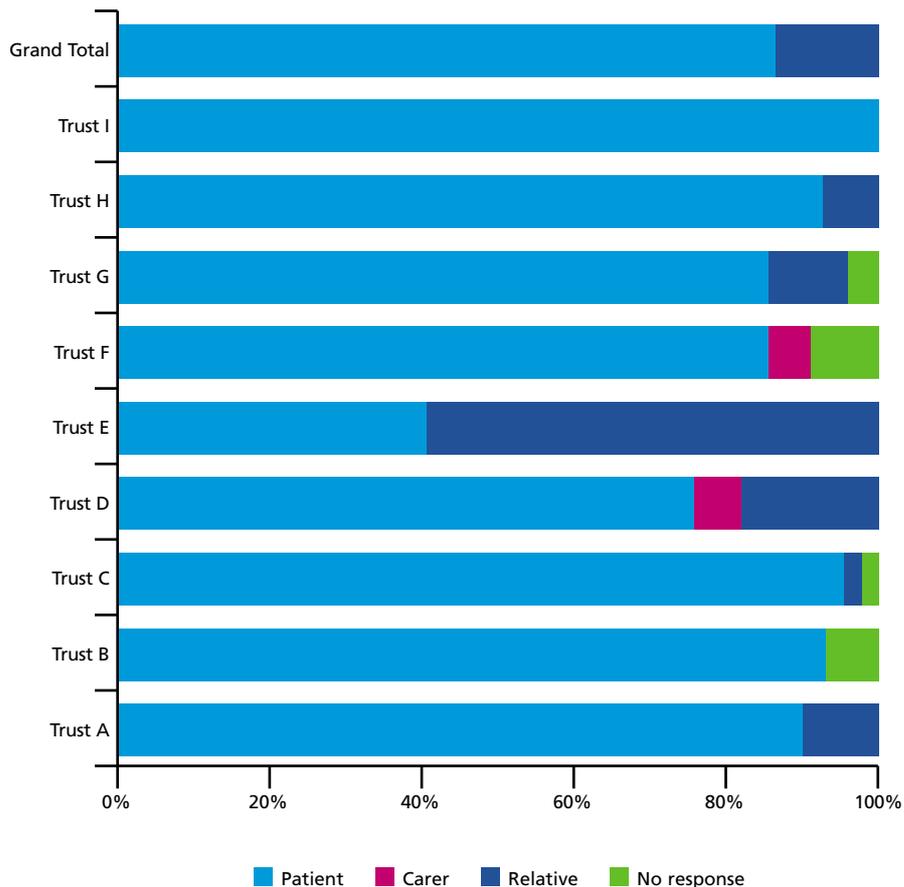


Figure 16: Patient evaluation, the respondents.

Appendix 17 Should patients be involved in helping staff improve hand hygiene?

What would you do if you thought a member of staff had not washed their hands?

The majority of respondents (265, or 71 per cent) felt that patients should be involved. Of these a total of 142 said that they would ask a member of staff directly if they thought that they had not washed their hands. A further 56 also felt that patients should be involved, but would do nothing if they felt a member of staff had not washed their hands. The responses are summarised in Figure 14 below.

Would you ask a member of staff directly if they had washed their hands before direct contact with you?

Although 142 of the respondents said they would ask if they thought if a member of staff had not washed their hands, there was a change of emphasis when the more specific question would you ask a member of staff directly if they were about to touch you; 153 said that they would not ask in this case. The responses are summarised in Figure 15.

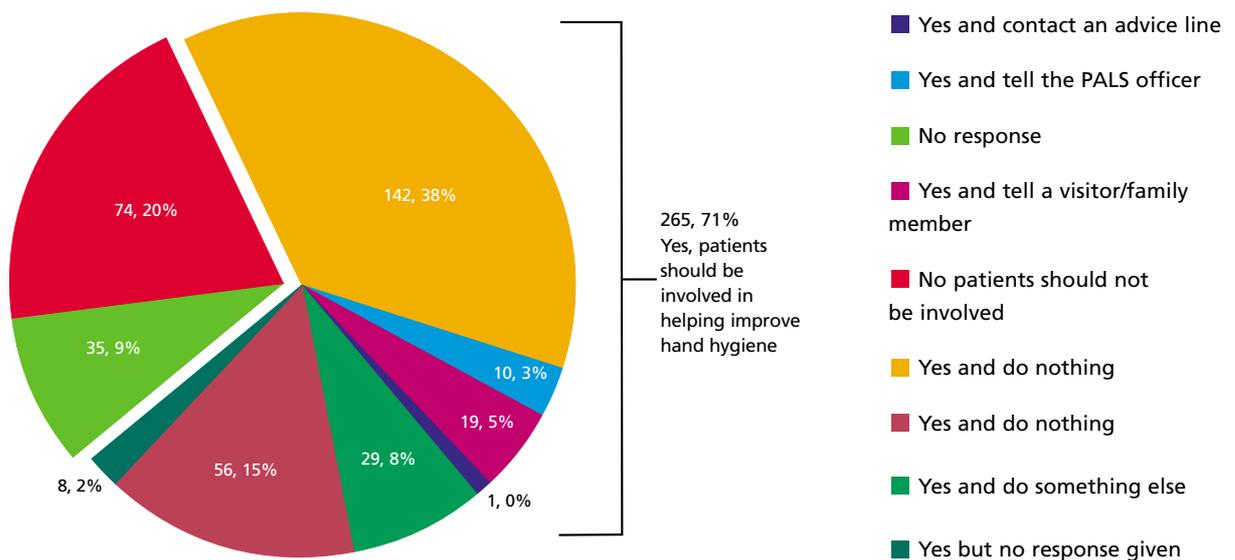


Figure 17: Patient evaluation. Should patients be involved? What would you do if you thought a member of staff had not washed their hands?

