Infection Prevention and Control

Annual Report
2009-10

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1. Introduction

This report summarises the activities of the Infection Prevention and Control Team (IPCT) at the Heart of England NHS Foundation Trust (HEFT) during 2009-2010. The report also demonstrates how the Trust has systems in place for compliance with the *Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance.*

The Infection Prevention and Control Team (IPCT) experienced an extremely busy year due to the influenza pandemic. The Trust set out to continue the success of 2008-09 and continue the commitment to improve performance in infection prevention and control practice. It rose to the associated challenges and met most of its key goals. The prevention and control of healthcare associated infection (HCAI) remained high on the Trust's agenda in spite of organisational re-structure. The revised approach to assurance structures at the end of 2007-08 was partially sustained throughout 2009-10; there were some gaps highlighted which are currently being addressed. The Annual Programme of Work which reflects the IPC assurance framework demonstrated that 77% of 2009-10 activities were successfully completed and another 18 % were partially completed.

There has been one inspection from the Care Quality Commission throughout this period; no breaches were highlighted. The work of the IPCT maintained the significant efforts in the reduction of HCAIs and achieved its mandatory trajectory with a 32% reduction in MRSA bacteraemias and a 39% reduction in *Clostridium difficile* infections in the calendar year 2009-10 compared to 2008-09.

The key objectives of the service during 2009-10 were to:

- Significantly reduce MRSA bacteraemia and *Clostridium difficile* infection.
- Improve the quality of patient care by preventing and controlling healthcare-associated infection.
- Ensure effective assurance and reporting processes from Board to Ward.
- Improve infection prevention and control knowledge and skills of all staff, patients and public.
- Have focussed management to significantly reduce incidence of Norovirus.
- Ensure completion of the audit programme.
- Ensure compliance with the *Health and Social Care Act 2008*.

2. Compliance Criterion 1:
Effective management systems for the prevention and control of HCAI informed by risk assessments and analysis of infection.

2.1 Committee structures and assurance processes
The Code of Practice requires that the Trust Board has a collective agreement recognising its responsibilities for infection prevention and control. The Chief Executive has the overall responsibility for the control of infection within the Heart of England Foundation Trust. He is also the Trust's executive lead for IP&C. Dr Itisha Gupta is the Trust's designated Director of Infection Prevention and Control (DIPC); a Consultant HPA Microbiologist is accountable directly to the Chief Executive and Trust Board. The DIPC attended Trust Board meetings monthly and then quarterly from July 2009 with detailed updates on infection prevention and control matters. The DIPC also met regularly with the Chief Executive on a one-to-one basis; minutes are maintained from this meeting. The DIPC also regularly attended Clinical Governance and Executive Director Committees to ensure IPC was considered in governance arrangements and in any new developments planned within the Trust

Infection Prevention and Control Team

The DIPC who also functions as the Infection Control Doctor for the Trust is responsible for the IPC team and the chart below demonstrates the organisational structure of the team for 2009-10.

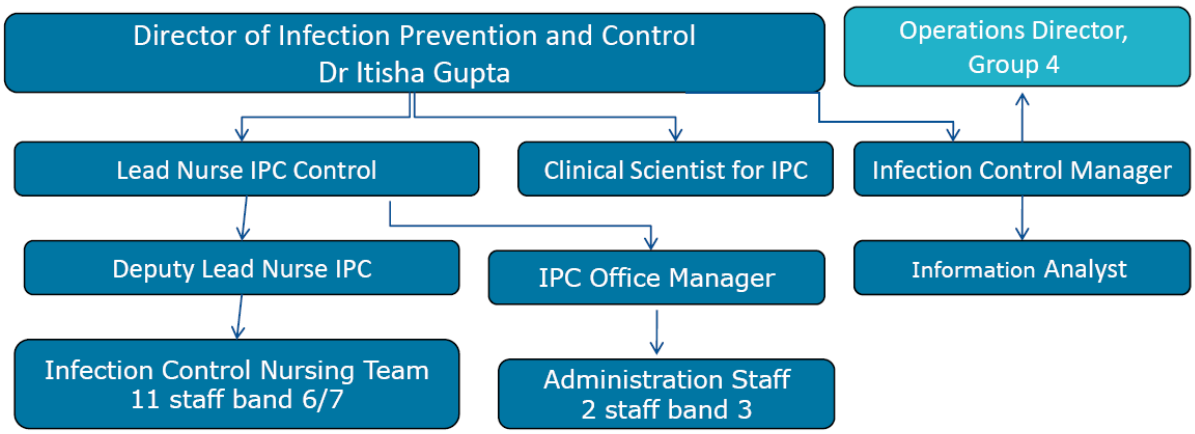


Figure One

The IPCT, reporting to the DIPC, includes 13 (11.9 WTE) nursing staff with a substantive Lead Infection Prevention Nurse. A Deputy Lead ICN was appointed last year to strengthen the leadership within the team and take lead on environmental issues. 2 vacancies arose within the team in early 2010 which will be recruited into. There are 3 (2 WTE) of administrative staff to support the team.

In April 2009 the IPC team became HEFT's IPC team incorporating all GHH ICNs. In this operational re structure there is one or more ICN at both GHH and Solihull sites every day depending on the demand. Admin staff also rotates to support staff at GHH. Core team is based at BHH site.

There is an Infection Control Clinical Scientist who is a part of the team and there is a strong research record within the infection control department.

All staff with the exception of the IPC Programme Manager and Data Analyst is supplied to the Trust by the Health Protection Agency (HPA). This is an annual contract which is monitored through a monthly key performance indicator (KPI) system with quarterly contract meetings led by Dr Alan Jones (Clinical Director Laboratory Medicine). Specialist support is provided by other Consultants Microbiologists and Virologists.

The IPC Programme Manager who also, now in the new re- organised HEFT's structure reports to Group 4 Operational Director. This role provides oversight of the successful delivery of the work programme and supports the DIPC. In 2009-10 this 1 WTE role was being provided by 2 job-sharing individuals. The provision of this role has been inconsistent in 2009-10 as one person was seconded in June 2009 to the Emergency Planning team to support the Pandemic Flu group and the second to Maternity Services Programme Manager in December 2009. This has affected the delivery of the IPC programme of work for the year.

The IPC team is assisted by a full time Data Analyst who supports performance reporting and mandatory data return requirements of the Trust as well as supporting the analysis of surveillance data.

Committee structures and assurance processes
As required by the Health and Social Care Act (2008), HEFT ensured throughout 2009-10 that the Trust Board had a collective agreement recognising its responsibilities for the infection prevention and control agenda.

In 2009-2010 the Trust maintained the committee structure established at the end of 2007-2008, with strategic direction and oversight being provided through the monthly Infection Control Executive Committee (ICEC). This is chaired by the Chief Executive and reports directly to Trust Board to ensure the board addresses its collective responsibility for preventing, reducing and controlling infections. The annual programme of work for 2009-10 was reported to the Trust Board in July 2009. Trust executive job descriptions incorporate a statement detailing their responsibility for infection control issues.

This direct reporting structure is supported by DIPC attendance at the bi monthly Governance and Risk Committee meetings where IPC concerns are reviewed and an assessment of IPC issues held on the strategic risk register.

