ANNUAL REPORT
INFECTION PREVENTION & CONTROL

Covering the period
APRIL 2013 to MARCH 2014

Report compiled by Dr Patricia O’Neill and the Infection Prevention
and Control Team
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1. Overview

In the year 2013/14 we continued to perform well in reducing avoidable Health Care
Associated Infection (HCAI) at Shrewsbury and Telford Hospital NHS Trust (SATH).

For the third year running we had only one MRSA bacteraemia apportioned to the
trust. At the time of writing it is over 300 days since our last case. Although we aim
for zero avoidable cases this is a vast improvement since 2003/04 when we peaked
at 58 number of cases.

C difficile numbers dropped by almost a third from 45 in 2012/13 to 31 cases in
2013/4. Although we missed our extremely challenging target of 27 cases this, like
MRSA bacteraemia, is a dramatic reduction from the peak of 208 in 2007/08.

We also had below national average infections rates for every category of surgery for
which we did surveillance during this year. Again this shows how all our staff are
continuing to rise to the ever present challenge of preventing avoidable infection in
our hospitals.

Dr Patricia O’Neill
Director of Infection Prevention and Control

2. Infection Control Arrangement

Infection Prevention and Control Team (IPC) (March 2013/14)

Dr Patricia O’Neill Director of Infection Prevention and Control (DIPC) 0.5 wte/
Consultant Medical Microbiologist 0.6 wte

Janette Pritchard Matron Infection Prevention & Control (1.0 wte Band 8a)

Debbie Snooke Nurse Specialist Infection, Prevention & Control (1.0 wte Band
7). In March 2014 Debbie was appointed to Band 7 in T & O.

Leeanne Giles Nurse Specialist Infection, Prevention & Control (1.0 wte Band
7)

Debbie Link Infection Prevention & Control Nurse (1.0 wte Band 6)

Emilia Chrusciel Infection Prevention & Control Nurse (1.0 wte Band 6). Emilia
was replaced by Jennie Dagger.

Lynn Marston Surveillance Nurse (0.8 wte Band 6)

Michelle Ellis Infection Prevention & Control Team Secretary
(1.0 wte Band 3)

The SaTH Infection Prevention and Control Team had quite a few changes in
personnel over the last year, with old hands moving on and new staff coming in. They
also had to deal with periods of low staffing levels due to delays in recruitment and
illness. Despite this they were able to maintain a presence on the ward to deal with urgent problems though some less urgent work had to be delayed.

The Infection Prevention and Control (IPC) Team continues to be managed by Janette Pritchard (Matron Infection Prevention and Control).

Dr Patricia O’Neill continues as DIPC & works 5 PAs (0.5 wte) for IPC. She also works 0.6 wte as a consultant microbiologist. In addition another three consultant microbiologists continue to give support to the Infection Prevention & Control Team. The DIPC meets monthly with the Chief Executive Officer.

The Trust Infection Control Committee continues to be held monthly and is chaired by the acting deputy Director of Nursing & Quality. Each Care Group is now invited monthly to report on IPC performance and key actions.

Infection, Prevention & Control issues are also raised at the monthly meetings of the Quality and Safety Committee, which reports directly to Trust Board and is attended by the acting deputy Director of Nursing & Quality.

The IPC service continues to be provided through a structured annual programme of audit, teaching, policy development and review as well as advice and support to staff and patients. The annual programme is agreed at the IPC committee and then reported to the Trust Board.

The place of the Infection Control Committee in the Trust Committee Structure is shown in the diagram below.
Infection Prevention & Control Team budget 2013/14

The infection control team had a budget of £299,783 pay budget (nursing and administration/clerical staff) and £17,445 non-pay.

3. Healthcare associated infections statistics

3a MRSA Bloodstream Infections

MRSA, or Methicillin Resistant Staph aureus, is a highly resistant strain of the common bacteria, Staph aureus. MRSA bloodstream infections or bacteraemia cases are the most serious form of infection where bacteria, in this case MRSA, escape from the local site of infection, such as an abscess or wound infection, and spread throughout the body via the bloodstream. All cases of MRSA detected in the blood are reported by the trust.

A post infection review is carried out for each case. This is a new way of analysing the cause of infection looking at the whole patient journey and does not apportion cases on the basis of the time after admission but instead looks at where the infection was acquired.

Each year our target for MRSA bacteraemia cases becomes more challenging and has dropped from not more than 34 in 2007/08 to zero trust apportioned cases in 2013/14 for all trusts. We had one case apportioned to the trust during 2013/14 so were unable to achieve this target. However the gap between this case and the previous one was nearly 500 days which is the longest we have seen since 1990. A post infection review was carried out for this patient. The patient was known to have previously carried MRSA before this admission. The infection occurred 13 days after admission. The source was a drain that was inserted into the chest to remove fluid build up from a malignancy in the lungs. Although it was probably impossible to avoid the infection as the patient was already carrying MRSA it was felt that additional screening may have picked up the infection at an earlier stage before it reached the bloodstream. We also identified some improvements in inserting and caring for chest drains.

There was also one other case identified where the patient was admitted with the infection. After the post infection review this case was apportioned to the community.

The graph below shows the numbers of cases over the last few years. To allow comparison with how it was reported in previous years both total numbers of cases and SaTH apportioned cases are shown. This shows that the upward trend up to 2003/04 has been reversed and we now have fewer than the numbers we saw ten years ago.

Looking at overall numbers we are still seeing a drop in numbers with only two cases this year, compared with three cases last year, and 58 at the highest point.
We continue with our ongoing work in reducing MRSA bacteraemia and less severe infections from MRSA including improving compliance with screening of emergency admission patients, continued emphasis on isolation and clearance of colonised patients, and continued improvement in compliance with hand hygiene and prevention of line associated infections.

