

# “Now wash your hands!”

An investigation into the delivery of  
Infection Control in the NHS



**Paul Burstow MP**  
**Shadow Spokesman**  
**for Older People**

# Now wash your hands!

## An investigation into Infection control in the NHS

“If you’re in hospital and there is any chance you can get home, you should be campaigning tirelessly for your release”

Michael Foxtton, Junior Doctor<sup>1</sup>

“It may seem a strange principle to enunciate as the very first requirement in a Hospital is it should do the sick no harm”

Florence Nightingale

### 1 Introduction

- 1.1 In February 2000 the National Audit Office published a highly critical report on the control of infection in acute hospitals in England. The NAO found that healthcare acquired infections (HAIs) cause more than 5,000 deaths per year and cost the NHS £1 billion<sup>2</sup>.
- 1.2 One of the most serious infections is MRSA, because it is resistant to many strong antibiotics. MRSA is a particular strain of the infection Staphylococcus Aureus. The Public Health Laboratory Service collects voluntary statistics on both the non-resistant and resistant strains of this infection<sup>3</sup>.

Year	Reports of Staphylococcus Aureus	Number of reports of MRSA	Percentage of Staphylococcus Aureus infections resistant to Methicillin
1992	5049	104	2%
1993	5741	187	4%
1994	5960	407	9%
1995	6587	797	14%
1996	7795	1279	22%
1997	9378	2290	30%
1998	10222	2853	34%
1999	10824	3338	37%
2000	12103	4308	42%
2001	13084	4904	42%
2002 (1 <sup>st</sup> 6 months) <sup>4</sup>	5825	2563	44%

<sup>1</sup> *The Guardian*, November 28 2000.

<sup>2</sup> National Audit Office, *The Management and Control of Hospital-Acquired Infection in Acute NHS Trusts in England*, London: The Stationery Office, 2000, [www.nao.gov.uk/publications/nao\\_reports/9900230.pdf](http://www.nao.gov.uk/publications/nao_reports/9900230.pdf)

<sup>3</sup> Public Health Laboratory Service, *Staphylococcus Laboratory Reports*, [http://www.phls.org.uk/topics\\_az/staphylo/lab\\_data\\_staphyl.htm](http://www.phls.org.uk/topics_az/staphylo/lab_data_staphyl.htm).

<sup>4</sup> Public Health Laboratory Service, *voluntary and mandatory reporting of MRSA, 1<sup>st</sup> half of 2002*, <http://www.phls.co.uk/publications/cdr/pages/bacteraemia.html#MRSA1st>

**Rates of MRSA in 2001 are therefore nearly 50 times higher than in 1992. Also, the percentage of the bacteria that have become resistant to Methicillin has increased by 2000%.** This shows that the rise in this infection has all been down to the resistant strain. According to voluntarily reported statistics available for the first half of 2002, this trend shows no sign of abating with 2563 cases of MRSA. Indeed, if this trend is mimicked in the second half of the year, there will be a total of 5126 cases.

Previously, the Public Health Laboratory Service’s statistics on MRSA were collected voluntarily, so the totals were obviously conservative, but in 2001, the reporting of all SA and MRSA infections became mandatory. The new data now shows the full extent of the problem<sup>5</sup>.

**Where voluntary recordings for the first half of 2002 show 2563 cases of MRSA, the mandatory figure for the same six month period stands at 3515, and if that trend continues through the whole year, there will be 7030 cases of MRSA in 2002.**

In light of these appalling figures, the Government’s response to the crisis appears lunatic in its complacency.

- 1.3 In response to a critical National Audit Office report, the Government trumpeted a “clean-up drive” for hospitals in Autumn 2000. Its breathtaking naivety is outlined below.

Their spin campaign kicked off with a sum of £60 million to finance the clean up of NHS hospitals. Patient Environment Action Teams (PEAT) were formed to inspect wards. This body comprised of volunteers from within the NHS and some patient groups. Their responsibility was to grade the trusts as red (poor), yellow (acceptable) or green (excellent).

To do this, the teams would look at 19 categories, but **ONLY ONE PERTAINED TO HYGIENE.**

The other standards were made up of such arbitrary subjects as the appearance of linen and décor, the tidy state of public areas, even CCTV in car parks, and easy to read signage.