The ICEC is supported by the Trust's monthly Infection Control Operational Group (ICOG) which is responsible for strong operational leadership and direction of resources. It is chaired by the Chief Nurse, and the key areas below were addressed:

- MRSA Screening: emergency and elective admissions.
- Ward audit: monitoring high impact interventions at least monthly via web based system.
- Antibiotic prescribing: compiling benchmarked usage reports
- Environment: monitoring ongoing programmes such as enhancement of Trust hand washing facilities.
- Reporting: directly to ICEC monthly and Groups as appropriate
- Outbreaks: Norovirus, *Clostridium difficile,* Influenza Pandemic

The Trust's Decontamination (chaired by a Consultant Virologist) and Legionella Committee (chaired by a Consultant Microbiologist) report regularly to ICOG in addition to their reporting pathway for assurance and to highlight any IPC issues for resolution. However, there is no current designated Trust Decontamination Lead.

HEFT undertook an organisational restructure which impacted on the 'Board to Ward" reporting mechanism for the IPC agenda. The IPC team are working in partnership with the Chief Nurse to develop robust structures in place for assurance purposes.

The Infection Prevention and Control service is provided through a structured annual programme of teaching, audit, policy development & review, advice on service development and 24 hour access to expert advice and support.

The IPCT has a strong administration team who not only manage every day work, but also produce IPC newsletters, communication materials and educational display boards.

2.2 Compliance Assessment and Assurance
During 2009-20010 the Trust had an ongoing process to evaluate its compliance with the Healthcare Standards in order to make a declaration of its position at year end, and continued to monitor compliance with the Health and Social Care Act (2008) Code of Practice on Healthcare Associated Infections (Hygiene Code). At the end of 2009-2010, the Trust

declared full compliance with the Hygiene Code and registered with the Care Quality Commission, and full compliance with the Healthcare Standards. The Trust achieved NHSLA Level 2 in January 2009 which included assessment against infection prevention and control standards.

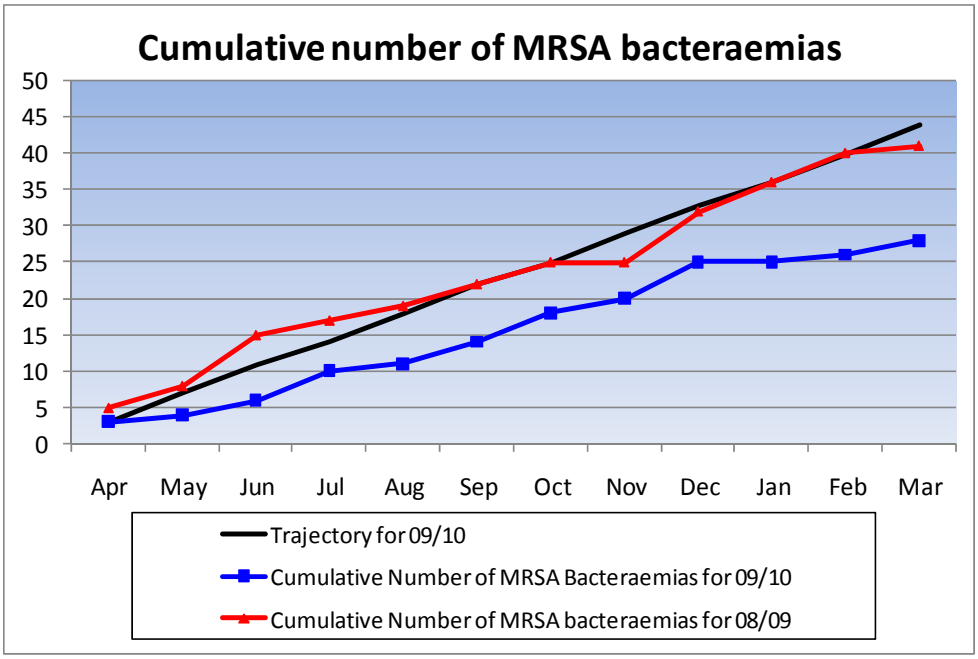
In June 2009, the Care Quality Commission undertook an unannounced inspection of the Trust to assess compliance with the criteria relating to the Health and Social Care Act 2008. No breaches of the Code were identified.

2.3 Surveillance of Healthcare Associated Infection (HCAI)

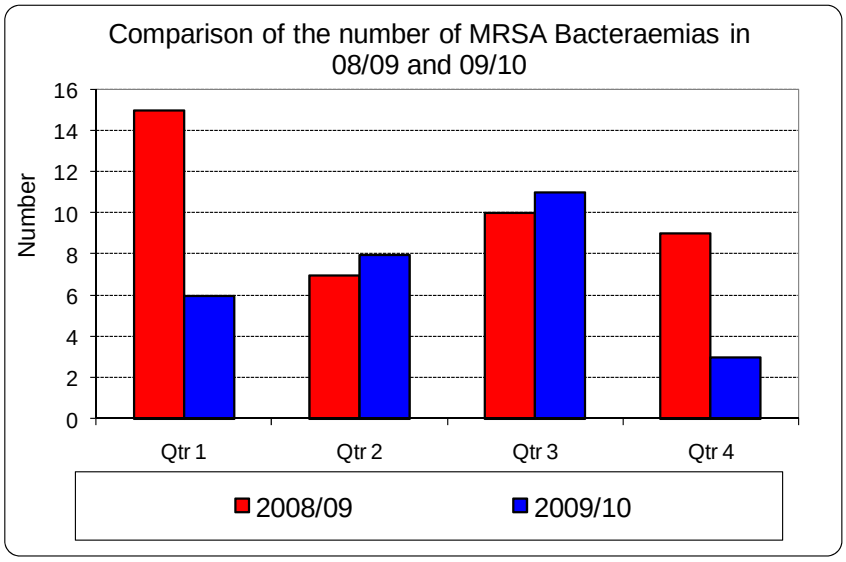
2.3.1 MRSA Bacteraemia

The Department of Health (DH) began mandatory surveillance of MRSA bloodstream infections (bacteraemia) in 2001. This included all bloodstream infections with MRSA, whether acquired in the hospital or in the community and whether considered to be a contaminant or not. Data is reported to the DH (via the Health Protection Agency) monthly and quarterly.

In 2009-2010, the Trust MRSA bacteraemia trajectory was set at 46 cases by the Department of Health. The chart below shows monthly cumulative data against the trajectory for 2009/10. The total number of cases of MRSA bacteraemia for 2009-10 was 28.



