Infection Prevention and Control Team

Annual Report
April 2015 – March 2016

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Director of Infection Prevention and Control
May 2016
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Key achievements

The key achievements for the year April 2015-March 2016 were as follows:

- *Clostridium difficile* - only 3 ‘avoidable’ hospital-apportioned cases against an objective of fewer than 35 cases
- Norovirus – only one ward closure with a mean ward-closure time of 5.0 days
- Hand Hygiene compliance – compliance of 97%
- Excellent compliance with Saving Lives High Impact Interventions
- Full compliance with the Code of Practice and the Care Quality Commission (CQC) NHS Provider Compliance Assessment Outcome 8 (Cleanliness and Infection Control).

Executive summary

Over recent years, the Infection Prevention and Control Team (IPCT) at Plymouth Hospitals NHS Trust (PHNT) has significantly modernised the service it provides in order to meet the challenging agenda being set at both local and national levels. This has led to improvements in clinical practice, with concomitant reductions in healthcare-associated infections.

For the period 2015-16, the Trust reported two hospital-apportioned Meticillin-Resistant *Staphylococcus aureus* (MRSA) bacteraemias and although there were only 30 new cases of MRSA (infections at all sites), this was twice the number compared to the year before. Although the Trust only reported three ‘avoidable’ hospital-apportioned cases of *Clostridium difficile* against an objective of fewer than 35 cases, the total number of cases (‘avoidable’ and ‘non-avoidable’) increased from 35 to 42. These increases are likely to reflect the significant operational pressure that the hospital has been under over the last 12 months. The Trust has a high rate of hospital-apportioned MSSA bacteraemias, a significant proportion of which are secondary to peripheral and central venous catheters.

The management of outbreaks of vomiting and diarrhoea in clinical areas continued to be of a very high standard and despite considerable norovirus activity in the community and neighbouring hospitals, there was only one ward closure with a ward-closure time of 5.0 days. The ‘Five Moments’ hand hygiene awareness campaign continued across the Trust and hand hygiene compliance was 97%. Considerable work has gone into meeting compliance with national guidelines and standards, including the Code of Practice for the Prevention and Control of Healthcare Associated Infections, relevant guidance and quality standards from NICE and Clinical Negligence Scheme for Trusts (CNST). Considerable Trust-wide effort will be required to meet next year’s objectives and maintain a zero tolerance approach to preventable healthcare-associated infections.
Progress towards achieving Key Targets, April 2015 – March 2016

The Key Objectives for the IPCT for April 2015 – March 2016 were:

- To reduce MRSA bacteraemias in line with agreed local and national targets. Between April 2015 and March 2016, there were 2 MRSA bacteraemias (Target: no cases for the year).

- To reduce Clostridium difficile in line with agreed local and national targets. Between April 2015 and March 2016, 42 cases of hospital-apportioned Clostridium difficile were recorded, of which 3 were considered avoidable and 39 non-avoidable.

- To achieve a 10% reduction in all cases of MRSA. Between April 2015 and March 2016, there were 30 new cases of MRSA compared to 15 in the same period last year (an increase of 100%).

- Comply with current and new national mandatory surveillance requirements. Compliant.

- Support and assist in the implementation of screening high-risk patients for meticillin-resistant and susceptible S. aureus (MRSA and MSSA). Compliant.

- To reduce other infections according to national and local priorities. In progress.

- To continue to perform surgical site surveillance, including post-discharge surveillance, on all major procedures. Complete.

- To maintain the mean ward closure time due to epidemic gastroenteritis below 7 days. Between April 2015 and March 2016, there was one ward closure due to norovirus with a ward closure time of 5 days.

- For all wards to perform at least a monthly Hand Hygiene audit with compliance of at least 95%. Between April 2015 and March 2016, the overall Trust hand hygiene compliance was 97%.

- For all wards to perform at least monthly Saving Lives High Impact Intervention audits for in use medical devices and score at least 95%. Data available on Balanced Scorecard.

- For all wards to achieve compliance with Infection Prevention and Control (IPC) audits. Data available at the end of the year.

- For the availability of alcohol hand gel in clinical areas to be maintained as close to 100% as possible. Between April 2015 and March 2016, the availability of alcohol hand gel in clinical areas was 95%.

- To continue to develop and update the IPC website. Completed.
To comply with national legislation and guidance including the Health and Social Care Act (Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance), NHS Provider Compliance Assessment Outcome 8 (Cleanliness and Infection Control), NHS Litigation Authority, Winning Ways and national guidance on the management of MRSA and *C. difficile*. **Compliance reviewed and evidence folders updated.**
Introduction

This Annual Report details the activities undertaken by the Infection Prevention and Control Team (IPCT) during the period 1st April 2015 to 31st March 2016 and should be read in conjunction with the Infection Control Annual Programme of Work and quarterly reviews for the same period. The report has been compiled according to guidelines issued by the Department of Health and will be presented to the Trust Board in May 2016.

The aim of the IPCT, through the compilation and achievement of a robust Annual Programme of Work, is to devise, implement and evaluate strategies to reduce hospital-associated infection by working in collaboration with each Directorate. The IPCT performs a number of activities that minimise the risk of infection to patients, staff and visitors, including:

1. Providing advice on all aspects of infection control
2. Managing outbreaks of infection
3. Conducting programmes of education
4. Undertaking audit and targeted surveillance
5. Formulating policies and procedures
6. Interpreting and implementing national guidance at local level
7. Involvement with refurbishment, new building and equipment projects.

The IPCT now has a far more proactive approach, with a greater emphasis on clinical work and the direct management of patients with hospital-associated infections. The enhanced presence of the IPCT in the clinical environment has greatly increased their accessibility for guidance and advice and has improved the management of hospital-associated infection across the Trust.

Reporting line to the Trust Board

The IPCT meets on a daily basis to discuss current infection control issues and formulate the day-to-day working programme for the Team. A formal weekly meeting allows review of these issues and monitors progress of control processes, as well as progress against objectives. The Infection Control Committee (ICC) meets quarterly, is chaired by the DIPC, and reports via the Safety and Quality Board to the Trust Board. There is representation on the ICC from members of each clinical Service Lines and senior management, as well as external groups such as the Public Health England, community organisations, as well as patient and public involvement groups. External links are well maintained with the Consultants for Communicable Disease Control for Devon and Cornwall, who are also members of the ICC. The IPCT collaborates extensively with other Trusts across the South-West Peninsula and participate in the activities of local and national groups (e.g. Healthcare Infection Society and Infection Prevention Society). The lead Consultant Medical Microbiologist for Antimicrobial Stewardship is a member of the Drugs and Therapeutics Committee.
Significant infection control issues are also dealt with at the monthly Infection Prevention Subcommittee, which is chaired by the Director of Nursing and reports via the Safety and Quality Board to the Trust Board. All MRSA bacteraemias, cases of *C. difficile* and other serious Healthcare-Associated Infection (HCAI), as well as recent audit results are reviewed at this meeting. The results of Root Cause Analyses (RCAs) and Post-Infection Reviews (PIRs) are reported to the Subcommittee and appropriate recommendations made. Action Plans arising from RCAs are reviewed at subsequent meetings. Matrons report on infection control to the Infection Prevention Subcommittee on a quarterly basis.

The Board member with responsibility for infection control is the Director of Nursing, Greg Dix, and the non-executive member is Mike Williams. The Department of Health document ‘Winning Ways’ states that the DIPC will ‘report directly to the Chief Executive and the Board and not through any officer’. The DIPC meets regularly with the Chief Executive and reports directly to the Trust Board as required.

Trust-wide reporting of HCAIs is through a balanced scorecard of reporting that is produced and circulated to all clinical areas, Service Lines and the Trust Board. This includes surveillance and outbreak data, audit results, compliance with policy, and uptake of Infection Prevention and Control training. The scorecard is produced on a monthly basis for Service Lines and quarterly for Departments, and is incorporated into the Trust Board and Service Line performance management process.

The IPCT is represented on the following committees:

a) *Clostridium difficile* Vigilance Meeting  
b) Water Action Group  
c) Ventilation Systems Group  
d) Decontamination Action Group  
e) Patient-led Assessment of the Care Environment Team  
f) Cleanliness Assurance Group  
g) Serco/Facilities Operational Group  
h) Nursing and Midwifery Board.

**Infection control arrangements**

1. **Budget and staffing**

The IPCT provides an infection control service for PHNT (~1000 beds) and last year had annual pay and non-pay budgets of £522,466 and £22,998 respectively. Income of £54,028 was generated through service level agreements with other local healthcare providers (approximately 500 community beds).

2. **Team development**

The team of Registered Nurses and Practitioners, Health Care Assistants (HCAs) and Administration and Clerical staff are managed by Claire Haill, Nurse Consultant for Infection Prevention and Control for the Trust under the direction of Dr Peter Jenks,
The team has seen a significant change in staff during the past year; the recruitment has been challenging although towards the end of the year achieved a full compliment. The staff who have left during the last year are: Glynis Webster, Secretary to the Director and Administrator for Infection Prevention and Control Team. Glynis retired in December after 24 years employment in PHNT including 17 with IPCT; Health Care Assistants Alicia Walton transfer to Maternity service line to follow her ambition in this speciality and Elaine Thursby left the Trust after deciding the working in the hospital environment was not for her. Newly recruited staff includes Health Care Assistants Holly Walton and Cornellia Burns, Lead Specialist Practitioner Dawn Hoole, who joined us after several years of clinical practice in Dentistry including six years of management in the Peninsula Dental School, and Maggie Wasiluk joined the team in December as the team administrator and secretary to the Director and Nurse Consultant for IPC.

The training requirements and personal development of individual team members remains a key priority. Training includes regular clinical supervision sessions to reflect and discuss the management and approach to recent clinical issues for post-registration healthcare professionals and local supervision and bespoke training has been provided for the HCA’s. All members of the Team received Individual Performance and Development Reviews last year. Over the next 12 months, personal objectives will be integrated into the Annual Programme of Work to develop ownership of Trust objectives and facilitate achievement of key outcomes.

Members of the Team are actively involved with the Infection Prevention Society (IPS) and Claire Haill hosted the Southwest IPS quarterly meeting at PHNT which focused on surgical site surveillance including a presentation on the work undertaken by IPCT. Over the past two years the staff in the IPCT has changed significantly. While this can create uncertainty it also provided an opportunity to refocus and re-energise the team. With support and guidance from the Human Resources staff the team is developing new systems of work as well as developing their skills to work together to complement each-other’s strengths. This work is ongoing and there will be an increased focus on specialist teaching across the different staff groups over the following months. Lead Specialist Practitioners Cathy Ford and Jan Cox have been integral to the ongoing recruitment of the team and have attended Human Resource training as team leaders. Jan Cox provides supervision, guidance and training for the HCA’s, and Cathy Ford has taken the lead on Education for the Registered Nurses. The Registered Nurses and HCA’s have their hand hygiene technique assessed and undertaken a mask fit test up-date. Jan Cox and Dawn Hoole attended the Aseptic Non-Touch Technique refresher training. This ensures the clinical team are competent in the skills they are teaching, assessing and providing instruction on. Specialist Practitioner Sally Fletcher attended The Plymouth Way Leadership course and a study day at Seale Haynes on The Mindful Leader. Specialist Practitioner Tamasin Davis attended training on How to undertake an investigation. Specialist Practitioner Sharon Warne has undertaken and passed the Management of Infection degree module. Data Analyst Stephen Bennett undertook training on Statistical analysis by the Research and Development team in preparation of producing reports. Claire Haill received 25 years long service award.
During the year, Dr Peter Jenks started a three-year Fellowship from the National Institute for Health and Care Excellence (NICE). He was a Specialist Committee Member of the Quality Standard Advisory Committee (QSAC) for Quality Standard (QS) 113, Healthcare Associated Infections, published February 2016. He was also a Specialist Committee Member on the QSAC for Antimicrobial Stewardship, which is due to be published in April 2016. He was asked to become Secretary of the Healthcare Infection Society (HIS) in November 2015 and has also been a member of a number of a HIS Working Party on the Management of Resistant Gram-negative infections which publish their national guidelines in January 2016.

The IPCT continued to receive requests from several other teams across the country to visit and observe our strategy, working practices and share from our experiences or share our work through networking. Teams from Gloucestershire Hospital NHS Foundation Trust, and Royal Cornwall NHS Trust and Royal Devon and Exeter NHS Foundation Trust visited with a specific interest in our approach to the national surgical site surveillance scheme, and during the visits used the opportunity to discuss our approach to outbreak management in view of the low numbers of ward closures and the duration that the wards are closed, and also how we have achieved sustainably low rates of C. difficile infection. The Head of Infection Prevention and Control – South for the Trust development Authority, Linda Dempster shadowed the IPCT to review the management of patients with C. difficile and has recommended several other teams to contact us to discuss PHNT process. IPCT were joined by the Senior Nursing Team, Facilities and Antimicrobial Pharmacist for a video conference with South Tees NHS Foundation Trust. The feedback received from the visiting teams has been positive in terms of their experience as well as how they have implemented some changes as a result.

**Surveillance**

1. **Background**

Surveillance of healthcare-associated infection can be defined as the systematic recording of infections using agreed definitions, with analysis, interpretation and dissemination of the results so that appropriate action can be taken. Surveillance is necessary to monitor trends in infection rates over time, detect outbreaks, provide information for the planning of services and allocation of resources, and to evaluate the impact of any interventions aimed at reducing infection risks. By targeting appropriate interventions, surveillance contributes significantly to reducing rates of infection and is recognised as an important contributor to good infection control practice.

