Infection Prevention and Control

Annual Report

April 2011 – March 2012

Infection Prevention & Control Team
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Introduction

The Infection Prevention and Control (IP&C) annual report 2011-12 comprises:

A) **Operational Summary** – Focus on the IP&C team, operations and reporting.
B) **Service Activity and Development Summary** – Organisational IP&C service activity and developments as directed by national strategy and local need.
C) **Performance Indicators** – organisational performance as assessed against local and national performance indicators, audit and surveillance activity.
D) **Summary and Improvement Plan 2011-12** – summary of achievements and organisational priorities for improvement 2012-13.

**Summary of Successes 2011-12**

The Trust merged with Wiltshire Community Health service in June 2011 this annual report is a merged organisation report.

- Sustained improvement in hospital apportioned *Clostridium difficile* rates remains a priority.
- Acute Trust *Clostridium difficile* infections (CDI) showed a reduction from 40 to 17 which was significantly below the Strategic Health Authority (SHA) limit of 39. Community CDI showed a reduction from 5 to 2 against a SHA limit of 30.
- The HPA report that the Acute Trust apportioned CDI rate per 100,000 bed days for quarter 4 (January – March 2012) was 7.4 compared to the regional and national rates of 18.4.
- The MRSA bacteraemia limit was not exceeded with a total of 4 as a health care community for Swindon. Great Western Hospital acquired 2 cases reported after 3 days of admission with a limit of 2 and 0 for the community beds set by the SHA.
- There were periods of 173 and 129 days between Acute Trust apportioned MRSA bacteraemias.
- The Health Protection Agency (HPA) report that the MRSA bacteraemia rate per 100,000 bed days for the Acute Trust apportioned cases for quarter 4 (January to March 2012) was 0 compared the regional and national rates of 1.3.
- The Acute Trust blood culture contaminant rate fell to 2.7% in March 2012 with an average score of 4.8%.
- IP&C risk register access through Safeguard has been rolled out Trust wide.
- Continued collaborative working with Private Finance Initiative (PFI) contractor, Hotel services at satellite sites, microbiology, IP&C, estates and procurement including the introduction of micro-fibre floor cleaning.
- MRSA admission screening rates consistently better than the agreed 95% (range 97% - 99%).
- Introduction of a semi-disposable micro-fibre flat mopping system within the Great Western Hospital, providing improving cleaning standards, improved aesthetic results, whilst saving labour time, by reducing the number of stages in the cleaning process.
• Roll out of Gojo antiviral gel to all community sites where the Trust supplies hand hygiene gel
• Standardisation of cleaning wipes; detergent disinfectant and sporicidal wipes with that used within the Acute trust

A – Operational Summary

1 Infection Prevention and Control (IP&C) Team Arrangements

The team continue to report monthly to the Patient Safety and Quality Committee and to the Trust Board. A copy of the six monthly Infection Control Committee minutes is provided to the Board. It is a requirement of The Health Act 2008 for this report to be made public. Monthly Infection Prevention and Control Forum meetings are held with nominated matrons and clinical staff. Twice monthly team briefs are held with the Infection Control Doctor to discuss project updates and operational issues.

B – Organisational and IP&C Service Activity and Development

2 IP&C Policies/Guidelines/Practice Developments

2.1 Policies

The following policies have all been harmonised with previous organisations existing IP&C policies, most of the GWH policies were reviewed during 2010-11 reporting period, therefore were reflecting current practice and guidance. The main changes to all the policies were to ensure they are applicable for all healthcare settings under the Trusts remit, rather than practice changes.

• Management of Diarrhoea and Vomiting (including Norovirus)
• Standard Infection Control Precautions
• Isolation
• Blood Borne Viruses
• Safe Handling and Disposal of Sharps
• Hand Hygiene
• Multi Drug Resistant Organisms
• Pets as Therapy and Assistance Dogs in Hospital Policy
• Surveillance
• Clostridium difficile
• Management of cases in community hospitals by the anti-microbial team

Ongoing Policy Review, but not yet ratified within this report period:

• MRSA
  ➢ Inclusion of Emergency Caesarean section screening for GWH site
2.2 Service Developments

The Private Finance Initiative Contractor is responsible for the cleanliness of all floor surfaces throughout the Great Western Hospital. Although high standards of cleanliness were provided, the aim was to improve the finish which in turn would improve patient/visitor perception, improve productivity and drive cost efficiency whilst maintaining standards.

The use of the micro-fibre flat mopping is a one system approach, a manual mopping technique which removes the debris, dirt particles and bacteria, whilst putting a shine to the floor surface without the use of a polish.

The housekeeping team had previously used a three system approach

- Kexing (a manual mopping technique used to remove debris from the floor surface;
- Dolly mopping (a manual mopping technique used with detergent to remove dirt particles and bacteria from the floor surface; and
- Buffing (a machine used with a polish to improve shine surface finish).

The micro-fibre system was closely monitored and benchmarked against the traditional cleaning methods using Adenosine Triphosphate (ATP) as a monitoring tool alongside the traditional visual cleanliness.

The benefits of the new system equates to time saved in cleaning, as this is a one-stage system. The overall results of the appearance of the floors are very much improved; therefore there are advantages when using a visual cleanliness tool. The flat mop enables housekeeping staff to easily clean under lockers and bed frames if they are unable to disturb the patient or the equipment. Due to the improved finish of the floor, there is no need for buffing to occur, again saving time and resources.

Training was provided free of charge and the housekeeping supervisors ensure that the correct techniques are being implemented by staff especially during the initial weeks when the floors were being stripped of chemicals and wax and mopping was intensive with a three month roll out plan.

2.3 Annual Audits

National One Week prevalence audit of MRSA screening (NOW Study) captured all new MRSA colonised cases during the second week of May 2011. This study looked at screening protocols and groups of patients screened throughout many Acute Trusts in the country. To
date the final results have not been released to the organisation for analysis, or fed back to the Department of Health (DH) to influence national MRSA screening policy.

The Trust took part in English Point Prevalence Study on Healthcare-associated Infections (HCAI) and Antimicrobial Use, which was completed within GWH in September 2011. The survey was voluntary and undertaken in 99 NHS Acute Trusts and 5 independent sector organisations, therefore 114 hospital sites took part and 52,443 patients surveyed. Comparative data against the 114 hospital sites (national average) has revealed that GWH has a less than average rate of HCAI of 5.5% compared to a national rate of 6.4%. GWH has a higher than the national average use of antibiotics (39% GWH/34.7% nationally).

A greater percentage of invasive device usage was also noted as shown in table 1.

Table 1

<table>
<thead>
<tr>
<th>Invasive Device</th>
<th>GWH</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Venous Line</td>
<td>41.8%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Central Venous Catheter</td>
<td>6.6%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Urinary Catheter</td>
<td>25.6%</td>
<td>18.8%</td>
</tr>
</tbody>
</table>

GWH reported greater than the national average of HCAI in the form of pneumonia and urinary tract infections, but less than the average rate of surgical site infection (14.8% GWH/15.7% nationally).

