

# Infection Control Annual Report 2008/09



**Together** we can fight infection

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### Executive summary

Tackling infections is a key priority for Cambridge University Hospitals NHS Foundation Trust and our goal is that not a single preventable infection is allowed to occur. We have developed a core set of values - that is to be **kind, safe and excellent** - and use these as our guiding principles in everything we do.

Control of infection has always been taken very seriously in the Trust and a programme of activities to embrace the new national initiatives and to reduce infection rates has been developed and implemented.

In 2008 the Trust was awarded the prestigious prize - Acute Organisation of the Year - in the annual Health Service Journal Awards. Judges were impressed by the recent big fall in methicillin-resistant *Staphylococcus aureus* (MRSA) infections.

This report outlines the activities of the Trust relating to infection control for the year April 2008 to March 2009. As in previous years, it is presented to explain how the Trust has arrangements to allow the early identification of patients in hospital with infections and takes measures to reduce the spread of infections to others. It also reviews accountability arrangements, policies and procedures relating to infection control, audit, surveillance and education.

The report shows how the Trust has achieved its target reductions in both MRSA blood stream infection and *Clostridium difficile* infection for the second consecutive year. It also gives audit results for standards set out in the Department of Health programme *Saving Lives: a delivery programme to reduce Healthcare Associated Infection including MRSA*. Outbreaks and incidents relating to infection in the Trust are recorded.

During the year the Trust arrangements for the control of infection were subject to external review by a team from the Strategic Health Authority and Department of Health. The Healthcare Commission also assessed compliance with key elements of the *Code of Practice* at the time of an unannounced visit.

Other key points from this annual report are:

- The number of MRSA blood stream infections in the Trust in the year 2008/09 was 29, compared to 41 in 2007/08, a reduction of 29%.
- The target for MRSA blood stream infections agreed with Cambridgeshire PCT was 33 for the year 2008/09. This was calculated as a 20% reduction from 2007/08. The Trust total of 29 cases was under this target.
- The number of cases of *Clostridium difficile* infection in the Trust in 2008/09 was 26% lower than in 2007/08. This exceeded the local target of a 25% reduction agreed with Cambridgeshire PCT.

### Structure

The Chief Executive has overall responsibility for the control of infection within Cambridge University Hospitals NHS Foundation Trust. Dr Jag Ahluwalia, Medical Director, is the Trust designated Director of Infection Prevention and Control (DIPC). He reports directly to the Chief Executive. In addition, Dr Basil Matta acts as Associate Medical Director with responsibility for infection control and Professor Martin Bobrow is Non-Executive Director with oversight of infection control. Infection control is discussed at every Executive Board meeting and at the Board of Directors and Board of Governors.

Each service delivery unit (SDU) within the Trust has a designated medical consultant lead and senior clinical nurse lead for infection control, with clear roles and responsibilities relating to infection control. Infection control is a standing agenda item at clinical governance meetings. It is also included in staff induction, annual mandatory training and appraisal. Each Directorate has dedicated infection control groups to facilitate the implementation of infection control initiatives.

The Trust Control of Infection Committee is chaired by Professor Andrew Lever, Consultant in Infectious Diseases. The Committee meets six times each year and has wide representation throughout the Trust. The Control of Infection Committee reports to the Trust Corporate and Clinical Governance Committee. Minutes of the Control of Infection Committee are circulated widely.

The Infection Control Team (ICT) is led by Cheryl Trundle, Senior Nurse Infection Control, and comprises 5 w.t.e. Infection Control Nurses (ICN), a 1 w.t.e. Performance Information Analyst, a 0.54 w.t.e. Audit and Surveillance Nurse, 2 w.t.e. Surgical Site Surveillance nurses and 0.4 w.t.e secretarial support. Consultant medical microbiology support is provided by Dr Nick Brown (also the Infection Control Doctor (ICD)), Dr Jumoke Sule (as deputy ICD) and Dr Mark Farrington (also acts as deputy ICD, with particular responsibility for operating theatres). Specialist support is provided by the other consultant microbiologists and virologists as required.

### Resources

The ICT has a dedicated budget, with Cheryl Trundle as budget holder accountable to the Chief Nurse through the Assistant Director of Nursing (Angela Thompson). Funding for six sessions of consultant microbiologist time for the ICD role is identified in the contract between the Trust and the Health Protection Agency (HPA).

Microbiology services to the Trust are provided by the HPA. The Clinical Microbiology and Public Health Laboratory at Addenbrooke's Hospital is designated as the HPA Regional Microbiology laboratory for the East of England. The laboratory is Clinical Pathology Accreditation (CPA) accredited and had its' last external assessment in March 2008. A 24 h technical and clinical service is provided. Staff within the department have a close working relationship with the ICT. As a result of the HPA status, many also have a wider regional and national role relating to infection control.

Facilities for the segregation of patients with potentially transmissible infections within the Trust are good in comparison with neighbouring Trusts. However, individual side rooms on wards are always full and there are competing demands for isolation of patients. As a result, all new patient facilities in the Trust are

designed to increase the proportion of single rooms. Approximately a quarter of the total beds in the Trust are provided as single side rooms, although less than half of these have en suite toilet and bathroom facilities. In addition, there is a dedicated infectious diseases unit (ward D10), which has 11 negative-pressure isolation rooms, one of which is a designated medium secure isolation facility. An additional 11 negative-pressure rooms are available on the critical care units and ward C9.

Since January 2009 a new 22 bed unit (ward N2) has been available for appropriate isolation of patients with diarrhoea, including those with *Clostridium difficile* infection. This ward is comprised of single rooms with en suite facilities.

## Policies and procedures

The Trust has a generic plan for the management of an outbreak of communicable disease, which is included within the response to a major incident. It also has a pandemic flu plan and a plan for the prevention of hospital acquired legionella infection.

The ICT has a programme for revision of core infection control policies every two years. The policies are accessible on the Trust Intranet site.

Policy	Review	Status
Management of multi-drug resistant <i>Acinetobacter baumannii</i> (MRAB)	01-02-2011	Approved
Aseptic Non-Touch Technique (ANTT) for the Administration of Intravascular Drugs and Fluids	01-01-2010	Approved
Aseptic Procedures & Use of Treatment Rooms		Under review
Assessment of potential norovirus outbreaks: Checklist	01-06-2010	Approved
Blood and Body Substances Precautions and Procedures for Patients Known or Suspected of Being in the Infection Risk from Blood Category		Under review
Care of Infected Bodies on General Wards	01-06-2010	Approved
Care of Patient with Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) pathway	01-09-2009	Approved
Care of Patients with Known or Suspected Creutzfeld-Jacob Disease (CJD) or Variant Creutzfeld-Jacob Disease (VCJD)	01-06-2010	Approved
Chickenpox and Zoster (Shingles) cases occurring in hospital	01-06-2010	Approved
Cleaning and Disinfection	01-01-2009	Approved
<i>Clostridium difficile</i> infection patient management	01-06-2010	Approved
<i>Clostridium difficile</i> infection treatment	01-06-2010	Approved
Decontamination of electronic patient identification and blood tracking equipment	01-05-2009	Approved
Decontamination of Equipment Fixtures and Fitting Prior to the Decommissioning or Vacating of Wards Guidelines	01-06-2010	Approved
Disinfectants and Antiseptics	01-06-2010	Approved
Dressing Changes for Non Tunneled Central Venous Catheters	01-04-2009	Approved
Dressing Changes for Peripherally Inserted Central Venous Catheters	01-04-2009	Approved