In October 2000, the Department of Health announced that some aspects of surveillance would be compulsory. In April 2001, a mandatory scheme for reporting Staphylococcal bacteraemias (including MRSA) commenced and the results of that surveillance are published regularly. In an attempt to account for variations in hospital activity, absolute numbers of MRSA bacteraemias are converted into a rate using the bed availability and occupancy (KH03) annual return. From 1st September 2003, Acute Trusts have also had to report bacteraemias due to glycopeptide resistant enterococci (GRE) and since January 2004, alert organism surveillance was extended
to \textit{C. difficile}. Reporting of bacteraemias due to Meticillin-Sensitive \textit{Staphylococcus aureus} (MSSA) was added to the scheme in January 2011 and bacteraemias due to \textit{Escherichia coli} were reportable from 1\textsuperscript{st} June 2011. The national surveillance scheme also includes orthopaedic surgical site infections and the reporting of ‘serious untoward incidents associated with infection’. The infection rates for PHNT are published in comparison with other Teaching Hospital Trusts.

2. Mandatory surveillance reporting

Plymouth Hospitals NHS Trust complies fully with the mandatory surveillance system for healthcare-associated infections including staphylococcal (including MRSA and MSSA) and \textit{E. coli} bacteraemias, \textit{C. difficile} and orthopaedic surgical site infections. All ‘serious untoward incidents associated with infection’ are reported to commissioners and Public Health England. Monthly surveillance reports are circulated to all clinical areas, Service Lines and the Trust Board, and reports are also produced on a quarterly basis for Departments. The reports include surveillance and outbreak data, audit results and compliance with policy. As well as being incorporated into the Trust Board and Service Line performance management process, they are also reviewed at the ICC and Infection Prevention Subcommittee. In addition, the IPCT also produces monthly reports that include surveillance data on new cases of MRSA, MRSA bacteraemias, all other hospital-acquired bacteraemias, \textit{C. difficile}, gentamicin-, cefpodoxime and quinolone-resistant gram-negative infections, GRE, ESBL-producing coliforms and Carbapenemase-producing Enterobacteriaceae. From January 2012, these reports have also included cases of \textit{Pseudomonas aeruginosa} from Augmented Care Areas.

3. New clinical cases of MRSA

As well as mandatory reporting of MRSA bacteraemias, all new cases (‘first isolates’) of MRSA are also recorded. These can be divided into ‘infections’, where MRSA is isolated from clinical specimens, and ‘colonisation’, where MRSA is isolated from screening swabs from patients who are harmlessly carrying the organism. Many hospitals use such data as a useful marker of the overall burden of MRSA.

Patients admitted to PHNT who are known to be colonised with MRSA are identified by an alert on their electronic record and in their clinical notes. These patients, as well as all newly identified inpatient cases, are visited by the IPCT who ensure appropriate infection control measures and that topical MRSA suppression therapy has been prescribed.

In line with the latest guidance from the Department of Health (Implementation of modified admission MRSA screening guidance for NHS (2014)), high-risk elective and emergency admissions to PHNT are screened for MRSA. A local risk assessment has been performed by the IPCT based on local prevalence data to identify those at high risk of poor outcome from MRSA infection and those most likely to be colonised (i.e. high prevalence groups). Targeted screening is performed on the following groups:

- **High- and medium-risk elective patients.** Patients admitted for the following procedures should be screened: cardiac surgery, thoracic surgery, upper GI
surgery, vascular surgery, orthopaedics neurosurgery, including spinal surgery, colorectal surgery), hepato-biliary surgery, plastic surgery, breast surgery, general surgery, renal transplant surgery, cardiology, haemodialysis (quarterly) and pre-insertion of central line (ad hoc as required)

- **Admission to ward (if not screened pre-admission or during current admission).** Patients admitted to the following wards who have not been screened pre-admission or during current admission should be screened: Bickleigh, Bracken, Braunton, Brent, Clearbrook, Crownhill, Marlborough, Lynher, Mayflower, Moorgate, Sharp, Shaugh, Stannon, Stonehouse, Torcross, Torrington CICU/CHDU and Wolf

- **Admission to ward (regardless of previous screens)** Patients admitted to the following wards should be screened regardless of previous screens: Penrose, Pencarrow and Stannon

- **High prevalence (Elective and Emergency).** Patients in the following groups should be screened on admission to any ward: patients previously colonised with MRSA, nursing/residential home residents, transfers from another hospital, healthcare worker, patients with a wound, ulcer or indwelling device that was present before admission to hospital.

Additional screens may be requested by the IPCT on a case-by-case basis, for example as part of the management of individual or clusters of infection.

Plymouth Hospitals NHS Trust reported a total of 30 new ‘infections’ due to MRSA between April 2015 and March 2016, compared to 15 the year before, an increase of 100%. This number of cases is similar to the figure two years ago.

**New cases of MRSA, April 2003 – March 2016**

![All new MRSA infections at Plymouth Hospitals NHS Trust](chart)

The total number of new MRSA isolates (i.e. those isolated form screening samples as well as clinical specimens) was 190, compared to 261 cases recorded during the previous year. It is difficult to interpret the significance of this result due to the change in screening policy.
4. MRSA bacteraemias

The objective for PHNT for 2015-16 was to record zero Trust-apportioned MRSA bacteraemias (cases occurring 48 hours or more after admission to the Trust). The Trust is also expected to achieve year-on-year reductions in MRSA.

Plymouth Hospitals NHS Trust reported two MRSA bacteraemias between April 2015 and March 2016.

MRSA bacteraemias attributable to Trust, April 2003 – March 2016
Post-Infection Reviews carried out on all MRSA bacteraemias at PHNT and is performed by the clinical team caring for the patient with support from the IPCT. The results of these RCAs are reported to the Infection Prevention Subcommittee and series of recommendations made. Monitoring of actions arising from RCAs is also monitored by the Infection Prevention Subcommittee.

To continue to minimise the risk of any infection due to MRSA at PHNT, the following strategies are planned:

1. Targeted MRSA screening of admissions will continue
2. Compliance with the decolonisation of MRSA will continue to be reported on the monthly balanced scorecard to improve the management of these patients
3. A Post-Infection Review will be performed on all MRSA bacteraemias, with the results of these investigations and their recommendations monitored by the Infection Prevention Subcommittee
4. The surveillance of post-operative wound infections, including post-discharge follow up, will continue for most surgical procedures performed at PHNT
5. There will be continued effort to reduce the number of infections associated with medical devices, including intravascular and urinary catheters.

5. **Meticillin-Sensitive S. aureus (MSSA) bacteraemias**

Between April 2015 and March 2016, PHNT recorded 133 total bacteraemias due to MSSA, compared to 113 the previous year. Reporting of MSSA bacteraemias became mandatory on 1st January 2011 and cases are now apportioned as hospital or community acquired. During 2015-2016, PHNT recorded 47 hospital-apportioned bacteraemias due to MSSA, compared to 43 the year before, an increase of 9%.

**Hospital-apportioned MSSA bacteraemias, April 2010 – March 2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Cases</th>
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<tr>
<td>2010-11</td>
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<tr>
<td>2011-12</td>
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<td>2012-13</td>
<td>31</td>
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<td>2013-14</td>
<td>39</td>
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<td>2014-15</td>
<td>43</td>
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<td>2015-16</td>
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Between January and March 2015, PHNT had second highest rate of MSSA bacteraemias in England and was a statistical outlier. Although the latest data from Public Health England shows that the Trust is no longer an outlier, the rate is still high relative to other hospitals. Although some MSSA bacteraemias are non-avoidable, a proportion of these cases are preventable. The most significant are those secondary to peripheral and central venous catheters. The contribution of line-related bacteraemias to the overall total of MSSA bacteraemia since July 2013 is shown below:

There has been limited progress in achieving a sustainable reduction in infections associated with intravascular and urinary catheters. Achieving this would contribute to reducing the number of hospital-apportioned meticillin-sensitive S. aureus (MSSA) bacteraemias. Hospital-apportioned meticillin-sensitive S. aureus (MSSA) bacteraemias. An improvement plan to improve line care is to be led by the Heads of Nursing.

6. *Escherichia coli* bacteraemias

Reporting of *E. coli* bacteraemias became mandatory on 1st June 2011. Between 1st April 2015 and 31st March 2016, PHNT recorded 393 bacteraemias due to *E. coli*, compared to 349 the previous year. During the same period, there were 97 hospital-apportioned bacteraemias compared to 93 in the baseline year.
7. Carbapenemase-producing Enterobacteriaceae

Enterobacteriaceae are a large family of bacteria that usually live harmlessly in the gut of all humans and animals. However, these organisms are also some of the most common causes of opportunistic urinary tract infections, intra-abdominal and bloodstream infections. They include species such as *Escherichia coli*, *Klebsiella* spp. and *Enterobacter* spp. Carbapenems are a valuable family of antibiotics normally reserved for serious infections caused by drug-resistant Gram-negative bacteria (including Enterobacteriaceae). They include meropenem, ertapenem, imipenem and doripenem. Until recently, Gram-negative bacteria have been usually been susceptible to carbapenems and these have been the agents of choice for the treatment of multi-drug-resistant Gram-negative infections. Carbapenemases are enzymes that destroy carbapenem antibiotics, conferring resistance. They are made by a small but growing number of Enterobacteriaceae strains. There are different types of carbapenemases, of which KPC, OXA-48, NDM and VIM enzymes are currently the most common. Rapid spread of carbapenem-resistant bacteria has potential to pose an increasing threat at a local and national level.

Over the last five years, there has been a rapid increase in the incidence of infection and colonisation in patients in the UK by multi-drug resistant carbapenemase-producing organisms. In addition, a number of clusters and outbreaks have been reported in England. The threat of the spread of CPEs has resulted in a Public Health England (PHE) Incident and Emergency Response Plan Level 3 (national implications) and NHS England issued a Patient Safety Alert on 6th March 2014. In December 2013, PHE produced an acute trust toolkit for the early detection,
management and control of CPEs which recommended that acute trusts produce a CPE Management Plan. A local Plan was produced in April 2014. The majority of recommendations made in the PHE toolkit were already in place at PHNT, but some additional measures were implemented following publication of the Pan.

To date there have been 6 cases at PHNT:

- three imported from the liver Unit at King’s College Hospital
- one imported from a hospital in Crete
- one imported from a hospital in Egypt
- one de novo case.

The number of screens and cases of CPE for 2015-16 are shown below:

<table>
<thead>
<tr>
<th>Month</th>
<th>Number screened</th>
<th>Number colonised</th>
<th>Number infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2015</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>May 2015</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>June 2015</td>
<td>13</td>
<td>1*</td>
<td>0</td>
</tr>
<tr>
<td>July 2015</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>August 2015</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>September 2015</td>
<td>20</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>October 2015</td>
<td>27</td>
<td>1**</td>
<td>0</td>
</tr>
<tr>
<td>November 2015</td>
<td>24</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>December 2015</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>January 2016</td>
<td>19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>February 2016</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>March 2016</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Acquired while inpatient in Crete
**Acquired while inpatient in Egypt

8. Hospital-Acquired Bacteraemias

Over the last 12 months, there has also been surveillance of all hospital-acquired bacteraemias. Patients with a bacteraemia were identified by daily review of all positive blood cultures, followed by clinical confirmation using standard definitions. The main criterion for a bacteraemia to be recorded as hospital-acquired is that it was taken more than two days after admission. Information from patients with bacteraemia was collected by the IPCT, reviewed by a Consultant Microbiologist and included demographic, infection and risk factor data.

Between April 2015 and March 2016, 20,633 blood culture sets were taken at PHNT. Once repeat isolates were removed, 294 patients were considered to have developed one or more episodes of hospital-acquired bacteraemia, compared to 305 the previous year. The majority of hospital-acquired bacteraemias occurred in the Critical Care, Haematology and Oncology, Gastroenterology, Medicine and Cardiothoracic Directorates. This is likely to reflect factors that influence risk of bacteraemia such as severity of illness, immunosuppression and invasive devices.

The underlying sources of hospital-acquired bacteraemias for the whole hospital are shown in below. Intra-abdominal infections were the commonest source.
Sources of hospital-acquired bacteraemia, April 2015-March 2016

Information on the micro-organisms causing hospital-acquired bacteraemias is given below. The commonest individual species was *Escherichia coli*, which accounted for 26% of cases. Other coliforms were responsible for a further 17% of cases. Staphylococci accounted for 33% of cases, with 12% due to MSSA.

Micro-organisms causing hospital-acquired bacteraemia, April 2015-March 2016
9. Cases of *Clostridium difficile*

Between April 2015 and March 2016, PHNT recorded 42 Trust-apportioned cases *C. difficile* (cases occurring 72 hours or more following admission), of which 3 were considered ‘avoidable’, against an objective of fewer than 35 avoidable hospital-apportioned cases with a rate of 13.2/100,000 bed days. This compares to 35 hospital-apportioned cases last year, of which 5 were non-avoidable.

**Trust-apportioned cases of *Clostridium difficile* infection, 2008-16**

Total number all cases of *C. difficile* occurring at any time during admission to PHNT is also recorded and this allows comparison with a longer historical period. Between April 2015 and March 2016, there were 113 cases, compared to 111 cases the year before.

**Total cases of *Clostridium difficile* infection, 2002-16**
Further efforts to reduce *C. difficile* will be made through ongoing multidisciplinary review of all cases, fogging of single rooms vacated by *C. difficile*-colonised patients and continuing antibiotic and proton pump inhibitor stewardship.

10. Orthopaedic and other surgical site infections

The Surgical Site Infection Surveillance Service (SSISS) assesses speciality-specific surgical site infections on a quarterly basis. Plymouth Hospitals NHS Trust has participated with this scheme since its introduction in 1997. Standard case definitions and surveillance methodology are provided to enable comparable rates to be produced. Although the reporting of orthopaedic surgical site infections has recently become compulsory, other components of this scheme remain voluntary.