**Peripheral Venous Cannula Audit**

An audit was carried out across the Trust by IP&C using the Infection Prevention Society Tool between December 2011 and January 2012. All inpatient areas were audited (122 patients on the GWH site).

**Summary of Results:**

- Visual Infusion Phlebitis (VIP) scores were completed at least daily for 75% of patients evaluated across the Trust, although 5 ward areas achieved 100% compliance.
- 81% of cannulas were removed when no longer required, although one patient did not have their cannula removed with a VIP score of 2 - this was addressed immediately.
- 100% of dressings were dry and intact but 14% were not dated which would prevent timely removal.
- There were 36 intravenous lines in situ at the time of audit; giving sets require change every 72 hours, yet only 16% of all giving set lines were dated.
Recommendations:

- Although the VIP form requires a ‘Reason for insertion’ to be noted daily, it does not prompt the assessor to check that the reason for insertion remains. The VIP form will therefore be reviewed by the IP&C team.
- In some clinical areas there are insufficient healthcare staff competent in cannulation, which can discourage healthcare workers in general to removing cannulas, these areas should look at more staff being trained to meet their needs.
- Medical staff receive training in venepuncture when they join the Trust in August. It has been agreed that VIP forms need to be included within this training opportunity.

Sharps Audit [GWH]

A Sharps audit was undertaken this year within the Health and Safety (H&S) audit. It has been agreed there will be a joint drive from IP&C with H&S and Occupational Health to ultimately reduce the number of sharps injuries that staff incur though targeted training and awareness over the next three years.

A Sharps Working Group was set up to prepare the Trust in for the introduction of Health and Safety Executive legislation in 2012. The Trust has been assessing needle stick injuries (NSI) and types of devices implicated in such injuries. This has influenced the Trust’s decision to replace the top two devices associated with NSI with needle-safe devices as part of an initial roll out.

Trials have taken place for cannulas in the Unscheduled Care directorate and Theatres with positive feedback. Roll out will commence at the beginning of 2012-13 financial year.

Sharps Audit [WCHS] (Quarter 4)

This audit was undertaken across community services formerly known as Wiltshire Community Health Services (WCHS) to ensure the Trust comply with the Safe Handling and Disposal of Sharps Policy. The objectives were to ensure that sharps bins and containers were assembled and labelled correctly and were not overfilled, and also to ensure that there were no protruding sharps or inappropriate contents within the sharps bins/containers. The audit was initially performed in different departments during the first three quarters of 2011/12 whilst quarter four was used for areas that did not achieve compliance during the first audit were re-audited.

Results revealed that 8/12 teams re-audited achieved 100%. For the four areas which did not achieve compliance, the heads of service will develop action plans where necessary to improve professional practice within their teams. The report was presented at the Infection Control Forum.

Re-audit will be part of the Trust-wide Sharps Audit during 2012/13.
Hand Hygiene Audit (Quarter 4)

This audit was undertaken across community sites, formerly known as Wiltshire Community Health Services to ensure the Trust comply with the Health and Social Care Act 2008. The audit was initially performed in different departments during the first three quarters of 2011/12, whilst quarter four was used to re-audit areas that did not achieve compliance during the first audit. The objectives were to determine the number of staff experiencing skin problems, ensure criteria for hand hygiene was adhered to and identify any training/educational needs.

152 staff members were audited within 13 different teams. Results indicate that eight teams achieved 100% compliance against all the criteria. Four teams were however non-compliant. The heads of the services will develop action plans where necessary and improve professional practice within their teams. The report was presented the Infection Control Forum.

C – Education

3 Training

3.1 Training Provided by IP&C Team.

Trust Induction

The IP&C team continues to provide education in line with the Education Strategy. This includes Trust Induction, which includes key performance indicators, standard infection control precautions, sharps injuries, decontamination, hand hygiene, personal protective equipment (PPE) and sickness. Core training programmes (through the NHS e-learning site), is also supported by annual mandatory IP&C updates for all staff throughout their employment within the Trust, as outlined in section 3. IP&C support clinical practice development days (such as intra venous administration, cannulation, venepuncture and blood culture training). The Infection Control Link Network is held on a bi-monthly basis within GWH and quarterly at satellite sites with staff able to attend any/all meetings, which include educational sessions on seasonal IP&C concerns, new and existing products being used or introduced to the Trust and learning outcomes of IP&C related root cause analyses and serious incident investigations at the GWH site and community sites to ensure dissemination across the merged organisation.

Mandatory Training

Mandatory core IP&C training is required annually for clinical staff and non-clinical staff accessible to staff via Training Tracker (this is a web based training facility) and workbooks. Additional face to face training sessions are offered to staff as requested. Training rates are emailed by the Academy to line managers and it is the departmental manager’s responsibility to ensure that their team are compliant with training requirements. IP&C monitor the overall Hand Hygiene and Infection Control compliance rates trust wide and report this on a monthly basis to the IP&C Forum. If training compliance is showing less
than 70% (which it hasn’t to date) the Matrons would be requested to drive compliance with hand hygiene and IP&C training.

**Additional Training**

Educational videos continue to be available via the IP&C intranet site, such as hand hygiene, taking blood cultures, pandemic flu and aseptic non-touch technique.

Supplemental training sessions are provided by the IP&C team on a regular and ad hoc basis to both nursing and junior medical staff, including medical students.

Infection Control Study Days were run during 2011-12 for all healthcare workers by the IP&C Practice Nurses supported by Infection Control Link Networkers.

The Infection Control Link Network (ICLN) is a bi-monthly (GWH) and quarterly in the community, however staff are welcomed at either/both meetings. Training sessions are organised by the IP&C team and supported by allied healthcare professionals and company representatives to support products being utilised in the organisation. All clinical areas have at least one ICLN representative. Findings from serious incidents including MRSA bacteraemia root cause analysis findings; ward and bay closures; IP&C policy updates; feedback from the IP&C Forum and on queries raised are disseminated through this forum. New products with IP&C implications are introduced and demonstrated, such as needle safe devices and catheter bags.

Other subjects covered include:

- Ticks and Lyme disease
- Supra pubic catheters
- Personal Protective Equipment for IP&C
- Audit results
- Tuberculosis
- Health Protection Agency
- Commode care
- Waste disposal
- Multi-drug resistant organisms
- Diarrhoea flow chart
- Infection control within the mortuary
- MRSA decolonisation
- IPS Quality Improvement Tools
- Antibiotic awareness
- Food hygiene on wards
- *Pseudomonas aeruginosa*
- Nutrition and hydration in prevention of infections
- Sharps
- Skin care
- Isolation of patients

**3.2 Antibiotic Prescribing**

Antibiotic prescribing continues to be included in all core training for nurses, doctors and pharmacists. An e-learning Training Tracker module remains available for junior doctors and pharmacists.
4 Surveillance

The IP&C team continue to undertake all mandatory and voluntary surveillance, which has increased in accordance with Health Protection Agency (HPA) mandates and Trust policy.

4.1 Mandatory Surveillance

The four mandatory organisms for reporting are Meticillin resistant staphylococcus aureus (MRSA) bacteraemia, Meticillin sensitive staphylococcus aureus (MSSA) bacteraemia, Escherichia coli (E. coli) bacteraemia and Clostridium difficile (CDI).