Dressing Changes for Tunneled Central Venous Catheters	01-04-2009	Approved
Gastro-Enteritis Outbreaks on Hospital Wards	01-07-2009	Approved
Glycopeptide-Resistant Enterococci (GRE)-Management of Patients	01-08-2009	Approved
Hand Hygiene	01-09-2010	Approved
Hand hygiene guide	01-01-2009	Approved
Care of the patient with a urinary catheter	01-02-2011	Approved
Infection Control and Management Guidelines for Patients with Mycobacterium tuberculosis (TB)	01-09-2008	Approved
Infectious Diseases: Ward N2 and D10 operational policy	01-01-2011	Approved
Isolation Policy	01-01-2010	Approved
Lancefield Group A Streptococci: Care of Patients and Staff Infected or Colonised	01-06-2010	Approved
Management Of Sharps Injury and Other Exposures to Blood, Including Guidance for Use of Post-Exposure Prophylaxis Against Blood-Borne Viruses	01-11-2010	Approved
MRSA Management	01-03-2011	Approved
Packaging, labelling and transport of specimens within the Trust	01-02-2011	Approved
Personal Protective Equipment	01-06-2010	Approved
Prevention of Infection Associated with Enteral Feeding	01-11-2009	Approved
RAID (Required, Appropriate, Infected, Dressed) assessment tool	01-05-2010	Approved
Safe Disposal of Sharp Objects	01-03-2011	Approved
Safe Handling of Food for Ward Kitchens	01-07-2009	Approved
Splenectomy: Prevention of sepsis after splenectomy	01-01-2011	Approved
Strategy for the Management of Risk Associated with Infection Prevention and Control	01-06-2010	Approved
Venepuncture policy	01-06-2010	Approved
Viral haemorrhagic fevers (VHF): management of patients with suspected VHF	01-01-2011	Approved

### **Hand hygiene and *Saving Lives: delivery programme to reduce healthcare associated infection***

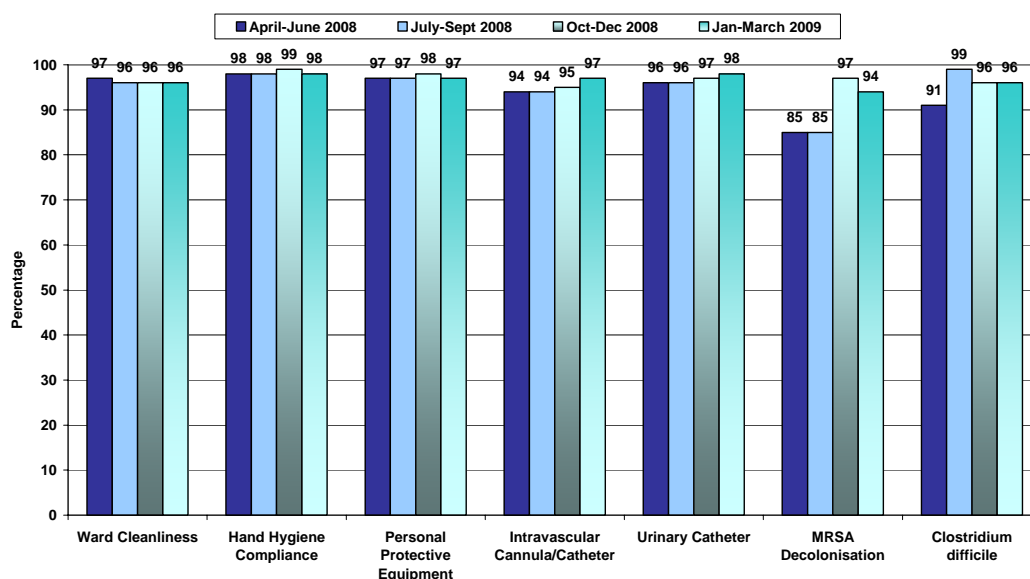
The Trust has a programme of audit relating to the evidence-based practical high impact interventions in the Department of Health *Saving Lives: a delivery programme to reduce healthcare associated infection including MRSA*. The following 'Saving Lives' audits were undertaken throughout the Trust during 2008/09:

- Hand hygiene compliance
- Personal protective equipment
- Care of the patient with an intravascular cannula/catheter
- Care of the patient with a urinary catheter
- MRSA decolonisation
- *Clostridium difficile*

Every clinical area is monitored against these standards using a standard audit tool and results are presented to the Executive Board for review and as feedback to individual clinical areas. Figure 1 shows the overall compliance with the standards over the four quarters of 2008/09.

Areas that require further attention mainly relate to documentation, while compliance with standards relating to procedures is good. These issues have been taken forward in the Trust and with individual directorates.

**Figure 1** Trust-wide Saving Lives Audit Results April 2008 – March 2009



The hand hygiene compliance standard looks at opportunities for hand hygiene and whether these were taken and is measured by direct observation on the wards (Figure 2). The number of observations included in the audit has increased significantly over the year. Hand hygiene compliance is monitored formally on a monthly basis and informally weekly. Results have also been broken down by staff group and directorate. These results are fed back to individual clinical areas.

**Table 1** Number of hand hygiene opportunities audited (n) for each healthcare category and compliance (Compl). (Abbreviation: HCA = healthcare assistant)

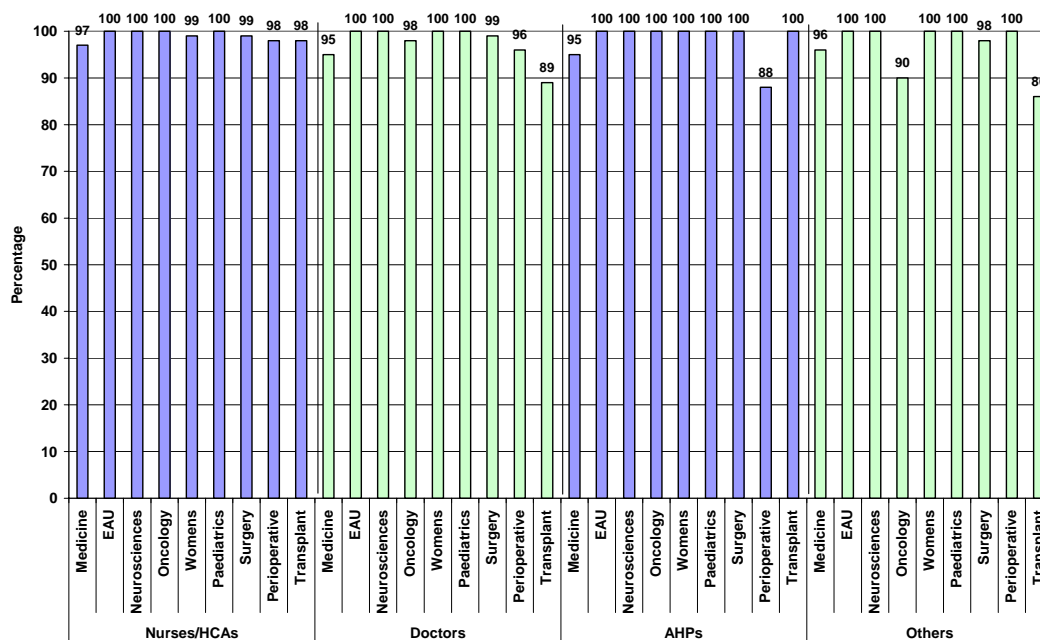
	Nurses/HCAs		Allied Health Professionals		Doctors		Others		TRUST total	
	n	Compl	n	Compl	n	Compl	N	Compl	n	Compl
Jun-08	2,031	2,001	286	280	468	448	409	394	3,194	3,123
Sep-08	1,977	1,945	262	258	490	474	456	439	3,185	3,116
Dec-08	1,950	1,931	258	254	496	485	384	376	3,088	3,046
Mar-09	2,101	2,074	272	263	585	571	465	452	3,423	3,360
<b>TOTAL</b>	<b>8,059</b>	<b>7,951</b>	<b>1,078</b>	<b>1,055</b>	<b>2,039</b>	<b>1,978</b>	<b>1,714</b>	<b>1,661</b>	<b>12,890</b>	<b>12,645</b>