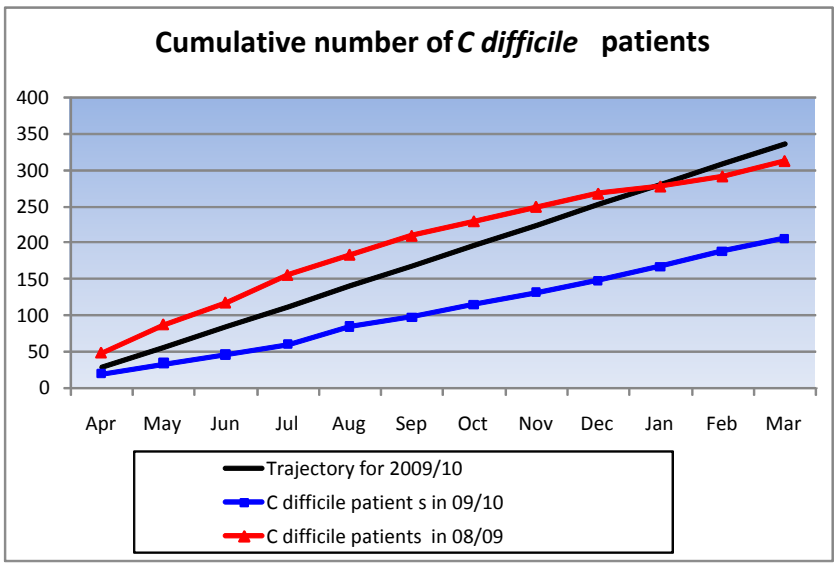
Comparison of data from 2008-09 demonstrates an overall reduction in MRSA bacteraemias of 32% over the previous year. However, numbers of bacteraemias were higher in both Q2 and Q3 in 09/10 compared to 08/09.

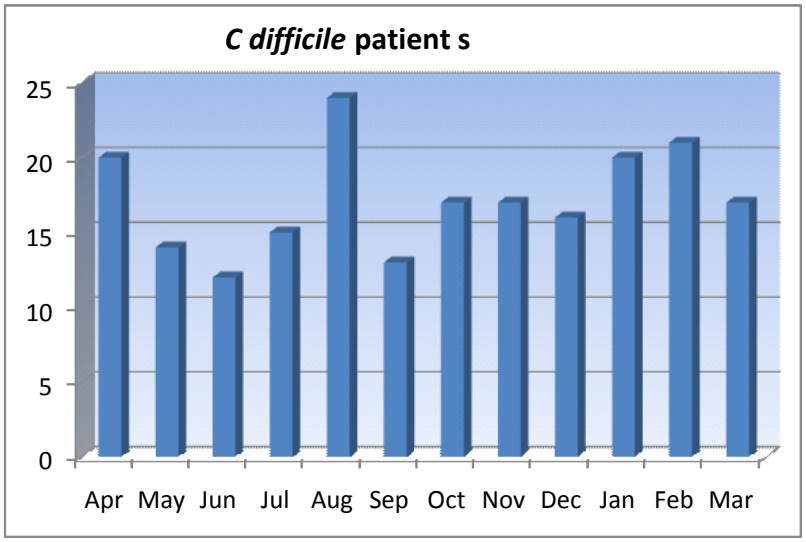


This trajectory was achieved by continuous MRSA screening in both emergency and elective admissions, decolonisation of positive cases, ward audits on high impact interventions, root cause analysis of each post 48 hour case and joint RCA with PCTs on pre 48 hour cases, corrective and preventative action plans, along with continuing competency assessment for junior doctors in taking blood cultures at induction.
Actions are now reported monthly to Risk department in PCT with their completion status.

2.3.2 *Clostridium difficile* infection (CDI)

Acute NHS Trusts in England are required to report cases of *C difficile* infection that are considered to have been acquired in that Trust, defined as greater than 48 hours after admission. For reporting to "Monitor" the trajectory was 469. The internal trajectory (CQUIN) set for hospital acquired (post 48hr) cases at HEFT in 2009/10 was 337. The total number of cases for 2009/10 was 206 which represent a 38.9% reduction over the previous year and the successful achievement of the target.





A sustained reduction compared to last year has been achieved by ensuring most patients get transferred to a cohort facility, suspected patients are isolated promptly, C diff policy is followed actively, antibiotic usage is monitored, appropriate antibiotic policies are in place and robust cleaning is undertaken supported by steam and hydrogen peroxide vapour.

***Clostridium difficile: How to deal with the problem (2008*)**
A detailed gap analysis was undertaken of HEFTs management of *C difficile* cases against the DH guidance which highlighted 3 significant area of non compliance for the Trust to address namely; availability of toxin testing 7 days a week, routine monitoring of 30 day mortality information, introduction of a clinical multidisciplinary review team to provide weekly review of all CDI patients.
These have been addressed as laboratory has 7 day working arrangement, Cdiff 30 day mortality is quarterly analysed and reported to Trust Board. Cdiff ward rounds take place weekly on cohort ward BHH 27 with infection control team who also review patients weekly at other sites. These will be extended further to involve consultant microbiologist and pharmacist.

2.3.4 Glycopeptide Resistant Enterococcus (GRE) Bacteraemia
Enterococci are bacteria commonly found in the bowel and GRE are enterococci that have become resistant to glycopeptides (for example vancomycin). Reporting of bacteraemia caused by GRE has been mandatory for NHS acute Trusts in England since September 2003. The Trust continues to experience very low numbers of this type of infection, with 4 infections recorded for HEFT in 2009-2010.

2.3.5 Antibiotic Stewardship
Antibiotic stewardship has been maintained through the Trust Antibiotic Committee (TAC) which is chaired by the Consultant microbiologist. The Lead Antibiotic Pharmacist post has been vacant since February 2009 despite 3 attempts to recruit into it.

Over the past year the TAC has produced 3 new antimicrobial guidelines and 1 was revised. Communication of its guidelines has been enhanced by the development of an updated pocket booklet distributed to all prescribers, production of ward posters and regular updates on the intranet site. Antibiotic education is provided at induction and at formal training for junior doctors.

The total antibiotic consumption in the Trust remains below 100 DDDs/100 patient bed days which is lower than regional and national hospitals who report this data.

The TAC has registered 1 new antifungal agent with the Trust's Drugs and Therapeutics Committee via the Formulary Working Group and 2 new patient group directives were approved for nurse prescribers in haematology. The proportion of high risk antibiotics prescribed (associated with *C difficile* and MRSA) remained below 10% and monthly "all beds" antibiotic snapshot audits show that compliance with antibiotic guidelines has remained > 90%.

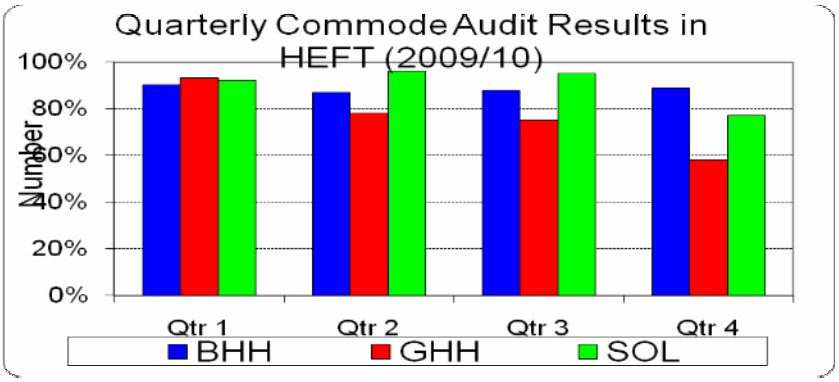
A further development during the year to reduce the length of stay has been the enhancement of the home intravenous antibiotic therapy service. The mechanism for referral to each of the 3 different PCTs is now available on the intranet.