We now have a situation where MRSA can spread almost unchecked and the taxpayers’ £60 million has been spent on making hospitals look pretty.

- 1.4 This report looks into the reasons why MRSA is such a huge problem to the NHS, patients and Government. The findings are based on a survey which Paul Burstow MP sent out to all NHS hospitals. In the course of conducting his research, he was sent a copy of an email sent by Department of Health Press Office to all Trust press officers presenting the “line to be taken”. This is detailed on page 9.

## 2 Healthcare Acquired Infections

- 2.1 Hospital or healthcare acquired infections are just that... infections acquired in hospital, or in a healthcare setting. Because patients in hospital are already ill, they

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<sup>5</sup> Public Health Laboratory Service, voluntary and mandatory reporting of MRSA, 1<sup>st</sup> half of 2002, <http://www.phls.co.uk/publications/cdr/pages/bacteraemia.html#MRSA1st>

are more vulnerable to infections, and infections can affect them more severely than healthy people. Infections are mainly picked up through wounds or invasive procedures, such as catheters.

One of the most common infections is Staphylococcus Aureus. This is carried harmlessly in the nose and on the skin of about 10% of the population. However, it can sometimes cause illness, particularly in hospital patients. The most common problem is wound infections. Symptoms can range from relatively mild skin disease to serious and sometimes fatal blood poisoning or osteomyelitis (bone infection).

2.2 The Public Health Laboratory Service (PHLS) monitors infection rates, these are described in more detail in Section 4 below. What the PHLS data show is an increase in the number of reported staphylococcus aureus infections, and in the strain of that infection known as MRSA. Because of advances in medicine patients live longer even if very ill, but these patients are more susceptible to infections. Serious infections mostly occur in severely ill hospital patients, who are more vulnerable, or in those whose surgery has been contaminated.

2.3 Key healthcare acquired infection facts and figures

- Patients who get an HAI stay in hospital on average 2.9 times longer than non-HAI patients. This is equivalent to an extra 14 days per HAI patient.<sup>6</sup>
- A patient with HAI costs almost £3,000 more to treat<sup>7</sup>
- Between 6% and 8% of patients acquire an infection during their stay in hospital<sup>8</sup>
- At any one time 9 in every 100 patients is likely to have a hospital acquired infection<sup>9</sup>
- Between 10<sup>10</sup> and 13% of patients with a HAI died compared with 2% of non-HAI patients during their hospital stay and
- After taking into account factors such as age, diagnosis etc, a HAI patient is 7.1 times more likely to die in hospital than an uninfected patient<sup>11</sup>.

### 3. The Survey Results

3.1 The survey revealed a shocking lack of resources for infection control teams.

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<sup>6</sup> Plowman R, Graves N, Griffen M *et al* (1999), The Socio-economic Burden of Hospital Acquired Infections, PHLS, p.3.

<sup>7</sup> Plowman *et al* (1999), PHLS, London.

<sup>8</sup> The 6% figure is from Glenister HM, Taylor LJ, Cooke EM *et al* (1992) A Study of Surveillance methods for detecting hospital infection, PHLS, London. The 8% is from Plowman *et al* (1999) PHLS, London.

<sup>9</sup> Emmerson AM, Enstone JE, Griffen M *et al* (1996) The second national prevalence survey of infection in hospitals – overview of the results.

<sup>10</sup> The 10% figure comes from Haley RW (1986) *Managing hospital infection control for cost effectiveness. A strategy for reducing infectious complications*. American Hospital Publishing, Chicago. The 13% comes from Plowman *et al* (1999), PHLS, p.8.

<sup>11</sup> Plowman *et al* (1999), PHLS, p.8.

- 61% of respondents felt they did not have adequate resources to carry out their role effectively – “*we are severely under-resourced*”, and two thirds of those who felt this way explained that lack of staff was a major problem.
- 59% did not have a separate ring-fenced budget within their NHS trust for infection control, which would mean it would be difficult to stop money being spent on other priorities.
- Many highlighted the need for more administrative support in order to provide valid information on infection rates.

3.2 There were also alarmingly low ratios of infection control staff to beds. In February 2000, the National Audit Office found an average of one nurse for every 535 beds, and concluded that this was unacceptable. Many infection control teams responding to our survey had much lower ratios than this, although there was a whole-time-equivalent average of 0.3 doctors and one nurse per 100 beds. One hospital was coping with one manager, three nurses and a secretary trying to cover 1,200 beds.