All staff groups scoring less than 95% in the January-March 2009 quarterly audit have since scored 100% in the monthly hand hygiene audit for April 2009.

Senior Clinical Nurses are responsible for ensuring that weekly hand hygiene observation audits are undertaken in addition to the monthly auditing which is reported Trust-wide.

Staff found to be non-compliant with hand hygiene are challenged. These staff have been followed up by their line managers in accordance with the Trust's hand hygiene performance management process.

**Figure 2** Hand Hygiene Compliance by Staff Group and Directorate January-March 2009



**Table 2** Hand hygiene percentage compliance by quarter 2008/09

	Nurses/HCAs				Doctors				Allied Health Professionals				Others			
	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar
Medicine	98	97	98	97	89	98	98	95	98	96	100	95	97	93	95	96
Emergency	99	98	100	100	100	97	100	100	100	100	100	100	96	97	100	100
Neurosciences	100	99	98	100	100	64	100	100	100	100	100	100	100	97	100	100
Oncology	100	99	100	100	100	100	94	98	100	100	100	100	100	100	95	90
Women's	100	100	100	99	98	99	100	100	100	100	91	100	97	98	100	100
Paediatrics	99	98	100	100	100	100	95	100	96	100	100	100	100	100	100	100
Surgery	100	99	100	99	98	97	100	99	100	100	100	100	97	98	100	98
Perioperative	96	99	99	98	91	97	96	96	93	100	100	88	97	95	100	100
Transplant	99	96	95	98	94	75	86	89	100	80	83	100	56	100	100	86
<b>TRUST</b>	<b>99</b>	<b>98</b>	<b>99</b>	<b>99</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>98</b>	<b>98</b>	<b>98</b>	<b>98</b>	<b>97</b>	<b>96</b>	<b>96</b>	<b>98</b>	<b>97</b>

Within the 'Care of the Patient with an Intravascular Cannula/Catheter' audit tool the following questions were analysed further:

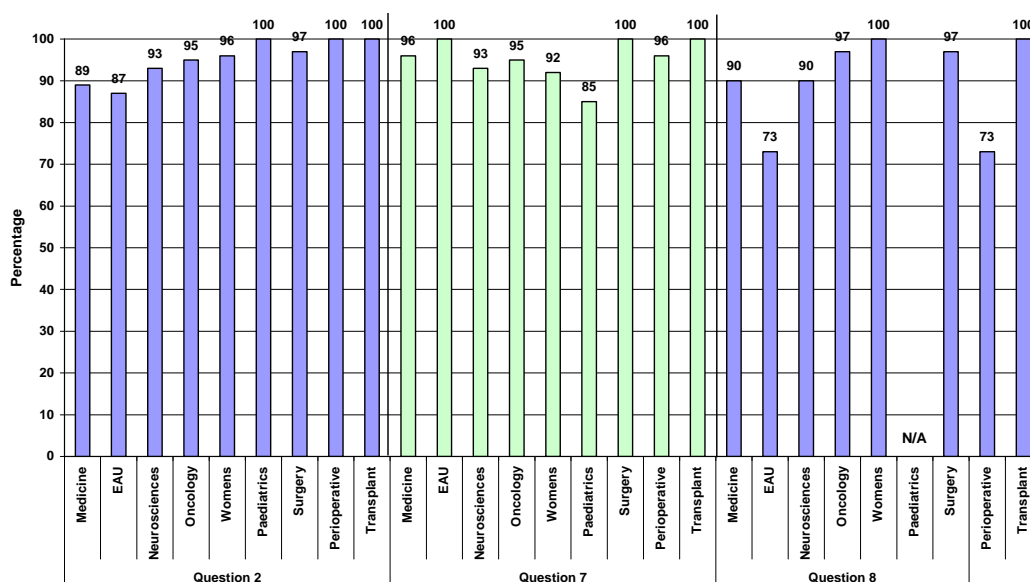
**Question 2:** Line inspection for signs of infection is recorded at least daily on the care record

**Question 7:** The intravascular dressing has been changed appropriately and date recorded

**Question 8:** The VIP score is recorded on the care record.

For the March 2009 audit a total of 296 intravascular cannulae/catheters were checked. A summary of the Trust-wide audit results for this quarter is shown in Figure 3.

**Figure 3** Care of the Patient with an Intravascular Cannula/Catheter – Analysis of Questions 2, 7 & 8 (March 2009)



**Table 3** Intravascular Cannula/Catheter percentage compliance by quarter 2008/09

	Question 2				Question 7				Question 8			
	June 2008	Sept 2008	Dec 2008	Mar 2009	June 2008	Sept 2008	Dec 2008	Mar 2009	June 2008	Sept 2008	Dec 2008	Mar 2009
Medicine	88	82	87	89	99	88	99	96	78	68	88	90
EAU	73	100	79	87	93	78	84	100	73	100	47	73
Neurosciences	67	50	72	93	87	100	94	93	67	64	61	90
Oncology	100	100	95	95	100	95	95	95	100	100	88	97
Womens	88	88	68	96	64	81	86	92	38	17	46	100
Paediatrics	85	90	90	100	75	85	100	85	N/A	N/A	N/A	N/A
Surgery	98	100	100	97	95	100	98	100	97	100	100	97
Perioperative	97	94	95	100	98	93	80	96	88	95	94	73
Transplant	90	100	90	100	100	100	100	100	100	88	90	100
<b>TRUST</b>	<b>89</b>	<b>89</b>	<b>88</b>	<b>94</b>	<b>93</b>	<b>92</b>	<b>93</b>	<b>95</b>	<b>82</b>	<b>83</b>	<b>83</b>	<b>90</b>