Meticillin Resistant Staphylococcus Aureus (MRSA) bacteraemia

The total numbers of hospital MRSA bacteraemia cases reported to year end was 2. The Trust achieved a reduction of 34% compared to the previous year.

The two cases were investigated in line with Trust policy and a brief synopsis of the report findings is detailed hereafter:

Case 1:

MRSA bacteraemia was detected from a blood culture during July 2011. MRSA admission screen was negative, but did not include a small wound that the patient was admitted with. The patient was a known MRSA carrier, who had one negative MRSA screen in June 2011.

The blood culture taken was taken as the patient's blood infection markers had increased since admission. The patient had no raised temperature recorded on the observation chart. All other routine observations were within satisfactory limits for a patient with respiratory co-morbidities. The patient exhibited early signs of a chest infection as the preliminary blood culture results were known.

The patient was isolated in a single room and commenced on intravenous antibiotics and MRSA suppression therapy upon the advice of the Microbiologist. The patient responded well to antibiotic therapy and switched to oral medication after two weeks.

It was highly suspicious that the chest was the primary cause of the MRSA bacteraemia and this developed during the patient’s stay at the Great Western Hospital.

The patient was discharged home mid August having fully recovered.
**Case 2**

MRSA bacteraemia identified from a blood culture obtained from a peripherally inserted catheter (PICC line) taken at the end of November. This case is further reported under the serious incident section.

Commonalities identified with the cases of MRSA bacteraemia include both patients were diabetics, a full MRSA screen was not obtained on admission and delays in treatment commencement for MRSA colonisation.

Chart 1 demonstrates the actual number of MRSA bacteraemias reported against the limit, showing the rolling 12 month (actual) number and the financial year’s numbers for the Acute Trust.

The Community Hospitals did not report any MRSA bacteraemias during this period.

**Meticillin Sensitive Staphylococcus Aureus (MSSA) Bacteraemia**

MSSA was introduced to the mandatory reporting system in January 2011. MSSA bacteraemias are split into pre- and post- 3 days this is for purposes of national benchmarking by the HPA. This may in the future influence any screening programmes or identification of risk factors across the country. The merged organisation reported 12 cases to year end, which is a 25% reduction (4 cases) in comparison to 2010/11. Similarly the Non Acute Trust reported a 5.7% decrease (2 cases) over the same period, this could be attributed to work being undertaken with the use of care bundles and reducing the time in which clinical devices, such as peripheral, central venous and urinary catheters are used for.
Great Western Hospitals NHS Foundation Trust

Chart 2 demonstrates the Acute Trust apportioned cases of MSSA bacteraemias with the cumulative total of cases reported during a rolling 12 month period.

Chart 2

**Acute Trust MSSA Bacteraemia 2011/12**

*No cases identified within WCHS*

The main probable source of the MSSA bacteraemias lies with peripheral venous catheters (4) and central venous catheters (2) with half of the hospital apportioned cases falling into these categories. High Impact Interventions devised by the Department of Health’s Clean Safe Care Team were promoted throughout the Trust and later superseded by the Infection Prevention Society’s (IPS) Quality Improvement Tools, which showed a reduction in line related cases during quarters 3 and 4. One case was counted twice, the second case being a relapse (demonstrated in chart 3).

Chart 3

**Source of MSSA bacteraemia 2011-12**

Analysis of all the cases identified during 2011-12 either through the acute (GWH) or within the community and maternity services, by apportioning the NHS number to the Primary Care Trusts the data indicates the majority of the MSSA bacteraemia cases live within the Swindon locality (64%) and 24% within the Wiltshire locality (as demonstrated in chart 4).
Escherichia coli (E. coli) Bacteraemia

On 1st June 2012 reporting of E. coli bacteraemias became mandatory surveillance, although this Trust had collected data preceding this date. This decision to make this mandatory was based on the advice from the DH’s Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI). This extension of surveillance reflects the zero tolerance approach that the Government has taken with regard to healthcare associated infections, whilst it recognises that many E. coli blood stream infections are not HCAIs. This is again for purposes of national benchmarking by the HPA. Apportionment is applied in the same MSSA and MRSA bacteraemias – i.e. on or after day 3 of an admission, the bacteraemia is apportioned to the Acute Trust. Any risk factors identified are used to inform IP&C surveillance reports within the Trust and look at any trends that may influence change in practice.

The Acute Trust merged organisation reported 23 cases between 1 April 2011 and 31 March 12 (GWH 21/Community 2), whereas the Non-Acute Trust (GP samples and samples obtained within 3 days of admission) had significantly more cases (137). All inpatient cases are investigated by the IP&C team and a root cause analysis provides the information required by the HPA. Analysis of the hospital apportioned cases reveals the main source to be urinary tract (48%) [see chart 5]. Of these cases, four were Extended-spectrum Beta-Lactamases (ESBL), which is a multi-drug (penicillins and cephalosporins) resistant form of E. coli. Eight of the cases with urinary described as their cause had a urinary catheter in situ.
Analysis of all E coli bacteraemias apportioned to the community show 55% to be of urinary tract origin. Overall (acute and non acute cases combined) 63% relate to the urinary tract [see chart 6]. Of these 86 cases 17 (12.4%) were an ESBL.

Chart 6

**Sources for ALL cases of E coli bacteraemia identified 2011-12**

By apportioning the NHS number to the Primary Care Trusts the data indicates the majority of the E coli bacteraemia 55% of cases live within the Swindon locality and 31% live within the Wiltshire locality [chart 7].

Chart 7

**ALL cases of E coli bacteraemia per PCT 2011-12**

*Clostridium difficile* infection (CDI)

The Trust reported 17 cases (GWH) and 2 (Community) to year end. The Trust achieved a reduction of 57.5% (GWH) [chart 8] and 60% (Community) [chart 9] from last year’s reported figures.

The graphs below demonstrate the sustained improvement in the merged organisation separately.
In January 2012 vol 80 pg 96-98 an article written by a Consultant Microbiologist, two IP&C nurses, pharmacy technician and a Consultant in Gastroenterology, all based at the Great Western Hospital was published in a ‘letter to the editor’ of the Journal of Hospital Infection. This letter was in relation to Clostridium difficile infection ward rounds, which have been introduced within the Trust.

“The rounds have enabled us to ensure that there is adherence to the hospital CDI protocol and that patients are treated optimally and receive all necessary supportive care. Records of the rounds are entered in the patients’ notes and a database developed by the pharmacy technician. In addition, on days between the rounds, patients are seen by IPCNs and antibiotic technicians to ensure that recommendations made by the team have been actioned.”