2.4 Audit Programme to ensure key policies are implemented

The annual audit programme for 2009-10 was completed in line with the agreed schedule with the exception of the Sharps Audit and the isolation facilities. The Sharps audit is the responsibility of the Occupational Health Department who will carry this forward to 2010-11. Audit of isolation facilities will be undertaken as a priority for the IPC team in the forthcoming year as this was incomplete due to unprecedented swine flu activity.

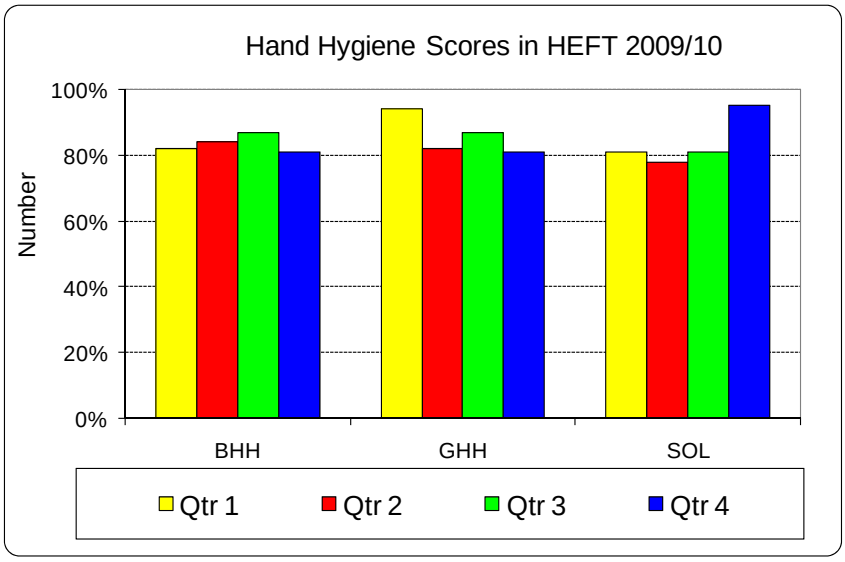
2.4.1 Audits of Commode Cleanliness

Results are published in league table format and circulated to Matrons and Group Business Managers for follow up action. During 2009-10 there was a marked decrease in the standard of commode cleanliness at the Good Hope Site and as a result an action plan is being developed to address this deficit.



2.4.2 Audits of Hand Hygiene Practice

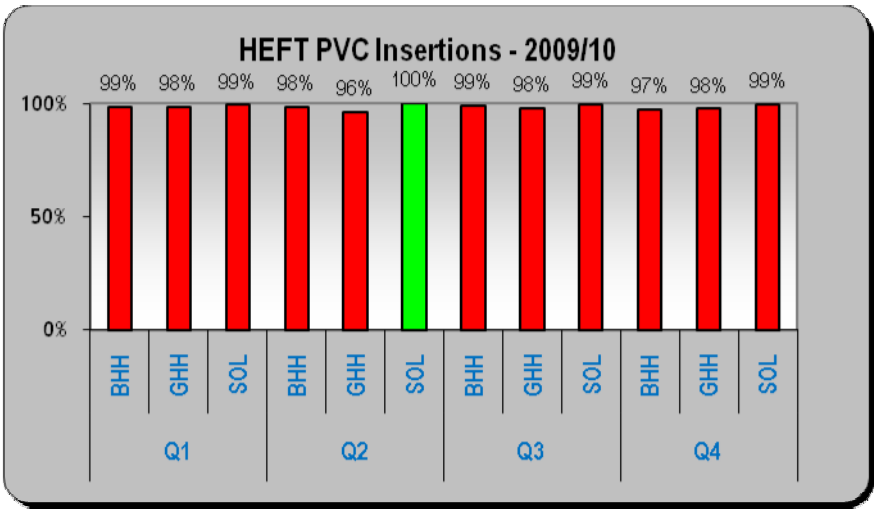
Hand hygiene remains a central aspect of the audit programme. The results for 2009/10 are shown in the graph below and indicate Trust compliance being broadly over 80%.



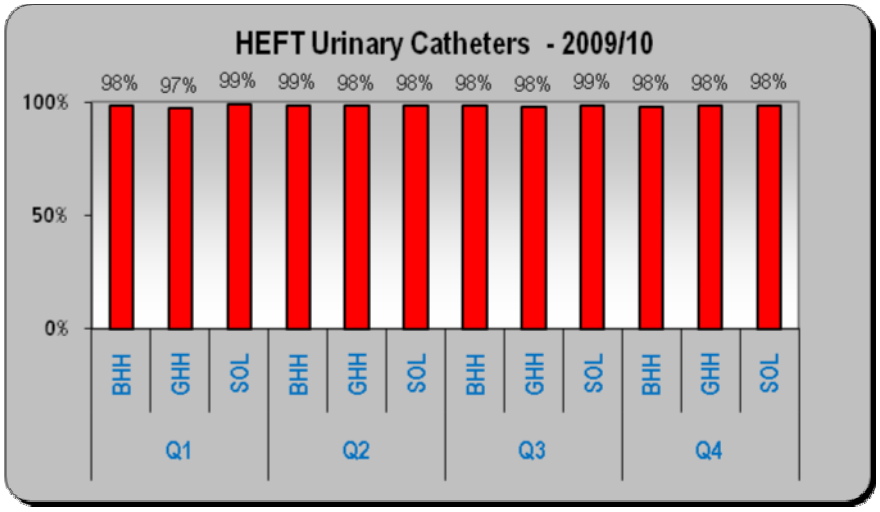
2.4.3 Saving Lives Audits
Saving lives High Impact Intervention Audit Programme

The Trust has conducted monthly audits of the following Saving Lives High Impact Intervention Audits: CVC ongoing care, PVC insertion, PVC on going care, Renal dialysis catheters, Surgical site peri operative care, ongoing care of ventilated patients, and urinary catheter ongoing care. These have been carried out as detailed in the 2009/10 programme and were selected on the basis of root cause analysis during the previous year. Clinical staff inputted data and down loaded results via a locally developed web based system with the support of the Infection Prevention and Control team as required. Results from HII audits have been mixed with sustained standards in some areas such as renal dialysis ongoing care to a more variable standard for PVC insertion and urinary catheter care.

Following root cause analysis from bacteraemia cases it has been identified that potential sources of infection have been from indwelling urinary catheters. As a result a working group has been set up to review current practice and to develop mechanisms to improve catheter management. This project has started with Group 1 and the team will work with our health economy partners in 2010-11 to develop innovative strategies to address this issue further.



Catheter Care
Due to the negative impact of urinary tract infections on patients, HEFT had set the target for compliance to urinary catheter care to 100%; over the period 2009-10 HEFTs annual mean score was 98% compliance.