We also monitor less severe infections and colonisations with MRSA and investigate any clusters which occur. These cases are also dropping in number.

### 3b Clostridium difficile

The Trust reports all cases of C difficile diagnosed in the hospital laboratory to Public Health England. However only cases where the sample was taken more than 72 hours after admission are considered attributable to the trust. As with MRSA our target for C difficile cases has dropped over the past few years from not more than 299 cases (including community cases) to 45 cases (trust apportioned only) on 2012/13. Our target for C difficile in 2013/14 was to have not more than 27 trust apportioned cases in patients over the age of 2 years.

This was an extremely challenging target as it represented a 40% reduction over the previous year’s total of 45 cases. We ended our year with 31 trust apportioned cases so unfortunately were unable to achieve our target. However our number of cases has dropped by more than 30% compared with the previous year and this was recognised as a considerable achievement.

It has been recognised nationally that it is becoming more and more difficult to continue to reduce C difficile cases as 5 to 10% of older patients carry C difficile in the bowel as part of their “normal flora”. If they then require antibiotics to treat an infection this may cause the C difficile to multiply and cause diarrhoea. However it is vital that we continue to prevent avoidable cases. In future trusts will only be
penalised for cases where there was found to be a “lapse in care” such as cross infection or unwise antibiotic prescribing. We carry out a short root cause analysis on each case to identify the likely cause and any remedial actions that may reduce future infections. These are fed back to the wards and clinicians.

Cross infection is now rare as a cause of C difficile. Most cases are caused by antibiotics. These are usually given in line with the trust antibiotic policy but we still have room for improvement in this area and next year we will be focusing on appropriate antibiotic prescribing. We do occasionally see two or more cases on a ward within a month. This is known as a “Period of Increased Incidence” or PII. Most turn out to be a mixture of different “ribotypes” ie different strains, and are therefore coincidence rather than cross infection. There were 9 such episodes in 2013-14. Each PII is investigated in depth. Of these 9 only in 3 episodes were 2 patients found to have the same ribotype meaning cross infection may have occurred. We have not seen more than 2 cases in a “cluster” with the same strain.

It is also very important to focus on environmental cleanliness and rapid isolation of symptomatic patient. Work continues in these areas including buying new and easier to clean commodes.

The graph above shows the number of cases over the last seven years. Since the peak in 2007/08 cases acquired in the trust have dropped by 85%.
3c MSSA Bacteraemia

MSSA, or Methicillin Sensitive Staph aureus, is the more common sensitive strain of Staph aureus. Up to 25% of us are colonised with this organism. Mostly it causes us no problems but it is a frequent cause of skin, soft tissue and bone infections. As with its more resistant cousin, MRSA, sometimes the infection can escape into the bloodstream producing a “bacteraemia” ie bacteria in the blood. Unlike MRSA, the majority of the infections will be acquired in the community, and are not associated with health care. However, some may arise as a consequence of health care, and like MRSA, it can arise from infected peripheral and central intravenous lines, and other health care interventions. We have been asked by the Department of Health to report all MSSA bacteraemia cases, whether acquired in the community or in hospital, so that we can review the sources and identify potentially avoidable cases. So far no targets have been set and we do not have easily comparable information with other hospitals. However interventions to further reduce infections are being put into place as we gain new information.

The number of cases of MSSA bacteraemia remains fairly static with 84 cases in 2013/14, compared with 83 in 2012/13 and 71 in 2011/12. Of the 84 in 2013/14 63 (75%) were diagnosed within 48 hours of admission and were therefore more likely to be acquired in the community. In 21 cases (25%) the sample was taken more than 2 days after admission and therefore the infection was more likely to have been acquired in the trust. This compares with 17 the previous year and 24 the year before.

All cases are reviewed by the consultant microbiologist to find the source of infection. Root cause analysis is done on cases acquired in the trust. The causes of infection in the 21 cases taken more than 48 hours after admission were as follows:

- 8 probably had the infection on admission ie were not health care acquired (mostly soft tissue and joint infections)
- 3 were associated with an infected dialysis lines
- 2 had infected urinary catheters
- 1 had an infected pacing wire
- 1 had an infected surgical wound
- 1 prosthetic joint infection
- 2 soft tissue infection
- 1 source not known
- 2 contaminated samples

As seen from these cases, infections of invasive devices such as intravenous dialysis lines and urinary catheters are the commonest avoidable source of health care acquired infection from MSSA. We continue to work in this area to reduce infection by monitoring compliance with care in insertion and ongoing management of lines and catheters and also reducing use of such devices or length of time they are kept in as much as possible. Dialysis patients are now routinely screened for MSSA as well as MRSA and given a decolonisation regime to reduce their carriage as they are at high risk of infection with this organism.
3d E coli Bacteraemia

E coli is an organism we all carry in our gut, and most of the time it is completely harmless. There is a particular strain, E coli O157, which can cause food poisoning, but it is rare and most strains do not cause any symptoms while being carried in the gut. Instead ordinary E coli forms part of our “friendly” colonising gut bacteria. However when it escapes the gut it can be dangerous. E coli is the commonest cause of blood stream infections (bacteraemias) in the community. The most frequent problem it causes is a urinary tract infection, but it can also cause infections in the abdomen such as gallbladder infections or following perforations of the bowel.

As E coli bacteraemia cases have been rising nationally and internationally over the last few years, the Department of Health has asked us to report all these infections and to see how many may be associated with contact with health care. As with MSSA no targets have been set but we act on any obvious preventable cause to reduce health care acquired cases.