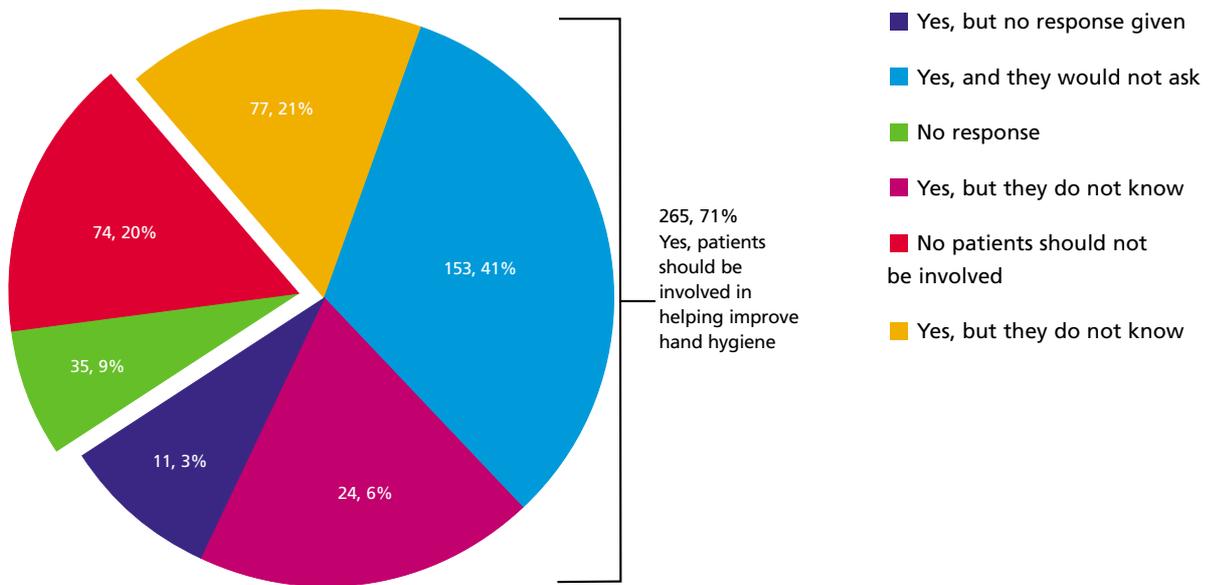


Figure 18: Patient evaluation. Should patients be involved? Would you ask a member of staff if they had washed their hands before direct contact with you?

Appendix 18 Will patients ask staff?

Following on from the previous two sections, the following table shows that almost one quarter (90 out of 374) of patients gave different responses to similar questions. The questions differed in their emphasis and tried to encourage patients to reflect on real life behaviour. In general, they would tell a member of staff directly if they thought the member of staff hand not cleaned their hands, but would not ask if a member of staff was about to have direct contact with them.

		Would you ask a member of staff if they had washed their hands before they have direct contact with you?				
		Yes	No	Don't Know	No response	
What would you do if you thought a member of staff had not cleaned their hands?	Tell the member of staff directly	78	90	22	7	197
	Tell the PALS officer	4	8			12
	Contact an advice line	2				2
	Tell your visitor/family member	1	20	7	1	29
	Other	3	27	2	3	35
	Nothing	8	68	10		86
	No response	1	5	2	5	13
	Grand Total	97	218	43	16	374

Table 54 : Patient evaluation. What will the patients do?

Appendix 19 How useful have you found the patient posters, leaflets and stickers? (excludes three patient-only sites)

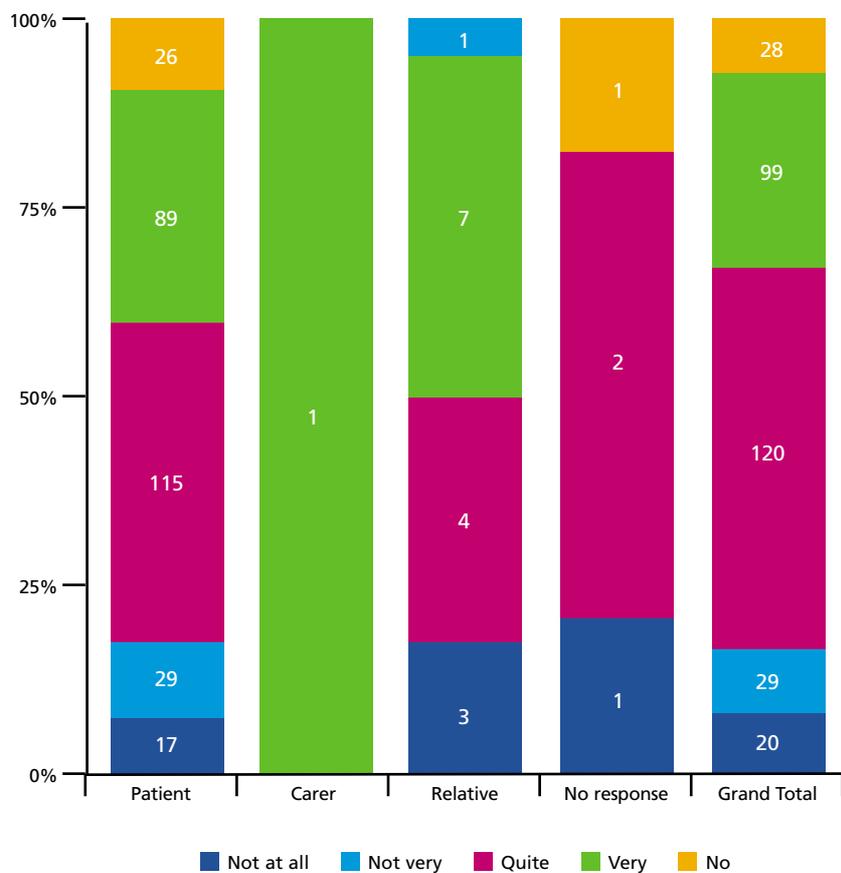


Figure 19: Patient evaluation. How useful were the posters, leaflets and stickers?

Appendix 20 What patients said

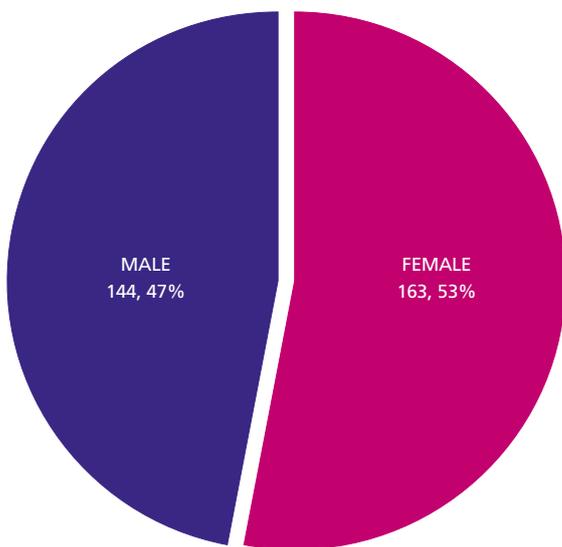
The patient responses fell into broad categories and the table below provides representative examples illustrating recurring themes:

Broad Theme	Sample quotes used to illustrate
Patients should be involved	<ul style="list-style-type: none"> • There should be a public campaign • Very strongly in favour of being involved • I have no spleen – I cannot afford to catch germs • Important for patients to remind staff • If I was in hospital again and I haven't seen staff wash their hands before they touch me I would definitely ask them to • To stop spread of infection. Let's work together. • A senior member of staff came over to me to take blood, I asked her if she had washed her hands and she said she couldn't find any gloves, anyway I'm sure you (meaning me) don't have infections. I told her I might not but she may have. I could tell she was put out and the staff are probably a bit irritated with me but its my health that's at risk • There should be a direct drive aimed at patients to ask anyone in their environment have you washed your hands - if this was done in the form of a ditty to make it fun people would not be offended. If you don't wash your mitts you're the pits.
Patients would ask	<ul style="list-style-type: none"> • I would tell the member of staff myself as it might have only been an oversight on their part. • But very discreetly • Yes because of my condition. Cleanliness is important • Have done this in the past and then been treated like I did something wrong.
Patients should not be involved	<ul style="list-style-type: none"> • You should not have to ask staff to wash their hands, it should be a given • Staff should really just do it, wash their hands without having to be told its basic cleanliness • It's their responsibility not mine • Doctors & nurses shouldn't need reminding • Don't think I should get involved with staff business.

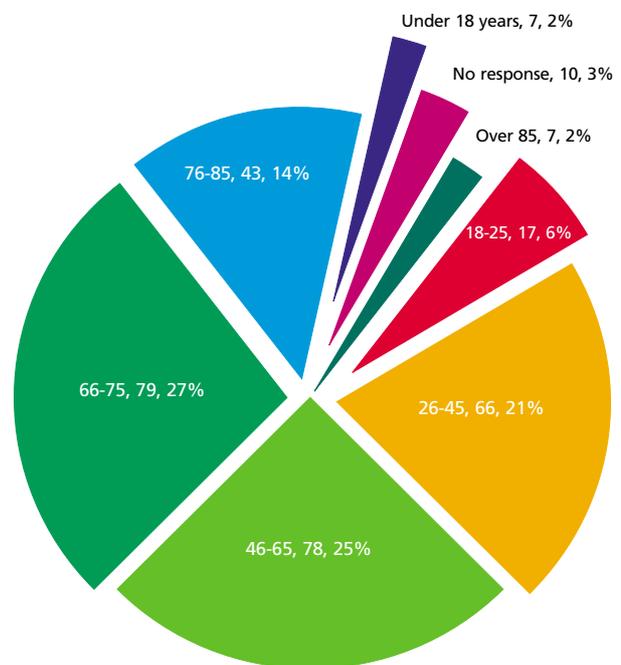
Broad Theme	Sample quotes used to illustrate
Fear of consequences puts people off asking	<ul style="list-style-type: none"> • Would worry about how I would get treated by them • Would feel uncomfortable about doing it but would want to as it's my health I need to protect • Would not question because my care might be compromised • I wouldn't want to cause friction between myself and the members of staff looking after me • Take an awful lot of courage • You could offend them by asking • I think patients are frightened to ask staff if they have washed their hands because they might upset the staff or offend them • Patients fear that staff will treat them as a 'trouble maker' or something if they were to ask staff to wash their hands • Many staff would resent it and as a patient the last thing you want to do is antagonise the staff
What about gloves?	<ul style="list-style-type: none"> • When I see staff wearing gloves I am not sure if they could still carry something to another patient • Certainly seen gloves used - fastidious about using them • They seem to wear gloves all the time even when helping someone to eat and drink they are not in the habit of washing their hands • Nurses mainly wear gloves anyway • The problem with gloves is that you are protected but what if they don't take them off this is just as bad
What about patient hand hygiene?	<ul style="list-style-type: none"> • We would like hand wipes on all meal trays as many patients do not wash their hands before eating • Each time I was taken to the toilet no one gave me the opportunity to wash my hands unless I asked. I always wash my hands before a meal and after using the toilet at home. They (healthcare staff) don't seem to care that it can be very upsetting
What about ward hygiene?	<ul style="list-style-type: none"> • Wards are dirty, what is the point of washing hands when the area is filthy