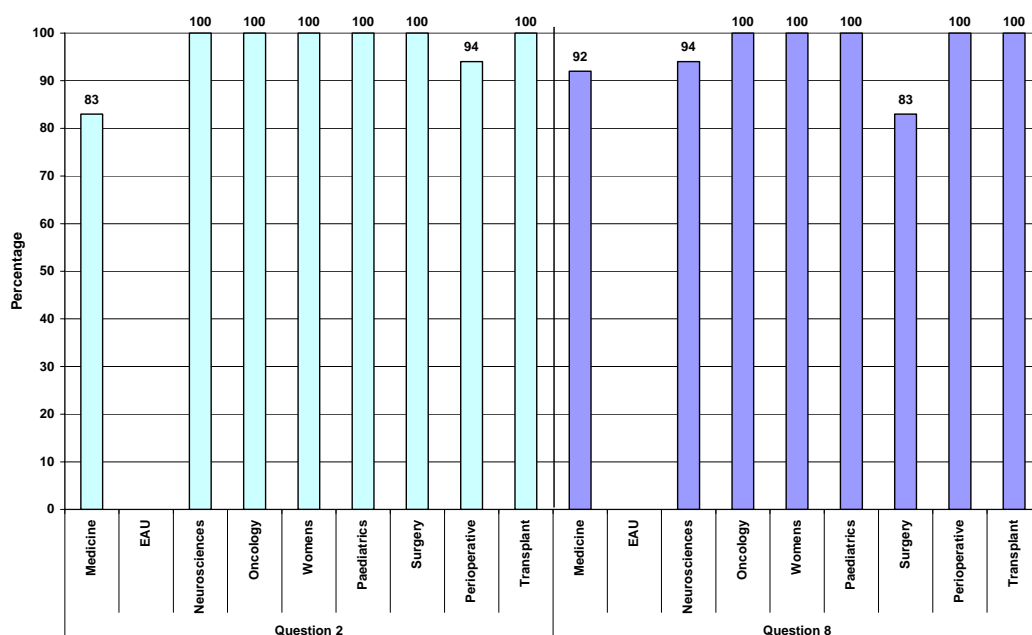
Within the 'Care of the Patient with a Urinary Catheter' audit tool the following questions were analysed further:

**Question 2:** The date of insertion of the catheter is documented in the patient's care record

**Question 8:** Catheter care has been performed at least daily and documented in the care record

For the March 2009 audit a total of 153 urinary catheters were checked. A summary of the Trust-wide audit results for this quarter is shown in Figure 4.

**Figure 4** Care of the Patient with a Urinary Catheter - Analysis of Questions 2 & 8 (March 2009)



**Table 4** Urinary Catheter percentage compliance by quarter 2008/09

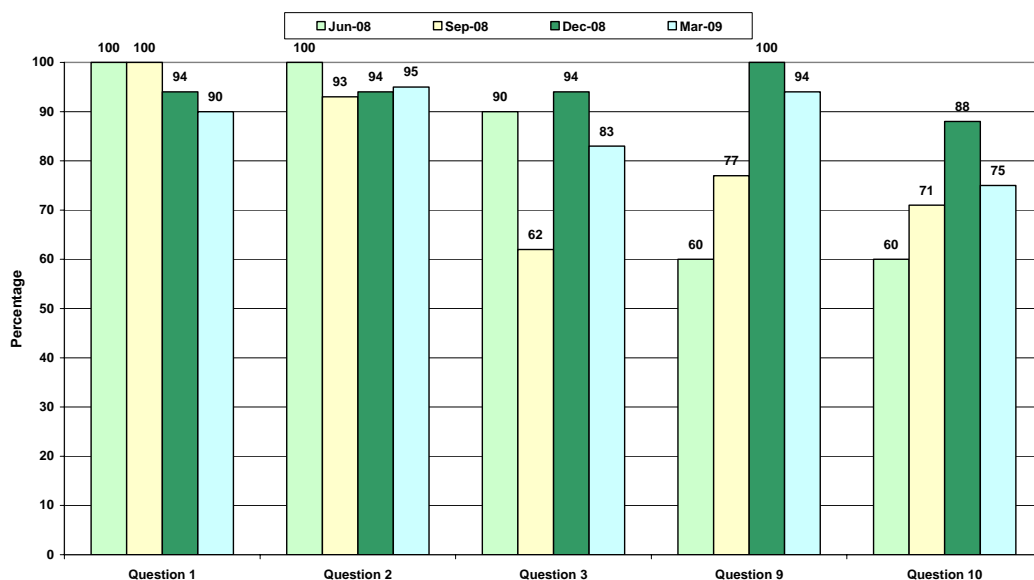
	Question 2				Question 8			
	June 2008	Sept 2008	Dec 2008	Mar 2009	June 2008	Sept 2008	Dec 2008	Mar 2009
Medicine	96	73	88	83	89	91	94	92
EAU	50	100	100	NA	0	100	100	NA
Neurosciences	69	87	81	100	100	60	88	94
Oncology	100	89	89	100	100	89	89	100
Womens	83	67	60	100	60	67	25	100
Paediatrics	100	100	80	100	67	78	60	100
Surgery	100	92	100	100	96	92	91	83
Perioperative	97	93	100	94	86	97	100	100
Transplant	100	80	100	100	67	80	50	100
<b>TRUST</b>	<b>94</b>	<b>85</b>	<b>92</b>	<b>93</b>	<b>87</b>	<b>88</b>	<b>90</b>	<b>94</b>

Within the 'MRSA decolonisation' audit tool the following questions were analysed further:

- Question 1:** Patients or relatives have received FAQs sheet (documented in Integrated Care Pathway (ICP))
- Question 2:** There is documented evidence that the patient has received information on MRSA and the need for MRSA topical treatment
- Question 3:** Treatment is prescribed on the general prescription chart
- Question 9:** The topical prescription chart is fully completed and signed for up to the date of the audit
- Question 10:** Ward staff have documented and signed appropriate sections of the ICP

In March 2009 20 patients were audited. Due to the small number of observations undertaken, the Trust-wide results are shown (Figure 5).