Over the last year surgical site surveillance has been performed on all major surgical procedures carried out at PHNT. Post-discharge surveillance is carried out for all procedures using a standard questionnaire that is returned 28 days after the procedure with telephone follow up of selected cases. Reports are produced and fed back to individual surgical teams on a quarterly basis. Feeding back infection data is a crucial component of a quality improvement programme and is known to reduce post-operative wound infection rates. Significant reductions in surgical site infections have been achieved at PHNT in those surgical procedures for which surveillance has been established for some time (notably in cardiac and vascular surgery). There were no MRSA bacteraemias associated with surgical site infections and there have been reductions in all hospital-acquired bacteraemias (i.e. not just due to MRSA) attributable to surgical site infections since the service commenced.

The cumulative infection rates at PHNT for all surgical specialities are shown below.

### Latest available surgical site infection rates during initial admission or on readmission (last 5 years to December 2015)

<table>
<thead>
<tr>
<th>Category name</th>
<th>PHNT inpatient/readmission rate</th>
<th>National inpatient/readmission rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal hysterectomy</td>
<td>1.54%</td>
<td>1.22%</td>
</tr>
<tr>
<td>Bile duct. liver pancreatic surgery</td>
<td>4.90%</td>
<td>5.97%</td>
</tr>
<tr>
<td>Breast surgery</td>
<td>1.10%</td>
<td>0.90%</td>
</tr>
<tr>
<td>Cardiac surgery (non-CABG)</td>
<td>1.04%</td>
<td>1.21%</td>
</tr>
<tr>
<td>Cholecystectomy</td>
<td>0.79%</td>
<td>3.38%</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>1.48%</td>
<td>1.17%</td>
</tr>
<tr>
<td>Coronary artery bypass graft</td>
<td>2.71%</td>
<td>3.86%</td>
</tr>
<tr>
<td>Cranial surgery</td>
<td>1.58%</td>
<td>1.44%</td>
</tr>
<tr>
<td>Gastric surgery</td>
<td>2.19%</td>
<td>2.29%</td>
</tr>
<tr>
<td>Hip replacement</td>
<td>0.89%</td>
<td>0.55%</td>
</tr>
<tr>
<td>Knee replacement</td>
<td>0.64%</td>
<td>0.50%</td>
</tr>
<tr>
<td>Large bowel surgery</td>
<td>7.41%</td>
<td>9.92%</td>
</tr>
<tr>
<td>Limb amputation</td>
<td>2.18%</td>
<td>3.25%</td>
</tr>
<tr>
<td>Reduction of long bone facture</td>
<td>1.07%</td>
<td>1.12%</td>
</tr>
<tr>
<td>Repair of neck of femur</td>
<td>1.19%</td>
<td>1.26%</td>
</tr>
<tr>
<td>Small bowel surgery</td>
<td>3.48%</td>
<td>7.00%</td>
</tr>
<tr>
<td>Spinal surgery</td>
<td>0.77%</td>
<td>1.22%</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>2.70%</td>
<td>2.73%</td>
</tr>
</tbody>
</table>
The overall infection rate (including post-discharge infections) for abdominal hysterectomy, breast surgery, caesarean section, cranial surgery and hip and knee replacements are given below.

<table>
<thead>
<tr>
<th>Category name</th>
<th>PHNT overall rate</th>
<th>National overall rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal hysterectomy</td>
<td>3.42%</td>
<td>4.61%</td>
</tr>
<tr>
<td>Breast Surgery</td>
<td>3.72%</td>
<td>4.04%</td>
</tr>
<tr>
<td>Caesarean surgery</td>
<td>6.27%</td>
<td>6.34%</td>
</tr>
<tr>
<td>Cranial Surgery</td>
<td>1.81%</td>
<td>1.89%</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>1.66%</td>
<td>1.11%</td>
</tr>
<tr>
<td>Knee replacement</td>
<td>3.21%</td>
<td>1.57%</td>
</tr>
</tbody>
</table>

Untoward incidents including outbreaks

1. Outbreaks of Diarrhoea and Vomiting

Between April 2015 and March 2016, one wards was closed due to an outbreak of vomiting and diarrhoea at PHNT. The operational impact of this was well managed and in contrast to other hospitals in the South West there was relatively little disruption. A total of 18 patients and 4 healthcare workers were affected. Stool samples from the wards were positive for norovirus. The outbreaks accounted for 5 ward-closure days (defined as one ward closed for one day) with a mean period of ward closure of 5.0 days. A further 5 wards had a bay restricted or closed for periods that ranged from 1-2 days.

Outbreaks of diarrhoea and vomiting, April 2015 – March 2016

<table>
<thead>
<tr>
<th>Month</th>
<th>Wards</th>
<th>Patients</th>
<th>Staff</th>
<th>Norovirus positive</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2015</td>
<td>1</td>
<td>18</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>18</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

A comparison with other years is given below.

Outbreaks of diarrhoea and vomiting, September 2004 – March 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Wards</th>
<th>Patients</th>
<th>Staff</th>
<th>Norovirus positive</th>
<th>Days</th>
<th>Mean days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05*</td>
<td>43</td>
<td>658</td>
<td>208</td>
<td>28</td>
<td>252</td>
<td>5.9</td>
</tr>
<tr>
<td>2005-06</td>
<td>60</td>
<td>878</td>
<td>168</td>
<td>35</td>
<td>320</td>
<td>5.3</td>
</tr>
<tr>
<td>2006-07</td>
<td>9</td>
<td>150</td>
<td>52</td>
<td>7</td>
<td>48</td>
<td>5.3</td>
</tr>
<tr>
<td>2007-08</td>
<td>14</td>
<td>204</td>
<td>36</td>
<td>12</td>
<td>69</td>
<td>4.9</td>
</tr>
<tr>
<td>2008-09</td>
<td>5</td>
<td>84</td>
<td>25</td>
<td>5</td>
<td>26</td>
<td>5.2</td>
</tr>
<tr>
<td>2009-10</td>
<td>24</td>
<td>410</td>
<td>123</td>
<td>24</td>
<td>124</td>
<td>5.2</td>
</tr>
<tr>
<td>2010-11</td>
<td>7</td>
<td>135</td>
<td>13</td>
<td>7</td>
<td>45</td>
<td>6.4</td>
</tr>
<tr>
<td>2011-12</td>
<td>10</td>
<td>176</td>
<td>44</td>
<td>10</td>
<td>55</td>
<td>5.5</td>
</tr>
<tr>
<td>2012-13</td>
<td>23</td>
<td>431</td>
<td>106</td>
<td>23</td>
<td>134</td>
<td>5.8</td>
</tr>
<tr>
<td>2013-14</td>
<td>1</td>
<td>11</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>2014-15</td>
<td>2</td>
<td>38</td>
<td>24</td>
<td>2</td>
<td>14</td>
<td>7.0</td>
</tr>
<tr>
<td>2015-16</td>
<td>1</td>
<td>18</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>5.0</td>
</tr>
</tbody>
</table>

* Note this is a part year (September 2004 – March 2005)
The management of outbreaks by the IPCT has been greatly facilitated by the introduction of rapid diagnostic technology (Polymerase Chain Reaction, PCR). Whereas previously wards were closed as a precaution as soon as patients developed symptoms of diarrhoea and vomiting, it is now possible to determine on the same day whether norovirus is implicated or not. When the PCR test is positive, wards are normally closed and standard control measures put in place (see below). When the test is negative, it has been safe to leave wards open. Consequently, the number of unnecessary ward closures has been dramatically reduced, with substantially less disruption to the operational running of the hospital.

The outbreaks were controlled by containment, enhanced infection control procedures, and environmental cleaning and decontamination. The following control measures were taken:

1. Outbreak meetings were convened and were generally attended by ‘key players’, including representatives from the cleaning contractor, affected wards, the operational team as well as the IPCT. The IPCT regularly attends the daily operational meetings
2. Information was disseminated throughout the Trust via daily ‘Ward Closure’ and ‘Outbreak Update’ emails.
3. Symptomatic patients were isolated or cohorted
4. Staff movements were restricted
5. Enhanced infection control measures were implemented
6. Symptomatic staff remained off work until 48 hours after their last symptoms
7. Enhanced environmental cleaning and decontamination was implemented in affected areas. Wards were deep-cleaned 48 hours after the last symptoms were reported.

The epidemiology of the outbreaks is highly suggestive of multi-focal outbreaks with the virus being brought into the hospital on numerous different occasions. Similar outbreaks were observed over the same period in other Trusts in the region and also in the community.

During the year, there continued to be effective collaboration between the Operational and IPCT which led to prompt and successful containment. All wards that were closed or restricted remained closed to discharges and/or admissions as recommended by the IPCT. All ward closures and other Serious Untoward Incidents are reported to the PHE and CCG.

2. Influenza

Preparedness for influenza commenced in October 2015 with IPC Link Practitioners meeting focusing on the management of patients with suspected or confirmed influenza. This was followed by three drop in teaching clinics held in venues close to the clinical areas with 30 staff attending the refresher teaching sessions. This was supported by a Trust-wide communication strategy. This approached is likely to have contributed to an improvement in the management of patient with suspected influenza.

During February and March there was an increase in patients being assessed as potentially suffering from influenza. There was one ward closure; Hartor ward was closed to new admissions for five days which resulted in a total of 22 bed days lost. These patients were managed under cohort droplet isolation precautions. All symptomatic patients were prescribed anti–viral treatment and contacts of the positive patients were assessed and offered prophylaxis as clinically indicated. The clinical areas received increase environmental cleaning and staff and visitors provided with Personal Protective Equipment when entering the areas under increased infection control monitoring. Other confirmed cases of Influenza were isolated under droplet isolation precautions with no other confirmed patient-to-patient transmission on any other ward.

The IPCT nurses maintained their usual on call system to provide clinical advice and monitor compliance in the controls implemented, and the Microbiology laboratory responded by increasing the frequency of viral testing to twice a day seven days a week during the increase period of activity. In addition, Occupational Health and Wellbeing continued to offer non-immunised staff the seasonal influenza vaccine.

3. Other infection-related incidents

There were 49 other infection-related incidents dealt with by the IPCT between April 2015 and March 2016 and these are outlined below. All ward closures and other Serious Untoward Incidents are reported to the Health Protection Agency and Strategic Health Authority as part of the mandatory surveillance of Healthcare Associated Infection. Reports on these incidents are available from the IPCT.
**Infection-related incidents, April 2015 – March 2016**

<table>
<thead>
<tr>
<th>Month</th>
<th>Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>February-March 2015</td>
<td><em>C. difficile</em> on Shipley ward</td>
</tr>
<tr>
<td>February-March 2015</td>
<td><em>C. difficile</em> on Wolf ward</td>
</tr>
<tr>
<td>March 2015</td>
<td>Potentially infectious TB on Clearbrook ward</td>
</tr>
<tr>
<td>April 2015</td>
<td><em>C. difficile</em> on Hound ward</td>
</tr>
<tr>
<td>April 2015</td>
<td><em>C. difficile</em> on Sharp ward</td>
</tr>
<tr>
<td>April-May 2015</td>
<td><em>C. difficile</em> on Norfolk ward</td>
</tr>
<tr>
<td>March-May 2015</td>
<td><em>C. difficile</em> on Bracken, Brent and Birch wards</td>
</tr>
<tr>
<td>May 2015</td>
<td><em>Klebsiella pneumonia</em> on Pencarrow ward</td>
</tr>
<tr>
<td>May 2015</td>
<td>MRSA on Clearbrook</td>
</tr>
<tr>
<td>June 2015</td>
<td>MRSA on Moorgate</td>
</tr>
<tr>
<td>June 2015</td>
<td>MRSA on Pencarrow</td>
</tr>
<tr>
<td>May 2015</td>
<td><em>Serratia marcescens</em> on Torrington</td>
</tr>
<tr>
<td>May 2015</td>
<td>Potentially infectious TB on Tavy and Meldon wards</td>
</tr>
<tr>
<td>May-June 2015</td>
<td><em>C. difficile</em> on Burrator ward</td>
</tr>
<tr>
<td>June 2015</td>
<td><em>C. difficile</em> on Monkswell ward</td>
</tr>
<tr>
<td>June 2015</td>
<td><em>C. difficile</em> on Penrose ward</td>
</tr>
<tr>
<td>June 2015</td>
<td><em>C. difficile</em> on Norfolk ward</td>
</tr>
<tr>
<td>June-July 2015</td>
<td><em>C. difficile</em> on Hembury ward</td>
</tr>
<tr>
<td>May-July 2015</td>
<td><em>Serratia marcescens</em> on Torrington</td>
</tr>
<tr>
<td>June-July 2015</td>
<td><em>C. difficile</em> on Bracken ward</td>
</tr>
<tr>
<td>June-July 2015</td>
<td><em>C. difficile</em> on Hound ward</td>
</tr>
<tr>
<td>May 2015</td>
<td>Review of Radiology Interventional Rooms 5 and 6</td>
</tr>
<tr>
<td>July-August 2015</td>
<td><em>C. difficile</em> on Wolf ward</td>
</tr>
<tr>
<td>July-August 2015</td>
<td><em>C. difficile</em> on Brent ward/Chemotherapy Day Case Unit</td>
</tr>
<tr>
<td>July-October 2015</td>
<td>MRSA on Lynher</td>
</tr>
<tr>
<td>August-September 2015</td>
<td><em>C. difficile</em> on Stonehouse ward</td>
</tr>
<tr>
<td>September 2015</td>
<td><em>Klebsiella pneumonia</em> on Penrose ward</td>
</tr>
<tr>
<td>July-September 2015</td>
<td><em>C. difficile</em> on Shipley ward</td>
</tr>
<tr>
<td>September 2015</td>
<td><em>C. difficile</em> on Wolf ward</td>
</tr>
<tr>
<td>September-October 2015</td>
<td><em>C. difficile</em> on Hembury ward</td>
</tr>
<tr>
<td>September-October 2015</td>
<td><em>C. difficile</em> on Hexworthy ward</td>
</tr>
<tr>
<td>October 2015</td>
<td><em>C. difficile</em> on Burrator ward</td>
</tr>
<tr>
<td>October-November 2015</td>
<td><em>C. difficile</em> on Pencarrow ward</td>
</tr>
<tr>
<td>November 2015</td>
<td><em>C. difficile</em> on Brent ward</td>
</tr>
<tr>
<td>September-November 2015</td>
<td>MRSA on Monkswell ward</td>
</tr>
<tr>
<td>October-November 2015</td>
<td><em>C. difficile</em> on Lynher ward</td>
</tr>
<tr>
<td>October-November 2015</td>
<td>MRSA on NICU</td>
</tr>
<tr>
<td>November 2015</td>
<td>MRSA on Burrator</td>
</tr>
<tr>
<td>November-December 2015</td>
<td><em>C. difficile</em> on Hartor ward</td>
</tr>
<tr>
<td>November 2015-January 2016</td>
<td><em>C. difficile</em> on Hexworthy ward</td>
</tr>
<tr>
<td>December 2015-January 2016</td>
<td><em>C. difficile</em> on Bracken, Brent and Birch wards</td>
</tr>
<tr>
<td>January 2016</td>
<td><em>C. difficile</em> on Mayflower ward</td>
</tr>
<tr>
<td>February 2016</td>
<td>MRSA on Shipley</td>
</tr>
</tbody>
</table>
Hand hygiene and aseptic protocols