For E coli we assess each case to see if it may be health care acquired rather than simply going by the “48 hour rule” ie considering that any cases that arise more than 48 hours after admission are likely to be health care acquired. This rule is not very reliable for E coli.

We had 268 cases in E coli bacteraemia in 2013/14 compared with 241 in 2012/13. This follows the national pattern of a continuing rise in cases. The majority of cases (191 cases or 71%) were not thought likely to be associated with health care – mostly due to urinary infections but liver and gallbladder infections were also common.

In 77 (24%) cases we judged that the infection was probably associated with recent health care. However in 34 (12%) of cases this care was being delivered in the community – mostly patients in nursing homes or in their own homes who had long term urinary catheters.

In 13 patients the infection was thought to have arisen during their current admission in SaTH and in another 29 it was associated with a recent admission to SaTH. Therefore 42 (16%) of cases were associated with SaTH. One patient was infected during their previous admission at another acute trust.

For the 12 current inpatients the commonest source of the bloodstream infection was a urinary infection – 10 cases – 9 related to a urinary catheter. Two patients developed sepsis post chemotherapy due a low white cell count, and one had an infected dialysis line.

Looking at the 29 patients whose infection was thought to be related to a recent admission to SaTH, the commonest cause was sepsis following chemotherapy (18 patients). Another 5 had a urinary infection, 3 associated with a current or recent urinary catheter put in at SaTH, 5 had infection post surgical procedures, and two had an infected central line.

The most frequent health care related risk factor is the presence of a urinary catheter with 47 of the 268 patients having one ie is over half on the health care associated infections. Of these 40 were long term catheters and 7 were short term. In hospital we are usually use short term catheters, inserted as part of the acute care. In the community there are more long term catheters, often in residents of nursing homes. Both SaTH and our partners in the community are working to reduce urinary catheter related infection. This will be achieved by monitoring compliance with correct technique during insertion of the catheter and ongoing management. As with
intravenous lines we also need to avoid using catheters except where essential and remove them as soon as possible.

The other common risk factor is cancer chemotherapy, which by temporarily destroying white cells, leaves the body at risk of infection from bugs within our own gut. Without the normal immune defences, these can cross from the gut into the bloodstream causing severe infections. It is impossible to completely stop these infections, which are a well recognised risk of chemotherapy. Instead patients are put on prophylactic antibiotics by mouth during the period when their white cell count will be very low. This reduces this risk but cannot prevent all cases. Therefore patients are warned to come to hospital very quickly if they feel unwell, so that they can immediately receive intravenous broad spectrum antibiotics. We monitor the organisms which cause infections in these patients and periodically adjust which antibiotics we give to ensure the best protection for the patients. However it is difficult to stop these infections completely.

3e Surgical Site Infection Surveillance Scheme (SSISS)

The Health and Social Care Act 2008 recommends that there should be evidence of local surveillance of wound infections which develop whilst the patient is in hospital, also that trusts carry out surveillance for infections after discharge. We carry out in-hospital surveillance and report the results to Public Health England (previously the Health Protection Agency) through the national Surgical Site Infection Surveillance Scheme (SSISS). This allows us to compare our infection rates with other hospitals.

We also report post-discharge surveillance to SSISS. This is less reliable than in-hospital surveillance as it relies on self reporting by the patient rather than diagnosis by a doctor or nurse. National comparative data for post-discharge infections are now available but the reliability of this data is much more questionable.

Surveillance of orthopaedic surgical site infection using the national surveillance scheme became a mandatory requirement in April 2004. We are required to perform surveillance on at least one category of orthopaedic surgery for at least one quarter per annum.

Surgical site surveillance was carried out in all 4 quarters. Results of the surveillance carried out in SaTH from 1st April 2013 to March 31st 2014 are shown in the table below.

We monitored abdominal hysterectomy for twelve months; there was one inpatient/readmission infection (0.5%). This takes us below the national infection rate of 1.4%. Post discharge surveillance was carried out on all but one of the 180 patients (72.2% return rate), eight of these patients reported a problem with their wound healing, giving us a patient reported infection rate of 4.4%, which compares well to 4.2% nationally. The Gynaecology ward staff will continue surgical site surveillance in abdominal hysterectomy surgery which will include post discharge
In large bowel surveillance we had two inpatient/readmission infections in 101 operations, a SaTH rate of 2%. This is much lower than the national infection rate of 10.2%. Post discharge questionnaires were sent out to the 93 eligible patients and were returned by 81 patients (87.1% return rate). Four of these patients reported a problem with their wound, giving a patient reported infection rate of 4%, similar to the national rate of 3.9%.

Breast surgery surveillance was carried out for a quarter day case procedures are also included. We had one inpatient/readmission infection from 173 operations, an infection rate of 0.6%, about half the national rate of 1.0%. 172 patients were eligible for contact post discharge. Six (3.5%) patients reported wound healing problems, similar to the national rate of 3.7%. The Breast Care Specialist Nurses continue to review their patients post discharge via clinic appointments.

In vascular surgery our in-patient/re-admission infection rate was 2.6%, which compares well with the national infection rate of 2.9%. Post discharge surveillance was also carried out. 71 patients were eligible to be followed up and two of these reported having signs and symptoms suggestive of infection. This gives us a post discharge infection rate of 2.8%, somewhat lower than the national patient reported rate of 3.8%.

Reduction of Long Bone surveillance was carried out for a quarter across SaTH. We reviewed 189 operations and found 2 inpatient/readmission Infections (1%), this compares well to the national infection rate of 1.2%. Three patients recorded problems with their wound post discharge, a patient reported infection rate of 1.6% this is slightly higher than the national patient reported rate of 0.9%.