**Figure 5** MRSA Decolonisation - Analysis of Questions 1, 2, 3, 9 & 10 (2008/09)

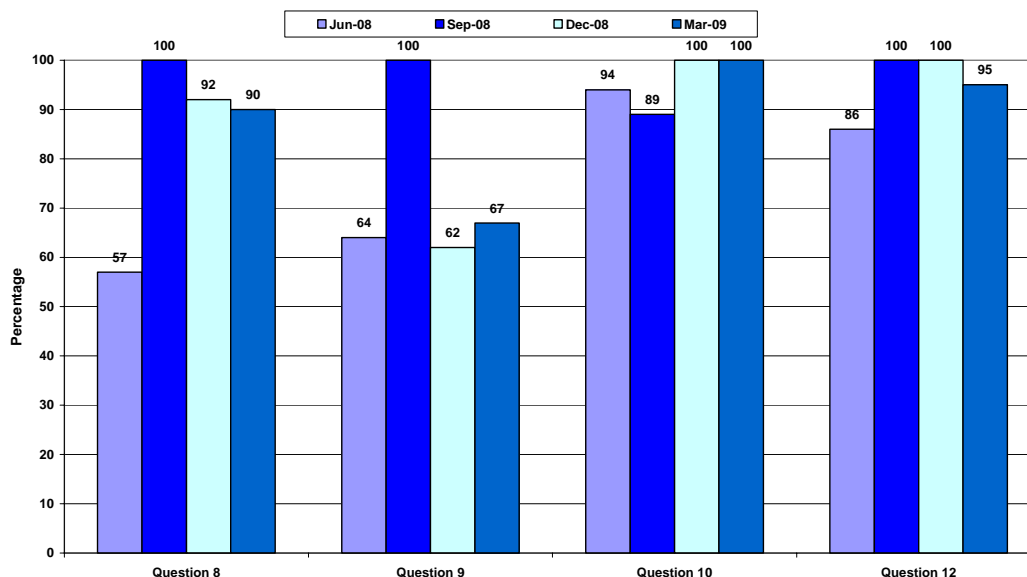


Within the '*Clostridium difficile*' audit tool the following questions were analysed further:

- Question 8:** There been an entry on the Trust *C. difficile* Daily Care Record in the previous 24 hours
- Question 9:** The nutrition assessment referral had been documented on the Care Record
- Question 10:** There had been an entry on the Trust bowel chart in the previous 24 hours
- Question 12:** There was a fluid chart present

In March 2009 21 patients were audited. Due to the small number of observations undertaken, the Trust-wide results are shown (Figure 6).

**Figure 6** *Clostridium difficile* - Analysis of Questions 8, 9, 10 & 12 (2008/09)



Action Plans are requested for all Saving Lives audits scoring less than 95%. It is the responsibility of Ward Managers to provide these.

The Saving Lives audit programme for 2009/10 is being reviewed as part of a wider review of the Nursing Audit Strategic Action Plan and the Nursing Quality Metrics data collection and reporting process.

## Education

Education and training is an integral part of the strategy to prevent avoidable infection in the Trust. It forms part of every staff job description and evidence of attendance at infection control updates is also included in all staff appraisals.

Infection control education in general, and hand hygiene in particular, forms part of the mandatory induction programme for all staff. Infection control is included in medical student and junior doctor orientation. All staff attend mandatory annual updates. Attendance at these sessions is recorded centrally and managers are notified if staff members have registered for, but have not attended training.

The ICT contributes to the training and practical assessment of competencies for medical staff with regard to hand hygiene, blood culture sampling, care of intravascular lines, wound dressings and care of the infectious patient. The ICNs also deliver formal and informal teaching sessions, as requested, on study days, SDU update days, audit mornings and SDU infection control meetings, clinical governance meetings and other meetings as requested.

During the year, interactive study days have been delivered to health care assistants, trained nursing staff, allied health professionals, infection control link nurses and out-patient staff. These are well-attended and receive very positive evaluation and feedback.

### Surveillance and mandatory reporting

The ICT perform alert organism and alert condition surveillance by daily review of microbiology culture results and liaison with the medical microbiology staff of the Clinical Microbiology and Public Health Laboratory. This allows prompt recognition of patients with infections that could spread to others and also the early recognition of outbreaks of infection.

In addition, some infections and organisms are reported by the Trust to the Department of Health as part of the mandatory surveillance established in April 2001. This currently includes MRSA blood stream infections, vancomycin-resistant enterococcus (VRE) blood stream infections, *Clostridium difficile* infection and surgical site infections following orthopaedic prosthetic hip and knee surgery.

Data for the mandatory reporting are gathered in two ways. Organism data are collected by collation of routine reports from the microbiology laboratory to the HPA Centre for Infections (formally the Communicable Disease Surveillance Centre). The accuracy of these data is audited before they are published. Data are also entered onto the national web based Healthcare Associated Infection (HCAI) Data Capture System.

Within the Trust a monthly infection control performance report is produced. It contains information on the number of MRSA and *C. difficile* infections and also some internal performance indicators relating to infection control. This report is presented formally to the Board of Directors, Executive Forum, Clinical Directors' Forum and the Control of Infection Committee.

#### **Methicillin-resistant *Staphylococcus aureus* (MRSA)**

The Department of Health mandatory reporting of MRSA blood stream infections, the most serious form of MRSA infection, began on 1 April 2001. A national target was set of a 60% reduction in the number of MRSA blood stream infections by the end of 2007/08 from a 2003/04 baseline. The Trust achieved this target.

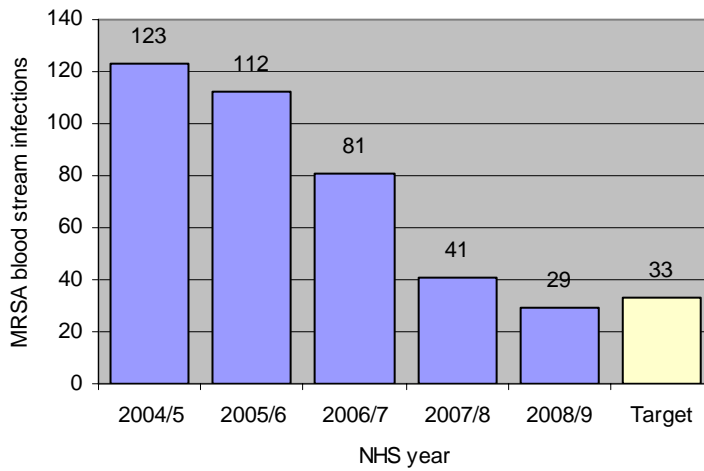
For 2008/09 a new local target reduction was agreed with Cambridgeshire PCT. This was a minimum of a further 20% reduction from the 41 cases in 2007/08 to no more than 33 cases in 2008/09. The Trust achieved this target. There were 29 MRSA blood stream infections in the year, representing a 29% reduction from 2007/08 (Figures 7 and 8).

Similar further reductions have been agreed as targets for the coming year and the Trust continues aim for continuing improvement and to work towards prevention of all avoidable infections.

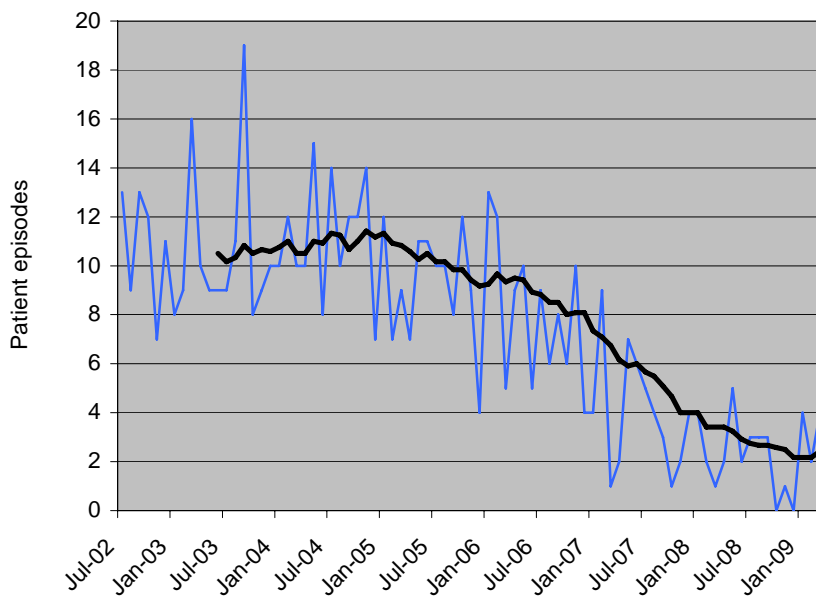
For MRSA bacteraemia identified after 48h of hospital admission (and therefore likely to be hospital-acquired), root cause analysis identified that the single most common underlying aetiology was contamination of the blood culture sampling bottles at the time of sample collection (5 of 19 positive specimens) (Figures 9 a-c). Recent initiatives to train and assess staff in blood culture sampling have prevented this occurring.