1. Audit of compliance with hand hygiene

During the year, all clinical areas were audited on a monthly basis. The wards, Critical Care Units, Theatres and Clinical Department Infection Prevention and Control Link Practitioners (ICLPs) perform the audits. Each audit involves observation of the frequency and quality of hand hygiene in clinical areas. The pass mark for hand hygiene audits was 95% and clinical areas failing to achieve this are expected to perform weekly audits until they consistently achieve this standard. Between April 2015 and March 2016, monthly results ranged between 95–100% achieving an overall Trust compliance of 97%, The Trust’s overall mean Hand Hygiene compliance for the year compared to previous years is shown below. This sustained improvement in hand hygiene compliance reflects the high priority given to hand hygiene by the IPCT as well as the impact of the ongoing commitment under the direction of the World Health Organisation and the adoption of the my ‘Five Moments’ campaign.

Annual hand hygiene compliance, 2004-16

![Hand Hygiene compliance at PHNT](image)

Each clinical area also received a qualitative audit that examines hand-washing technique using the GloBox. This activity concentrates not so much as the ‘when’ to
decontaminate hands, but on the ‘how’. It demonstrates how effective an individual applies hand gel and how effective their hand washing technique is. It promotes the Alyffe technique, a seven-step guide to decontaminating hands and incorporates promoting the importance of drying hands thoroughly. These training and assessment sessions are provided by the IPCT HCA’s and have also been used to raise staff awareness of contact dermatitis. All audit results have been reported back to medical, nursing and clinical professional staff working in the areas in order to improve practice and are also included on the balanced scorecard for reporting and on the IPCT display cabinets on Level 7. Immediate verbal feedback is given at the time of the audit and areas also receive a written report. The clinical areas are encouraged to display the results of hand hygiene and other audits at their ward entrance or on a dedicated infection control notice board. The GloBox has played an active part in many successful Infection Prevention and Control Awareness activities including in the main hospital foyer and used by IPCT staff and other hospital staff in community activities there by promoting hand hygiene as a public health message in schools and groups.

2. My ‘Five Moments’ for hand hygiene

The World Health Organisation’s (WHO) campaign ‘Five Moments’ was developed to reduce unnecessary hand hygiene, to stress the importance of the correct location and time for hand hygiene, and to ensure the chain of transmission is broken by hand hygiene and thus prevent the transmission of infection. ‘Five Moments’ linked with the clean your hands campaign in the following ways:

- The WHO guidelines on hand hygiene in healthcare formed the central clinical source for the campaign
- Within the campaign, the ‘Five Moments’ approach to hand hygiene formed the framework for informing staff when and why hand hygiene should be performed
- This will ensure other information, about how to perform hand hygiene for example, will have an impact on practice

The IPCT continue to promote the ethos set out in this. The hand hygiene policy reflects the requirement for all staff entering clinical areas are ‘bare below the elbow’. Compliance is monitored during audits, undertaken by matrons, external auditing bodies and is integral to the annual Patient Led Assessment of the Clinical Environment with evidence of good compliance. Three questions are audited monthly in all clinical areas:-Are hands decontaminated 1) before/after contact, 2) after glove removal and 3) after dealing with bodily fluids /clinical procedure; based on 19,573 observations the Trust has achieved 99% compliance. Included in the Matrons environmental audit are four questions relating to the promotion of good hand hygiene: 1) Is Hand gel visible and available outside the ward- achieving 99%, 2) Are the monthly hand hygiene audit results displayed for staff and visitors - achieving 93%, 3) Are all staff bare below the elbow - achieving 96% , 4) is hand gel available at every bed space achieving 72%, in some areas gel is available at the point of care although not at the end of the bed based on a local risk assessment. The Team have also taken responsibility for developing other strategies around promotion of effective hand hygiene practice and will continue to deliver the message of the ‘Five Moments’.
3. Clinical hand-wash Basins should be used for hand washing only

Previously, the Trust has successfully implemented the Department of Health recommendations that clinical hand wash basins in augmented care areas should be for hand washing only. In 2013, the Water Assurance Group recommended this to be adopted Trust wide. A distinct yellow label was made available for the clinical areas to identify clinical hand wash basins and limit the use to hand washing. This year compliance with that recommendation of how clinical wash hand basins are used is monitored jointly with representation from IPCT, Estates and Clinical areas. The joint approach serves to monitor the condition, cleanliness, access and how the Clinical hand-wash basins are being used, along with providing an opportunity to provide teaching on safe water management.

4. Provision of alcohol-based hand rub

The IPCT continue to deliver the message of the ‘Five Moments’ and ‘At the Point of Care’. This included the availability of alcohol hand rub sited appropriately at the point of care. Alcohol hand rub is also available at the ward/department entrances and the ‘self-check in’ systems used by patients when they arrive in the clinical departments for pre-booked appointments.

5. Talking poster frames

To further raise awareness of the importance of hand hygiene, talking poster frames are installed at the main entrance and outside all wards in the hospital. The frames contain a hand-washing poster and are triggered by a motion sensor that immediately plays an audio track, reminding staff and visitors to decontaminate their hands. They are designed to grab the attention of the passer by, making sure they take notice of the poster and also use the hand sanitiser which is also available at the ward entrances. Signs have been installed in the hospital reception, outside wards and in other key locations across the Trust reminding staff, patients and visitors of the importance of hand hygiene and asking them to use the alcohol sanitiser outside the ward areas. The signs are activate intermittently to maximise the effect of their impact.

6. Management of medical devices and Saving Lives (Report by Claire Haill on behalf of Samantha Rafferty, Head of Nursing)

A key strategy to reduce hospital-associated infection is to reduce the infection risk associated with the use of catheters, tubes, cannulae, instruments and other medical devices. ‘Saving Lives: a delivery programme to reduce Healthcare Associated Infection including MRSA’ was published by the Department of Health in July 2005. All clinical areas completed monthly audits, with close monitoring by the Matrons. Observational audits from wards and clinical department on the management of patients with peripheral and central lines and urinary catheters are reported Trust-wide in monthly balanced scorecard.
Under the direction of the Heads of Nursing, one of the weekly Matrons’ meeting per month has been designated to discuss the management of Bio-Medical devices and the learning from the investigation following a bacteraemia associated to an indwelling device. The key learning and audit data is reported to the Infection Prevention Subcommittee monthly. The Acute Care team have undertaken monthly point prevalence audits on the management of Central Vascular Catheters (CVC) the findings are acted upon immediately and a report is presented at the next Matrons meeting. The Clinical Educators have been instrumental in supporting the nursing staff to be reassessed on their Aseptic Non-Touch Technique (ANTT), and the Vascular Access Nurse has delivered training for staff required to access CVC. ANTT will be incorporated in to block mandatory annual training. Care of patient with these indwelling devices is depicted in a set of nine guidelines which are available on Staffnet for reference and teaching resources.

The number of vascular associated bacteraemias remains of concern and the Director of Nursing commissioned an external review to support the reduction programme going into 2016 -17. There has been an improvement in the quality of the information available through the monthly point prevalence audits undertaken by the Acute Care Team auditing and feedback in practice by the Nutritional Nurse specialist, accompanied by teaching to support knowledge and best practice. The Vascular Access Nurse for the Acute Care Team (ACT) has maintained a process where every patient who leaves theatre with a Central Venous Catheter (CVC) has the line assessed within 24 hours generally by the ACT HCA’s. These patients are then followed by the ACT providing support in managing patients with CVC. Following the investigations of two bacteraemias associated to arterial lines it was recognised that there was not a trust standard and a competency tool has been drafted to improve the quality and consistency of care.

There have been some changes to the dressings with the implementation of the Chlorhexidine impregnated dressings being used for high risk patient groups. Further product review and expertise has been limited due to the vacancy of the Bio-Medical Nurse Specialist post, a proposal for a more senior replacement to provide focussed leadership of this agenda had been under consideration, although the principle was supported by the senior nursing team further funding was not approved, however, the 0.6 whole time equivalent Band 6 Bio-Medical Device post has now been recruited and will commence appointment in June; additionally the proposed uplift in hours and grade is being progressed through a review process.

6.1 Urinary catheters

Bacteraemias associated with urinary catheters have increased and the focus to promote alternative methods of management or early removal of catheters needs to be maintained. Closer working relationships has continued between the Learning and Development Team (who lead on staff training for managing a patient with urinary catheter), the continence specialist nurses, representatives from the catheter related product suppliers and continence products, the IPCT and ward-based staff and clinical educators. The aim is to reduce the number of short term urinary catheters used for orthopaedic surgery has been actively promoted in a project championed by Matron Timmins, and her ward Sisters working in conjunction with the surgical and theatre teams. The Urinary Catheter Monitoring & Audit Form (UCAM) was up dated during
the year reflecting feedback from ward staff and observations during investigations of infections.

6.2 Peripheral vascular cannulae

Teaching and competency assessment for staff is provided by the Learning and Development team, and staff are assessed in practice by a mentor. The documentation of all Peripheral Venous Cannula insertions, monitoring and removal is on the prescription chart. A Safety Thermometer tool was implemented replicating the national urinary catheter approach. The wards collect data for the Safety Thermometer every month this information is incorporated into the Bio-medical device report. The information collected on the safety thermometer and saving lives is analysed and are comparable, although not showing a downward trend in terms of number of cannula in-situ, or a significant change for removal when the cannula is no longer required. Learning from the investigations relate to inconsistency of the entry site being inspected, early removal or replacement if the cannula had been cited pre-admission where asepsis may not have been achieved, and early removal of cannula when no longer needed.

6.3 Central Venous Catheters

The Vascular Access Clinical Nurse Specialist, as part of the Acute Care Team (ACT), is to support the Trust in its mission to reduce the incidence of Central Line Associated Bacteraemia (CLABSI) and other CVAD-related complications. Education and training is offered to enable healthcare professionals to care for patients with a CVAD safely and effectively, and support and advice is to increase patient satisfaction and confidence with their care. There has been work to improve communications between specialist teams such as the Nutritional, Cystic Fibrosis and Renal Access specialist nurses and their associated teams. The wider team have worked to produce a training package and competency for staff who manage patients with Totally Implantable Vascular Devices (TIVAD). There is an increase in the use of this device and the staff across the trust are required to receive training and assessed as competent to safely provide patient care.

All health care professionals involved in caring for a patient with a CVAD must undergo theoretical and practical training and be assessed as competent in using, and consistently adhering to current guidelines. Once fully assessed, the individuals name should be entered on the Workforce Development Oracle Learning Management (OLM) system and added to their personnel records.

Assessor training to Ward based assessors in small groups and one-to-one sessions. There are now six expert assessors, and assessors and staff assessed as competent will be registered on the (Oracle Learning Management) OLM system and reports can be generated for wards to monitor skill mix requirements.

6.4 Coordination of line insertion

The daily nurse-delivered ultrasound guided Peripherally Inserted Central Catheter (PICC) and Midline insertion service introduced in May 2009 continues. Complication rates are low, and successful cannulation rates are high compared to
other techniques. This service is now available daily, supported by an ACT support worker.

The main aims of this aspect of the service are:

- To replace short-term central venous catheters with PICC or midline catheters, which are associated with a reduced risk of infection, are more acceptable to the patient, and can facilitate early discharge or prompt transfer to onward care and avoid missed doses
- To reduce the numbers of tunnelled lines (e.g. Hickman lines) placed for medium term intravenous therapy. PICC lines have a number of advantages over Hickman lines, including fewer resources required for insertion (staff and theatre time), involve a less invasive insertion technique, and with fewer potential complications. Also, unlike a tunnelled line, there no requirement for minor surgery to remove the line when treatment completed.

**6.5 Education, training and assessment**

Quarterly CVAD half day update sessions have been run, free to attendees throughout the year. An e-training package, based on the areas of concern generated from RCA reviews of CLABSI is now uploaded and available for use. Matrons, Ward Managers and Department Leads will be requested to identify all staff involved in the management of central vascular access devices. Following initial training and assessment, these staff should complete an annual CVAD update, either on line or an attended session. This should be recorded on OLM.

**6.6 Advise and support**

This support includes providing advice and support to enable healthcare professionals to care for patients with a CVAD safely and effectively, with the aim to minimise any infectious or other complication associated with these high risk devices, and to increase patient satisfaction and confidence with their care. The service includes provision of a line insertion service, and advice on catheter selection as well as specialist line placement. A daily specialist nurse led clinic provides Midline and PICC line placement, while a regular weekly Clinical Nurse Specialist and Consultant led clinic list offers a Tunnelled and short-term CVAD insertion service.