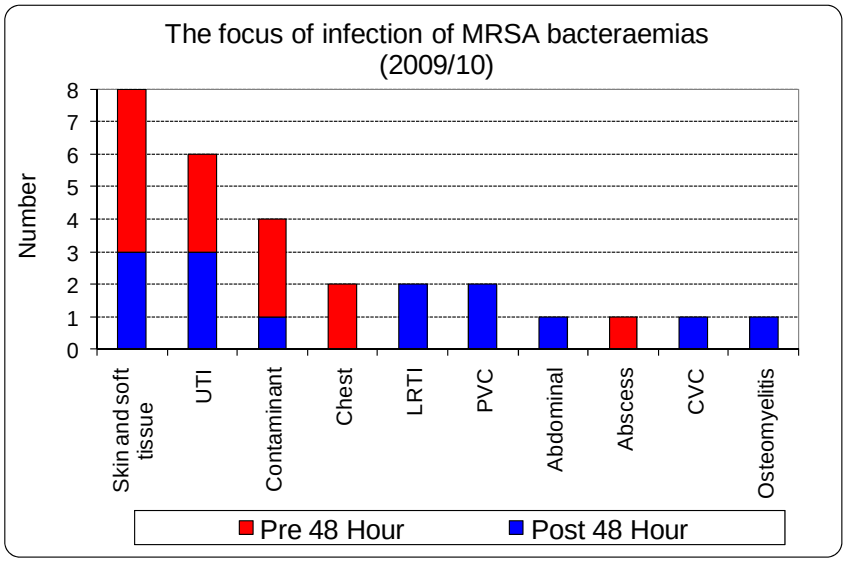


2.5 Research activity to enhance practice
The Trust engaged in research work into HCAI control during 2009-20010 as detailed below:

a. Advantage West Midlands have funded a two year project aimed at providing robust scientific studies evaluating new infection control products. During 2009-10 the IPCT collaborated with the overall evaluation of a novel disinfectant.
b. Laboratory studies have been undertaken to establish the sensitivity and specificity of different MRSA testing methodologies.
c. A typing technique for *C difficile* with greater discriminatory ability has been developed and utilised in clinical practice to understand the transmission of *C difficile* on wards.
d. Laboratory studies have been undertaken to establish the sensitivity, specificity, positive and negative predictive value of different methodologies for detecting *C difficile.*
e. During 2009-10 the Team were successful in their application for funding to determine if measuring environmental cleanliness using ATP technology aids in the monitoring of the wards with periods of increased incidence of *C difficile*.

2.6 Root Cause Analysis (RCA) for MRSA bacteraemia
Root Cause Analysis for cases of MRSA bacteraemia continued during 2009-2010. The chart below shows the focus of infection for MRSA bacteraemias, with the predominant ones being skin and soft tissue and UTI. These occurred in both community and hospital acquired cases. There were only three line associated MRSA bacteraemias in 09/10, compared to four in 08/09; two PVC and one CVC. The most common focus of infection in 08/09 was lower respiratory tract (10 cases), with there only being two cases in 09/10.

RCA findings are also reported to the Health Economy Meetings to ensure that lessons learnt can be shared and discussed. The trust web-based tracker facility continues to be used for recording findings of root cause investigations and action plans.



Actions following RCA findings:

Reducing urinary tract infection related MRSA bacteraemias:
A number of actions have been taken around improving catheter related practice, as stated earlier in the report in relation to High Impact Interventions audits.

Reducing incidence of contaminants:
During 2009-10 the IPCT have worked hard to ensure that there has been a sustained reduction in the numbers of incidence relating to blood culture contamination including the continued competency training of junior doctors at induction. Improvements in this area are planned for 2010-11 commencing with the audit of blood culture pack usage across the Trust and introduce ongoing audit of blood culture contamination rates.

2.7 Root Cause Analysis (RCA) for *C difficile* mortality
During 2009-10 the RCA process for cases where *Clostridium difficile* mortality was listed on parts 1 of the death certificate was done. This is in line with reporting of part 1 deaths under SUI. As the return percentage of completed RCAs was poor it was decided to only send them for Part 1 deaths. Additionally the same issues were being raised which needed review in terms of relevance. This process is being further reviewed and refined this year.

The 30 day mortality data is also shared by health economy group and this led to a joint review with partners from the PCT, Infectious Diseases Department and the IPCT during the year to audit compliance with *C difficile* care pathways for a selection of patients with all-cause 30 day mortality. No issues were identified as a result of this process. The PCT representatives commented that care undertaken within HEFT on *C difficile* patients prior to their death had been exemplary.

2.8 Risk Assessment and Action
During the year ICOG maintained and responded to the infection control risk register. The infection control committee structure contributes to the Trust Strategic Risk Register. Infection Control is not on the Trust Strategic Risk Register as the score was downgraded in 2009.

2.9 Staff training, information and supervision

2.9.1 Staff information

- **Reports to Group Business Units:** These reports continued to be provided during 2009-10 to include feedback of data on MRSA bacteraemia, *Clostridium difficile* infection, outbreaks of infection, audit results and other current information for each of the divisions.
- **Ward Reports:** Monthly reporting of ward-based surveillance information on MRSA and *Clostridium difficile* diarrhoea to wards and directorates continued in 2009-10 using SPC charts. Cleaning scores and commode cleaning results are included on these reports. Wards were able to download results of their high impact intervention scores to display to the public in their clinical area.
- **Notice Boards:** A Trust wide communications initiative was completed in the form of infection control notice boards for each ward, enabling staff to review their own performance and readily track their routine infection control tasks to complete.
- **Infection Prevention and Control Promotional Activities:** Events were held throughout the year promoting infection prevention and control activities and good practice targeted at both staff and visitors to the Trust.
- **Infection Prevention and Control Study Day:** This event was held in October 2009 and included talks on Norovirus, Swine Flu, C *difficile*, and celebrated improvements in practice. Representation from companies, and networking space helped to support the day.
- **Intranet:** Infection control continues to make use of the intranet for providing staff with an easy access portal for information, policy guidance and team contact details.
- **Link Nurse Scheme:** The Infection Prevention and Control Team continued to support the link nurses, with every ward area having a designated link member of staff. Various events and bulletins were issued to keep these staff informed.
- **Lead Consultants:** The IPCT continued to provide updates to the lead clinicians across the Trust during the year, however, attendance at these venues was poorly supported.
- **Heart and Soul:** The Trust staff magazine has been used to promote issues to staff, with a monthly column highlighting the current infection control messages.
- **Bugs Free Zone:** During 2009-10 the IPCT produced a bi-monthly newsletter highlighting key IPC messages to staff; this was widely circulated throughout the Trust.

2.9.2 Staff training

The Team continued to have a strong training role within the Trust during the year. Infection control training and education programmes during 2009-10 included a programme of mandatory sessions and presence on staff induction days. Other sessions included Chlorclean awareness, *C difficile* awareness, outbreak management, Swine flu awareness and mask fit testing, portering and domestic staff updates, volunteers and HCA education. Link staff conducted cascade training on hand hygiene. The IPC team provided updates to link staff during the year. Training was recorded on a national standard module “OLM” on the Electronic Staff Record, with training attendance being reported to the mandatory training committee.

2.9.3 Staff supervision

The Infection Prevention and Control nursing team were deployed to provide training and expert advice to staff as well as monitoring compliance by wards and departments with expected standards. In this way, the work of staff in the Trust was subject to scrutiny and supervision.