Neck of femur surveillance over 3 months we had 1 inpatient/readmission infection in 89 operations this gives SaTH an infection rate of 1.1% which is lower than the national rate of 1.5%. During this quarter 87 of these patients where eligible for contact at 30 days, we had a response rate of 81.6%, with no patient reporting a problem with wound healing.

<table>
<thead>
<tr>
<th>Type of surgery</th>
<th>Number of Months</th>
<th>Number of cases</th>
<th>Number of In-patient/re-admission Infections (%)</th>
<th>National Infection Rate</th>
<th>Post Discharge Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal Hysterectomy</td>
<td>12</td>
<td>180</td>
<td>1 (0.5%) cf 1.4% E&amp;W</td>
<td>8 (4.4%)</td>
<td></td>
</tr>
<tr>
<td>Large Bowel</td>
<td>3</td>
<td>101</td>
<td>2 (2%) cf 10.2% E&amp;W</td>
<td>4 (4.0%)</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>3</td>
<td>173</td>
<td>1 (0.6%) cf 1.0% E&amp;W</td>
<td>6 (3.5%)</td>
<td></td>
</tr>
<tr>
<td>Vascular</td>
<td>3</td>
<td>76</td>
<td>2 (2.6%) cf 2.9% E&amp;W</td>
<td>2 (2.8%)</td>
<td></td>
</tr>
<tr>
<td>Reduction of Long Bone</td>
<td>3</td>
<td>189</td>
<td>2 (1%) cf 1.2% E&amp;W</td>
<td>3 (1.6%)</td>
<td></td>
</tr>
<tr>
<td>Neck of Femur</td>
<td>3</td>
<td>89</td>
<td>1 (1.1%) cf 1.5% E&amp;W</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hip Replacement</td>
<td>12</td>
<td>279</td>
<td>2 (0.6%) cf 0.7% E&amp;W</td>
<td>1 (0.3%)</td>
<td></td>
</tr>
<tr>
<td>Total Knee Replacement</td>
<td>12</td>
<td>289</td>
<td>1 (0.3%) cf 0.6% E&amp;W</td>
<td>8 (2.7%)</td>
<td></td>
</tr>
</tbody>
</table>
We have carried out total hip replacement and total knee replacement continuously for 12 months, giving us more robust data by increasing the number of operations we review. In total hip replacement surgery there were two (0.6%) inpatient/readmission infections in 279 operations, which compares well with the national rate of 0.7%. 275 patients were eligible for post discharge contact, we received a 88% postal return rate. One (0.3%) patient reported a wound healing problem, the national patient reported rate being 0.8%.

In total knee replacement surveillance there was one inpatient/readmission infection from 289 operations, giving us an infection rate of 0.3%, this is below the national infection rate of 0.6%. All of these patients were eligible for post discharge contact (85.1% returns rate) eight patients reported problems with their wounds, giving us a patient reported infection rate of 2.7%. The national patient reported infection rate is 2%. All of the eight patients had been treated with antibiotics from their GP.

In-house surgical site surveillance was also carried out; we reviewed other categories of surgery some of which are not included in the Surgical Site Surveillance Scheme, we looked at re-admissions due to an infection and positive microbiology results.

Hernia Repair (femoral and Inguinal) was reviewed over 2 months across SaTH. There were 97 operations, these included 26 laparoscopic and 71 open procedures, 79 of these were day cases and the remaining 18 had an inpatient stay, three of these patients had an inpatient stay of longer than 5 days, these where not due to a problem with the operation site. Six patients required a re-admission four of these where due to a problem with their operation site but not necessarily due to an infection. Three patients had microbiology swabs taken but there was no significant growth. This is not included in the SSISS categories.

Cholecystectomy was also carried out during the same 2 months, we reviewed 114 operations, all but two of these where laparoscopic procedures, four patients had a length of stay over 5 days one of these patients required interventions for a wound infection. Five patients required a re-admission, but only one for treatment of a wound infection. Nine patients had microbiology swabs taken; five of these nine patients had other documented evidence of a wound infection, a 4.4% infection rate. Only open Cholecystectomy procedures are included in the SSISS categories. We will re-look at this category of surgery next year and include post discharge.

Small Bowel surgery was reviewed over 3 months, 55 operations where looked at; 52 of these were open procedures, and 10 had multiple procedures through the same incision. Of the 8 re-admissions none were due to a wound infection, 11 patients had microbiology swabs taken with 5 of these having other documented indication of a problem with wound healing. We will look at this category during the next year and include the data through SSISS.

Caesarean Sections were reviewed over 3 months, 184 operations where recorded with 15 wound infections (8.1%): The national infection rate being 9.6%. Six women where re-admitted none of these with problems with their incision site. Other risk factors which we looked at which may have contributed to a wound infection where Post partum haemorrhage, emergency section, blood loss during the procedure and antibiotics on induction to theatre, none of these appeared to be a risk factor. Factors which may have contributed to these infections were all of the 15 had a BMI greater than 30, from the data it appeared that women who had had a previous C-Section were at greater risk with 10 of the infected cases having had a previous section. Age
appeared to be significant in the age range of 31-39 years these accounted for 9 of the infected cases. Maternity carry out their own post discharge surveillance, they question that they may be over reporting their infections, we will compare data and review findings. This category is not included at present in the SSISS categories, but hopefully will be available soon.

We reviewed Appendicectomies over 3 months, 128 operations with documented evidence of 8 (6.2%) of these patients developing a wound healing problem, the 8 infected cases were all open procedures with ages ranging from 14-71 years: 6 of the infected cases swabs were taken on the 5-7th days post operation with the other two taken on the 12th & 18th day. Four patients required readmission with wound healing problems.