“During the period 1 June 2010 - 31 May 2011, there were 60 inpatients at the Great Western Hospital with CDI. Of these, 34 (57%) cases were hospital attributed, 24 (40%) cases were community attributed and two (3%) were transferred with known CDI from another hospital. In addition, during this period 24 cases were diagnosed by the laboratory that were not admitted to Great Western Hospital. These were cases from general practitioners, outpatients or other community hospitals in the area. Of the 60 admitted cases, 22 (36.7%) were discharged whilst recovering on treatment, 25 (41.7%) recovered as inpatients and 13 (21.7%) died (CDI was only mentioned on the death certificate in six cases).”
“In conclusion, we consider that the CDI rounds have helped to improve patient care at Great Western Hospital by enabling expertise in management to be brought to the patient. Results show that despite the fact that a CDI protocol is in place, interventions were made in the majority of team visits which assisted with the quality of patient care and provided educational opportunities for ward staff.”

**Period of increased incidence and outbreaks**

A period of increased incidence (PII) of *Clostridium difficile* infection (CDI) is defined by the Department of Health as two or more new cases (occurring >48 hours post admission, not relapses) in a 28 day period on a ward. In the event of a PII ribotyping of CDI cases is performed through the HPA’s *Clostridium difficile* Ribotyping Network’s Enhanced Fingerprinting service, which identifies potentially linked cases – i.e. isolates with the same ribotype.

There were three CDI PII’s encountered during the financial year. This is one less than in 2010-2011 demonstrating a 25% reduction in incidents.

Stool samples from each patient with CDI within a PII were sent to the Health Protection Agency laboratory for ribotyping (ribotyping is a method which permits detailed analysis to determine closely related isolates [fingerprinting] and provides evidence of possible cross-infection). The results from the investigations concluded that none the PII’s were due to cross infection between patients. One PII initially look suspicious as the ribotyping demonstrated the same ribotype, however upon more detailed fingerprinting the HPA laboratory concluded they were different strains and not related to each other.

**Neptune Ward**

Two cases of CDI were detected between September and October 2011 initiating a PII – both cases were identified on or after day 4 of the patient’s admission.

**Summary:**

Patient 1 was admitted early September testing positive to CDI towards the end of September having developed symptoms of diarrhoea the previous day.

Patient 2 was admitted early October testing positive to CDI mid October after developing diarrhoea the previous day.

Patient 1 was subsequently discharged early October, two days after patient 2 was admitted to the opposite end of the ward.

Stool samples were sent to the external laboratory for ribotyping and both identified as being type 014. These were subsequently sent for fingerprinting by the HPA. This concluded that the types were distinguishable and therefore not linked despite having the same ribotyping. No cross-infection occurred between these cases.
Good practice:

- CDI High Impact Interventions audits achieved 100%
- Weekly monitoring of CDI inpatients was carried out by the CDI multi-disciplinary team

Concerns:

- Patient 1 should have been isolated in a side room when first experiencing diarrhoea on Neptune Ward

Recommendations:

- Ward staff to promptly isolate patients with diarrhoea. If in doubt whether diarrhoea is potentially infectious, advice is sought from the IP&C team.
- There was no evidence of cross-infection between patients, although there are practice improvements around antibiotic prescribing and isolation that have been made on the ward to reduce the risk of recurrence.

Teal Ward

Two cases of CDI were detected on early and mid December 2011 – both cases were identified on or after day 4 of the patient’s admission initiating a PII.

Summary:

Patient 1 was admitted early December, testing positive to CDI on day 7 of admission. History on admission was haematemesis (vomiting blood) and diarrhoea.

Patient 2 was also admitted early December with a urinary tract infection. Diarrhoea commenced mid December and tested positive to CDI day 7 of admission.

The stool samples were sent to the external laboratory for ribotyping revealing different types (014 and 018) concluding there was no cross-infection between these two cases.

Concerns:

- The patients should have been isolated in a single room on first experiencing diarrhoea

Recommendations:

- Ward staff are to promptly isolate patients with diarrhoea. If in doubt whether diarrhoea is potentially infectious, advice must be sought from Infection Control.
- IP&C attended ward meeting mid December to discuss the concerns regarding prompt isolation and general management of patients with diarrhoea and CDI to prevent a recurrence.
Ailesbury Ward

Two cases of CDI were detected mid January and early February 2012. Both cases were identified on or after day 4 of the patient’s admission initiating a PII.

Summary:

Patient 1 was admitted at the end of December 2011 and tested positive to CDI mid January 2012. The patient was admitted with a myocardial infarction and had undergone angioplasty. Patient 1 was also involved in a norovirus outbreak, which closed the ward from 7 – 17 January. The CDI related diarrhoea commenced towards the end of the norovirus outbreak.

The patient was transferred to the Great Western Hospital late January (11 days prior to the second patient becoming symptomatic) with a distended abdomen later diagnosed as pseudomembranous colitis.

The patient unfortunately passed away early February and CDI was recorded on part 1b of the death certificate (please see further findings under Serious Incidents).

Patient 2 was admitted to Ailesbury at the end of December 2011 for post-operative rehabilitation. The patient’s diarrhoea commenced early February when a sample was obtained and tested positive to CDI.

Both stool samples were sent to the external laboratory for ribotyping. Two types were identified (126 and 078), concluding that no cross-infection had taken place between the two patients.

Good practice:

- Both patients isolated due to symptoms before CDI result known
- CDI High Impact Interventions audits achieved 100%
- Weekly monitoring of the CDI inpatients was carried by the multi-disciplinary team via telephone for update and discussion at the Great Western Hospital
- Both ward pharmacist and antibiotics pharmacist were satisfied that treatment choices were appropriate

Recommendations:

- Continue to follow policy
- No evidence of cross-infection between patients

Glycopeptide resistant enterococci (GRE) Bacteraemia

There were no GRE bacteraemias detected this year, which is a decrease from the previous year when one case were identified.
4.2 Voluntary Surveillance to the HPA

Norovirus and Influenza

Norovirus and influenza are reported on a voluntary basis to the HPA.

Chart 10

The chart above [chart 10] shows the ward closures reported across the merged organisation (and therefore includes community ward closures as of 2011-12) for the last three years as a result of norovirus. Please note this does not include bay closures due to norovirus.

Local initiatives to reduce any healthcare acquired infection include:

- Care bundles compliance including peripheral lines and urinary catheters aiming for 100%.
- IP&C risk assessments completed on admission for all patients admitted to the Trust aiming for 100% (over 95%) to facilitate appropriate use of side rooms.
- Screening of all elective and emergency patients for MRSA aiming for 100% with rates ranging from at 97-99% using a screen per patient match across the merged organisation.
- Prompt isolation of patients with suspected infective diarrhoea within two hours.
- South West Norovirus tool kit adapted to local use.
- All results from the above are reported and monitored monthly via the IP&C Forum and the Patient Quality and Safety Committee. Action plans from these committees have been implemented to drive 100% compliance.
- Hand hygiene awareness week (December 2011).
- Patient Safety First Week (September 2011)
- Clinical Nurse Specialist conference November 2011
Seasonal Influenza

The Trust submitted data in relation to cases of influenza to the HPA voluntary basis via the UK Severe Influenza Surveillance Scheme (USISS). This specifically looked at certain types of influenza. In comparison to previous years, fewer laboratory confirmed cases of reportable sub-type influenza were identified for inpatients (three), none of these patients were admitted to either the Children’s Unit or Intensive Care Unit.