The ACT HC’s are now placing Midline catheters in patients where multiple cannulations would previously have been required. Benefits include provision of reliable access (reduced missed doses of medication), improved vessel health due to less frequent cannulation, and increased patient satisfaction. The ACT HCA’s are also now trained in CVAD dressing changes and blood sampling (in line with Trust policy) to reduce manipulation by untrained staff.
Audit

1. Audit of clinical areas (report by Cathy Ford)

In order to demonstrate compliance with the Health and Social Care Act: Hygiene Code, the IPCT undertake a programme of audit every year. The audit programme is designed to demonstrate that IPCT policies and guidelines facilitate the promotion of patient safety at all levels within the trust: i.e. board to ward.

This year’s programme of audit focused on responding to audits undertaken across the Trust that have an impact on infection prevention and control practice. This approach led to more teaching to facilitate continuous quality improvement. All audit results are factored into post infection reviews which provided a balanced picture of the ward and are included in the reports discussed at the Infection Prevention Sub-committee.

On a programme of fortnightly ward rounds the Specialist Infection practitioner is able to view the ward as a whole. The management of the infectious patient is monitored and compliance reported in the monthly balanced scorecard including patients who should be isolated in side rooms are being managed based on a clinical risk assessment in a bay. The data indicates compliance is variable across the trust and often reflects the demand for side rooms. The management of patients with diarrhoea is generally good which is in contrast with patients re-admitted with a history of MRSA. With the introduction of the SALUS system there was an expectation of an improvement in the acknowledgment of patient with an infectious alert and the corresponding isolation controls, although disappointedly this has not been the case. Local discussions and ownership of actions have seen a response but there is more work to do. The admission wards now have nurses assessed as competent to administer topical suppression therapy on a Patient Group Directive to drive an increase in compliance with topical suppression therapy being prescribed within 24 hours of admission.

The introduction of the dedicated Actichlor dilution bottle has produced good results with the solution being readily available to clean commodes. Matron’s environmental audits have shown 96% of commodes are labelled as clean and 98% are visibly clean.

The care and management of all in-patients diagnosed with C. difficile is monitored daily by IPCT which provides the opportunity to discuss infection control practices and associated care issues with either the patient or the staff. IPCT and the ward staff monitor practice using the saving lives audit tool. Trust–wide compliance based on 2,163 observations has achieved 97%.

In 2015 a colour coded Isolation Care Plan was introduced which replaced all other infection control care plans. The colour coding matches the door signage, and the information provides guidance on the correct selection of cleaning products and personal protective equipment. The Isolation care plan is generated by the ward staff to manage a patient with a suspected infection and either annotated or issued by IPCT on confirmation of an infection due to an ‘alert’ organism.

In addition, the IPCT collaborated with supply companies to perform audits on behalf of the trust. In 2015-16 the IPCT were supported in performing the following audits.

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1. Correct use of sharps containers – Daniels Healthcare
2. Observational audit on how Actichlor plus was being diluted – Ecolab
3. Provision and location of Vascular access products – CareFusion and Aquilant Medical

Two audits have been undertaken by medical teams which have resulted in an agreement to change a process across the trust:

1. Culturing better practice: Audit of blood culture sampling on contamination rates
2. Time to cite a peripheral venous cannula: Audit of time to gather all the necessary equipment

The audits identified there is an improvement in care delivery when the products needed to undertake a procedure are co-located and the inclusion of prescriptive labels saves time as well as promotes consistency of practice and clear communication. Procedure packs are in the process of being implemented.

The IPCT will endeavour to use the findings from these audits to inform the audit programme for 2016-17 and work with clinical areas to identify and facilitate continuous quality improvement strategies.

2. Compliance with policies and procedures

A number of audits have been performed by various disciplines within the trust to assess compliance with the comprehensive range of infection control policies and procedures, including:

a) Compliance with the ‘My 5 Moments for Hand Hygiene’ and hand washing technique using the Glo box.
b) Availability of alcohol hand gel in clinical areas
c) Compliance with MRSA policy
d) Compliance with Clostridium difficile policy
e) Compliance with Resistant Gram-Negatives policy
f) Compliance with Glycopeptide-Resistant Enterococci policy
g) Management of intravascular catheters
h) Management of urinary catheters
i) Management of Diarrhoea and Vomiting in a Clinical Area/Outbreak Policy
j) MRSA screening
k) Antibiotic use
l) Use of isolation facilities.

The results of the audits undertaken by the IPCT are available from the IPCT office. The programme of audit for the next 12 months is outlined in the Annual Programme of Work for April 2016-March 2017.
Training and education

1. Education

Education is essential to promoting safe practice, and is integral to the overall delivery of an effective infection control service. Each year, an Annual Education Programme is produced to outline Trust-wide training programmes for medical and nursing, allied health professional, cleaning and estates, as well as administrative, clerical and managerial staff, and volunteer staff. The Plan includes an assessment of the training needs of different staff groups and is designed to meet local and national educational needs and requirements.

Infection control was included as an integral part of Induction Training, as well as Mandatory Update Training. The Care Certificate was introduced for all non-registered staff appointed to patient-facing roles (porters, phlebotomists, HCA, support workers)

Links with the Trust’s Learning and Development department continues with the inclusion of the subject of infection control in the Trust Preceptorship and HCA Level 1, 2, and 3. The IPCT also advised on the content of education sessions for Serco staff on infection prevention and control, with special reference to cleaning the environment and appropriate use of cleaning products. Infection Control assessments were undertaken on the 60 F1 Doctors as part of their induction to taking up their posts in the Trust. IPCT provided teaching on the introduction programme for the newly introduced Associate Physician’s role which has been introduced by the Peninsula medical school.

The IPCT undertake the induction of Medical staff from third year medical students through to the individual induction of newly appointed consultants. Covering the objectives set for the trust, their role and responsibilities pertaining to infection prevention and control.

The IPCT has been recognised by the University of Plymouth healthcare faculty as a joint placement with Tissue Viability for student nurses in years 2 and 3. Six student nurses have had a four-week placement and a further 8 have spent a day based with the Infection Control Nurse linked with the ward they are on placement. Feedback from the student placement: “the skills and knowledge gained will make me a better nurse in the future”; “felt supported and my level of learning accommodated.”; “Honoured to have a placement with IPCT” One student talk about her placement at the Infection Control Committee and Infection Prevention Sub-committee suggesting all student nurses would benefit from a placement with the IPCT.

For the second successive year IPCT were able to run the Principles and Practice of Infection Prevention HEAB236 and Management of Infection Prevention HEAC334 modules in academic partnership with University of Plymouth, Faculty of Health, Education and Society. Cathy Ford as module teacher designed the programme and supported fourteen students to complete the module with all students submitting an assignment and course work, the final results available in June 2016.

The IPCT continues to provide education in different ways to meet the needs of a very
busy organisation. It is often difficult to release staff from their duties and to this end the IPCT are increasingly delivering training at ward and department level. Every Service Line was supported to run Infection Prevention and Control events to increase awareness of infection control issues and practices.

Information for relatives and visitors is also provided on a notice board in the concourse and Level 7, and on the infection control website.

2. Infection Control Link Practitioners (ICLPs – report by Cathy Ford)

Infection prevention and control link practitioners (ICLP’s) are nominated by each clinical area to be the link between the IPCT and that clinical area. Many areas have chosen to have more than one staff member sharing the role. A range of different clinical disciplines is now represented as ICLP’s thus successfully reinforcing the message that infection control is everyone’s responsibility.

The link practitioners are a vital resource for the trust in the overall strategy to reduce infection. A requirement of the role is that protected time of at least 2 hours per week is allocated to them in order that they are able to carry out their infection control related duties.

The ICLP’s play a key role to inform, educate and support their colleagues in their clinical areas. They also undertake frequent audits of key aspects of clinical practice. Where audit scores are less than optimal the ICLP will instigate an action plan to address areas needing improvement.

The annual Infection Control Link Practitioner study day was held on the 7th July 2015 in the Postgraduate Medical Centre, Derriford Hospital. The day was a great success and our thanks go to all the delegates for attending, the Company Representatives for helping support the day, and the speakers who provided such interesting and thought provoking sessions. The topics included Back-to-basics- Do we understand standard precautions, Carbapenemase–Producing Enterobacteriaceae – the emerging global health threat - local impact, Management of Bio-medical devices Urinary Catheters – how can we reduce infection rates based on a patient case study. For the second year running a charity cake stall was held on the day and raised the fantastic total of £136 for Masanga Hospital in Sierra Leone. This money will help in the rebuilding of health services left decimated from the Ebola outbreak. Congratulations to our Grand Quiz Winners – Tim Murray and Anna Encheva both from Hexworthy Ward. The delegates’ comments about the day: Fun useful Q&A; Matron & Specialist nurse MDT – all levels; Amazing cakes; Talking to the reps on products we use; PHNT figures

Suggestions for next year were: Networking opportunities, how others have improved practice and Skills stations

The IPCT designate specific team members to link with individual clinical areas so that a consistent level of support can be provided to them. As well as this individual support, bi-monthly ICLP meetings are held. These serve both an educational purpose and as a means to keep the ICLP’s updated with relevant issues. This year sessions were delivered by subject matter experts from within the trust covering a broad subject base, including: Influenza management and Mask Fit testing; MRSA re-
admitted with a history of MRSA treatment and control; Carbapenemase Producing Enterobacteriaceae – Patient assessment and screening; TB update; Cleaning – technique, products and monitoring; CVC audit results and correct dressing technique. This forum also provides an opportunity for exchanging ideas and for discussion around key issues.

Several bespoke sessions and infection control awareness days/weeks have been led by the ICLP’s and supported by IPCT across Service lines in response to an infection concern or to improve audit results. Greg Dix, Director of Nursing sponsored a re-validation day for 100 Matrons and Senior Sister. The 10 minute update centred on their role to incorporate 5 standard principles for every patient every time.

The electronic resource on Staffnet is being used across all staff groups. Staff are using this improve their knowledge on different infections and can locate PHNT policies as well as links to specific documents from Public Health England and other references. With ongoing support from the communications team a new page has been added which Cathy Ford, Lead Specialist Practitioner has maintained and refreshed the information regularly. This has been extremely well received and we have received comments from on call managers, Matrons, Ward clerks and medical secretaries who have used the resource and found it to be useful and easy to navigate. This resource continues to be populated and updated monthly.

The ICLP’s are provided with a professional portfolio, which they maintain as evidence of their commitment to the prevention and control of infection. This enables them to document and reflect on their activities in order to develop within the role.

**Compliance with National Guidance and Standards**

1. **Code of Practice for the Prevention and Control of Healthcare Associated Infections and Related Guidance/CQC Outcome 8**

The Health Act approved by Parliament in October 2006 contains a Code of Practice for the Prevention and Control of Health Care Associated Infections (HCAI). The Code places a statutory duty on Trusts to ‘ensure patients are cared for in a clean environment, where risk of HCAI is kept as low as possible’. A revised version of the Code of Practice on the Prevention and Control of Infections and Related Guidance was published in 2008 and was updated in December 2010 and again in July 2015. The most recent update includes an expanded section on antimicrobial stewardship.

Compliance with the Code is assessed by the Care Quality Commission (CQC) and is a requirement for NHS Provider Compliance Assessment Outcome 8 (Cleanliness and Infection Control). The Trust is compliant with the Code of Practice (July 2015), CQC Outcome 8 and NICE guidance relevant to infection prevention and control. Compliance is reviewed and evidence updated on a monthly basis to ensure that the Trust maintains strong compliance in this area. There are currently no outstanding issues.

Under the Code of Practice, the Trust must ensure that:
1. so far as is reasonably practicable, patients, staff and other persons are protected against risks of acquiring HCAI, through the provision of appropriate care, in suitable facilities, consistent with good clinical practice

2. patients presenting with an infection or who acquire an infection during treatment are identified promptly and managed according to good clinical practice for the purposes of treatment and to reduce the risk of transmission.

The Trust is expected to have systems in place sufficient to apply evidence-based protocols and comply with the relevant provisions of the basic Code so as to minimise the risk of HCAI to patients, staff and visitors. The systems for the prevention and control of HCAI are expected to address:

- management arrangements to include access to accredited microbiology services
- clinical leadership
- application of evidence based protocols and practices for both patients and staff
- the design and maintenance of the environment and medical devices
- education, information and communication.

Currently, the Trust has full, unconditional registration with the CQC. The IPCT has collated documentary evidence for the assessment of compliance for the infection control elements of the Code of Practice/CQC Outcome 8 and these files are available for external assessment when required. Ongoing overall compliance is reviewed on a monthly basis by the DIPC and Lead Nurse for Infection Prevention and Control and this is reported to the Infection Prevention Subcommittee. In addition to the overall review, the DIPC and Lead Nurse for IPC will meet with individual leads as required to review in detail their evidence folder.

2. NICE guidelines for the Prevention and Control of HCAIs

The Quality Improvement Guide for the Prevention and Control of Healthcare-associated Infections (NICE public health guidance 36) was published by NICE in November 2011. The Guide offers advice on management or organisational actions to prevent and control HCAIs in secondary care settings. It is aimed at board members working in (or with) secondary care and may also be of use to senior managers, those working elsewhere in the NHS, as well as those working in local authorities and the wider public, private, voluntary and community sectors.
The Guide assumes that all secondary care settings are compliant with the current Code of Practice on the Prevention and Control of Infections and Related Guidance and aims to help build on advice given in the Code and elsewhere to improve the quality of care and practice in these areas over and above current standards. Taken together, the quality improvement statements contained in this Guide describe excellence in care and practice to prevent and control HCAIs. The 11 quality improvement statements provide clear markers of excellence in infection prevention and control at a management or organisational level. Each statement is supported by examples of the type of evidence that could be used to prove the organisation has achieved excellence, and examples of what this would mean in practice on a day-to-day basis.

The aim is to help Trust Boards:

- assess current practice in relation to the prevention of HCAIs;
- identify areas for quality improvement
- monitor progress
- provide leadership and support to infection prevention and control teams and other staff working to implement the guide.