Because these categories have not been looked at previously we have no robust data to be able to compare infection rates, we will review these categories again, therefore giving us a larger sample size & a benchmark.

3f Outbreaks

The following outbreaks of infection occurred in 2013/2014

Norovirus
Norovirus is the commonest cause of gastroenteritis (infectious diarrhoea and vomiting) in the community but it also causes outbreaks in hospital as it is very infectious person to person.

Over the last 12 months there have been twenty two outbreaks of diarrhoea and vomiting requiring at least part of the ward, usually one or more bays, to be closed. Out of the twenty one outbreaks, fifteen were confirmed as Norovirus outbreaks. In the other outbreaks, no organism was confirmed but norovirus is still the most likely cause. Comparing to year 2012-2013 we had relatively small number of outbreaks in year 2013-2014.

On average between two and 14 patients were affected during the diarrhoea and vomiting outbreaks and bay closures lasted between two and nine days. During each outbreak symptomatic patients were nursed together as much as possible to minimise impact on patient flow; twice daily disinfectant cleaning of the wards was commenced and patients were reviewed daily by the IPC team.

Commode cleanliness on four wards and lack of outbreak documentation on three wards were two most common issues identified during outbreaks. Two wards did not isolate patients in timely manner, also on two wards staff was at work while having symptoms or came back too early to work not being 48h clear. On one of the wards IPC nurses observed incorrect use of PPE and also on one ward the door into affected bay were found open.

Outbreak information was communicated to staff via e-mail and the IPCN team attended the bed management meetings daily. The IPCN team also put together a weekend plan for the outbreak management of patients & this information was passed onto the clinical site managers and off site managers on-call for the weekend.

The infection prevention and control roller blinds at ward entrances were utilised and outbreak banners were placed in the main entrances to the hospital to let visitors know which wards were closed due to diarrhoea and vomiting.
The table below shows which wards have been affected by diarrhoea and vomiting outbreaks and how many times each ward has been affected.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Number of times ward affected by diarrhoea and vomiting outbreak</th>
</tr>
</thead>
<tbody>
<tr>
<td>S27</td>
<td>3</td>
</tr>
<tr>
<td>T10</td>
<td>2.5</td>
</tr>
<tr>
<td>T9</td>
<td>2</td>
</tr>
<tr>
<td>T6</td>
<td>1.5</td>
</tr>
<tr>
<td>T12</td>
<td>1</td>
</tr>
<tr>
<td>T16</td>
<td>1</td>
</tr>
<tr>
<td>T7</td>
<td>1</td>
</tr>
<tr>
<td>S22AR</td>
<td>2</td>
</tr>
<tr>
<td>S28MN</td>
<td>2</td>
</tr>
<tr>
<td>S32e</td>
<td>1</td>
</tr>
<tr>
<td>S24C</td>
<td>1</td>
</tr>
<tr>
<td>T11</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Serious incidents (SI) and Period of increased incidents (PII)**

Over the past twelve months the IPCN team has reported seventeen incidents as a PII or SI. PII is defined as two or more new cases within a ward or unit in a twenty-eight day period.

**Pulmonary Tuberculosis SI**

The trust had two SIs reported due to pulmonary tuberculosis by the TB Nurse Specialist.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 9</td>
<td>June</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>TAMU &amp; Ward 9</td>
<td>February</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**MRSA bacteraemia SI**

The trust has had one SI reported due to MRSA bacteraemia.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 9</td>
<td>August</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**MRSA PII**

The trust has had one PII of MRSA this year.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 22TO</td>
<td>April</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Ward 26S</td>
<td>August</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
**Clostridium difficile PII**
The trust has had 9 separate PII of Clostridium difficile this year. Only in 3 were at least 2 patients found to have the same strain of C difficile on typing.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 23N</td>
<td>June</td>
<td>2 (different strains)</td>
<td>0</td>
</tr>
<tr>
<td>SAMU</td>
<td>June</td>
<td>2 (same strain)</td>
<td>0</td>
</tr>
<tr>
<td>SRenal</td>
<td>September</td>
<td>3 (2 same strain)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 28SS</td>
<td>September</td>
<td>2 (different strains)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 26U</td>
<td>September</td>
<td>2 (different strains)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 27</td>
<td>October</td>
<td>2 (different strains)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 22A/S</td>
<td>October</td>
<td>4 (2 same strain)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 27</td>
<td>December</td>
<td>2 (different strains)</td>
<td>0</td>
</tr>
<tr>
<td>Ward 23H</td>
<td>December</td>
<td>4 (different strains)</td>
<td>0</td>
</tr>
</tbody>
</table>

**Pseudomonas aeruginosa PII**
The trust has had one PII of Pseudomonas aeruginosa this year.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITU</td>
<td>January</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Vancomycin Resistant Enterococcus (VRE) PII**
The trust has had two incidents of PII VRE this year.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITU</td>
<td>June</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>SITU</td>
<td>December</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Extended Spectrum Beta Lactamase (ESBL) E.coli PII**
The trust has had one PII of ESBL this year.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 22TO</td>
<td>February</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Influenza A PII**
The trust has had one PII of Influenza this year.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Month Reported</th>
<th>Number of patients affected</th>
<th>Number of staff affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 6</td>
<td>April</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>
On identification of a SI or PII a ward inspection is carried out by the IPCN team. Staff are asked to complete weekly hand hygiene audits and practice is validated by the IPCN team. Once Root Cause Analysis is completed and an action plan is put together the actions are then monitored by the IPCN team, Ward Manager and Matron for that area and review meetings are held to assure us that the actions identified are being implemented. SIs and PIIs are also reported to the monthly Infection Prevention and Control Committee. Centres, when invited to the committee, give an update with regards to outstanding RCA and action plans.