Appendix 21 Breakdown of diversity and ethnicity

Ethnicity and Diversity: Gender



Ethnicity and Diversity: Age



Ethnicity and Diversity: Disability

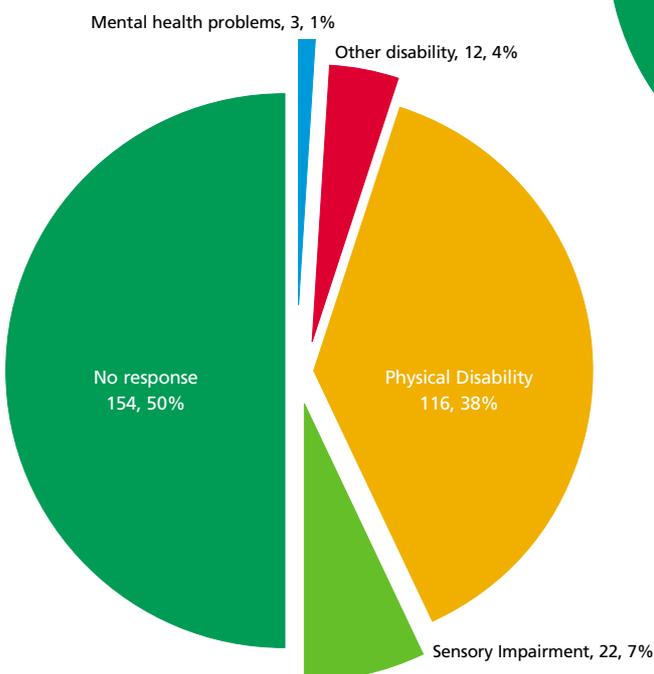
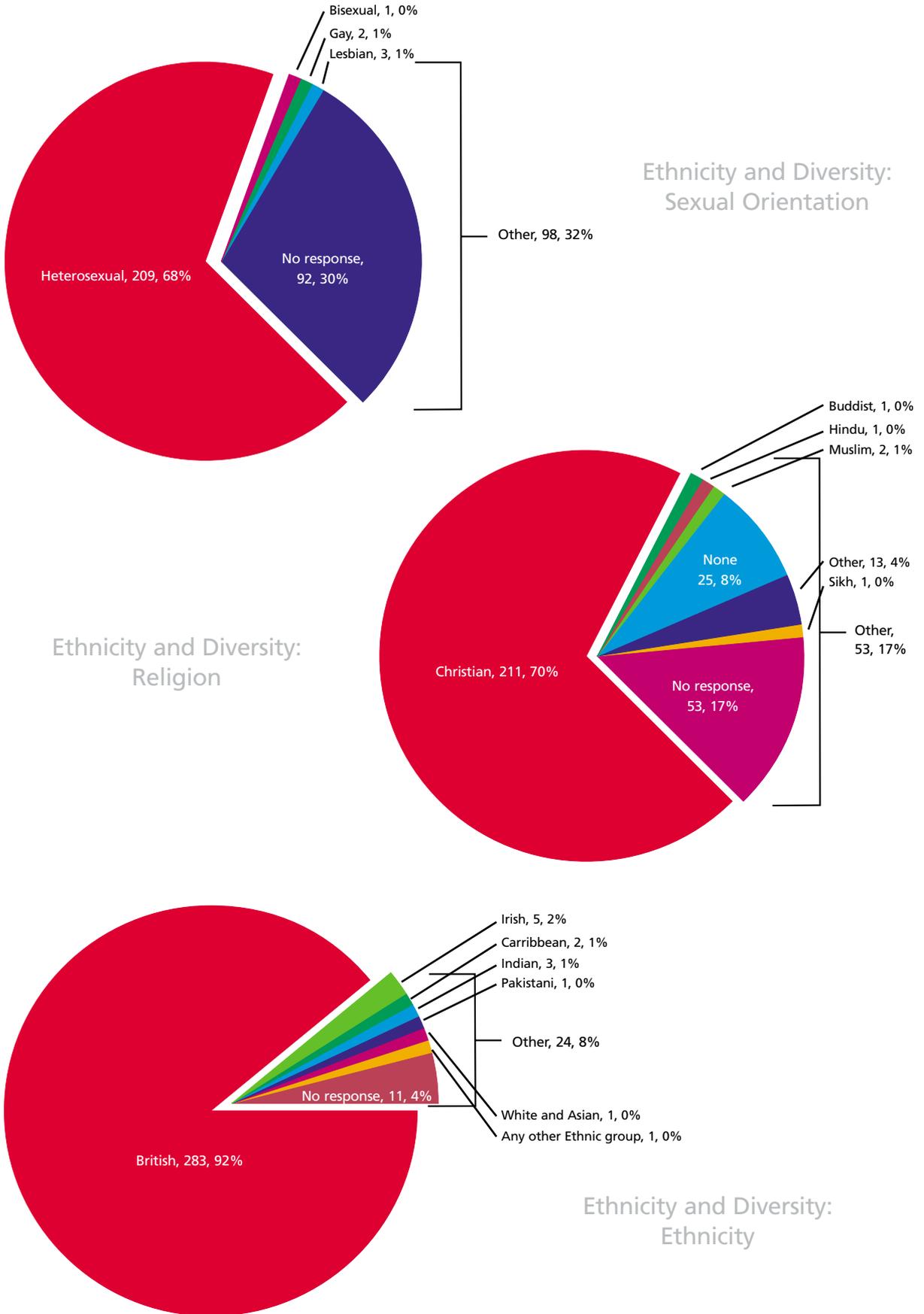


Figure 17: Ethnicity and diversity - gender, age and disability

Figure 18: Ethnicity and diversity - sexual orientation, religion and ethnicity



Appendix 22 Interviews with project lead

1. How well did the NPSA prepare you for the launch (for end of project interview, for *launch* read *campaign in general?*)

- 1. Not at all
- 2. Poorly
- 3. Acceptably
- 4. Very well
- 5. Extremely well

Comments:

2. How well did the NPSA support you during the initial launch (for end of project interview, for initial *launch* read *campaign in general?*)

- 1. Not at all
- 2. Poorly
- 3. Acceptably
- 4. Very well
- 5. Extremely well

Comments:

3. How useful was the written Guide from NPSA in the initial launch (for end of project interview, for *launch* read *campaign in general?*)

- 1. No use
- 2. Some use
- 3. Adequate
- 4. Very useful
- 5. Extremely useful

Comments:

4. How useful was the training material?

- 1. No use
- 2. Some use
- 3. Adequate
- 4. Very useful
- 5. Extremely useful

Comments:

5. How useful was the Pilot Site local working group during the launch of the campaign (for end of project interview, for *launch* read *campaign in general*?)

- 1. No use
- 2. Some use
- 3. Adequate
- 4. Very useful
- 5. Extremely useful

Comments:

6. How satisfied are you with the way the launch went in your Trust (for end of project interview, for *launch* read *campaign in general*?)

- 1. Not at all satisfied
- 2. Not very satisfied
- 3. Somewhat satisfied
- 4. Very satisfied
- 5. Extremely satisfied

Comments:

7. Which aspects of the launch do you think were the least successful (for end of project interview, for *launch* read *campaign in general*?)

8. Which aspects of the launch do you think were the most successful (for end of project interview, for *launch* read *campaign in general*?)

9. How well did the NPSA communicate to all the key groups in your Trust?

- 1. Not at all
- 2. Poorly
- 3. Acceptably
- 4. Very well
- 5. Extremely well

Comments:

10. How useful were the posters and the other communication materials?

- 1. No use
- 2. Some use
- 3. Adequate
- 4. Very useful
- 5. Extremely useful

Comments:

11. How useful was the patient involvement material?

- 1. No use
- 2. Some use
- 3. Adequate
- 4. Very useful
- 5. Extremely useful

Comments:

12. How important was the introduction of near patient alcohol?

- 1. Not at all
- 2. Not very important
- 3. Somewhat important
- 4. Very important
- 5. Extremely important

Comments:

13. Please give a score (from 1 to 10) for the helpfulness of the following (1= not at all helpful, 10= extremely helpful) items

- 1. The "Guide to Implementation" document
- 2. Section: Introduction & purpose of the guide
- 3. Section: Groundwork activities
- 4. Section: At a glance time frame
- 5. Section: Boundaries to the campaign
- 6. Section 8.1 Training material
- 7. Section 8.2 Near patient alcohol
- 8. Section 8.3 Poster/Media campaign
- 9. Section 8.4 Patient empowerment
- 10. Section 8.5 Ward housekeeper (or equivalent)
- 11. Section 8.6 Guidelines
- 12. Section 8.7 Observation and feedback

Comments:

14. In conclusion, are there any aspects that the NPSA should improve?

- Yes
- No
- don't know

15. Which aspects need to be improved?

Appendix 23 The Guide to Implementation: table of contents:

Executive summary

Introduction

Objective: to increase hand cleaning across the NHS
Development of the toolkit
Feedback on the guide
Acknowledgements

Purpose & scope of this guide

NPSA Project Team: contact details

Project overview

Groundwork activities

Project Support Worker
Baselines assessment

At a glance time-frame, milestones & activity schedule

Boundaries to the campaign

Implementation

Training material
Near patient alcohol
Media/Poster campaign
Patient information and empowerment
Ward housekeeper (or equivalent)
Modern matron
The guidelines
Observation and feedback
Other toolkit elements under development

Quick guide to evaluation

Frequently asked questions

Appendices
Fax back comment form

Appendix 24 Details of the implementation strategy (NPSA guide to implementation)

The content of the guide to implementation can be found in Appendix 23.