Infection Prevention and Control Team Personal Development and Training
During 2009/10 all members of the Infection Prevention and Control Team attended mandatory training. In addition, two nurses completed their professional specialist infection control training course. The wider team attended national and local study days/seminars. Staff participated in the annual appraisal process. In-house training occurred monthly to update specialist skills and knowledge, on subjects such as microbiology, outbreaks and cleaning.
DIPC also attended a media training course in addition to the Performance Improvement events organised by DH.

2.10 Policy on Admission, Transfer, Discharge and Movement of Patients
The Trust bed management policy addresses the admission, transfer and discharge of patients within and between healthcare facilities. The IPCT were once again involved in updating and reviewing this policy during 2009. The IPCT liaises with bed management staff and operational managers on a regular basis to support compliance with this policy. For example, IPC team members advised on discharges to nursing homes, and transfers to the cohort ward.

3. Compliance Criterion 2:
A clean and appropriate environment for healthcare

3.1 Committee Structures and monitoring processes
The ICOG has a designated sub-committee to look at environment issues with IPCT representation in attendance. Legionella and Decontamination groups report to the ICOG Environment group. There is a designated lead manager for cleaning and the Lead for decontamination is under review. There is a Trust Waste Manager who reports through the environmental sub committee.

The **Legionella Working Group** for HEFT, which meets quarterly, is chaired by a Consultant Medical Microbiologist. The Legionella Policy is reviewed in line with policy update and risk assessment and audit results. The following work has been carried out over 2009-10 by the Legionella Group

Following a case of hospital acquired legionella which was reported under RIDDOR and replacement programme of implicated flexible hoses in the Trust is being undertaken. A full-time person has been appointed to the programme, prioritising those areas of the trust with positive surveillance cultures. Progress with the programme will be monitored and reported to the PCT

A review of ice machines was conducted jointly on recommendation of this Group and ICOG and those on the wards solely being used for drinking purposes were removed.

Legionella bacteria are isolated from time to time in water supplies in a number of areas in the trust, but usually in low concentration. Each isolation was investigated, and any local factors corrected, and the outlets re-tested to assure clearance.

A recent training course for awareness of Legionella risk had been well attended and popular. More than 50 staff from trades, engineers, supervisors and design teams across the Trust had attended. Regular updates could be provided to include all new starters and sub-contractors working on Trust projects.

Maintaining Environmental Controls

- Legionella Risk Assessment Reports have been requested for premises rented by the trust for patient use.
- Technical solutions have been used to assist with flushing for essential outlets with low usage

The following summarises the 2009-20010 achievements of the **Decontamination Committee**:

- The Committee reviewed all incident reports involving decontamination and all quality issues concerning the contract with supplier of sterile services BBraun/Sterilog.
- A new endoscope decontamination facility is currently under construction in the Endoscopy Unit at the Solihull site and will be commissioned in due course.
- Endoscopy staff have undertaken specialist training following the commissioning of the upgraded unit at BHH.
- General training and understanding of decontamination issues continued to be addressed with the assistance of the Medical Devices Training Co-ordinator and the use of the web-based NHS Estates Decontamination training programme.
- A business plan for the upgrade of the BHH clinical equipment and resource centre was approved and works carried out to provide an effective decontamination facility.

3.2 Patient Environment Action Team Inspection

Infection Prevention and Control team members continued to attend the Cleaning Standards Group on a quarterly basis. This committee monitors cleanliness standards, receives cleaning monitoring reports and oversees the Patient Environment Action Team (PEAT) monitoring process.

PEAT scores for environment inspection 2009 are shown below.

	2009
Heartlands	Good
Solihull	Good
Good Hope	Acceptable

3.3 Examples of IPCT work to support environmental duties:

- Regular meetings occurred between the IPCT and the Housekeeping Manager throughout the year to resolve operational issues.
- IC attendance at service development meetings including upgrade and new build projects such as Block 1 at Good Hope Hospital; and the day procedures unit for ophthalmology patients.
- A robust environmental audit programme was followed during 2009-10 involving IPCT, Matrons and the Hotel Services department. .

3.4 Uniform Standards

During the year there appears to have been a decrease in the numbers of staff complying with the bare below the elbows initiative, especially during winter months. This is to be addressed as part of the hand hygiene and communications strategy for 2010-11.

The Trust continues to provide uniforms for medical staff to encourage compliance with this policy.

3.5 Clean Your Hands Project

The "Clean Your Hands" Project is ongoing and is based on the WHO Initiative to reinforce the importance of hand hygiene in healthcare. The initiative is supported nationally in all local NHS Trusts to improve hand hygiene practice at the point of care. Currently within the Trust we introduced an education initiative covering hand hygiene and decontamination into corporate induction, mandatory training and updates. We are utilising "The Five Moments" template which demonstrates and promotes effective hand decontamination in the patient environment. This has been incorporated as hand decontamination into the monthly saving lives audits. On a monthly basis all ward and clinical areas carry out hand hygiene audits. This provides statistics on hand hygiene and decontamination.

The Project also utilises the 'positive role' model by displaying 'staff model behaviour posters' around the corridors promoting their hand decontamination and them being bare below the elbow.

The installation of new hand care products and dispensers was launched in conjunction with the Clean Your hands Project from the 01/01/10 and will be completed by the 01/06/10. The advantages of the new products are that they are virucidal and active against Norovirus. This will give clinical advantage of reducing the number of ward and hospital closures due to outbreaks of diarrhoea and vomiting.

The Purrell hand gels have emollients in them which is likely to improve staff skin conditions .The new mild foam hand soap is a large 1.25litre dispenser which will improve cost overall as it is a cheaper product. The hand skin conditioner is also free from additives, dyes or perfumes. It is a high quality emollient that will improve the uptake and use of hand conditioner Trust wide, further improving the quality of the skin of our staff and patient hands.

4. Compliance Criterion 3:
Provide information to patients, the public and between service providers on HCAI

4.1 Communications Programme

During 2009-2010 the planned Communications Strategy was not fully implemented due to pressures on the Communications Team e.g. Swine Flu and the lack of co-ordinated working between the IPCT and the Communications Department.

However, information to patients and the public continued to be provided in order to raise awareness of infection control issues. Highlights include:
:

- Participation in the NPSA Clean your hands campaign.
- Introduction of infection control branding to ensure communications unity.
- Visitors stand manned by IPCT to address queries and highlight key issues.
- Use of GP bulletins to publicise Norovirus messages.
- Use of leaflets produced to highlight specific issues e.g. Norovirus
- Communications campaign to inform GPs and the public about MRSA screening.
- Swine Flu information for staff and visitors.
- Discharge letters to patients and GPs if patients positive for MRSA and *C.difficile*

4.2 Trust website and information leaflets

The Trust website promotes infection control issues, with trust magazines and press releases archived and links to the Health Protection Agency to guide people to performance information on MRSA and *C difficile*.

A range of information leaflets are available for patients, public and staff archived on the trust patient information database.

4.4 Providing information when patients move between providers

During 2009-10 the IPCT developed automatic generation of clinical letters for patients with a known *C difficile* or MRSA positive result. Thereby complying with the requirements to provide effective communication between healthcare providers.