Historically, central line infection was the most important cause of MRSA blood stream infection in the Trust. In the last year there have been five central line-associated bacteraemias and only three occurring after 48h hospital admission. This reflects well on the work of the Vascular Access Unit, which was established in 2007 to optimise the insertion and management of centrally inserted intravascular lines and was shortlisted for a prize at the 2008 Healthcare Service Journal awards.

**Figure 7** Number of MRSA blood stream infections per year

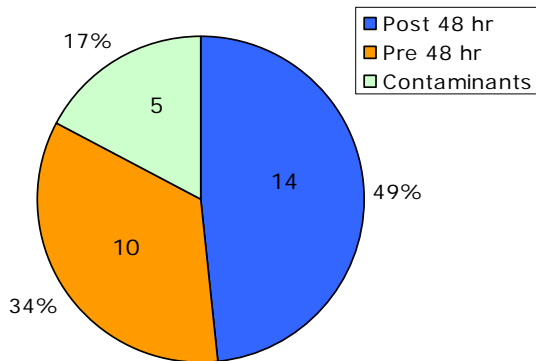


**Figure 8** Number of MRSA blood stream infections each month and 12 month moving average

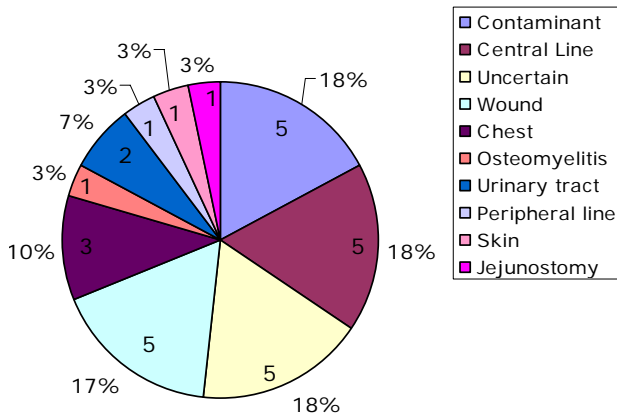


The Trust has implemented Department of Health guidance on MRSA screening. In line with national initiatives, during 2007/08 all elective admissions in high risk specialities were screened before admission to hospital. Screening was extended to include all emergency admissions as well as elective patients admitted to the Trust as in-patients. Screening for emergency admissions is performed in the Emergency Department before patients are admitted to the ward. Screening of all elective day cases commenced from 1 January 2009, with a few exception criteria as outlined in national guidance.

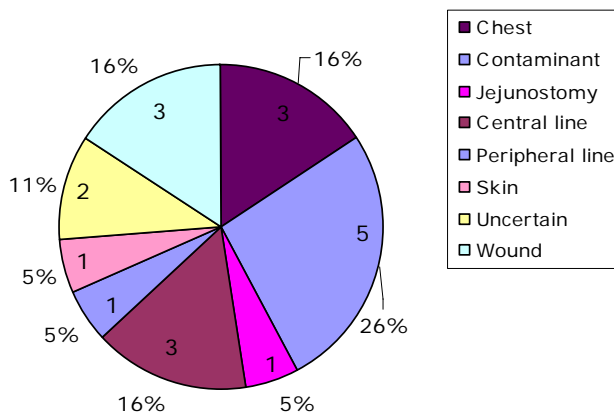
**Figure 9a** Distribution of MRSA blood stream infections according to time of diagnosis



**Figure 9b** Identified underlying infective cause for all MRSA bacteraemias 2008/09

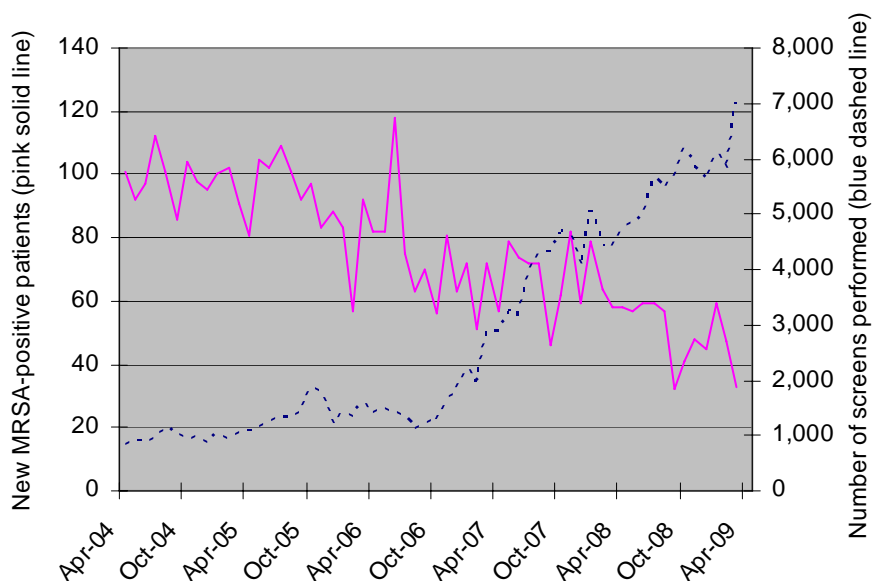


**Figure 9c** Identified underlying infective cause for all MRSA bacteraemias acquired after 48h hospital admission 2008/09



There were 595 new MRSA-positive patients identified in the year to the end of March 2009 compared to 804 in 2007/08, despite the massive increase in patients screened. These patients were mostly colonised with MRSA rather than having any MRSA infection. Sixty-seven percent of the newly –positive patients were identified by screening in the Emergency Department before admission. Figure 10 shows both the monthly number of newly identified patients and the number of MRSA screening samples taken.