3.3 The survey also tried to find out whether infection control teams are integrated with the rest of the hospital management. For example, were they involved in decision-making in the awarding of new contracts, in catering or cleaning, or in hospital construction or maintenance, or even in the purchasing of equipment?

3.4 Many infection control teams surveyed responded that they had not been consulted on hospital contracts.

- 25% of infection control teams were not consulted on previous cleaning and/or catering contracts.
- 7% felt they would not be consulted on future contracts.
- Over half (52%) of infection control teams were not always consulted on major construction or maintenance work or equipment purchases. Many respondents felt frustrated at this lack of consultation:

“Some do not want infection control involved”.

“A major construction project bypassed us”.

**“The team has never been consulted and it is difficult to play an active role in this trust”.**

Some admitted that they had only been consulted “*after the event!*”:

“We are not automatically thought of. There are very often occasions where our advice is sought once the project has been completed”.

3.5 It is essential that infection control teams be involved in the training of catering and cleaning staff, particularly with private contract staff. The survey showed that 3 in 10 infection control teams did not take part in the induction training of catering and/or cleaning staff in their trust. One respondent explained “*We used to before PFI, although we have offered several times*”.

- 3.6 Hands are considered to play a big role in the spread of infection between patients<sup>12</sup>. Government guidelines recommend that staff wash their hands after every episode of patient contact. Paul Burstow MP asked a parliamentary question to see what assessment the Government had made of compliance with these guidelines. Health Minister John Hutton replied that this is “audited by infection control teams”<sup>13</sup>. The survey therefore asked infection control teams to categorise their level of satisfaction with their staff’s compliance with this code.

**Almost a third of respondents were either “quite” or “very” unsatisfied that staff were washing their hands as often as was recommended.** 18% were “quite unsatisfied” and 14% were “very unsatisfied”. There was some evidence that nurses were better than doctors at washing their hands “*the doctors are poor*”, and it seems that staff are aware of the regulations, but do not always follow the rules, possibly due to work pressures (“*chronic staff shortages exacerbates [this problem]*”):

“The nurses try hard but the doctors do not seem to understand the necessity of hand washing”

**“Regular handwashing audits around the hospital show that all professions do not decontaminate their hands nearly enough”**

“They all know they should do this, but in practice they don’t. They do when I’m around”.

- 3.7 Another major factor in infection control is the cleanliness of staff uniforms. **6 out of 10 trusts responding to the survey admitted that their staff wore uniforms to and from work, thus increasing the risk of infection.** The reasons cited were a lack of laundry and changing facilities and not enough uniforms.

**“Due to a lack of changing rooms in the trust, staff have to come in in their uniforms. The ICT [infection control team] would rather staff did not wear them off-site”.**

“Unfortunately, they do, but they know this procedure is not sanctioned by the trust”.

Some teams were trying to make the best of a bad situation by introducing protocols, such as staff should “*never wear uniforms on public transport or in shops*”, but these are by necessity not failsafe measures, and cannot be fully enforced.

- 3.8 Some areas of infection control are rather more difficult to measure, for example the frequency with which equipment should be cleaned (in guidelines it is after every episode of patient contact) and whether or not proper separation of infected patients is possible in hospitals. There was, however, some anecdotal evidence from the survey that there were problems in this area:

“Due to pressure on beds, it is sometimes necessary to cohort patients”

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<sup>12</sup> Reybrouck, G. (1983) Role of the hands in the spread of nosocomial infections.

<sup>13</sup> House of Commons Official Report, 16 August 2002. Unfortunately this answer will not be published in Hansard until after summer recess, 15 October 2002.

**“Like most trusts, we do not have enough isolation rooms for all infected patients of all kinds, and even if we did, we probably would not have enough nurses to staff them”.**

“To police this [equipment cleaning] I would have to split myself into 20 pieces”

“[Equipment is cleaned] always, sometimes or never, depending on the ward”

## 4. MRSA in the National Health Service

4.1 The Public Health Laboratory Service collects voluntary statistics on the Staphylococcus isolates which are found to be resistant to Methicillin (i.e. incidences of MRSA) in England<sup>14</sup>. Hospitals voluntarily send in information on any staphylococcus aureus infection, and indicate which are resistant to Methicillin. Because this is a voluntary collection, the numbers are a conservative estimate of the real numbers of patients affected. Mandatory data collection has just begun, and this report examines it in more detail in paragraph 4.3.