The HPA report overall seasonal influenza activity was low and occurred later in 2011/12 with peak GP influenza-like illness consultation rates the lowest on record in England and Wales.

The Trust will continue to monitor and voluntarily submit this data as required by the HPA.

Respiratory Synctial Virus (RSV)

RSV causes respiratory infection and is the most common cause of severe respiratory illness such as bronchiolitis (inflammation of the bronchioles) in young children aged under 2 years. It is also the commonest cause of hospital admissions due to acute respiratory illness in young children. It can also affect adults.

The HPA monitor levels of RSV activity in the UK and these numbers are included in the HPA weekly influenza report. Peak numbers of RSV are reported during December and January every winter. There has been an 8% (33 to 36 cases) increase in cases between 2010/11 and 2011/12, with 92% of these being children admitted to this Trust.

Ventilator Associated Pneumonia (VAP) and Catheter Associated Bloodstream Infections (CABI)

Ventilator Associated Pneumonia on the Intensive Care Unit (ICU) has been actively surveyed since July 2010 using a Clinical Pulmonary Infection Score (CPIS) and validated each month at a meeting between IP&C nurse and an Intensivist. At a monthly meeting all possible VAP or catheter associated bloodstream infections (CABI) are identified using the completed CPIS forms and microbiological results for each ICU patient. CABI’s are central venous catheter line infections.

Improvements in practice have been instigated following findings made from the reviewed data, such as ventilator log books to record decontamination and patient identifiers. Ventilator blocks are now being sent to the Hospital Sterilisation and Decontamination Unit (HSDU) for decontamination in addition to the use of a once daily ventilator filter. With consistent data collection, seasonal trends and practice improvements become apparent. The graph below shows that the greater number of ventilator days on the Unit the higher number of VAP can be expected, as evidence would predict.

Through the collaboration of ICU staff, IP&C and microbiology, there has been a steady decrease in the quarterly infection rate [chart 11]. This is mainly attributed to greater VAP awareness and surveillance within the intensive care unit.
Great Western Hospitals NHS Foundation Trust

Chart 11

Quarterly VAP Rate per Ventilator Days

Number of ICU CABI per month with number of CVC days

As a result of changes in practice instigated through data collection and practice review, a reduction in CABI’s can be shown. Between August 2010 and March 2011 a total number of seven CABI’s were identified, whereas for the whole of 2011-12 only two CABI’s were identified. Table 2 demonstrates the actuals for 2011-12.

Table 2

<table>
<thead>
<tr>
<th>2011-12</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No CABI</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total CVC days</td>
<td>109</td>
<td>192</td>
<td>145</td>
<td>134</td>
<td>69</td>
<td>117</td>
<td>134</td>
<td>155</td>
<td>109</td>
<td>183</td>
<td>94</td>
<td>111</td>
</tr>
</tbody>
</table>

Pseudomonas Aeruginosa

The Department of Health published new guidance on water sources in hospitals and the potential for pseudomonas aeruginosa bacteria contamination in taps and water systems. The bacteria is more likely to be serious when found in high dependency care areas where there are at risk patients. Through voluntary surveillance of infections identified within the high risk areas (Intensive Care Unit and Special Care Baby Unit), pseudomonas aeruginosa was identified in respiratory secretions from the Special Care Baby Unit. Following on from this short term screening was carried out on all babies within the unit until the IP&C team were confident there was no cross-infection between babies. All water outlets were sampled by the PFI contractor within augmented care areas, and disinfection took place where outlets were found to be contaminated.

The Trust introduced filters on outlets to ensure a safe water supply was available at all times. In addition the importance of standard infection control precautions were re-enforced to all staff trust-wide. Staff have been reminded not to dispose of body fluids or waste water down hand wash basins or use hand wash basins to wash patient equipment. Staff are to use detergent disinfectant wipes to clean patient equipment between use.

This incident was collaboratively managed by Estates, IP&C, the PFI contractor and Directorate leads with input from the HPA.
4.3 Surveillance Reports

Weekly surveillance reports detailing MRSA bacteraemias, MSSA bacteraemias and *Clostridium difficile* are circulated widely both internally and to colleagues in external non-Acute organisations and provide direction on actions for improvement at ward level.

Monthly surveillance reports inform the Patient Safety and Quality report, Trust Board report, Executive Committee report, Quality Accounts and the Corporate and Directorate Quality Dashboards.

All cases of MRSA bacteraemia infections and *Clostridium difficile* deaths where mentioned on part 1 of the death certificate were formally investigated by the directorate and supported by the IP&C team, as were any associated mortalities as per the Trust’s Incident Management Policy. These findings and lessons learnt were presented at appropriate committees. IP&C internally investigate all HPA reportable infections, these findings and lessons learnt are included in the weekly summary, which is distributed internally and externally. Specific cases with significant learning are taken to the Infection Control Forum and Link Networker meetings.

4.4 Mortalities - Serious incident investigations

There were three mortalities associated with CDI during this financial year. One patient was part of the PII on Ailesbury Ward as detailed above. There was one mortality associated MRSA bacteraemia.

Below is a summary of these cases:

**MRSA Bacteraemia Mortality**

The MRSA bacteraemia was reported in December 2011. The blood sample was obtained late November 2011 from a peripherally inserted catheter (PICC) line, which was inserted 4 days previously in November. The patient records gave a history of multiple in-patient admissions for several co-morbidities requiring acute care during the past two years. Failure to manage the MRSA colonisation detected on admission screening was a factor in the acquisition of the bacteraemia, as was the failure to swab leg ulcers present on admission.

As part of the Trust’s being open policy (which is to offer the patient or family to be part of an investigation process and or to receive the final report) as requested by a family member, the final report was shared by the lead investigator.

**Recommendations:**

Ward managers and senior nurses were informed of practice concerns after the event and reiterated to their staff the importance of MRSA screening as per policy. IP&C staff arranged education and learning sessions on Neptune and Teal Wards to learn from this incident.
IP&C team and Practices nurses to ensure treatment charts for MRSA positive patients requiring decolonisation are discussed with ward managers. Ward managers to ensure their clinical staff follow IP&C advice and ensure treatment starts immediately when a patient is found to be colonised with MRSA.

**CDI Mortality – Patient 1**

The history is as detailed in the Ailesbury Ward PII above. This patient was transferred to the Great Western Hospital gastroenterology ward as the patient’s condition deteriorated – i.e. became unstable, dehydrated with a distended abdomen. Pseudomembranous colitis (acute bowel infection) was suspected. The patient wished to be treated conservatively and did not want artificial resuscitation should the need arise. Treatment consisted of intravenous fluids to re-hydrate the patient and pain relief for chest pain and CDI. At the end of January 2012 the patient and the patient’s family agreed that active treatment was to cease and the Liverpool Care Pathway (best practice for the care of the dying) would be followed for dignity reasons.

**Recommendations:**

- The palliative care nurses were made aware of standard precautions required for CDI patients and are now able to offer their services without inhibition to patients in standard isolation.