4. Progress against 2013/14 work programme

From April 2009 the Trust was legally required to register with the Care Quality Commission (CQC) under 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 (usually called “the Health Act”). As a legal requirement of registration, the trust must protect patients, workers and others who may be at risk of acquiring a HCAI. Compliance by the Trust will be judged against the ten laid down in the Health Act.

Our work programme is based on this which includes teaching, audit, policy development and review and progress against the 2013/14 IPC work programme is reported to the Trust Infection Prevention & Control committee (IPCC)

The Infection Prevention and Control HCAI Action plan has now been incorporated into the Trusts CQC compliance monitoring Tool (Health Assure). As part of the IPC annual programme of work for 2014/15 an assessment of compliance aligned to the Health and Social care Act will need to be initiated as this was not completed for the previous year.

Staff Health

The IPC team continues to work with the Occupational Health providers Team Prevent to ensure that staff are protected from infection and do not pose a risk to others including patients from their own infections. Updating of the Infection Prevention & Control Policies Exposure to Blood Borne Viruses and Management of Infection in Staff come under this duty. The Occupational Heath Team “Team Prevent” also responsible vaccination programmed for staff including influenza. In 2012/13 the uptake of influenza vaccination throughout the Trust was 46.7%, In 2013/14 this was increased to 66.4% against a national average of 48.6%

Education

Throughout 2013/14 the IPC Team continued to provide Infection Prevention and Control training to as many groups as possible within the Trust.

All staff employed by SaTH are required to undertake IPC education at the beginning of their employment (usually as part of their induction to the hospital) and have mandatory annual updates during their employment. These education sessions concentrate on current IPC issues essential to reducing HCAI in the Trust & highlight best practice.

Attendance on this training is monitored via the training and education department and attendance is updated on the staff electronic record. The following table shows the number of attendees from April 2013 to March 2014 who had IPC training.
The following education has also been undertaken:
- Hand decontamination training,
- Healthcare Assistant Induction Training,
- Medical students IPC education,
- FY1 and FY2 Induction
- Student Nurse education.
- Individual Ward training sessions, as requested.

Each year the Infection Prevention and Control Team aim to hold 4 Link Worker meetings on both sites. For the last 5 years, one of these sessions has been a full day conference organised by the Team. The attendance rates remain variable at the meetings, but attendance at the Conference continues to improve yearly. The number of areas with Link Workers expressing interest and signing up to the role has improved within the last year. It is important that staff are supported to attend these meetings as the programme provides an opportunity to network with their peers and to take back important elements to clinical areas that have the potential to reduce infections by promoting optimal practice.
The 5th annual regional Infection Prevention and Control Conference was held at the Shropshire Education and Conference Centre at the Royal Shrewsbury Hospital on the 13th September 2013. This year’s event brought together a diverse mix of speakers with the focus being on high quality and safe care, as well as a review of current challenges in reducing healthcare associated infections.

The conference was opened by Jo Banks, associate director of patient safety. Speakers included Dr Patricia O’Neill, Consultant Microbiologist and Director of Infection Prevention and Control at our Trust, Janette Pritchard Matron for the Infection Prevention and Control team. Martin Kiernan, nurse consultant infection
prevention and control Southport and Omskirk Hospital, Tom Lad Independent urology nurse consultant, Stephen Kenyon, urology nurse practitioner, Mid Staffordshire NHS foundation Trust and Fiona Glover Continence adviser, Shropshire community health.

The conference received very positive evaluation from the 100 delegates. Feed back included the following statement:
“Brilliant conference”.
“Very enjoyable and informative”
“Speakers all excellent”
“Another excellent conference”
“A very valuable learning experience”

The Infection Prevention and control team are in the process of organising the 2014 event

5. Compliance with the Health and Social Care Act 2008

Implementing the Code of Practice for Health and Adult Social Care on the prevention and control of infections and related guidance (Health and Social Care Act 2008) is a legal requirement for acute trusts and other health care providers. The table below is the ‘Code of Practice’ and sets out the 10 criteria against which a registered provider will be judged on how it complies with the registration requirement for cleanliness and Infection Prevention and Control.

<table>
<thead>
<tr>
<th>Compliance Criterion</th>
<th>What the registered provider will need to demonstrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider how susceptible service users are and any risks that their environment and others may pose to them.</td>
</tr>
<tr>
<td>2</td>
<td>Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections</td>
</tr>
<tr>
<td>3</td>
<td>Provide suitable accurate information on infections to service users and their visitors</td>
</tr>
<tr>
<td>4</td>
<td>Provide suitable accurate information on infections to any person concerned with providing further support or nursing/medical care in a timely fashion.</td>
</tr>
<tr>
<td>5</td>
<td>Ensure that people who have or develop an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing on the infection to other people</td>
</tr>
<tr>
<td>6</td>
<td>Ensure that all staff and those employed to provide care in all settings are fully involved in the process of preventing and controlling infection</td>
</tr>
<tr>
<td>7</td>
<td>Provide or secure adequate isolation facilities</td>
</tr>
<tr>
<td>8</td>
<td>Secure adequate access to laboratory support as appropriate.</td>
</tr>
</tbody>
</table>
9 Have and adhere to policies, designed for individual’s care and provider organisations that will help to prevent and control infections.

10 Ensure, so far as is reasonably practicable, that care workers are free of and are protected from exposure to infections that can be caught at work and that all staff are suitably educated in the prevention and control of infection associated with the provision of health and social care.

The Infection Prevention and Control HCAI Action plan has now been incorporated into the Trusts CQC compliance monitoring Tool (Health Assure). As part of the IPC annual programme of work for 2014/15 an outstanding assessment of compliance will need to be carried out. This will be a challenge given the current resource within the team.