Year	Reports of Staphylococcus Aureus	Number of reports of MRSA	Percentage of Staphylococcus Aureus infections resistant to Methicillin
1992	5049	104	2%
1993	5741	187	4%
1994	5960	407	9%
1995	6587	797	14%
1996	7795	1279	22%
1997	9378	2290	30%
1998	10222	2853	34%
1999	10824	3338	37%
2000	12103	4308	42%
2001	13084	4904	42%
2002 (1 <sup>st</sup> 6 months)	5825	2563	44%

4.2 This table shows that there are 8305 more reports of this particular infection (staphylococcus aureus) since 1992, an increase of 159%. There has also been a huge increase in the type of this bacteria which is resistant to strong antibiotics (MRSA). **Rates of MRSA in 2001 are therefore nearly 50 times higher than in 1992. Also, the percentage of the bacteria that are resistant to Methicillin has increased by 2000%.** This shows that the rise in this infection has all been down to the resistant strain, whereas the non-resistant strain has not increased. The provisional statistics for 2002 show only the first half of the year, but if the trend continues there would be 5126 cases of MRSA in 2002, 44% of the total number of infections. This shows that the rise in resistant infections continues unabated.

<sup>14</sup> Public Health Laboratory Service, Staphylococcus Laboratory Reports, [http://www.phls.org.uk/topics\\_az/staphylo/lab\\_data\\_staphyl.htm](http://www.phls.org.uk/topics_az/staphylo/lab_data_staphyl.htm).

- 4.3 The first comparable mandatory statistics, which have also been published for the first half of 2002 show that when information is collected voluntary, the data provides a very conservative estimate<sup>15</sup>. Under the mandatory scheme, the projections for the first half of 2002 make for very interesting reading. According to the Mandatory data, there were 8572 cases of staphylococcus aureus in the first half of 2002. The scheme reports that 41% of these were MRSA, which comes to 3515 cases of MRSA in the first six months of 2002. If that trend continues, that would be 7030 cases of MRSA in 2002. Under the voluntary scheme, for the same period, there would be 5126 cases, showing the huge difference between the amount of reports collected under the voluntary and mandatory schemes. This appears to prove that the real size of the problem has been hidden up until now.
- 4.4 There are further fears because of recent Government announcements that the system for observing MRSA rates and collecting and publishing information on infections is being dismantled. The Public Health Laboratory service is going to be subsumed into a bigger “Health Protection Agency”, but the microbiology services (that monitor infection rates) will be transferred to local NHS trusts. The Public Health Laboratory Service has expressed deep reservations about the public health implications of these proposals. The concerns include how quickly outbreaks are spotted and reported, and there are worries that the whole process is happening too quickly.

## 5. Lack of information

- 5.1 There is relatively little information available about the spread of hospital acquired infection. In response to many parliamentary questions tabled by Paul Burstow MP, the Department of Health has explained that:

“There are no centrally held statistics on deaths caused by healthcare acquired infections (HAI), including Methicillin resistant Staphylococcus aureas (MRSA)... Costs of activity to prevent HAI are impossible to assess”<sup>16</sup>

In March 2002, Lord Lester of Herne Hill asked what information was available on the “*standards of cleanliness observed in practice in National Health Service hospitals during the past five years; and, if so, whether they will publish those data*”. Lord Hunt replied:

“The information requested is not available”<sup>17</sup>

## 6. Standards and Inspections

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<sup>15</sup> Public Health Laboratory Service, voluntary and mandatory reporting of MRSA, 1<sup>st</sup> half of 2002, <http://www.phls.co.uk/publications/cdr/pages/bacteraemia.html#MRSA1st>

<sup>16</sup> Yvette Cooper, House of Commons *Official Report*, 10 May 2002, column reference 403W.

<sup>17</sup> Lord Hunt of King’s Heath, House of Lords *Official Report*, 1 March 2002, column reference WA 261.