The guide explained that onsite leads undertake a series of activities to prepare groundwork for project launch. These activities are summarised below:

- Identify two pilot wards.
- Identify the supply chain route for alcohol.
- Engage key staff within the trust.
- Ensure all key committees and groups associated with infection control are aware of the campaign.
- Establish a pilot site local working group (PSLWG).
- Establish a hand hygiene leader for launch activities.
- Secure a project support worker to assist with evaluation – including baseline assessment of product usage. The project support worker would also be key with regard to the undertaking of observation of compliance with hand hygiene opportunities.

The pilot site local working group would be crucial in agreeing the campaign action plan and addressing the specific workings of the campaign on the local wards. In particular the group would:

- agree how to prepare the two pilot wards;
- agree best method for introducing NPAH;
- identify staff responsible for changing posters;
- identify poster locations at ward level;
- identify staff from pilot wards, suitable for incorporation into staff posters;
- decide where leaflets and patient posters are to be displayed at ward level and who will lead on distribution.

The guide also made explicit a key role to be assumed on the pilot ward, that of ward housekeeper or equivalent who would ensure that the alcohol gel & brackets remain at the bedside; undertake daily checks that the bottles are functioning; undertake daily checks that they contain alcohol; undertake daily checks that they are clean and report any problems to the nurse in charge. The role would also ensure similar checks on other hand hygiene products.

Appendix 25 Categorical responses to the staff interview

		The 'Guide to Implementation' document	Introduction & purpose of the guide	Groundwork activities	At a glance time frames	Boundaries of the campaign	Training material	Near patient alcohol	Poster/Media campaign	Patient empowerment	Ward housekeeper (or equivalent)	Guidelines	Observation and feedback	Average
Post campaign launch	Trust B	8	8	7	9	1	8	8	8	8	8	8	6	7.25
	Trust C	10	10	10	10	10	10	10	10	10	10	10	10	10
	Trust E	10	5	10	10	5	9	9	9	9	9	9	9	8.58
	Trust F	5	5	5	10	5	6	6	6	6	66	6.00		
	Trust G	8	8	8	8	8	8	8	8	8	8	8	8	8.00
	Trust I	8	4	8	10	8	10	10	10	10	10	10	10	9.00
	Average	8.17	6.67	8.00	9.50	6.17	8.50	8.50	8.50	8.50	8.50	8.50	8.17	8.14

Table 6: Usefulness of the implementation strategy

Appendix 26 Pooled themes from diary, local working group & interview

Key Theme	Diary/ PSLWG	Interview	
NPAH	Local risk assessment important (TRUST F)	Crucial – must always have this (Trust I)	
	Positive feedback from on-call medics re accessibility of gels (TRUST E)	Without this the rest of the campaign falls down (Trust F)	
	Complaints re malfunctioning of NPAH bottles (Trust C)	Needs to be more visible (Trust G)	
	Stays on bed when bed moved (TRUST I)	Staff miss it on other wards (Trust E)	
	Staff power want to keep NPAH post-pilot (TRUST F; TRUST E)	Is it being used more at the bedside? (Trust C)	
	Positive feedback on tattles (TRUST E)	Convincing medics was crucial – one of the doctors wanted evidence and now he is “always at the pump” (Trust I)	
	New staff need making aware of how things are done on the ward (TRUST E)		
	Visitors impressed with NPAH (TRUST E)		
	Patient Involvement	Ward Drs wanted to spread message re patient involvement (TRUST E Stroke Unit)	Leaflets in different languages must state which language clearly for all to understand (Trust B)
		Children’s issues – how about a pack for children – need socially acceptable ways for children to ask staff. Modified adult leaflet may be okay for teenagers (TRUST E)	Make sure children’s issues are addressed (Trust E)
Time is an issue – need time to discuss this with patients if it is to work (Trust C)		Don’t forget patient hand hygiene (Trust B)	

Key Theme	Diary/ PSLWG	Interview
	Staff posters impact on patients (Trust C)	Could enamel badges have written message on (Trust I; Trust B; Trust G)
	Meal trays used for communicating messages (Trust C; Trust G)	Use of Link nurses should be addressed (Trust E)
	Need to use variety of media to get messages to patients (videos; posters; T.V; main reception area; screen savers) (Trust G; TRUST F).	Consider giving leaflets at pre-assessment clinic (Trust C; Trust G)
	Must be done in an appropriate manner (TRUST E)	More pictures less text on the leaflet(Trust I)
	How about "thank you for cleaning your hands" (TRUST E paed)	A number of patients said they felt more confident when they saw staff cleaning their hands (Trust G)
Posters & other communication materials	Engendered positive comments from staff relating to staff champions (TRUST F)	Champion posters did it for everyone (All)
	Staff champion thought name too bold on poster (TRUST F)	Graphic posters better than text only (Trust C; G; I)
	Frequency of change too much (TRUST F; TRUST I; TRUST E; Trust B; Trust G)	Weakest link; Rabbit; Good with your hands & Germs travel – were best (Trust G)
	Personalised posters are the best (TRUST F; TRUST E; Trust G)	Six weekly to quarterly change would work (All)
	Location is key (TRUST E)	Takes a couple of hours to change posters (Trust G)
	Poster changes provide a forum for discussion (TRUST E)	Space can be short (Trust G)
	Must give thought to child friendly posters (TRUST E)	Enamel badges stimulate discussion (Trust F)
	Poster background too dark (TRUST E; Trust G)	Aprons: location of logo needs re-positioning (Trust B; Trust E)
	Aprons would be more useful on a roll, colour coded and logo position needs changing (Trust B)	
	Champion posters made patients feel they were being watched in a negative way (TRUST I)	