6. Hand Hygiene
The key importance of hand hygiene in preventing and controlling infections as a cornerstone of effective infection prevention and control practice remains a focus for the IPCT and continues to be one of the fundamental messages to all staff. The trust continues to support the work that empowers staff to challenge poor hand hygiene compliance at all grades.

The hand hygiene policy is available to all staff via the trust intranet.

The Trust target for hand hygiene compliance rates is 95%. Audits of compliance are completed every two weeks within all clinical areas. It is the responsibility of all ward managers to ensure that the audits are completed. The IPCT continue to provide training and support to the staff nominated to complete these audits. The results are reported monthly via an electronic report produced by the clinical audit department. These reports are reviewed by the IPCT and are discussed at the trust Infection Control committee meetings. The IPCT meet continue to meet with the managers of areas where the compliance rate has fallen below 95%, action plans are agreed and the impact of these actions is monitored through the ongoing audit programme. The frequency of the audits is increased to weekly when the compliance rate falls below 95% as well as when an outbreak or a period of increased incident of a particular organism has been identified in a ward.

The overall compliance rate for 2013/2014 was 98%.
In line with the trust hand hygiene policy staff are expected to have their hand hygiene technique assessed within one month of starting their employment and every three years thereafter. It is the responsibility of the IPCT link nurse to ensure these assessments are carried out; compliance with this is monitored by the IPCT through quarterly reports generated by the training and development team. The outcomes of these reports are presented to the infection prevention and control committee. The graph below shows the actual compliance for the last 3 years against the Trust target of 100%.
As in previous years the IPCT have continued to assist teams with hand hygiene assessment with support from a GOJO representative. These provide useful opportunities to sustain positive messages around the importance of compliance with hand hygiene and reinforce the 5 Moments of Hand Hygiene approach.

The IPCT have also liaised with Occupational Health to support members of staff who have experienced problems with skin integrity. Gojo have also worked with Occupational Health to ensure they have all the relevant information on the products used in the Trust, and are also aware of alternatives that can be used for staff with skin issues.

The IPCT also produced a fun video to promote hand hygiene around the Trust. The video consisted of a number of clinical and non-clinical staff performing their hand washing technique to the ‘Gangnam style’ song. The video proved a big hit at the Trust awards.

7. Audits (including High Impact Intervention)

Audit is a key component of Infection Prevention and Control. Knowing how we are doing is vital to delivering safe quality care. High Impact Intervention (HII) audit tools issued by the Department of Health are used throughout the Trust to monitor practice and implement improvements where necessary. The term “High Impact Intervention” refers to a procedure carried out as part of health care which carries a risk of infection. To minimise the risk staff must comply with nationally agreed steps – often called a “care bundle”. Trends in compliance are monitored locally via Clinical Audit, the Matrons, the Infection Prevention and Control Committee and the Centres.

The High Impact Interventions audits include:
- Central Venous Catheter Care (CVC)
- Peripheral Intravenous Cannula Care
- Renal Dialysis Catheter Care
- Prevention of Surgical Site Infection (PSSI)
- Care of the Ventilated Patients
- Urinary Catheter Care
- Decontamination of equipment
Two new High Impacts were introduced by the Department of Health in 2011, Management of Chronic wounds and Management of Enteral feeding. These are being implemented by the Tissue Viability Team and the Dietetic Team respectively but are not being audited at present. The Dietetic Team with input from the IPC Team have written an Enteral Feeding Policy for the Trust and developed an audit tool based on the Enteral Feeding HII. These are due to be shared Trust wide.

A Commode Cleaning Audit was introduced by the Trust in Dec 2013, following the findings of audits undertaken by the IPC Nurses in March and May 2013. All the above audits are carried out by all Wards and Departments as applicable, on a one to three monthly basis, via the audit programme. Some areas are still struggling to sustain above 95% compliance rates in all audits throughout the year. Support from the IPC Team is always available and any dip in compliance is addressed at the time by Ward Managers and Matrons. Throughout the year we have seen areas with a poor compliance rate make improvements and aim to achieve 100%.

<table>
<thead>
<tr>
<th>Audit</th>
<th>Comments and Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct Use of Personal Protective Equipment (PPE)</td>
<td>To ascertain the availability and correct use of PPE. The IPC Link Workers were tasked with collecting the relevant data from their own areas. The audit showed some misuse of PPE and some good practice. 36 Ward areas were audited across the Trust. 24 areas had all PPE available and were 100% compliant with use.</td>
</tr>
<tr>
<td>Isolation/Side Room Availability and Utilisation Audit,</td>
<td>To ascertain if all patients requiring isolation were placed in side rooms on wards. To ascertain availability of side rooms</td>
</tr>
</tbody>
</table>