It will also give patients and the public information about the quality of care they can expect, and how secondary care organisations can improve patient safety and outcomes by improving quality in key areas.

In April 2014, NICE also published Quality Standard (QS) 61 on Infection Prevention and Control and in February 2016, QS 113 on Healthcare Associated Infections. These quality standards provide overarching guidance on infection prevention and control and the prevention of healthcare-associated infections. They are expected to contribute to improvements in infection rates and avoidable deaths from healthcare-associated infections.

Compliance with the Quality Improvement Guide and Quality Standards 61 and 113 has been assessed by the DIPC and Lead Nurse for Infection Prevention and Control and these files are available for external assessment when required. The Trust is complaint with these guidelines. Ongoing overall compliance is reviewed on a monthly basis by the DIPC and Lead Nurse for Infection Prevention and Control and this is reported to the Infection Prevention Subcommittee.

3. Clinical Negligence Scheme for Trusts (CNST)

The documentary evidence for the assessment of compliance of infection control within the CNST standards (level 1) has previously achieved the required standard during an external review. The evidence files are held electronically with in the CQC Outcome 8 and will be updated as required for any future assessments.

4. Saving Lives

As part of the process of assessing compliance with the Code of Practice, the self assessment tool of Saving Lives has been completed. The IPCT has the required policies, procedures and processes in place to meet the required standards.
Decontamination (report from Nick Thomas, Andy Nevill, Peter Heard and Mark Lavery)

The Sterilisation and Disinfection Unit (SDU) is part of the Directorate of Health Care Science and Technology (HSCT). Consequently, ultimate responsibility for the SDU lies with Andy Nevill, HCST Director.

Nick Thomas is the Executive responsible for Decontamination. Nick is an Ex Officio member of the Decontamination Action Group and provides a link to the Executive Team for decontamination related issues.

Mark Lavery was appointed as Substantive Trust Decontamination and SDU (Sterilization and Disinfection Unit) Lead from April 2016, having previously provided support to the Trust as part of an inter trust collaborative agreement with the Royal Cornwall Hospitals NHS Trust where Mark had been Trust Decontamination Lead and Head of Sterile Services since 2009.

The SDU at Derriford is staffed by a dedicated team which provides a certified centralised service for the decontamination of medical instruments both within the Trust and to other clients. The Unit supports all clinical pathways where reusable medical devices need to be reprocessed including the reprocessing of all flexible endoscopes within the Trust.

The Decontamination Lead chairs the Decontamination Action Group (DAG), which reports to the Infection Prevention Subcommittee. The DAG is the corporate clinical reference group for decontamination and oversees an improvement programme for the decontamination of medical devices within the Trust.

Peter Heard, formerly SDU Manager now Quality Manager and in that role is increasingly involved in facilitating the introduction of the Q-Pulse electronic quality management system a key element in the modernisation of the SDU.

Whilst the vast majority of reprocessing across the Trust is carried out by the SDU, there are also a small number of service lines which are responsible for their own local reprocessing. Work is currently underway to identify all those medical devices that are reprocessed in non-centralised locations. A register of such devices is being compiled and this will include instructions for the compliant decontamination of these items.

The process of Decontamination Risk Assessments is being developed to include the suitability for re-processing of medical devices that are being considered for purchase, as well as evaluating the effectiveness and appropriateness of new and innovative systems of decontamination prior to their possible introduction.

Some of the highlights of the past year include:
• Further development of a Decontamination Action Plan (DAP) to include Corporate, Facility (SDU), Local Processing, Governance, and IPG196 related activities. The DAP is managed through the Decontamination Action Group (DAG) which includes Executive and Consultant Microbiologist membership, and who monitor progress on the various initiatives detailed

• The SDU continues to be certified to ISO13485:2012 and the Medical Devices Directive 93/42. External audits of the unit in late 2015 and in early 2016 were successful

• A new structure designed to improve staff retention, support succession management, provide career opportunities and facilitate the movement of SDU staff into the Health Care Science professional group has been drafted. It is anticipated that the structure will enable staff to study for and attain nationally recognised formal qualifications in Decontamination Science

• The Endoscope re-Processing facility within the SDU has been equipped with 5 ISIS Endoscope Washer Disinfectors. These machines are nearing the end of their anticipated lives, and a bid to replace three of the machines has been submitted and is under consideration

• Further Modifications have been made to the Reverse Osmosis (RO) water system in SDU

• The SDU began the introduction of the Q-Pulse quality Management system during 2015-16. The system will simplify document control, hold all Manufacturer’s instructions and work instructions in an accessible and transparent location, identify trends and allow for transparency of defect investigations and outcomes

• There continues to be progress towards compliance with IPG 196 (Patient safety and reduction of risk of transmission of Creutzfeldt-Jakob disease (CJD) via interventional procedures), which is monitored and reviewed through a compliance action plan. Introduction of an integrated theatre management system will close the loop with respect to the tracking and tracing of instrumentation

• The SDU is involved through the Institute of Decontamination Sciences (IDSc), in benchmarking activities with other Sterile Services Departments in the South West and Wales

• 24 SDU staff have embarked on training for the Diploma in Decontamination (BTEC) over the last 12 months, the first staff member having qualified in January 2016

• Over 40 existing SDU staff members have embarked on apprenticeships

• The contract for breakdown maintenance of decontamination plant including Sterilizers, Washer Disinfectors, air handling units and RO water systems has
been awarded to our in house Estates Department. This will provide the Trust with a more responsive service at reduced cost

- In an effort to identify and maintain best decontamination practice, the Decontamination Department facilitated the formation of a regional (South West) Decontamination Workshop. The group includes a membership drawn from Microbiologists, Engineers, Infection Prevention and Control Nurses and Decontamination Professionals. Topics under current consideration include prion removal and detection, vCJD / IPG 196 practical issues, environmental monitoring and the impact of soon to be published new guidance on decontamination processes. (The re-introduction of HTM’s and the archiving of CFPP’s)

- By maintaining and strengthening links regionally, nationally and internationally, the SDU will remain at the forefront of Decontamination process and systems technology

- The SDU are engaged with colleagues from across the Trust in the development of the proposed Theatre Management System and in the GS1 initiative. This will enable inventory related efficiencies, better asset management, improved track and tracing of instrument trays

- Locally there is regular planned dialogue between Decontamination managers and users of the SDU service through an SDU/Theatre user group, and sub-group to focus on issues surrounding IPG196 is planned

- A schedule of audits of all those areas (on and off the Derriford site) that undertake local decontamination of medical devices is being finalised with initial focus on the Neonatal Intensive Care Unit

- Further (decontamination related) collaboration between PHNT and RCHT is planned although the nature and extent of this is to be determined

- The SDU is currently involved in a bid for a third party contract for service provision.

**Hotel Services (report by Stuart Windsor)**

1. Governance chart

The governance chart below shows the various Groups and Committees that are involved in providing Assurance on Hotel Services. The reporting arrangements to IPSC are also shown.
Alongside the formal Groups and Committees, there are a range of other routes which bring together those involved in Cleanliness and Infection Control.

### 2. Standard of cleanliness

The Trust continues to exceed the National Specification for Cleanliness in the NHS target performance with a score of 99.0% compared to a target of 96.3%, which is a slight (0.2%) increase from last year. The performance across the year is shown below.
During 2015-16 Serco carried out 2,001 cleanliness audits compared to the 1,941 last year. 76% of these were carried out jointly with members of the Trust, 14% lower than the previous year. There continues to be greater consistency between the audits carried out by Serco, and the other forms of cleanliness check carried out by the Trust.

The Cleanliness Assurance Group, which comprises members from Matrons, Serco, Facilities and Infection Control, continues to meet monthly to discuss trends in cleanliness standards, and track actions plans that are in place. The group also discusses and actions any issues that have arisen in the month that have not been resolved either locally, or through the weekly Hotel Services Operations Reviews.

Alongside the Serco audits, Matrons also conduct their own Meridian checks which include aspects of ward organisation, environmental cleanliness, clinical equipment cleanliness and infection control. Over the past year, more areas have come on line with the Meridian Matrons check and 1738 of these checks have been carried out compared to 960 last year. Although these audits are measured in a different way to the formal Serco audits, they also highlight emerging cleanliness issues. The triangulated results covering each element of the National Specification for Cleanliness elements is reported monthly to the Infection Prevention Subcommittee. Examples of typical trend charts, which are presented as statistical process charts, are shown below.
The work with Optimum to develop a single National Specification for Cleanliness audit tool, combining the elements measured through the Serco audits and those measured through the Matrons checks, progressed well throughout the year with all clinical areas now audited using the Meridian NSC tool. This has resulted in much improved and timely feedback for clinical staff who have access to the meridian desktop and can drill down to investigate audit results, issues raised and emerging trends.

The new NSC audit tool allows additional elements which are related to Clinical Equipment cleanliness and Estates / Facilities cleanliness to be measured. The evidence from ATP swab testing and the Matrons audits is that there is a higher failure rate for these elements. Now that all of the audits are measuring all elements, the Trust we will be able to report results that are fully aligned to the National Specification for Cleanliness in the NHS, or the new PAS standard for cleanliness.

3. Environmental decontamination

Hydrogen Peroxide Vapour (HPV) treatment is now proven as effective against a wide range of pathogens including *Clostridium Difficile* spores and methicillin-resistant *Staphylococcus aureus* (MRSA). The technology has been used to help bring outbreaks under control and reduce the incidence of *C. difficile* infection for a number of years.

The Department of Health guidelines for the control of *C. difficile* in the UK includes the recommendation for Trusts to consider the use of Hydrogen Peroxide Decontamination. This recommendation followed a study commissioned in 2012 by the Department for Health, which was carried out by the NHS Technology Adoption Centre (NTAC). The resulting Briefing Pack demonstrated the effectiveness of HPV decontamination, and also presented the financial case for investment in this approach.

The most recent published evidence (2014) of the effectiveness of HPV decontamination on HCAIs has suggested a 37% to 39% reduction in *C. difficile* infection rates.
Within the Trust, HPV decontamination is now routinely carried out in any side room vacated by a patient who has tested positive for *C. difficile*. To ensure side rooms are available as quickly as possible after discharge, this service is delivered by Serco, with the service being 7 days a week, between 8 am until 10 pm. Over the past 12 months 490 room decontaminations have been carried out, which represents an increase on the previous year (454).

4. **Adenosine tri-phosphate swabbing**

During 2015-16, the Trust has continued to deliver a programme of Adenosine tri-phosphate (ATP) swabbing as an adjunct to traditional cleanliness auditing. ATP is present in all living matter, and therefore the presence of ATP on a surface is an indication of how clean is the surface. ATP swabbing is used extensively in the catering industry as an indicator of the cleanliness of food preparation surfaces. The extension into other markets is more recent, and Plymouth Hospitals is now one of a growing band of Trusts who are using the technique to assess environmental cleanliness.

Over the course of the year 5,608 swab tests were taken, compared to 6,087 last year. These were carried out as part of routine swab testing of side rooms being used to nurse patients with *C. difficile*, as part of routine swabbing across the wards in outbreak status and also as part of side wide testing to check for cleanliness of clinical equipment as well as the environment. An empirical target of less than 1,500 Relative Light Units is assessed to pass the swab test, and greater than 3,000 Relative Light Units to fail the swab test. A summary of the results over the course of the year are shown below.
Overall ATP test results: (top) Overall pass rate; (bottom) Number of swab tests taken

The ATP results are now analysed in the same way as other audit data, and Statistical Process Charts are tracked for the most commonly measured elements. Examples of the trends are shown below.

Floors

Dressings Trolley

Under chair armrest

Drip stand
Whilst there have been improvements in the ATP results for clinical equipment, the failure rate for ATP swabbing remains higher than target. This remains a concern. The new NSC audit tool allows a visual audit of these elements to be carried out more regularly and data will be reported monthly to the Infection Prevention Sub Committee. Addressing this area of cleanliness will remain a priority for 2015/16.

### 5. Deep Cleaning Programme

During 2015-16, the delivery of the Ward and Department Deep Clean programme has continued. All but two Departments have received an annual deep clean; whilst 9 Wards received a deep clean during the year (compared to 12 last year). The lower number of deep cleans completed continues to reflect the severe operational pressure that the Trust has been under over the past 12 months, and the continued lack of an available decant Ward. The target for 2016/7 remains to carry out a deep clean of all Wards over the course of the year although, in the absence of a decant ward, this will need to be carried out with patients in situ following a bay by bay approach. A suitable programme is due to be worked up by the Operational site team.

Schematics showing the last full deep clean for wards and departments are shown overleaf.

In addition to the planned deep clean programme, a number of wards received a deep clean following closure for infection. Owing to the low incident of Norovirus during the winter, fewer wards received a deep clean following infection that for last year.
6. Linen and Laundry

Laundry services for the Trust continue to be delivered under contract by Royal Devon and Exeter (RD&E) Hospital. The RD&E laundry meets all of the Essential Quality Requirements associated with the new standards (CiPP-01/04) which have now been in place for over 2 years and continue to work towards Best Practice Guidelines. Assurance is provided through the quarterly Contract Review meetings and reports. Laundry X-Pert by Christeyns is the monitoring system used by EHLS to verify crucial washing process steps (CCPs). Textiles are monitored in real time, providing the trusts with assurance that they are decontaminated by the various operations taking place in the machines. This verification process is designed to guarantee specified performance parameters, targets and tolerances necessary for achieving disinfection in the wash process, for each batch prior to safe product release. Process validation is regularly challenged through RABC risk assessments, control point observations, process audits, microbiological test results and temperature validation loggers, providing historical data of evidence proving process assurance of a safe product.

Audits of compliance of linen services within the Trust are carried out on a monthly basis. 72 ward audits were carried out over the course of the year and this has identified the main areas of non-compliance to be clean linen being left uncovered on the ward and in some cases where clean linen is stored on trolleys, rather than in a dedicated room, soiled linen skips being left in close proximity to clean.