6.1 In autumn 2000, all NHS Trusts were inspected by Patient Environment Action Teams (PEAT), made up of volunteers both from within the NHS and from patient groups. This was heralded as an inspection of hospital “cleanliness” after a media furore over healthcare acquired infections. It was called the “Clean Hospitals Programme”<sup>18</sup>.

6.2 The trusts were graded on a “traffic light” system of red (poor), yellow (acceptable) and green (excellent). The results of the inspections were not published, but were leaked to *The Times* in January 2001. 253 hospitals were in the red category, prompting the headline “One in Three Hospital Wards ‘Filthy’”. The inspections were repeated in spring and autumn 2001, with only 42 red hospitals in the spring, and none in the autumn. This was heralded by the Department of Health as a “huge improvement”. When the autumn results were published in October last year, Alan Milburn said

“The cleaning campaign in England’s hospitals is working. In April I announced national standards for hospital cleaning and that by Autumn no hospital would have poor standards of cleanliness. We have got there”<sup>19</sup>.

6.3 On closer inspection of the standards, however, it is clear that they are not just standards for cleanliness. The 19 categories include many things that bear no relation to infection control. This includes the appearance of linen and décor, as well as the tidy state of public areas, C.C.T.V. in car parks, easy-to-read signage and smells. In fact, only one standard out of 19 is directly related to cleanliness. Each element is scored from 1 to 4, and although cleanliness of wards is weighted more than some other areas, so are the tidiness and decoration of wards and the condition of ward furniture<sup>20</sup>. This means that a hospital that scored 1 on cleanliness but scored highly in other areas could be rated highly. It is therefore possible for a hospital to come out as green, or excellent, because it is well decorated and there are clear signposts, even if it got a low score on cleanliness.

6.4 The advice given to the inspection teams is:

“The inspection is not a technical review – it should be undertaken from the patients’ and visitors’ perspective. It is useful to imagine that you are using the hospital as a patient or visitor – bear in mind that patients are not well”<sup>21</sup>

**It is obviously appropriate that hospitals should provide a nice, safe environment for patients, inspected as from their point of view, but for this to be spun as standards of “cleanliness” is misleading. The traffic light system seems to have been more about public relations than infection control. The one standard for cleanliness (number 19) is made up of the percentage score for national cleanliness standards, which is based on a self-assessment, audited by the**

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<sup>18</sup> Lord Hunt of King’s Heath, House of Lords *Official Report*, 1 March 2002, column reference WA 261.

<sup>19</sup> Department of Health press release reference 2001/0505, 31<sup>st</sup> October 2001.

<sup>20</sup> House of Commons Official Report, 30 July 2002. This answer will not be published in Hansard until after the summer recess, 15 October 2002.

<sup>21</sup> Advice to PEAT inspection teams, [www.cleanhospitals.com](http://www.cleanhospitals.com).

hospital themselves, not an external team. Another serious concern is that the funding for the “clean-up drive” was in two single allocations of £30 million, with no announcement of any further, sustained or long-term funding. This means that although there may have been some improvements in the short-term, there is no sustained investment to improve cleanliness in hospitals.

## 7. The Spin Cycle

- 7.1 In the course of conducting research for this report, Paul Burstow MP was sent a copy of an email sent by the Department of Health press office to the press officers of all NHS trusts, concerning his survey.

From: XXXX  
Sent: 07 June 2002 15:29

Subject: Request from Paul Burstow (sic), MP to acute hospital Trusts to complete an infection control survey

Dear Colleagues

You may wish to be aware that the following is the Department of Health's "**line to take**" for our press office to respond to enquiries about completing this questionnaire survey. I would be grateful if you could let me know if you are dealing with any inquiries from your professional colleagues, my telephone number is 0207 972 1XXX.  
XXXX

A Health Service Circular which set out a programme of action for the NHS on the management and control of Hospital Infection was sent to all hospitals in England in February 2000. A revised "infection control" controls assurance standard, issued in October 2001 and national standards of cleanliness for the NHS, issued in April 2001, together cover many of the questions in Paul Burstow's survey. In addition, both the Patient Environment Action Team team visits and the Commission for Health Improvement regular review visits assess hospitals against both standards and publish their reports.

The Department is mindful that the NHS should not be overburdened by responding to requests for information from a variety of sources and the publication of the above reports already provide the type of information requested in this survey.

We understand also that the National Audit Office will shortly be undertaking a follow-up study to their report on the Management and Control of Hospital Acquired Infection in Acute NHS Trusts and that they report will be published in 2003.