**Figure 10** Number of new MRSA-positive patients per month and patients screened



### ***Clostridium difficile* diarrhoea**

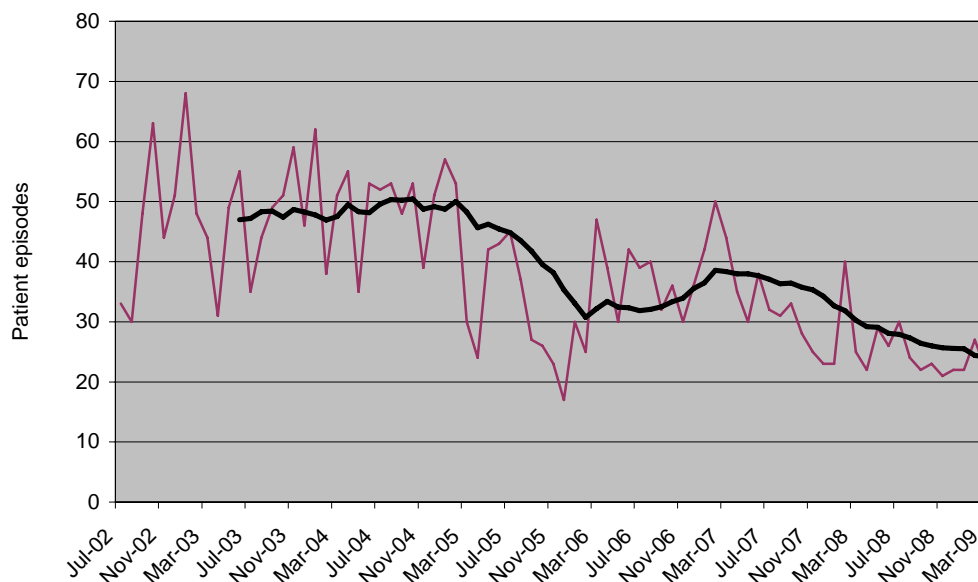
*Clostridium difficile* is a major cause of antibiotic-related diarrhoea, particularly in elderly patients. The organism produces spores that are very resistant to drying and decontamination. These are readily transmitted from patient-to-patient.

During 2008/09 the number of patients with hospital acquired *C. difficile* infection was 294 (defined as a case diagnosed from day 2 of admission onwards). This was a fall of 26% from the 399 cases in 2007/08. This exceeded the target reduction of 25% agreed with Cambridgeshire PCT.

In March 2008 the Department of Health made major changes to the way in which *C. difficile* cases were allocated for surveillance purposes. This means that it is difficult to compare figures with older data for previous years. From April 2009 there have been further changes, which will affect figures for the coming year.

During 2008/09 major changes were made to the prevention and management of *C. difficile* infection. The Trust opened a new 22 bed infectious diseases ward for the isolation of patients with diarrhoea, changes were made to the Trust antibiotic prescribing policy to avoid the antibiotics most often associated with diarrhoea, and there were enhancements to the deep cleaning of wards, such as the introduction of hydrogen peroxide vapour fumigation as part of the cleaning process.

**Figure 11** Number of Trust-acquired *Clostridium difficile* infections and 12 month moving average (Note that the definition of Trust-acquired changed in Apr 2008 from cases diagnosed >day 2 of admission to cases >day 1 of admission)



## Outbreaks and Incidents relating to infection

Outbreaks of norovirus infection (winter vomiting disease), causing vomiting and/or diarrhoea, account for the majority of infection-related incidents in the Trust each year, as they do in hospitals throughout the country. Patients, relatives and staff can be affected and closure of the ward area involved is usually required to prevent further transmission.

In November and December 2008 the Trust saw a norovirus outbreak of unprecedented severity, with as many as 13 wards closed at one time. A second outbreak occurred in January 2009. This had major effects on medical capacity and led to the postponement or cancellation of many elective surgical admissions.

A summary of outbreaks and incidents related to infection is listed in Appendix I.

## General assessment of compliance with the Code of Practice for the Prevention and Control of Healthcare Associated Infections (2006)

The Care Quality Commission (CQC) was established by the Health and Social Care Act 2008 to regulate the quality of health and social care and look after the interests of people detained under the Mental Health Act. In April 2009 the CQC will take over the work of the Healthcare Commission, the Commission for Social Care Inspection and the Mental Health Act Commission.

From 1 April 2009 it will become a legal requirement for all NHS Trusts who provide services for patients to register with the CQC in relation to healthcare associated infections (HCAI). A wider registration for all aspects of care across health and adult social care providers will apply from April 2010. The Trust has registered with the CQC and declared full compliance with the nine compliance criteria detailed in the revised draft Code of Practice for the Prevention and Control of Healthcare Associated Infections. The criteria are listed in Appendix II.

### Trust priorities for 2009-2010

The Trust top quality priorities for 2009-2010 have been agreed through a series of discussions and consultations. These priorities are also integral to our overarching Trust priorities, our Patient Safety Strategy and underpinned by our core values – **kind, safe and excellent**.

A key quality priority is to further reduce our healthcare associated infection rate. Targets have been identified for the next year as well as detailed action plans relating to how they will be achieved. Monitoring of performance against the targets will be undertaken on either a monthly or quarterly basis and reported through to our Board of Directors and Divisional Board meetings.

Specific measures that are in place currently include:

- In January 2009, the opening of a 22-bed isolation ward, all single rooms with en-suites.
- Infection control audits have been undertaken quarterly and include audits of hand hygiene, use of personal protective equipment, intravascular catheter care, urinary catheter care, MRSA decolonisation and *C. difficile*. A new audit programme is being developed and piloted to incorporate weekly audits.
- Monthly auditing of hand hygiene compliance and a rigorous performance management process is in place.
- A deep cleaning programme and rolling programme of refurbishment works, including the use of hydrogen peroxide vapour.
- Ward cleanliness visits are undertaken by senior staff and wards are audited a minimum of monthly, high dependency areas audited weekly.
- Compliance with healthcare associated infection policies are audited and reported in monthly Infection Control Performance Reports.

New initiatives to be implemented in 2009–2010 include:

- MRSA screening and decolonization management for day case patients (already in place for elective and emergency patients).
- Installation of additional bed pan washers.
- Installation of additional clinical sinks.
- Review of patients' own laundry services.
- Pilot of adenosine tri-phosphate (ATP) cleanliness testing system, a tool to provide a quantitative measure of cleanliness.
- Trial of portable air sterilizing machine.