5. Compliance Criterion 4:

Promptly identify, manage and treat infected patients

There is a weekly Infection Prevention and Control team meeting which is chaired by DIPC and it is a multidisciplinary group comprising medical, nursing, science, analytical and managerial staff. The meeting reviews the current position of the Trust in terms of infected patient caseload and locations, and the steps being taken to respond to the trust's situation. This was well attended during 2009-10.

5.1 MRSA screening

MRSA Elective Screening

The Department of Health introduced the mandatory MRSA screening for elective patients from April 2009. This was launched in the Trust in March 2009 with changes in MRSA Screening policy and setting up of a focus group to implement this guidance. The majority of these tests are performed by culture. The Trust has been compliant with this target of achieving >100% every month. However, the national reporting mechanism consists of matching the total number of screens with the number of elective admissions. It does not match the screen to an individual patient. Therefore internally, for quality purposes the Trust have been monitoring the patient admission to screening swab taken and are aiming for this to be 100%. It has been stationary in the range of 65-70%.

MRSA Emergency Screening

This was introduced in the Trust in June 2008, ahead of the national guidance which is expected to be compliant by December 2010. The figures for compliance have been static for the whole year ranging between 60-70%. Achieving 100% (i.e. all patients admitted should be screened), was part of the CQUIN target for 2009-10. This was not achieved.

As the figures have failed to improve over the course of the year, the MRSA Screening Group is now meeting monthly to develop other ways to increase the compliance.

5.2 Managing outbreaks of infection

Responses to Incidents and Outbreaks

The Infection Prevention and Control Team were involved in the management of many outbreaks and incidents over the year 2009-10 as detailed below:

- Hospital acquired Legionella
- Good Hope Ward 17 *C difficile* outbreak
- Endophthalmitis post cataract surgery
- Swine flu pandemic
- Increase in incidence of *C difficile* at GHH including ward GHH 16 and 15 outbreaks
- Major Outbreak of Norovirus at GHH
- Failure of decontamination incident at BBraun

<u>Hospital acquired Legionella</u>

A severely immuno-compromised patient developed Legionnaires' disease whilst an inpatient on Ward 12 at Heartlands Hospital in April 2009. The patient was subsequently confirmed to have Legionella pneumophilla serogroup 1 isolated from his sputum sample and made good recovery from his pneumonia.

Incident meetings were held to establish the source of this infection. Water sampling was undertaken and it found 9 outlets positive for Legionella pneumophilla serogroup 1. The team led the management of the incident including screening all patients with respiratory symptoms and daily visits to the wards by ICNs to identify any potential further cases.

A follow up meeting recommended a replacement programme of these flexible hoses across the Trust based on risk assessment via the legionella working group.

Good Hope Ward 17 *C difficle* outbreak

Due to an ongoing increased incidence of *C.difficile* the IPCT were involved in extensive auditing and training on this ward during 2008-09. However there were ongoing cases, despite improved standards, indicated environmental contamination due to poor fabric of the ward. The IPCT were instrumental in a decision to close the ward for refurbishment in April 2009 and assisted in the design for refurbishment. The approach was successful in controlling the problem.

Endophthalmitis post cataract surgery

There was again an increased incidence of Endophthalmitis post cataract surgery affecting patient on both the Good Hope and Solihull sites in April and May 2009. Previous increased incidence was from November 2007- October 2008 when measures were taken to control the situation. Outbreak meetings were held to review the processes again which included a visit to external decontamination sites and comparing practices and also to review theatre at both sites. Recommendations were made following this.

Extensive auditing of theatres and B Braun took place by the IPCT. A number of changes were instigated following this.

External visit by Authorising Engineer was arranged to consider current decontamination procedures at the centralised facility and instrument-handling practice at hospitals to identify any possible causes for endophthalmitis outbreaks or causes, within decontamination and instrument-handling capable of causing the outbreaks experienced. There was no cause, or causes, identified within decontamination.

External advice was also sought from the Royal College of ophthalmology. Additional theatre works have been advised by the team of the Royal College.

Swine flu pandemic

The Team were involved in the very busy pandemic work for swine flu during June, July and August 2009. This continued until the winter months when the incidence of swine flu declined because of progress in vaccination. Work included attendance at expert flu panel meetings, revision of policies and guidelines, issuing vaccination guidance, production of education material, training sessions for staff and mask fit testing. ICNs visited wards with symptomatic patients daily to give advice on management and maintain DH required databases. Daily reporting of admitted cases was provided both internally and externally to the SHA. Daily progress of patients on critical care and Mortality of cases with suspected swine flu was carried out and sent to the CMO via SHA and systems were put in the Trust to identify these cases promptly.

Increase in incidence of *C difficle* at GHH including Ward GHH 16 and 15 outbreaks

Periods of increased incidence were managed by the IPCT in line with the PII policy. *C difficile* and environmental audits were carried out. Outbreak meetings were held, and wards were closed for deep cleaning by hydrogen peroxide vapour ('sterinis') and issues escalated to ICOG as appropriate. This deep cleaning process brought the cases under control.

Major Outbreak of Norovirus at GHH

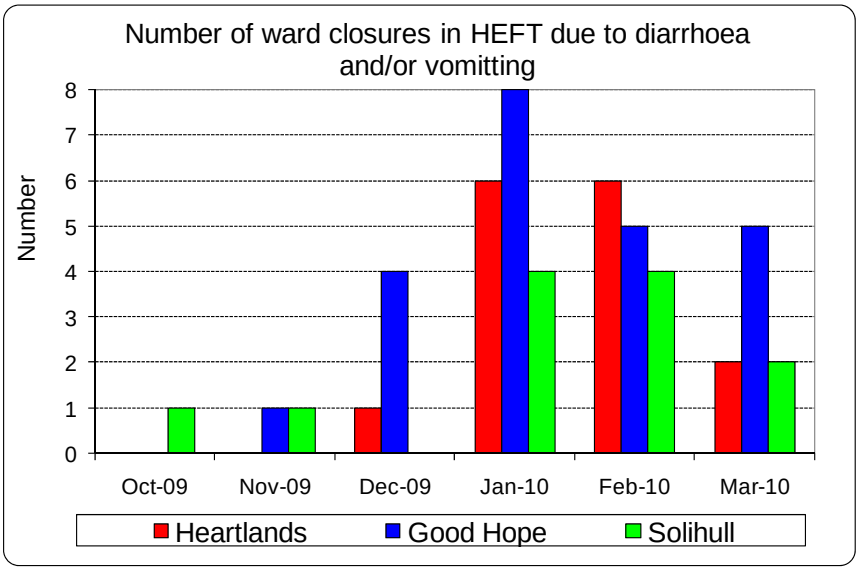
There was a major norovirus outbreak on the Good Hope site during February/March 2010. At the height of the outbreak 7 wards (including 1 PCT ward on the site were closed) and a major outbreak declared for a period of a week. The DIPC coordinated the management of the outbreak which involved cancellation of elective surgery for a day and no visiting policy enforced for 4 days. Daily outbreak meetings were held including on weekends. The ICNs re-directed their staff resources to manage the increased workload at the site. A full multidisciplinary review of the outbreak was conducted by the DIPC and lessons learnt will be implemented during 2010/11. The major outbreak policy will be changed to reflect this.