7. Food Hygiene and Safety

During 2015-16, 67 audits were carried out on the ward meal service and in the main Central Production Unit and retail outlets under the management of Serco to assure compliance with the Food Hygiene (England) Regulations (2006) and the Food Safety Act (1990). All minor non-compliances identified during these audits were addressed.
Externally, there has been one inspection visit carried out by the Local Authority Environmental EHO in December 2015. In addition to the general environmental inspection of the food preparation premises, the EHO also carried out some food sampling.

The trust retained the maximum food hygiene rating of 5 following the inspection.

8. Internal Audit

Following the review of the format used by Internal Audit to assess cleanliness across the organisation, Internal Audit completed an out of hours audit and submitted a report in August 2015. The audit was carried out in 3 parts, individual ward inspections using the NCA audit tool, deep dive inspections of 4 key elements and more general CQC type observations and comments. The overall conclusions were as follows:

Section 1 – Individual ward inspections

The Trust’s cleanliness audit tool was used to complete three detailed ward inspections. The results of the inspection were generally satisfactory, with the main areas of non-compliance being the cleanliness of ward kitchens. Including the themed aspect of the testing, a total of 12 ward kitchens were assessed for cleanliness. As a result of the findings, an action plan was put into place to address the immediate issues and to ensure that all ward kitchens receive a 6 monthly deep clean.

Section 2 – Deep Dive inspections

The themed ‘deep dive’ inspections focused on the following:

- Cleaning equipment/cleaning trollies.
- Sinks.
- Ward kitchens
- Clinical Equipment labelling.

Overall, the deep dive part of the inspection produced positive and consistent findings across the trust with a small number of failings in two of the four themed reviews.

A significant number of cleaning trolleys, owned and operated by Serco were not at an acceptable level of cleanliness. This issue, along with the issues raised with ward kitchens were raised with Serco and an action plan was put into place.

Section 3 – CQC type observations and comments

Internal Audit reported that the wards visited were busy but appeared calm and well organised with a friendly atmosphere. There was a good level of interaction observed between staff and patients who appeared generally happy and well cared for. Both patients and visitors were generous with their praise of ward staff, the overall
cleanliness of the hospital and the level of care received. As a result Internal Audit reported they can provide a good level of assurance that the patient care delivered by Trust staff, as observed during the review, was considered safe, caring, responsive, effective and well-led. However, there were some inconsistencies found in the cleaning and tagging of medical equipment and in the ward information on display.

9. Patient-Led Assessment of the Care Environment (PLACE)

The Trust’s third PLACE Assessment was carried out in May 2015.

The PLACE assessment is designed to provide a non-technical view of building and non-clinical services based on a visual assessment. Assessors are asked to rate a range of environmental aspects against set criteria and must reflect only what is seen on the day. A degree of judgement by the assessors is required. A crucial component of the inspections is the high degree of patient involvement with patient assessors making up at least 50% of the inspection teams and leading the visits and the scoring.

During the assessment, 18 separate areas of the hospital were visited, including wards, departments, entrances, public toilets and car parks. Although all wards and departments were made aware of the PLACE inspection dates, all of the inspections were unannounced.

The scores for the Trust were made available in June 2015 with the national results released in August 2015. The results for cleanliness had improved from 2013-14 and 2014-15 and were 0.02% below national average. The results for Condition, Appearance and Maintenance dropped from the two previous years. The full results with national averages are shown below:

<table>
<thead>
<tr>
<th>Category</th>
<th>2013-14</th>
<th>National Average</th>
<th>2014-15</th>
<th>National Average</th>
<th>2015-16</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trust Score</td>
<td></td>
<td>Trust Score</td>
<td></td>
<td>Trust Score</td>
<td></td>
</tr>
<tr>
<td>Cleanliness</td>
<td>93.5%</td>
<td>95.7%</td>
<td>95.9%</td>
<td>97.3%</td>
<td>97.55%</td>
<td>97.57%</td>
</tr>
<tr>
<td>Condition, appearance and</td>
<td>83.7%</td>
<td>88.8%</td>
<td>84.5%</td>
<td>87.7%</td>
<td>80.29%</td>
<td>90.11%</td>
</tr>
<tr>
<td>maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privacy, dignity and wellbeing</td>
<td>79.4%</td>
<td>88.9%</td>
<td>81.2%</td>
<td>87.7%</td>
<td>84.77%</td>
<td>86.03%</td>
</tr>
<tr>
<td>Food and hydration</td>
<td>77.8%</td>
<td>85.0%</td>
<td>89.7%</td>
<td>88.8%</td>
<td>88.04%</td>
<td>88.49%</td>
</tr>
<tr>
<td>Dementia</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>69.53%</td>
<td>74.51%</td>
</tr>
</tbody>
</table>

Some of the headline influences within each category were as follows:

**Cleanliness**

Generally cleaning rated well, issues raised:
- Dirty external windows;
- Some dust found in internal communal areas;
- Medical equipment not always labelled or with out of date labelling;
• Black sink/toilet bowl staining impacts on the perception of cleanliness.
• The worn condition of floors in some areas has a negative impact on cleanliness;
• Radiator panels/vent extracts found to be dusty/dirty on some wards and departments.

**Privacy, dignity and wellbeing:**

• Not all staff wearing name badges;
• Lack of dedicated rooms on wards for private discussions with patients and relatives;
• Lack of day rooms on wards;
• Where 6 bedded bays lack of privacy around beds.

**Food and hydration:**

The quality and temperature of food was very well rated, issues with the meal service were:

• Lack of separate areas for meals to be served;
• Patients not always readied for the meal service (tables cleaned and given opportunity to wipe hands);
• Protected meal times not always adhered to

**Condition, appearance and maintenance:**

• Some areas felt to be clearly in need of complete refurbishment;
• Cosmetic damage to walls and doors particularly outpatient department/ED corridors and internal communal areas;
• Inconsistent designs for Trust sanitary ware (this impacts on dementia assessments also);
• Flooring (shower rooms and corridors) /ceiling tiles in poor condition in some areas;
• Lack of storage (which impacts on both storage and tidiness scores) on some wards and departments;
• Lack of handrails in corridors;
• Sanitary ware black staining;
• Flies in lights;
• No lockable personal bedside lockers;
• General tidiness on some wards and departments;
• Maintenance issues unresolved with no time scale for them to be rectified (bath/shower);
• Waste bins need visual signage.
• Lack of high visibility nosing on internal stairs and external steps;
• Emergency exits not always clearly identified.
**Dementia:**

- The Trust’s speckled flooring is non-compliant;
- Taps not always marked with hot and cold indicators and often too small when they are;
- Not all signage is large and easy to read;
- Contrasting colours not always good;
- No hospital name signage at ward and department level;
- Inconsistent design of sanitary ware;
- Doors to staff only area not disguised;
- Not possible to cover mirrors;
- Single rooms need time and date clocks.

**Overall:**

- Patient assessors felt welcomed on to assessment areas by staff proud and positive about their wards and departments.
- Patient assessors commented on improvements made on previous years.

A comprehensive PLACE Action Plan was created following the assessment, and a team have met regularly to progress key actions and to conduct mini-assessments throughout the year. This team has included patient representatives.

**Antimicrobial Stewardship (report by Dr Jim Greig)**

The Antibiotic Stewardship Team (AST) consists of Drs Jim Greig and Robert Tilley and Antimicrobial Pharmacist, Nicola Joyce. Individual members of the team work closely with one another, each having specific areas of interest and responsibility. Herein is described the activities of the AST for the past year.

As antimicrobial resistance rises up the national clinical and political agenda, the local stewardship programme is coming under greater central scrutiny. Notable events in 2015-2016 included:

- Publication of a Patient Safety Alert by the Department of Health (August 2015) leading to a full internal review of the local AST programme
- Release of far reaching recommendations from NICE outlining the desirable elements of a Stewardship Programme across the whole Health Community
- National CQUINS relating to the use of and monitoring of antimicrobial use. These are particularly challenging and like most Trusts across the country, PHNT will find meeting these a particular challenge

This report is set out using the five Start Smart then Focus Toolkit domains.
1. Ward-focused antimicrobial team

The AST are informed via various routes of the use of certain high risk and high cost antimicrobials. These prescriptions are targeted on weekly and ad hoc stewardship rounds. Examples include carbapenems (high risk for resistance), gentamicin (high risk for toxicity) and linezolid (high risk of toxicity and cost). Other identified areas of concern are raised by Ward Pharmacists and colleagues. More frequent ward rounds are desirable but with current stewardship staffing levels are not possible. During the calendar year 2015, over 1100 prescriptions were reviewed and on three quarters of occasions an intervention, usually to stop the antibiotic or convert to the oral route, was performed. More prescriptions were reviewed than in 2014 using the same available resource. Compliance with guidelines/good practice was only collated for carbapenems, compliance with local guidelines and good practice was nearly 95%.

2. Evidence Based Antimicrobial Prescribing Guidelines

Treatment guidelines (full and abridged) are freely available on Staffnet. Where resources permit these guidelines are formally reviewed on a biennial basis. Abridged versions of the guidelines are available as handy laminated cards which are distributed at induction, at scheduled educational sessions and opportunistically on the wards.

The main focus of guideline update has been to update and improve the local App. A staff survey was performed in 2015 that demonstrated that those users who were aware of the App liked it and used it regularly. Many users were either unaware of the App or preferred paper guidelines. Greater advertising of the App is required. Problems associated with ensuring that the advice on the App and the paper guidelines is the same can be problematic. A decision has been made to go to a purely electronic format (whilst retaining the card aide memoir) in 2016.

Notable guideline updates included a full review of the Trust prophylaxis guidelines and asplenia guidelines. At the time of writing (May 2016) the former has been ratified but not yet published.

3. Quality Assurance measures/audits and feedback

The mainstay of AST monitoring and audit/feedback centres on a rolling programme of antibiotic use audit. This is centred on the Start Smart component of the toolkit. This has recently been supplemented by a detailed retrospective review (50 patient audit). In the last year the Infection Control Team (ICT) have been collecting surgical prophylaxis antibiotic use data (data not yet analysed). Via the rolling audit programme the AST prospectively monitors, with intervention and feedback, Service Line performance on a quarterly basis. Service Line reports include how compliant the service line is with Trust antibiotic use guidelines and highlights deficiencies in antibiotic use and teaching. The Medical Director and Trust Executive (via direct reporting, the Infection Prevention Committee and Antibiotic Steering Group) are informed of overall and specific service line performance. In the year to June 2015 overall compliance was over 85%. The Trust participated in a pan-Peninsula point prevalence audit in March 2016. PHNT was not significantly worse than the rest of the Region on any measured parameter and had a compliance with correct antibiotic selection, route, duration etc of >95%. The discrepancy between the local and
regional audit results relates to how vigorously antimicrobial use is audited. The former audit is performed by the Hawks of the AST.

Local gross in-patient antimicrobial use at PHNT is rising at around 6-7% per annum. The local rise is attenuated by greater hospital activity. The latest English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) 2010 to 2014 report notes in patient consumption across the country has risen by 24% between 2010 and 2014. This relates to all consumption not just in patient and uses an admissions denominator. In the coming year PHNT will be publishing total consumption per admission allowing better local and national benchmarking.

4. Education and Training

Training and Educational sessions led by the AST have continued to focus at reaching out to Directorates and Departments. This has been combined with sessions directed at junior doctors (F1 and F2) as part of their programmed training and ad hoc training at ward level. The Directorate specific sessions have been particularly successful; in the last year over 20 such sessions have been delivered. The mandatory e-learning package for Medical and Nursing staff has been supplemented by a package directed at Pharmacists. This latter package will be performed annually by all Ward Pharmacists. Members of staff who do not feel competent in the area of antimicrobial use must complete the e-learning package on a triennial basis. All clinical members of staff must also complete the package as part of their Induction Training. All F1s have a test of competency to prescribe antimicrobials delivered by the AST or ICT. Those who raise concerns regarding their prescribing of antimicrobials have a one-on-one educational session with the AST.

5. Antimicrobial Stewardship Management committee

The Antimicrobial Steering Group met on five occasions in 2015 and after a period of finding its feet is now a mature group with broad cross Trust support. Each Service Line has an Antibiotic Champion, a role embraced with various levels of enthusiasm. The Group also has Trust Board representation in the form of the Medical Director. In response to the Patient Safety Alert inspired review of the Stewardship programme, the reporting structures of the group have been reviewed and (as of May 2016) work is underway in optimising the reporting paths up to Care Groups and Trust Board.

The degree of Service Line collaboration is monitored and regularly discussed at the Steering Group. Where there is little historical collaboration, the AST have proactively engaged with prescribers in Stewardship activities. These collaborations will continue to be facilitated and encouraged by the AST.

6. C. difficile disease

The ACT reviews all hospitalised patients with C. difficile and advises on the antibiotic management of this disease. Particular areas of intervention include advice on stopping or changing precipitating antibiotics and on which treatment antibiotics to use. The antibiotic pharmacist attends the daily C. difficile management meetings.
7. Plans for the future

In the coming year the main thrust for the AST will be the recently published CQUINs. These are targets set nationally and locally, failure to meet the target results in financial fines. The current antimicrobial targets are particularly challenging and it is unlikely that all five will be met this year. The two that will be the main concerns of the AST this year are:

- Reducing overall carbapenem use
- Ensuring the prescribing decisions (as defined in the Start Smart then Focus toolkit) are present for all patients on antimicrobials for >72 hours

Proton Pump Inhibitor (PPI) Stewardship (report by Nicola Joyce)

Due to the association of proton pump inhibitors (PPIs) and *C. difficile*-associated diarrhoea (CDAD), there has been continued focus on local use of PPIs this year.