Key Theme	Diary/ PSLWG	Interview
	Are the posters value for money? (TRUST F)	
	Wards should display a group of posters together/ montage (TRUST E; TRUST I)	
Launch activity	Having a presentation to senior nurses worked well (TRUST F)	Launch is the hardest thing – once up and running there is little to do (Trust F; Trust I)
Benefits from CYHC	Positive spin offs e.g. relating to uniform (TRUST F)	Comments from AHPs “this ward is different” (Trust I)
	Highlights issue of appropriate glove use (TRUST E)	
	Useful to promote PALS Teams (TRUST F)	
	Allows for positive focus on children’s hand hygiene (TRUST E)	
	Ripple effect to other wards (TRUST F; TRUST E; TRUST I)	
	CHAI commented on positive benefits of CYHC to CCDC (TRUST F)	
	Raising the profile of hand hygiene caused spontaneous improvement activity across the hospital (TRUST E)	
Observations	Challenging and some things observed require careful handling in a timely manner (TRUST F)	Observational chart doesn’t take account of multi-tasking (Trust C)
	Form is difficult to follow (TRUST F; TRUST E)	
	Benefit in getting a “feel” for behaviour (TRUST F).	
	Would be useful to have an automatic spread sheet for data entry (TRUST F)	
Key staff	Director of Nursing & Trust Board Chair (Trust C); Deputy Director of Nursing; Chief Executive; Procurement Specialist; consultants (TRUST F; Trust I); Medical Director (Trust E; Trust I); Consultants	Ward managers (Trust I)

Key Theme	Diary/ PSLWG	Interview
Key staff	(Trust F; Trust I); Ward Sisters (Trust F); Head Nurses/Modern Matrons (Trust F); Ward Housekeepers as role models (Trust E)	
	Involving multidisciplinary staff including porters and domestic staff (TRUST I)	Senior Medics (Trust F; Trust C)
What makes it work?	Communication by whoever leads nationally needs to be excellent (TRUST F)	PSLWG (Trust I)
	Pace of local implementation needs to be dictated locally (TRUST F)	PSLWG will expand for Trust wide roll-out (Trust F)
	NHS Logistics communication initially needs improving (TRUST F)	PSLWG should include domestic staff and catering (Trust I; Trust G)
	Being allowed to assess our own individual needs and plan accordingly (TRUST F)	A set launch day helps to kick start a campaign (All)
	Getting the ward team to see it as their campaign not the onsite leads campaign - posters help do this. Ownership of the problem and the solution is key (TRUST E; TRUST F)	Getting everyone together is key (Trust G)
	Winning the argument relating to the evidence (TRUST E; TRUST I)	Guide to Implementation needs slimming down and inspirational (Trust I)
	Have a resource of all the evidence (TRUST E)	Guide to Implementation should allow for local interpretation (Trust F)
	Use communal areas for displays (TRUST E)	Trusts need advice on how to approach and warm up "local champions" and what is expected of them (all)
	Hand Hygiene Station (Trust C; TRUST I)	Observations make it work (Trust B)
	Remove all existing non-relevant posters (Trust C)	
	Project nurses (Trust C; TRUST E;TRUST I)	
	Consultant role models (Trust G)	
	PSLWG (TRUST I)	
	Visual gimmicks (e.g. Glow germ box) (TRUST I)	
Ward Housekeeper*	The named person for cleaning NPAH only takes responsibility for those beds in her team – this did not work (TRUST I)	Having a person identified to check on the gels (whoever it is) can make or break (All)

*Or equivalent role as determined by Local Working Group

Appendix 27 Diary and local working group log: structure

Date & time	Type of meeting/ activity or general comments	Duration	Summary of meeting/activity	Learning points

Appendix 28 Staff comments from PSLWG: staff Interviews

NPAH:

1. "If the gel is removed they will have a fight on their hands" (Ward Manager trust F)
2. "As soon as the gel is in place everything else seems to follow and the behaviour changes" (Onsite lead trust F)

Posters:

1. "If it makes people wash their hands and reduces infection I will do anything" (Consultant, trust F).
2. "Putting me on a poster like that is positively pythonesque" (trust F).

Patient Involvement:

1. Knowing that patients could ask did seem to make a difference (onsite lead trust E)

Key staff:

1. "Physician support was much more visible than surgeon support – surgeons tended to have a finger-tip approach" (on site lead: trust C)
2. "Doctors are the silent implementers" (on site lead trust C)
3. "The project has been driven here by the ward managers" (on site lead trust B)
4. "I have asked the sisters how they would sustain this without a project worker and they have said they would make sure it happened" (on site lead trust B)
5. "Junior doctors made a pilgrimage to X ward to see the staff champion poster" (trust E)

General comments:

1. The CYHC is being introduced because its cheap compared to other alternatives (Microbiologist trust F)
2. The research base for this is "softer than toffee" ... I am not pleased that my 1% increase in national insurance is going on the gels" (Consultant trust F)
3. "Both pilot wards have felt that practices have improved and that they would never go back to previous systems" (on site lead trust F)
4. "One member of staff should take half an hour a day to promote good hand hygiene to others" (on site lead trust B)
5. "The campaign really just happened – there was not that many things that the wards had to do" (on site lead trust E)

6. "You do need a person on the ward who takes it forward – it doesn't matter who it is, but probably someone with influence" (on site lead trust I)
7. "The local champion must be a change agent, educator and enthusiast" (on site lead trust I)
8. "If I had to choose one thing it would be the alcohol – that is the enabler" (on site lead trust I)
9. "I came to the project with a healthy cynicism, but I'm now a complete convert... I've had a culture change – this needs to happen to all infection control teams" (on site lead trust F)
10. "I feel as though we are making a real difference here" (on site lead trust C)
11. "Professionally it feels good to know you are putting evidence into practice" (on site lead trust C)
12. "The whole campaign has raised the profile of hand hygiene at the highest level" (on site lead trust C)
13. "I see the campaign working properly in 10 years time, however I was surprised to see improvements in observations over the 6 months – I was telling people it would take much longer" (on site lead trust F)
14. The campaign has boosted morale" (on site lead trust C)
15. "Everyone is owning it and feels part of it" (on site lead trust C)
16. "I'm very satisfied. The medical staff have changed their practice, the campaign has spread and even the relatives use the gels" (on site lead trust I)
17. "The project has rolled itself out to other wards" (on site lead trust E)

Appendix 29 Observation of hand hygiene

Aim of the Tool/ What is the tool designed to achieve?

This tool has been developed to measure the frequency of hand hygiene amongst healthcare workers compared to an 'ideal' or expected level of hand hygiene. The 'ideal' or expected level should be that laid down in the trusts Hand Hygiene policy. The underlying principle is that in healthcare there are 'hand hygiene opportunities'.