Failure of decontamination incident at Braun

Incompletely sterilised sets were used on 7 patients, 3 at Solihull and 4 at GHH in March 2010. Initial results from the investigation indicated that there were both process and procedural failings which resulted in the incident. The infection Prevention and Control team were actively involved in tracking instruments used on patients and providing an immediate assessment in consultation with the patient's medical team of antibiotic prophylaxis changes required to alleviate risk. BBraun have taken steps to ensure that this does not happen in future, which has been replicated at all other BBraun sites. No infections have been reported in the patients identified through this incident.

Outbreaks due to diarrhoea and vomiting

The Norovirus report with lessons learnt from 2008-09 was presented to various committees including trust board. The norovirus group revised the communication structure during outbreaks. The outbreak folders were re-distributed. Because of the uncertainty due to restructure the Group did not meet for a few months but then was re convened to strengthen the management of issues. During 2009/10 (October to March) there was a total of 50 ward closures due to diarrhoea and vomiting of which 41 were confirmed as norovirus. There were a total of 560 patients with symptoms and 2380 bed days lost. The majority of the ward closures occurred from Jan – Mar 2010, with Good Hope having the greatest number of ward closures during this period and a major outbreak being declared. The trend this winter was the admission of symptomatic patients from the community overwhelming our side room capacity. This was particularly prominent at GHH due to lack of side rooms in AMU.



Outbreaks of *Clostridium difficile*

All periods of increased incidence (PII) defined as two or more cases of post 48hr *C difficile* in a 28 day period on the same ward are investigated. There is an electronic Tracker surveillance system reviewed weekly to manage all wards with PIIs. The following actions are taken during investigation of PIIs

(i) Clinical director, matron, ward manager and directorate manager are informed

(ii) A weekly *C difficile* ward audit until the weekly score is >90% in three consecutive weeks is conducted.

(iii) A weekly antibiotic review is carried out

(iv)The whole ward is cleaned using Chlorine releasing agent (Chlorclean)

(v) Ribotyping of *C difficile* isolates from the ward is undertaken.

If those 2 or more cases are found to be the same type then it is declared as an outbreak and a serious untoward incident is logged with the governance department. If the wards pass the audit and no further case is identified then the outbreak is closed. However if cases continue then an outbreak meeting is called and issues are investigated and managed appropriately.

A total of 37 wards have been investigated for PII of which 18 have been confirmed as outbreaks.

6. Compliance Criterion 5:
Co-operation within and between healthcare providers

6.1 Health Economy and Partnership working

There is collaborative working at the operational level between HEFT Infection Prevention and Control team and microbiologists, local PCT infection control teams, and the Birmingham & Solihull Health Protection Unit (HPU), including through a collaborative health economy wide HCAI group with monthly meetings set during 2009-2010.

There are 2 Health-Economy meetings one led by NHS BEN's DIPC and other by South Staff PCT's DIPC. These are both attended by HEFT's DIPC to improve patient care across the health economy and deal with any issues jointly. NHS BEN being our lead commissioner also seeks assurance on various targets. There has been a joint close working with BEN during norovirus outbreaks.

The BEN PCT DIPC and a Consultant in Communicable Disease Control from the HPU attended the HEFT Infection Control Executive Committee.

As mentioned previously, the trust has worked to share root cause analysis findings with PCT partners (see section 3), The Trust have also contributed to the formulation of the health economy strategy for the reduction of HCAI.

The Trust also participated in the Department of Health led "Performance Improvement Networking" events during the year on a quarterly basis.

A joint review with partners from the PCT, Infectious Diseases Department and the IPCT was undertaken during the year to audit compliance with *C difficile* care pathways for a selection of patients with a 30 day mortality which is mentioned earlier.

Establishment of Community Units at BHH 29 and GHH3 also involved reviewing PCT's IC policies so that they aligned with HEFT's. HCAI information is being provided on those in-patients to PCT providers for action and if required joint management is undertaken

6.2 Internal Co-operation

In order to achieve the significant reduction in infection rates within the trust, extensive internal multidisciplinary collaboration was understandably necessary. Engagement with the assurance framework and responsiveness to the needs of the infection control work programme was gained at all levels within the trust with clear leadership from the trust Chief Executive, DIPC and senior clinical and operational personnel. DIPC and /or Lead ICN held meetings with Lead Consultants at each site to acknowledge their champion work on the wards and inform them of the relevant programme areas and seek co-operation. The IPCT continued to meet with Matrons on a monthly basis in order to publicise audit results and encourage further improvements.

7. Compliance Criterion 6:
Provide adequate isolation facilities

As mentioned earlier in the report, the IPCT were unable to carry out audit of isolation facilities across the Trust and this is work is going forward into 2010-11.

It has to be noted that the lack of isolation facilities within the admission ward on the Good Hope site during the outbreak of norovirus (January and March 2010) contributed to the spread and the difficulties in containing the outbreak. This has been highlighted post outbreak analysis and will be taken forward by the norovirus steering group.

As part of the Trust's strategy to manage cases of *C difficile* and prevent further spread, the cohort ward (on Ward 27 BHH) has continued to be used for the care and management of symptomatic patients from across the three sites.

8. Compliance Criterion 7:
Ensure adequate laboratory support

Laboratory services are provided through contractual arrangements with the HPA on the Heartlands, Solihull and Good Hope sites. Reconfiguration of clinical laboratory services took place during the year and now food and water services are all located on the Good Hope site and all other laboratory services were transferred to BHH site. All laboratory services maintained Clinical Pathology Accreditation during 2009-2010.

Detailed information on laboratory performance for the year can be found in the *Annual Report on the HPA Regional Laboratory Service to Heart of England NHS Foundation Trust for Microbiology and Infection Control for 2009/2010.*

A set of key performance indicators for the Health Protection Agency (HPA) to monitor effective provision of the infection control service was in place during 2009-10 the outturn for 2009-010 showed that the HPA met the expected benchmarks for these indicators.

9. Compliance Criterion 8:
Policies and protocols

The areas of the work programme described in this annual report are relevant to the policy areas listed in the Health and Social Care Act 2008. These are available through the Trust intranet site and feedback to the IPC team is that staff awareness on how to find policy guidance is good. Policies are within review dates, and were updated and approved by the ICEC according to review dates or changing practices. Policies were compared with peer performance and national guidance to ensure that best practice is promoted.

10. Compliance Criterion 9:
HCAI prevention among healthcare workers

All job descriptions include infection control responsibility and this message is reiterated during mandatory training. The Infection Prevention and Control team participate in induction training and mandatory updates for all staff groups

Staff training
The team continues to have a strong training role. Infection control training and education programmes during 2009-10 included a programme of mandatory sessions and presence on staff induction days. Other sessions included chlorclean awareness, *C difficile* awareness, outbreak management, Swine flu awareness and mask fit testing, portering and domestic staff updates, volunteers and HCA education. Link staff conducted cascade training on hand hygiene. The IPC team provided updates to link staff during the year. Training is recorded on a national standard module “OLM” on the Electronic Staff Record, with training attendance reported to the mandatory training committee.

Occupational Health services are provided as required within the trust. The IPCT worked with the Occupational Health services to support the flu vaccination campaign and undertook staff vaccination along with other trust flu champions.