A point prevalence (PP) audit conducted at PHNT prior to any interventions in June 2012 identified 46% of inpatients on a PPI (36% of patients admitted on a PPI, 9% commenced during that admission) and a primary care audit showed that nearly one half of all patients on a PPI did not have a documented indication. A follow-up PP audit in January 2014, after interventions, showed a reduction in PPI prescribing to 33.6% of inpatients (27.2% of patients admitted on a PPI and 6.4% commenced during admission). This has continued to reduce in the two further annual PP audits with the most recent having taken place in March 2016 with the following results, 29%, 25% and 4% respectively.

The action plan devised in 2015 to ensure that focus on PPI prescribing is maintained has been continually reviewed and updated during the last year and this will continue for 2016. It ensures that measures put in place are outcome driven and progress is reported on a quarterly basis to the IPSC. Interventions to reduce inappropriate PPI prescribing have included communications to prescribers and pharmacists, which have been repeated, and the issuing of a guideline. There is also the use of ‘alert drug chart stickers’ by ward pharmacists (WPs) where there is no easily identifiable reason for a PPI. This should prompt a prescription review by the attending medical team either as an inpatient or on discharge in primary care.

The reduction in prescribing seen in the PP audit has been mirrored by ward based audits. The results of these audits are also included in the quarterly reports and form part of the revised action plan. Targets have been set for the number of wards audited and the number of patients who have their PPI reviewed whilst they are an inpatient by WPs, (≥85% is the set target). Over the last year this target has been hit in the main with 35 out of 45 audits reaching the target of >85% review (5/45 < 70% and 5/45 70-85%) and an average of 90% over all audits of WPs reviewing PPIs as per guideline, which exceeds the 85% target. The total number of wards audited is less than what was aimed for and it is hoped that in the coming year more audits will be conducted to continue to help maintain focus.
The quarterly report to the IPSC also includes the regular reporting of information from the Pharmacy Department on PPI consumption. This has shown a declining trend in PPI use, which is now plateauing, although more recent months have shown a further slight reduction. The plateau effect may in part be due to higher doses than the usual DDD being used as a norm, this is a potential future target. The reports will also continue to be shared with primary care and there is a point of contact with the western locality of NEW Devon CCG should primary care data in the form of ePACT be required to review prescribing trends in the community.

Other activities

1. Policies and procedures

The IPCT recognises the importance of evidence-based policies and procedures in ensuring effective compliance with national infection control standards. All policies comply with the Trust Policy on Policies and are available on StaffNet (http://staffnet.plymouth.nhs.uk/DocumentLibrary/TrustDocuments.aspx). At renewal, all policies are examined to ensure compliance with the National Service Framework for Children and the Trust’s Equality and Diversity Policy.

All policies are updated in accordance with a continuous process of rolling policy review. No policies were due for review and update during 2015-16.

2. Communication with staff, patients and relatives (report by Claire Haill)

Communication with staff at PHNT is facilitated by a quarterly IPCT Newsletter, Jan Cox co-ordinates the publication ‘Infectious’ supported by Data Analyst Stephen Bennett. The message promoted throughout last year was: ‘Protect Patients; Protect Ourselves; Protect Colleagues Every time with our actions’. Updates on ward closures due to outbreaks is provided through Trust-wide emails and on the main infection control notice board in its newly placed position on Level 7 on the approach to the restaurant. All infection control policies are now available on the Staffnet and the infection control website has been further developed over the last year. The display on the main infection control notice board is changed on a regular basis and includes education and surveillance data as well as reflecting national and world campaign days. There is a regular infection control contribution to the weekly electronic newsletter (Vital Signs) and the quarterly magazine (Cascade) that are distributed to all staff at PHNT.

National Infection Control Week in October was highlighted by a display in the main concourse promoting the practice patients should expect to receive and an opportunity for staff to ask questions about the products that should be being used and when.

The Infection Control Website has been populated with current information although there is more to do in this area, and we are currently working with the communications team for their expertise to improve communication with patients and relatives to optimise electronic technology. We have delivered updates to volunteer staff and patient groups as well as being available to discuss infections and controls with patients on a one-to-one basis.
Since the launch in 2014 continue to issue a ‘Patient Passport’ for patients with indwelling long term bio-medical devices or those who are or have been colonised with MRSA or *Clostridium difficile*. The aim was to improve communication between patient, hospital and community, thus improving patient safety. The patient will be encouraged to take the passport with them to hospital, GP and Outpatient appointments or show it to their district/palliative or specialist nurse. Patients, carers and Healthcare professionals will be encouraged to use and annotate the passport. Some patients have brought their Passport with them on return to the hospital. The concept has been embraced by staff and is being sponsored by the Heads of Nursing through the Bio-medical device group.

Encouragement of patient participation in infection prevention and control is endorsed by both the Hygiene Code (2008) and the latest NICE Quality Improvement Guidance published in 2011. The IPCT already publish patient information leaflets for Norovirus, MRSA, *Clostridium difficile*, and Extended Spectrum Beta-lactamase (ESBL)-producer and Carbapenemase-producing Enterobacteriaceae (CPE) and have continued to provide teaching sessions to staff supported by information posted on Staffnet. The patient leaflets are available on all wards and departments and are given to individual patients when a diagnosis is made and are available electronically on the website for patients or their relatives. The Patient Passport compliments the belief that reducing infections requires the efforts of all healthcare participants, staff and patients alike.

The IPCT were fully involved as the Trust Opened its’ doors to the public on the 19th March. Our theme was to acknowledge that Healthcare Associated infections are a topic of public concern and political attention; in the past 15 year there have been many nationally lead campaigns to reduce infections and improve infection prevention and control, to share our local achievements in reducing infections and the future global challenges that will affect us locally. Specialist Infection Practitioners Sally Fletcher and Sharon Warne led the team to display key local, national and infection events over the years including; MRSA and *C. difficile* rates, Hand hygiene, impact of Ebola, whilst reflecting on other world events political leaders, royal weddings and. Claire Haill, Sally Fletcher and Sharon Warne welcomed the public with the following activities; hand painting, check how well they clean their hands using the glo box and to search for hidden hand prints using an ultra violet light.

The IPCT have engaged with specialist teams to talk with patient support groups, school hand hygiene events and prepare monthly displays of infection related subjects in the display boards on level 7 near the restaurant.

3. Design, construction and renovation (report by Claire Haill)

The IPCT continues to contribute to the design, construction and renovation projects across the Trust, particularly the significant environmental initiatives across the Estate such as the replacement of taps and clinical wash hand basins, and ward and department refurbishment project; advising on product approval and room specifications. For each project, method statements have included dust control measures as advised by IPCT and compliance has been monitored throughout the
works. Surveys of the clinical environment have been undertaken prior to works commencing and have been most successful when performed together with clinical staff, the Estates Department and planning teams.

Three significant projects included; reconfiguration of Women’s day services, ward moves project, Interventional radiotherapy. These works were designed to provide improved facilities and service to patients were completed without significant disruption to the day-to-day running of co-located clinical areas, reflecting the effective working relationship with the Project Team, which included contractors, the Estates Department, relevant Matron and staff from the Departments and Serco as well as the IPCT. Additionally advice has been provided on projects that have yet to be approved or progressed.

The Estates and IPCT have continued a programme of Water Walkabouts accompanied by Matron or clinical representative. This incorporates all aspects of Safe Water management across the PHNT. This year each ward has been visited and all clinical departments including theatre areas have been assessed. The water outlets in the theatres were included in the visual inspection during the annual closures. The schematic drawings have been up-dated, under used water outlets have been removed, remedial Estates works have been actioned, teaching with regards the correct method of use for the Optotherm taps has been given, as well as correct cleaning and maintenance programmes for water coolers, and promoting the Water management policy. The water Management work has also included the agreed programme of works for the re-plumbing of the maternity unit with the enabling works for this scheme recently commenced.

The IPCT continue to advise on Ventilation systems and are part of the annual recommissioning process of the Theatres and performed microbiological testing for 17 theatres included advice regarding dust controls and cleaning during additional theatre maintenance such as the replacement of doors and operating lights.

The IPCT continues to advise and monitor dust controls during all building works across the Trust working closely with the design teams and work with Estates on their pre-planned maintenance programme.

The policy for Infection Control Input into Design, Construction and Renovation Projects was reviewed in 2012 and now includes a more detailed risk assessment when works are scheduled in occupied clinical areas.

4. Water Action Group (report by Julie Richards)

The IPCT is actively involved in the work of the Water Assurance Group which oversees the provision of safe water at the Trust.

Over the past 12 months, this group has continued to work hard to strengthen Legionella and *Pseudomonas aeruginosa* controls at the Trust, resulting in significant improvements to water quality and a reduction in positive sampling results.

Water Management Policy continues to be implemented alongside a scheme of control action plan, with key work areas including:
• Implementation of the Trust’s updated *Legionella* Risk Assessment
• Implementation of the Trust’s *Pseudomonas aeruginosa* Risk Assessment
• Delivery of actions arising from the *Pseudomonas* and *Legionella* action plan
• Testing of all outlets in augmented care areas for *P. aeruginosa* (and subsequent 6-monthly testing)
• Continuing replacement tap and basin programme
• Programmed weekly water assurance walkabouts, performing condition checks on taps, sinks, showers, sanitary ware and outlets and to review risk assessments, flushing, testing and monitoring regimes for departments
• Continued implementation of safe water use on the Neonatal Intensive Care Unit
• Surveillance of patients in augmented care areas for *P. aeruginosa*.

Capital investment upgrades delivered in the last 12 months include the following works:

• Continuing replacement tap and basin programme
• Refurbishment of the main tower storage tanks
• Renewal of the sites mains water pumping station.

5. **Ventilation Systems Action Groups (report by Julie Richards)**

The IPCT is involved with the work of the Ventilation Systems Assurance Group who monitor the ventilation systems used across the Trust to ensure provision of a safe and comfortable environment for patients and staff.

Specialist ventilation is provided in operating departments, critical care areas and isolation units. Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The links between surgical site infection and theatre air quality are well established.

The Trust has a statutory duty to inspect, service and maintain theatre ventilation systems to ensure that they are performing effectively and achieving the required air-change rates. The Ventilation Systems Assurance Group oversees the annual Operating Theatre Maintenance Programme which manages this process, with IPCT performing the microbiological commissioning of theatres after work has been completed on their ventilation systems.

Over the past 12 months, this group has continued to report the successful delivery of essential ventilation system maintenance and the delivery of a number of ventilation system capital upgrades including the following :-

• Freedom Day Case theatre AHU 1&2 fan upgrade.
• Phase 2 recovery AHU fan upgrade.
6. Infection Control ward round

All new patients with MRSA, *C. difficile*, Norovirus, GRE, *Serratia* spp, *Acinetobacter*, Multi-drug resistant organisms and Carbapenemase – producing *Enterobacteriaceae* are visited individually. All patients with MRSA are subsequently reviewed once a week and those with *C. difficile* every day. On a programme of fortnightly ward rounds the Specialist Infection practitioner is able to view the ward in terms of general infection control practices and review the management of patients colonised with GRE, *Serratia* spp, *Acinetobacter*, ESBL-producing coliforms, Multi-drug resistant organisms and Carbapenemase-Producing *Enterobacteriaceae*. This approach has improved the management of these patients as well as compliance with infection control policies and procedures. In addition, the enhanced presence of the IPCT in clinical areas greatly increased their availability for advice and guidance and improved communication with patients and relatives. The introduction of the Isolation care plan has reduced the variability of practice providing clear and concise information which can be initiated by the ward staff or IPCT.

The approval and implementation of a Patient Group Direction allows prescribing of MRSA eradication therapy by the Infection Control Nurses since 2004 has been extended to the medical and surgical assessment wards, and Orthopaedic Pre-assessment.

7. Infection Control Nurse Service Line working

The IPCT has worked hard to move towards providing a more clinically-orientated service, with each Service Line having a designated team of Infection Prevention and Control Nurses. This system facilitates communication between the IPCT and Service Lines and allows a ‘tailor-made’ service to be developed for each area. By working closely with the ward manager and ICLP to improve practice and feedback of surveillance data, it is hoped that individual area will develop ‘ownership’ of infection control. The programme has been extremely successful in improving practice and reducing rates of hospital-associated infection areas. Infection control is a standing item on the Agendas of most Service Line meetings which are now attended by the IPCT.

8. Research

The IPCT has been involved in a number of research projects and has also collaborated in various national studies. The following articles have been published by the IPCT:


Conclusions and priorities for 2016-17

The infection prevention and control service at PHNT has made significant progress towards modernising the service it offers and meeting the challenging new agenda being set at both local and national levels. The IPCT has dramatically changed the way it has worked in order to deliver a more clinically-orientated and relevant service. There have been significant improvements in hand hygiene compliance and clinical practice audit scores. Over the last 12 months, there were two hospital-apportioned MRSA bacteraemias and an increase in both the total number of new MRSA infections and the total number of Clostridium difficile infections. The Trust has a high rate of hospital-apportioned MSSA bacteraemias, a significant proportion of which are secondary to peripheral and central venous catheters. Considerable Trust-wide effort is required to address these issues and to achieve the infection prevention and control reduction objectives for 2016-17.

Priorities for the following year include:
• Achieve the local and national targets as outlined in the Annual Programme of Work, April 2016-March 2017
• Comply with national mandatory surveillance requirements
• Continue to deliver a high-class Surgical Site Surveillance Programme
• Ensure continued compliance with Code of Practice/CQC Outcome 8, NICE Quality Improvement Guide for the Prevention and Control of Healthcare-Associated Infections
• Coordinate Post-Infection reviews on all serious HCAIs
• Sustain the use of the ‘Saving Lives’ HII across the Trust
• Contribute to the reduction of medical device-related infections across the Trust
• Contribute to the reduction of MSSA bacteraemias across the Trust
• Continue to embed infection control at all levels across the Trust
• To continue to provide up-to-date information available on the Infection Control website.