Other audits have been completed during this period covering specific practices and within specific departments. These include:
| Including Placement and Management of Diarrhoea Patients | To ensure all patients who have diarrhoea are isolated as per Trust policy. 
On the day of the audit, there were 41 patients requiring isolation. All but 3 were in single side rooms, with plans in place to isolate 2 of these patients. All patients with diarrhoea were in single side rooms and moved there within 24 hours of becoming symptomatic. Only 1 patient with an infection was in a bay, due to lack of side room facility. |
|---|---|
| Sluice Audit | To ascertain if sluice rooms within the trust were clean and had appropriate storage facilities for all items. 
12 areas scored above 95%. 33 areas had issues. These issues were discussed at the time of the audit with the ward staff and followed up with an e-mail to the Ward Managers. |
| Commode Audit | Following the findings of a commode audit undertaken in March 2013, it was agreed that the audit should be repeated in May 2013. The audits were undertaken separately from the Sluice Audit to ascertain if commodes were being cleaned effectively & being stored correctly when not in use, in accordance with the standards set by SaTH. 
91 commodes were audited across the Trust. 
21 were contaminated with body fluids. 
6 were not stored correctly ie seats were not inverted. 
10 had noticeable damage. 
Due to the findings of the audits, a commode audit tool was developed for the wards to carry out monthly audits. This was introduced in Dec 2013. The outcomes are sent to the clinical audit team who generate a monthly report. |
| Segregation of Linen Audit | To ascertain if linen was stored and handled appropriately within the Trust and if clinical areas are receiving sufficient linen supplies for a 24 hour period. 
43 areas were audited. 23 areas scored above 95%. Compliance has improved compared to the last linen audit, but there is still room for improvement. |
| Validation of information that is provided at Pre-op Clinics around infection prevention prior to admission. | To ascertain whether IPC leaflets were given to elective patients at their Pre-op assessment. The expectation being that the following leaflets are provided: 
- Hand Hygiene 
- Reducing the Risk of Infection in hospital – Patient Information 
- Reducing the Risk of Infection in hospital – Visitor information. 
A total of 12 patients across both sites were audited. 
3 out of 12 patients had received a Reducing the Risk of Infection leaflet. 2 patients were provided with information about MRSA. 
It was recommended that every patient who attends a Pre-op assessment MUST be offered a Reducing the Risk of Infection patient information leaflet. |
| MRSA Screening | An ongoing report for both Elective and Emergency MRSA |
Compliance (Elective / Emergency Screening) screening was and still is generated through IT systems. The graphs below show the compliance rates for the year. The SQL systems can be accessed by the Centres, so that they can address the non-compliance locally.

A programme of Audit has been established for 2014/2015. This forms part of the Infection Prevention and Control Annual Programme.
8. Environmental Cleanliness

Domestic Service Monitoring 2013 – 2014

All areas are monitored monthly

<table>
<thead>
<tr>
<th>Month</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sath Score</td>
<td>96.84</td>
<td>95.78</td>
<td>96.28</td>
<td>95.91</td>
<td>96.53</td>
<td>97.66</td>
<td>96.66</td>
<td>96.73</td>
<td>96.75</td>
<td>97.92</td>
<td>97.59</td>
<td></td>
</tr>
</tbody>
</table>

The average Trust wide score for Domestic Cleanliness Monitoring for 2013/2014 was 96.74% which is above the target of 92%. The Trust scored green on every month as shown in the graph and tables above.

Cleanliness and Hygiene

The Patient Environmental Action Team (PEAT) assessments were replaced this year by the Patient Led Assessment of the Care Environment (PLACE) programme.

The PLACE programme offers a non-technical view of the buildings and non-clinical services provided across all hospitals, hospices and independent treatment centres providing NHS-funded care. A crucial change to the assessment process is the involvement of patient assessors.

Formal PLACE assessments for 2013 were undertaken for the following areas:-

- Princess Royal Hospital – 18 and 19 April 2013
- RJ&AH Maternity Unit – 1 May 2013
- Royal Shrewsbury Hospital – 22 and 23 May 2013
- Bridgnorth Maternity Unit – 29 May 2013
- Ludlow Maternity Unit – 21 June 2013

The results of the assessment are shown in the table below.
<table>
<thead>
<tr>
<th></th>
<th>Cleanliness</th>
<th>Food</th>
<th>Privacy &amp; Dignity and Well Being</th>
<th>Condition Appearance and Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Princess Royal Hospital</td>
<td>99.02</td>
<td>76.27</td>
<td>89.07</td>
<td>87.70</td>
</tr>
<tr>
<td>Royal Shrewsbury Hospital</td>
<td>98.94</td>
<td>69.66</td>
<td>86.24</td>
<td>84.67</td>
</tr>
<tr>
<td>Bridnorth Maternity Unit</td>
<td>100.00</td>
<td>92.42</td>
<td>93.00</td>
<td>93.10</td>
</tr>
<tr>
<td>Ludlow Maternity Unit</td>
<td>74.48</td>
<td>87.50</td>
<td>60.00</td>
<td>49.14</td>
</tr>
<tr>
<td>Oswestry Maternity Unit</td>
<td>100.00</td>
<td>86.53</td>
<td>77.14</td>
<td>83.33</td>
</tr>
<tr>
<td>National Average</td>
<td>95.74</td>
<td>94.98</td>
<td>88.87</td>
<td>88.75</td>
</tr>
</tbody>
</table>

The 2014 PLACE programme is already underway and results will be available from the Health and Social Care Information Centre around September time.

Cleanliness, food and general maintenance and décor will continue to be monitored via our Patient Environment Team. Feedback from these inspections will be presented to the Patient Environment Group which includes a representative from the Patient Experience and Involvement Panel.

9. Overview of 2014/15 Annual Programme

The 2014/15 programme reflects the requirements of the Health and Social Care Act 2008. Our focus will be:

- Ensure cleanliness issues within wards and departments is a priority & review basic standards of practice such as cleanliness & use of commodes in the environment
- To prevent & reduce the incidence of Clostridium difficile infection in SaTH based on a strong health economy partnership approach including surveillance, implementation of best practice, audit & root cause analysis
- Continue to work with decontamination lead to focus on decontamination of instruments/equipment outside of CSSD
- Urinary Tract Infections (UTIs) are the most common healthcare associated infection in acute hospitals. The risk of developing a catheter associated urinary tract infection (CAUTI) increases the longer a urinary catheter remains in situ. The IPC Team will continue to support the urology specialists nurses aim to develop a campaign to reduce UTIs