**CDI Mortality – Patient 2**

The serious incident process commenced following the death of a second patient where CDI had been recorded on part 1 of the death certificate in early May 2011 following detection in early March 2011. No specific transmission or cross-infection of CDI was identified. There were a number of notable risk factors which increased the patient’s risk of acquiring CDI, including the antibiotics which the patient had been prescribed for urinary tract infections.

As part of the Trust’s being open process, the investigation team met with a family member to discuss the incident and where involved throughout the whole investigation process. The final report has been shared with the family.

**Recommendations:**

- Ensure all patients and their families receive a patient information leaflet appropriate to their condition and use this to provide information to family members
- *Clostridium difficile* care plan must be used for all patients with *Clostridium difficile*
- Nursing staff must record BNO (bowel not opened) on stool charts as well as bowel motions to enable IP&C staff to monitor the patient’s progress.
- Remind staff of the need to sign the enhanced cleaning documentation to maintain accurate cleaning documentation.
**CDI Mortality – Patient 3**

The serious incident process commenced following the death of a patient where CDI had been recorded on part 1 of the death certificate late November 2011 having tested CDI positive 7 days previously. The patient had multiple co-morbidities including; pressure ulcers and Parkinson’s disease. Inpatient antibiotic therapy was required for urinary tract and respiratory infections. Antibiotic therapy was discussed with the Microbiologist in line with policy. CDI had been considered a week earlier (sample obtained and tested negative to CDI) prior to the positive result being identified. The patient’s condition was discussed with the family throughout the admission and ultimately a decision was made to place the patient on to the Liverpool Care Pathway. Staff took appropriate actions and recommendations from previous root cause analyses and followed policy during the admission.

**4.5 Other Serious incident investigations**

A serious incident investigation was conducted for all Ward closures. The recommendations from all these incidents have all been implemented and are detailed below:

**Ward Closures:**

Table 3

<table>
<thead>
<tr>
<th>Ward</th>
<th>Dates</th>
<th>Epidemiology</th>
<th>Total Days Closed</th>
<th>Bed Days Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teal</td>
<td>20 – 29 April</td>
<td>Norovirus</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Neptune</td>
<td>6 – 12 June</td>
<td>Norovirus</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Beech (CCH)</td>
<td>28 July – 8 August</td>
<td>Norovirus</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Saturn</td>
<td>2 – 7 October</td>
<td>Unknown</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Teal</td>
<td>3 – 10 November</td>
<td>Unknown</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Saturn</td>
<td>28 December – 5 January</td>
<td>Norovirus</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>Jupiter</td>
<td>25 January – 5 February</td>
<td>Norovirus</td>
<td>12</td>
<td>51</td>
</tr>
<tr>
<td>Ailesbury</td>
<td>7 – 17 January</td>
<td>Norovirus</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Jupiter</td>
<td>12 – 23 February</td>
<td>Norovirus</td>
<td>9</td>
<td>55</td>
</tr>
<tr>
<td>Jupiter</td>
<td>26 February – 7 March</td>
<td>Norovirus</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>Saturn</td>
<td>28 February – 7 March</td>
<td>Norovirus</td>
<td>9</td>
<td>36</td>
</tr>
</tbody>
</table>
Good practice:

- Posters alerting relatives not to visit if unwell with diarrhoea or vomiting in the last 48 hours
- Daily maintenance of day by day patient symptoms/documentation
- Good communication to other areas when patients required treatment elsewhere in the hospital
- Well organised cleaning regime prior to ward re-opening
- Environment was kept clutter free
- Hotel Services were responsive to cleaning requests
- Patients isolated promptly
- Vulnerable patients protected
- Appropriate use of on call services
- IP&C advice sought when outbreak suspected
- Cleaning and infection control precautions adhered to
- Patients requiring specialist care transferred out of the ward with infection control precautions without further spread of norovirus
- Improved cleaning standards on previous ward outbreak

Care and service delivery problems:

- Possible cross-infection from visiting relatives
- Phlebotomists unclear which patients they may or may not bleed during ward closures
- Delays in discharge due to package of care requirements for a medically fit patient
- Misinterpretation of symptoms at non-GWHFT hospital leading to an inappropriate transfer
- Transfer documentation did not always reflect patient’s current condition
- Staffing difficulties as agency staff booked to work in multiple areas after working on affected ward
- Increased levels of norovirus within the community
- Limited number of isolation rooms in some community ward areas
- Reduced staffing due to sickness
- Miscommunication between ward staff and phlebotomists
- Poor coordination of cleaning ward prior to re-opening
- Inaccurate recording of patient’s symptoms had the potential to put patients at risk
- Cleaning prior to re-opening hampered due to lack of empty beds to facilitate patient movement
- Possible continue of outbreak spread due to shortage of gloves in community ward areas
- Cleaning issues on the acute wards regarding general poor standards

Recommendations:

- Isolation of symptomatic patients within 2 hours
• Appropriate use of IP&C personal protective equipment for medical staff
• Reassessment of Access to Care tool to ensure no ambiguity in the interpretation of a patient’s infection status.
• Additional poster availability for ward areas explaining the process of when to isolate a suspected diarrhoea infected patient
• Ensure staff are familiar with the Outbreak policy
• Ensure adequate stocks of personal protective equipment in place.
• Weekly audits between Carillion supervisor and ward staff re-instated

**Bay Closures:**

Table 4

<table>
<thead>
<tr>
<th>Ward</th>
<th>Dates</th>
<th>Epidemiology</th>
<th>Total Days Closed</th>
<th>Bed Days Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teal</td>
<td>5-6 May</td>
<td>Unknown</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Kingfisher</td>
<td>14-17 July</td>
<td>Unknown</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Beech (CCH)</td>
<td>13-16 August</td>
<td>Unknown</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Cedar</td>
<td>21-25 August</td>
<td>Unknown</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Kingfisher</td>
<td>23 September</td>
<td>Unknown</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Teal</td>
<td>5-8 October</td>
<td>Unknown</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Beech (CCH)</td>
<td>22-26 October</td>
<td>Unknown</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Jupiter</td>
<td>9-10 November</td>
<td>Unknown</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Teal</td>
<td>16-17 November</td>
<td>Unknown</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mary Ward, Princess Anne Wing, RUH</td>
<td>21-25 November</td>
<td>Unknown</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Cedar</td>
<td>23-25 November</td>
<td>Unknown</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Beech (CCH)</td>
<td>3-5 December</td>
<td>Unknown</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Cedar</td>
<td>21-25 February</td>
<td>Unknown</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Mercury Acute Stroke</td>
<td>22 February</td>
<td>Unknown</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Good Practice:**

• Stool samples obtained and tested promptly
• Day by day documentation maintained
• Prompt action by clinical staff in isolating affected patients
• Appropriate and timely liaison with IP&C team
Clinical staff keen to learn from incidents
Helpful response from Hotel Services Department in commencing chlorine based cleaning and increased frequency of cleaning

Care and Service Delivery Problems:

- The drug Megazorb should be included on the initial stool chart (K5), which would have provided a more complete picture (Kingfisher).
- Ward nurse (Beech Ward, Chippenham Community Hospital) unfamiliar with information required by IP&C team.
- Stool charts incomplete and some inconsistency in documentation (Beech Ward, Chippenham Community Hospital)
- Inconsistency in labelling and sending of specimens (Beech Ward, Chippenham Community Hospital)
- On call manager not contacted to inform of issues (Cedar Ward, Chippenham Community Hospital)
- IP&C team not informed at the earliest opportunity (Cedar Ward, Chippenham Community Hospital)
- Patients’ charts not kept outside the closed bay making review more difficult (Cedar Ward, Chippenham Community Hospital)
- Specimens only tested for norovirus. Ward staff did not appreciate the need to request testing for virology (Cedar Ward, Chippenham Community Hospital)
- Patient not considered for isolation or IP&C team contacted for advice (Beech Ward, Chippenham Community Hospital)
- Rationale for isolating patient in a single room not clear in patient documentation (Beech Ward, Chippenham Community Hospital)
- IP&C not informed by on call manager of bay closure (Beech Ward, Chippenham Community Hospital)
- Laboratory request information of stool specimens not recorded in patient record; unclear to reader whether specimen sent for virology (Beech Ward, Chippenham Community Hospital)
- Some uncertainty in clinical staff concerning isolation and use of cohorting (Mary Ward, Princess Anne Wing, Royal United Hospital, Bath)
- Some direct entry midwives have no experience of barrier nursing (Mary Ward, Princess Anne Wing, Royal United Hospital, Bath)
- One bay thought to have been post-infection cleaned was still dusty and unclean (Mary Ward, Princess Anne Wing, Royal United Hospital, Bath)
- Inconsistency with request for specimen testing (Mary Ward, Princess Anne Wing, Royal United Hospital, Bath)
- No contact with on call manager to confirm bay closure (Mary Ward, Princess Anne Wing, Royal United Hospital, Bath)

Recommendations:

- Always consider isolation of a patient first before considering a bay closure
• Diarrhoea Action Chart to be displayed in prominent nursing areas to improve understanding of when to isolate patients and which type of stool is defined as diarrhoea.
• Ward manager and IP&C team to plan scenario based learning for ward staff to remind staff of information required by IP&C team and to check understanding of IP&C learning and updates
• On call managers reminded of need to contact IP&C on next working day if closure has happened out of hours
• Difficulty occurs when patients who are likely to have loose stools for non-infective cause become symptomatic simultaneously.
• Maternity clinical staff to review standard isolation techniques within ward updates using information contained within isolation posters
• Reminder given by clinical lead midwife to clinical staff that stool/vomit specimens are requested for viral diarrhoea testing. Microscopy, culture and sensitivity requested if outbreak suspected
• Reminder to be given by clinical lead midwife to clinical staff that on call manager must be informed of potential outbreaks and/or bed closures using process available on intranet

4.6 Surveillance Audits

Audits of Saving Lives High Impact Interventions, Risk Assessments, Hand Hygiene, Patient Equipment, weekly MRSA compliance with policy, blood culture and Carillion Cleaning Services have been completed monthly by the Directorates and Carillion and are reported at the Infection Prevention and Control Forum.

Infection Control Practice Nurses within each Directorate coordinate the following care bundle and MRSA screening audits. The practice nurse role provides infection control training and education at ward level, with the support of the IP&C team. This post is invaluable to the Directorate Matrons in monitoring IP&C practice and compliance with required audits; however during this report year one directorate has seen a vacancy for a number of months, which has impacted significantly on one of four the directorate results.

High Impact Interventions were reviewed and updated by the Department of Health’s Clean Safe Care Team in 2010. These tools have now been superseded by the Infection Prevention Society (IPS) ‘Quality Improvement Tools’ (QIT) which were trialled in the Trust during January 2012 and rolled out Trust wide during February and March 2012.

Hand Hygiene

The 5 moment’s tool adopted during 2010-11 has also been adopted by the IPS QIT and continues to focus on before and after patient contact, before aseptic techniques, after dealing with bodily fluids and dealing with the patient’s surroundings.

Hand Hygiene compliance audits completed by the wards on a weekly basis demonstrate encouraging results. An ad hoc audit completed by IP&C demonstrated a varying degree of
compliance depending on the staff groups being audited. Following this finding a week long hand hygiene campaign was run by IP&C with the full support of the Director of Nursing, Matrons and Medical Director, which targeted and challenged all staff groups. A second drive was carried out on the WHO Hand Hygiene day on the 5th May 2011.

**Cleanliness of Patient Care Equipment**

This is a weekly audit, which is performed in clinical areas throughout the Trust. Staff assess the cleanliness of various clinical items such as drip stands, blood pressure cuffs, beds, commodes, fans and availability of hand gel.

Directorate results have been consistently over 90%. Matrons have also taken on a greater role to ensure standards are achieved and maintained within their clinical areas. This work is managed by the Director of Nursing, and fed into the Clinical Standards Group. These tools were also revised in January 2012 to incorporate the community teams and inpatient areas. Further tailoring of audits to improve relevance to specific clinical area’s equipment i.e. wards, outpatients, maternity and paediatrics has also been undertaken.

**MRSA Screening**

Elective and emergency screening rates calculated on a 1 patient:1 screen basis, as opposed to the total number of patients admitted against the total number of screens obtained within a set time frame. Screening rates remain consistently above 97%.

Actions to achieve improvements last year included:

- Introduction of a twice daily automatically generated report detailing samples, including MRSA screening requests, which have been sent to the pathology laboratory, but not labelled appropriately. The wards are then notified by the IP&C team and asked to repeat the specimen. This system has worked well and continues to be implemented. The overall numbers of unlabelled specimens has reduced dramatically.
- The IT interface report is up and running which supports identification of missed MRSA screens within the required time frame. This system supports the practice nurses in chasing appropriate areas to enable MRSA screening to be obtained. Missed screens continue to be reported to the Infection Control Forum.

**Wiltshire Community Services Environmental Audits**

Detailed audits were completed in the following areas with actions plans implemented for improvements at:

- Cedar ward, Chippenham Community Hospital
- Ambulatory services, Chippenham Community Hospital
- Mary ward, Princess Anne Wing, Bath
- Ambulatory Services, Warminster Community Hospital
- Shepton Mallet Birthing Centre
- Frome Birthing Centre
Blood Culture Contaminant Audit

If specimen collectors have a poor technique they can introduce organisms into blood culture specimens, which leads to the laboratory staff having to spend time differentiating between a true bacteraemia (blood stream infection) and a contaminated sample (no actual infection). The DH of recommends a contaminant rate of no more than 3.1%.

An action plan has been in place for the past 2 years to reduce the Trust’s blood culture contaminant rates from 6.8%. Through targeted training, identified through surveillance, staff members with two or more contaminants a month are targeted by the IP&C team for re-training and competency assessment. The Trust contaminant rate was reduced to 4.1% in May 2011, with a spike seen during October 2011 to over 7%. The overall Trust contaminant rate is currently reported at 4.8% despite continued targeted training; however March recorded the Trust’s lowest rate to date of 2.7% [chart 12]. Further training and support has been given through the supplier of peripheral cannulae, during a trial of two sharp safe products in several key clinical areas, including the Emergency Department, Theatres and Linnet Acute Medical Unit. This had a positive effect on the contaminant rate for March 2012. A total of 7930 blood culture sets were processed during 2011-12.