- 7.2 **It is clear that the Department of Health were very keen to avoid hospital staff responding to this survey.** The standards they mention cover the subjects referred to in the survey but do not assess compliance with the standards. As this report has already demonstrated the PEAT visits do not only assess cleanliness, and are not therefore a reliable guide. It is clear that the Ministers were keen to prevent a Member of Parliament from pursuing legitimate lines of enquiry which could not be cleared up through parliamentary questions.

## 8. Summary and recommendations

### Overview

- 8.1 **Over the last nine years the Public Health Laboratory Service has recorded a 50-fold increase in the number of cases of MRSA infection.** These figures are

based on a voluntary surveillance scheme and probably understate the true level of infection.

- 8.2 Despite the best endeavours of infection control teams the results of the survey reveal that far too many of the people in the front line feel beleaguered by the scale of the task. Infection control teams are often poorly resourced and marginalised within their Trust.

The main findings of the survey were that:

- Alarming, over 60% of respondents felt they did not have adequate resources to carry out their role effectively
  - A third of respondents were “quite” or “very” unsatisfied with the number of times staff were washing their hands. Hand hygiene is one of the most important factors in infection control.
  - More than 6 out of 10 trusts admitted that their staff wore uniforms to and from work, thus increasing the risk of infection.
  - There was a whole-time-equivalent average of 0.3 doctors and 1 nurse for every 100 beds.
  - Over half of infection control teams were not always consulted on major construction or maintenance work or equipment purchases, despite guidelines and protocols emphasising the importance of consulting these teams.
- 8.3 The Department of Health was so keen to prevent outside scrutiny of the issues covered in this report that it issued by e-mail to all NHS Trusts a ‘line to take’. The Department’s line simply restated what guidance and standards had been sent out over the last two years, Trusts were discouraged from providing information about what Trusts have been doing in response, the very information Ministers say they do not have!

## Recommendations

- 8.4 **Infection control must remain high on the Government’s agenda. There must be a sustained effort to maintain cleanliness standards, not just a one-off, gimmicky “clean-up drive”.**
- 8.5 Staff shortages lead to low morale and overworked doctors and nurses. This leads to infection control policies being, of necessity, ignored. Staff shortages must be tackled as a matter of urgency. This is not just about recruiting new staff, but retaining old staff with better pay and more flexible working conditions.
- 8.6 Proper changing facilities and enough uniforms should be provided so that staff do not have to wear uniforms out of the hospital. Strict protocols should be introduced to enforce this.
- 8.7 Infection control teams must be given the resources and the authority to undertake their jobs effectively. One doctor or nurse for over a thousand beds is just impractical.

- 8.8 There should be an independent, scientific inspection of hospital cleanliness and infection control, perhaps by the new Commission for Healthcare Audit and Inspection (as long as it is truly independent) giving a national picture of the cleanliness of England’s hospitals, so that patients can be sure that everything that can be done is being done to keep hospitals clean, and to control the spread of healthcare acquired infections.
- 8.9 The problem must be tackled at its source. The growth of antibiotic resistant infections is partly due to our overuse of antibiotics. There should be a visible and sustained campaign to educate GPs and the public against the overuse or inappropriate use of antibiotics. There should be strict regulations against the overuse of antibiotics in agriculture.

## 9. Survey method

### Overview

- 2.10 Between June and July 2002, Paul Burstow MP undertook an anonymous postal survey of Infection Control Teams in NHS Hospital Trusts to assess progress in implementing the Government’s guidance on infection control.

### Methodology

- 9.2 A one-page postal survey was sent, with a covering letter in May 2002 to the Infection Control Teams of 212 NHS Hospital Trusts in England. The options of returning the survey by fax or requesting an electronic version for return by e-mail were also available.
- 9.3 The responses were collated in a database and the results analysed using an Excel spreadsheet. In some instances the figures may add up to more or less than 100%. This is due to rounding up or down to the nearest percentage.

### Results

- 9.4 Responses were received during June and July from 69 Trusts with 56 responding fully, giving a response rate of 26%. As described elsewhere in this report while a 1 in 4 response is sufficient to give a significant result it has been depressed by the deliberate action of the Department of Health to discourage NHS staff responding to the survey.