The model used here has been taken from Jeanes (2002) and used extensively in University Hospitals Lewisham (UHL).

What is a hand hygiene opportunity?

These are episodes when hand hygiene should take place e.g. before doing a sterile procedure, after handling body substances, before and after patient contact. The observational tool compares hand hygiene opportunities with observed hand hygiene. Compliance can then be expressed as a percentage i.e.

$$\text{Compliance} = \frac{\text{Observed hand Hygiene}}{\text{Hand hygiene opportunities}} \times 100$$

Who should undertake observation?

Essentially any member of staff can perform the observations. For the evaluation of the toolkit it is important that a small number of staff (no more than 3) are responsible for the observations on each site. A decision may be made to train a number of staff on the pilot wards to undertake observations in order that they can be scheduled to occur across the whole day.

Recommended Actions

Instructions for observations:

1. Preliminary observational sessions should be undertaken to minimise the Hawthorne Effect. This will over time reduce the healthcare workers awareness of the presence of the observer.
2. Identify an area within your ward where you can comfortably observe staff.
3. Position yourself so that you do not cause an obstruction but can still see what is happening. It may feel strange and you might think that you are too noticeable. This is normal and the best thing is to just carry on.
4. Observe for 20-minute periods. It is important to stick to the 20 minute rule.
5. Using the observation sheet mark a '1' for a hand hygiene opportunity and a 'O' for an observation of hand hygiene actually taking place (i.e. O for Observation).
6. When you have completed 20 minutes observation, it is suggested that feedback is given to staff (the person in charge on the ward). A feedback form is included in the next section if it is thought that written feedback is appropriate. The decision on when to give feedback should be made by the Pilot Site Local Working Group & project lead. If verbal feedback is given, try to stress positive findings first and if you give negative feedback give examples and suggestions for improvement.
7. While you are observing you may identify issues which are barriers to hand hygiene e.g. no soap, obstructed sinks, no alcohol by the bed, alcohol not working, alcohol empty – include this in your feed back.
8. If you find activities, which are not identified on the chart – add them and let the local project lead know.

University Hospitals Lewisham Observation Sheet

Date: Time: Location: Observer:

	Nurses/Stn	Doctors	HCA's	Others
Low risk				
Touching sterile goods				
Making clean bed				
Contact with notes, telephone etc.				
Drugs round				
Other				
Medium risk				
Stripping a non-soiled bed				
Patient contact(hand shake)				
Cleaning beds, furniture				
Setting up O2, Nebulizers				
Observations (TPR & BP)				
Setting up IVI, giving Injections, IVs				
Removing gloves				
Bed bath, washing patients				
Other				
High risk				
Dealing with bodily secretions				
Bedpans, commodes				
Suctioning, tracheostomy care				
Infected wound dressings				
Phlebotomy, cannulation				
Other				

Hand hygiene observation tool – feed-back form

Date		
Time	From	Until
Ward		
Observer(s)		
Feedback given to:		
Number of staff observed		
Hand hygiene opportunities (number)		
Hand hygiene episodes		
Score (i.e. hand hygiene compliance)	Observed hand hygiene Hand hygiene opportunities	x 100 =
Score by staff group (if requested)	Staff group:	Score:
Score at last observation	Date	Score
Further action required:		
Comments:		

Appendix 30 Summary Observations

Over the period June 2003 to January 2004 six trusts took part in this program.

Table 7 provides summary statistics for the trusts. In total there were 373 observation periods, each of 20 minutes duration, equating to 124 hours of observation.

	Number of Observation Periods	Number of Hand washing Opportunities	Number of Opportunities per hour	Number of hand washes observed	Hand washing Compliance
Trust B	54	767	43	477	62%
Trust C	38	289	23	198	69%
Trust E	39	390	30	274	70%
Trust F	84	540	19	244	45%
Trust G	64	333	16	219	66%
Trust I	94	1,997	45	785	39%
Total	373	4,316	35	2,197	51%

Table 7: Summary Observations for each trust.

Table 8 gives a detailed summary for each trust of the number of periods when observations were carried out. This shows quite clearly that the observations were carried out in something of an ad hoc fashion. This together with the relatively small number of observation periods means that it is difficult for us to draw any meaningful statistical conclusions about handwashing compliance. However, in the context of the campaign as a whole this data will provide some insight as to the effectiveness of the campaign.

Observation periods									
	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Total
Trust B				20	6		28		54
Trust C						20	8	10	38
Trust E				20			19		39
Trust F	44				20		20		84
Trust G					36	19	4	5	64
Trust I	38	3		13	2	32	6		94
Total	82	3		53	64	71	85	15	373

Table 8: Observation periods.

Table 10 and table 14 show the detailed observation data for the trusts that took part. What stands out amongst this data is that with the exception of trust I, all trusts demonstrated an increase in the degree of hand washing compliance over the campaign period. Looking more closely at the compliance by risk category we see that the increasing trend in compliance is evident here too, trust I is again the exception. Both these conclusions need to be treated with a certain amount of care as in some instances there are only a small number of hand washing opportunities observed and as such we cannot make any statement regarding the quantification of the improvement in hand washing compliance over the campaign period. However, we can say that this data suggests that the campaign did encourage greater hand washing compliance. This conclusion is reinforced by Figure 19 which summarises hand washing compliance in total over the campaign period. It is important to note that the 2 trusts providing observation data during June 2003 (before the pilot commenced) ultimately have lower overall scores than the 4 trusts which only commenced recording after the pilot started.

Hand Washing Opportunities										
	Risk Category	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Total
Trust B	High				24	25		25		74
	Medium				105	42		230		377
	Low				102	31		183		316
	Trust B Total				231	98		438		767
Trust C	High						20	5	3	28
	Medium						112	32	31	175
	Low						51	17	18	86
	Trust C Total						183	54	52	289
Trust E	High				5			11		16
	Medium				142			123		265
	Low				66			43		109
	Trust E Total				213			177		390
Trust F	High	25				20		17		62
	Medium	90				109		102		301
	Low	76				44		57		178
	Trust F Total	191				173		169		540
Trust G	High					21	3	3	1	28
	Medium					69	38	13	7	127
	Low					118	44	11	5	178
	Trust G Total					208	85	27	13	333
Trust I	High	144	8		53	8	28	11		252
	Medium	398	21		235	44	221	33		952
	Low	332	11		147	29	257	17		793
	Trust I Total	874	40		435	81	506	61		1997
	Grand Total	1,065	40		879	560	774	926	65	4316

Table 10. Hand washing opportunities.