Chart 12

Surgical Site Infection

Surgical site surveillance was performed for a 12-month continuous period for three categories: total hip replacements, total knee replacements and repair of fractured neck of femurs. Three of the quarters were reported as part of 2010-11’s annual report. This report will cover quarter 1 of 2011-12, namely April to June 2011.
Total Hip Replacements

113 operations were performed including fractured necks of femur which required treatment with a total hip replacement. There was one patient reported infection (via post-discharge questionnaire), giving a surgical site infection rate for total hip replacements of 0.9%. For the previous three quarters, the infection rate was 2% for this Trust, therefore an improvement has been demonstrated for this reporting period. In comparison against the national average, the Trust reported a lower percentage of infections in this category – 0.9% against the national average of 1.1%.

Total Knee Replacements

A total of 120 operations were performed. There were three surgical site infections reported – all were patient reported via post-discharge questionnaires. The surgical site infection rate for the trust was 2.5% for this quarter. During the previous three quarters a 3% infection rate was reported. The national rate for surgical site infection is 1.4%.

Repair Fractured Neck of Femur

A total of 60 operations were performed, which met the criterion of this study. Of these, 1 surgical site infection was reported. This patient was re-admitted to this hospital. The surgical site infection rate was therefore 1.7% for this period compared to 1.9% nationally. Having reviewed the 12-month data collection across all three categories for this Trust, the HPA suggested that we re-audit this category for 2012-13.

MRSA (colonisation) Outbreak 1 – Special Care Baby Unit (SCBU)

An outbreak of MRSA colonisation was identified on SCBU resulting in two babies being colonised with MRSA in early April 2011.

The MRSA strains were typed by an external laboratory, which identified babies A and B and their mothers all shared the same strain, t127. Baby C had a different strain, t019, which also proved to be Panton-Valentine Leukocidin (PVL) positive.

Good practice:

- Timely MRSA screening of all staff members
- Timely and regular weekly MRSA screening of all SCBU babies
- Ward staff worked well with the IP&C team guidance
- SCBU carries out MRSA screening of all babies on admission and discharge routinely, which enabled the colonisation to be detected quickly
- Results of the weekly audits for the insertion and ongoing care of central venous catheters and peripheral venous catheters were all 100%
- Staffing levels were satisfactory throughout April and May 2011 with admission numbers below the Unit’s capacity.
Great Western Hospitals NHS Foundation Trust

Care and service delivery problems:

- Parents of Baby A were immediately informed of MRSA status by SCBU medical staff but GP was not initially made aware of the result by the IP&C team.

Recommendations:

- The IP&C team to generate a GP letter informing of MRSA positive screen on discharge from SCBU if a new isolate.
- Review MRSA screening of high risk mothers at the Great Western Hospital by the IP&C team/Women & Children’s Directorate.

MRSA Colonisation Outbreak 2 – Ailesbury Ward

Two patients in a 4-bed bay screened positive to MRSA in a catheter tip. Patient 1 result received mid October 2011, patient 2 result received end of October following a repeat screen. Both patients nursed in opposite beds prior to isolation.

Action Plan:

- Raise awareness via visual display explaining how and where to screen for MRSA and the importance of documenting which area has been screened and documentation of the results. This was promoted through the ward meeting in December and safety briefs.
- Ensure all staff remain up to date with the infection control training including hand hygiene.
- Continue to monitor clinical practice via the care bundles, catheter audits, hand hygiene audits and inpatient tracker information. Staff to have feedback on results of the above audits and actions implemented and documented if 100% is not achieved.
- Continue ensuring that all new staff receive infection control training as part of their induction and also completion of the infection control log book (superseded by Training Tracker late 2011).

4.7 Patient Equipment Action Team (PEAT) Inspection

PEAT is a part of a national inspection programme for all Trusts, the results of which are widely publicised. For the previous few years, thanks to everyone’s efforts, the Trust has consistently scored an ‘excellent’ from this inspection and we are keen to maintain these very high standards.

Great Western Hospital was inspected by the National Patient Safety Agency for the Infection Control, cleanliness of the hospital environment, quality of food and the patient environment in March 2011; the Trust has maintained its excellent standard in the Environment and privacy and dignity scores and received a ‘good’ for food.
Other areas that underwent PEAT inspections during 2011-12 were:

- Savernake Hospital scored ‘excellent’ for the environment and ‘good’ for food, privacy and dignity.
- Chippenham Community Hospital scored ‘good’ in all areas inspected.
- Princess Anne Wing, Royal United Hospital, Bath scored ‘good’ for environment, privacy and dignity and ‘acceptable’ for food.
- Warminster Community Hospital scored ‘excellent’ for environment and food, and ‘good’ for privacy and dignity.

No specific action plans have been developed other than increased monitoring of the quality of service provision of both food and cleanliness at Princess Anne Wing, the results of which have driven up the standards since the inspection.

**D – Summary and Improvement Plan 2012/13**

Improving practices and reducing all healthcare associated infections including MRSA and *Clostridium difficile* infections continues to be a top priority throughout the Great Western Hospitals NHS Foundation Trust. As of 1st June 2011 the Trust merged with Wiltshire Community Health Services. A considerable amount of work has been undertaken to facilitate this merger with regard to the amalgamation of policies, meetings and structure.

**Regulations/Standards:**

- Hygiene Code – full compliance
- Care Quality Commission – full compliance
- Registered as a Health Care Provider including the Wiltshire Community Health Services premises with no conditions attached
- Support and implementation of the full transitional process of the merger of IP&C services

Priorities and areas for improvement during 2012/13 should be aimed specifically towards achieving full compliance with the MRSA screening plan. The Trust also needs to continue to improve clinical practices associated with invasive devices, hand hygiene and environmental cleanliness to further reduce MRSA, MSSA and *E. Coli* bacteraemias, *Clostridium difficile* and other preventable healthcare associated infections.

In summary, our plans for further improvement are as follows:

- To continue to reduce healthcare associated infection
- Increase surveillance of healthcare associated infections
- Sustain full compliance with the Hygiene Code
- Sustain full compliance with the Care Quality Commission’s regulation 12
- Obtain 100% and sustain compliance with MRSA screening for elective and emergency screening
Great Western Hospitals NHS Foundation Trust

- Further engagement with GWH Community and roll out of ward IP&C audits and weekly auditing of clinical practice and environment.
- Tailored environmental audit documentation for departments across the Trust.

5 Planned IP&C Audits for 2012/13 across the Merged Organisation

- Blood Borne Virus knowledge against the revised merged policy
- MRSA policy compliance
- Patient placement policy
- Invasive devices compliance
- Continued Blood Culture surveillance
- Hand Hygiene – all directorates will be required to undertake an annual audit to ensure compliance with the Hand Hygiene Policy. This will complement the weekly 15 minute hand hygiene audits undertaken in clinical areas.
- Introduction of Surgical site Surveillance for Caesarean Sections, including Wiltshire patients at the Royal United Hospital, Bath.

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