## Summary of outbreaks and incidents relating to infection

April 2008	C2	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatric Oncology/Haematology Onset 17/04/08. 9 patients and 5 staff affected Ward deep cleaned and reopened on 07/05/08
	G4	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Department of Medicine for the Elderly Onset 24/04/08. 7 patients and 3 staff affected Ward deep cleaned and reopened on 28/04/08
May 2008	C2 on D2	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatric Oncology/Haematology Onset 16/05/08 6 patients and 0 staff affected Ward deep cleaned after C2 had moved back to home ward
June 2008	NCCU	Type: Details: Action:	Outbreak of multiply resistant <i>Acinetobacter baumannii</i> Five patients affected Patients moved from HDU to main unit. HDU deep cleaned. Current inpatients and recent transferred patients screened.
August 2008	C3	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatrics Onset 26/08/08 5 patients and 1 staff affected Ward deep cleaned and reopened on 29/08/08
November 2008	G5	Type: Details: Action:	Outbreak of D&V – Confirmed Norovirus Onset 20/11/08. 15 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 04/12/08
	C8	Type: Specialty: Details: Action:	Outbreak of D&V – No definitive cause identified Trauma and Orthopaedics Onset 22/11/08. 3 patients and 0 staff affected Ward monitored and reopened on 25/11/08
	F4	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Department of Medicine for the Elderly Onset 27/11/08. 9 patients and 0 staff affected Ward deep cleaned including hydrogen peroxide (HPV) fumigation and reopened on 05/12/08
	F5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Hepatology/Medicine Onset 28/11/08. 19 patients and 7 staff affected Ward deep cleaned including HPV and reopened on 10/12/08
	D5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Cardiology Onset 28/11/08. 14 patients and 6 staff affected Ward deep cleaned including HPV and reopened on 11/12/08
	C5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Renal/Medicine Onset 28/11/08. 15 patients and 6 staff affected Ward deep cleaned including HPV and reopened on 12/12/08
	Rehab	Type: Details: Action:	Outbreak of D&V – Confirmed Norovirus Onset 28/11/08. 11 patients and 0 staff affected Ward deep cleaned including HPV and reopened on 16/12/08
	R2	Type: Specialty: Details: Action:	Outbreak of D&V - No definitive cause identified Rehabilitation Onset 28/11/08. 5 patients and 1 staff affected Ward monitored and reopened on 04/12/08
	D9	Type: Specialty: Details:	Outbreak of D&V - No definitive cause identified Oncology Onset 30/11/08. 3 patients and 0 staff affected

		Action:	Ward monitored and reopened on 03/12/08
	MSEU	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Emergency Department Onset 30/11/08. 10 patients and 2 staff affected Ward deep cleaned, part HPV and reopened on 06/12/08
	G6	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Endocrinology/Medicine Onset 30/11/08. 12 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 15/12/08
	C10/D6	Type: Specialty: Details: Action:	Outbreak of Rhinovirus Adult haematology Seven patients diagnosed in a two week period Patients isolated wherever possible and ward monitored
December 2008	C7	Type: Specialty: Details: Action:	Outbreak of D&V - No definitive cause identified General Surgery Onset 01/12/08. 1 patients and 1 staff affected Ward monitored and reopened on 03/12/08
	C6	Type: Specialty: Details: Action:	Outbreak of D&V - No definitive cause identified General Medicine Onset 01/12/08. 1 patients and 0 staff affected Ward monitored and reopened on 03/12/08
	D2	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatrics Onset 01/12/08. 11 patients and 7 staff affected Ward deep cleaned including HPV and reopened on 04/12/08
	C2	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatric Oncology/Haematology Onset 03/12/08. 4 patients and 0 staff affected Ward monitored and reopened on 04/12/08
	C3	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Paediatrics Onset 11/12/08. 7 patients and 1 staff affected Ward deep cleaned and reopened on 15/12/08
	C10	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Haematology Onset 14/12/08. 6 patients and 0 staff affected Patients isolated wherever possible and ward monitored
	JVF/C10	Type: Details: Action:	Outbreak of multiply-resistant <i>Enterobacter cloacae</i> Two patients found to have an organism producing a carbapenemase enzyme conferring resistance to meropenem. All patients on both units screened. No further cases identified.
January 2009	Rehab	Type: Details: Action:	Outbreak of D&V – Confirmed Norovirus Onset 03/01/09. 12 patients and 6 staff affected Ward deep cleaned including HPV and reopened on 12/01/09
	G5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Medicine Onset 07/01/09. 17 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 16/01/09
	F5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Hepatology/Medicine Onset 18/01/09. 12 patients and 0 staff affected Ward deep cleaned including HPV and reopened on 27/01/09
	PSSU	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Surgery Onset 22/01/09. 12 patients and 7 staff affected Ward deep cleaned including HPV and reopened on 25/01/09

	D5	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Cardiology Onset 22/01/09. 9 patients and 7 staff affected Ward deep cleaned including HPV and reopened on 30/01/09
	F6	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Respiratory Medicine Onset 22/01/09. 13 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 03/02/09
	G3	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Department of Medicine for the Elderly Onset 25/01/09. 14 patients and 7 staff affected Ward deep cleaned including HPV and reopened on 06/02/09
	Rehab	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Rehabilitation Onset 27/01/09. 6 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 11/02/09
	R2	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Rehabilitation Onset 27/01/09. 6 patients and 3 staff affected Ward deep cleaned including HPV and reopened on 16/02/09
	D7 IDA	Type: Specialty: Details: Action:	Outbreak of <i>C. difficile</i> Surgery Three <i>C. difficile</i> patients related in time and space Ward deep cleaned including HPV. Multidisciplinary root cause analysis meeting held
	C6	Type: Details: Action:	Cluster of <i>C. difficile</i> cases Four <i>C. difficile</i> patients related in time and space Ward had enhanced cleaning. Multidisciplinary root cause analysis meeting held
	NICU/ SCBU	Type: Details: Action:	Outbreak of RSV Two babies diagnosed within two days of each other Affected babies barrier nursed and treated. All others screened; no further cases.
February 2009	D9	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Oncology Onset 11/02/09. 14 patients and 6 staff affected Ward deep cleaned including HPV and reopened on 20/02/09
	D8 (bay only)	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Trauma and Orthopaedics Onset 20/02/09. 1 patients and 1 staff affected Ward deep cleaned including HPV and reopened on 25/03/09
	C8 (bay only)	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Trauma and Orthopaedics Onset 10/02/09. 4 patients and 0 staff affected Ward deep cleaned and reopened on 13/02/09
	C6 (bay only)	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus General Medicine Onset 06/02/09. 2 patients and 0 staff affected Ward deep cleaned including HPV and reopened on 13/02/09
March 2009	A5 (bay only)	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Neurology Onset 18/03/09. 1 patients and 5 staff affected Ward deep cleaned and reopened on 20/03/09
	D8 (bay only)	Type: Specialty: Details: Action:	Outbreak of D&V – Confirmed Norovirus Trauma and Orthopaedics Onset 10/03/09. 1 patients and 2 staff affected Ward deep cleaned and reopened on 13/03/09

## Code of Practice for the Prevention and Control of Healthcare Associated Infections (2006)

Compliance Criteria	What service provider will need to demonstrate
1	Have in place and operate effective management systems for the prevention and control of HCAI that are informed by risk assessments and analysis of infection incidents.
2	Provide and maintain a clean and appropriate environment that facilitates the prevention and control of HCAI.
3	Provide suitable and sufficient information on HCAI to patients and the public and to other service providers when patients move to the care of another healthcare or social care provider.
4	Ensure that patients presenting with an infection or who acquire an infection during treatment are identified promptly and receive appropriate treatment and care to reduce the risk of transmission.
5	Gain the co-operation of staff, contractors and others involved in the provision of healthcare in preventing and controlling infection.
6	Provide or secure adequate isolation facilities.
7	Secure adequate access to laboratory support.
8	Have and adhere to appropriate policies and protocols for the prevention and control of HCAI.
9	Ensure, so far as is reasonably practicable, that healthcare workers are free of and are protected from exposure to communicable infections during the course of their work and that all staff are suitable educated in the prevention and control of HCAI.

Extract from 'Changes to arrangements for regulating NHS bodies in relation to healthcare associated infections for 2009/10 – A consultation for the NHS'