Observed Hand Washes										
	Risk Category	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Total
	High				16	18		20		54
Trust B	Medium				57	27		194		278
	Low				40	17		88		145
	Trust B Total				113	62		302		477
	High						14	4	3	21
Trust C	Medium						69	24	31	124
	Low						24	13	16	53
	Trust C Total						107	41	50	198
	High				3			8		11
Trust E	Medium				94			81		175
	Low				45			43		88
	Trust E Total				142			132		274
	High	12				12		10		34
Trust F	Medium	32				43		66		141
	Low	18				16		35		69
	Trust F Total	62				71		106		244
	High					20	3	3	1	27
Trust G	Medium					61	36	13	7	117
	Low					42	24	6	3	75
	Trust G Total					123	63	22	11	219
	High	31	0		46	8	26	11		122
Trust I	Medium	123	8		163	34	159	27		514
	Low	41	2		37	8	51	10		149
	Trust I Total	195	10		246	50	236	48		785
	Grand Total	257	10		501	306	406	651	61	2197

Table 12: Observed hand washes

Compliance										
	Risk Category	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Total
Trust B	High				67%	72%		80%		73%
	Medium				54%	64%		84%		74%
	Low				39%	55%		48%		46%
	Trust B Total				49%	63%		69%		62%
Trust C	High						70%	80%	100%	75%
	Medium						62%	75%	100%	71%
	Low						47%	76%	89%	62%
	Trust C Total						58%	76%	96%	69%
Trust E	High				60%			73%		69%
	Medium				66%			66%		66%
	Low				68%			100%		81%
	Trust E Total				67%			75%		70%
Trust F	High	48%				60%		56%		54%
	Medium	36%				39%		65%		47%
	Low	24%				36%		60%		38%
	Trust F Total	32%				41%		63%		45%
Trust G	High					95%	100%	100%	100%	96%
	Medium					88%	95%	100%	100%	92%
	Low					36%	55%	55%	60%	42%
	Trust G Total					59%	74%	81%	85%	66%
Trust I	High	22%	0%		87%	100%	93%	100%		48%
	Medium	31%	38%		69%	77%	72%	82%		54%
	Low	12%	18%		25%	28%	20%	59%		19%
	Trust I Total	22%	25%		57%	62%	47%	79%		39%
	Grand Total	24%	25%		57%	55%	52%	70%	94%	51%

Table 14: Hand washing compliance.

Appendix 31 Hand hygiene compliance

Hand hygiene and compliance according to risk category and observation period (the size of the symbol is proportional to the number of opportunities observed).

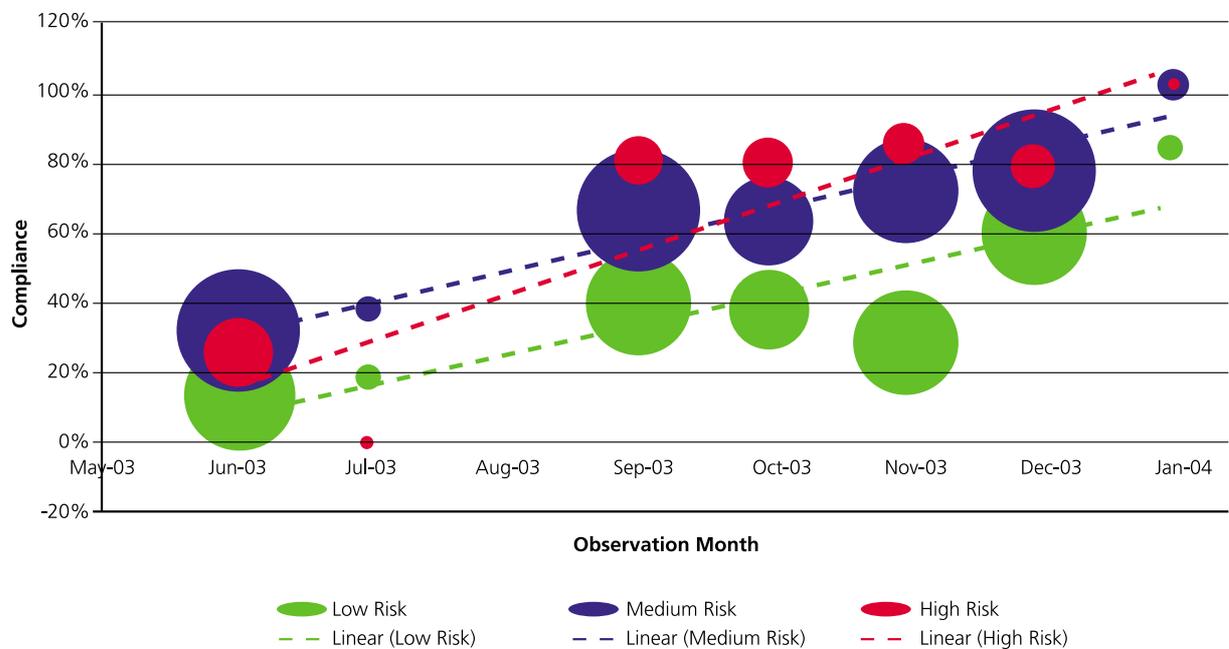


Figure 19: Hand Hygiene Compliance

Appendix 32 Product usage

Table 16 shows the results from the pre- and post-pilot study of alcohol usage. One of the wards in each of trust B and E experienced difficulties in the gel usage study and as such we have had to discard their data. This explains why the volume figures are so much smaller for these trusts.

All trusts that participated showed an increase in the amount of gel used.

		Pre-pilot			Post-pilot		Relative increase in gel usage
	Volume usage (ml)	Volume per day (ml)	Volume per patient per day (ml)	Volume usage (ml)	Volume per day (ml)	Volume per patient per day ¹ (ml)	
Trust B	505	36	1.33	686	49	1.82	136%
Trust C	3,484	249	8.43	8,608	615	20.85	247%
Trust E	792	57	1.89	2,523	180	6.01	319%
Trust F	2,302	164	4.29	4,216	301	7.87	184%
Trust G	2,764	197	5.45	5,917	423	11.99	220%
Trust I	1,194	85	3.23	5,228	373	13.26	411%
Total	11,041	789	3.81	27,177	1,941	9.18	241%

Table 16: Gel usage pre- and post-pilot.

The results from the gel usage study help to reinforce our earlier assertion that the campaign did improve hand hygiene amongst staff, specifically their use of the alcohol cleaners in this case.