



Director of Infection Prevention and Control Annual Report 2015-16

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Control

Contents

Section 1:	Executive Summary	1 to 2
Section 2:	Purpose of the report	3 to 8
Section 3:	Infection Prevention Service	9 to 18
Section 4:	IV Therapy Service	19 to 23
Section 5:	Surveillance	24 to 35
Section 6:	Antimicrobial Stewardship	36 to 37
Section 7:	Decontamination	38 to 39
Section 8:	Education	40 to 47
Section 9:	Occupational Health	48 to 51
Section 10:	Infection Prevention Audits	52 to 54
Section 11:	Facilities and Hotel Services	55 to 60

Section 1

Executive Summary

This annual report provides a summary of the Trust performance against local and national infection prevention initiatives as outlined in the Infection Prevention Programme 2015 – 2016.

Good infection prevention and control is essential to ensuring our patients receive safe and effective care. The year has been challenging for the Trust, but we have made headway in many areas across the Trust, not least infection prevention. The report clearly articulates the work of the Trust, and more fundamentally the Infection Prevention Team (IPT) in reducing, controlling and preventing healthcare associated infections. It provides details of how the Trust has worked over the past year, and how the Infection Prevention Team have influenced our practices.

There are areas where we know we need to do better. In June 2015, we had nine cases of Trust acquired *Clostridium difficile* infection, it was predicated that we would breach our year to end trajectory. We cannot underestimate the progress we have made between June 2015 and March 2016. By December 2015 we had a significant reduction in our *Clostridium difficile* infection rate, this progress continued to the end of the year although we breached our year to end trajectory, this was by 1 case.

Unfortunately we breached our trajectory for MRSA bacteraemia in July 2015, this highlighted some practices that needed to be reviewed,

including the care of venous lines and the taking of blood cultures. .

We have had several outbreaks of norovirus during the year, these highlighted the ability of staff to bring the outbreaks under control, without which the outbreak would of continued for several weeks, having a significant impact on the care that we deliver for our patients.

Devolution of accountability for infection prevention to local clinical teams will continue during 2016-17 through strengthening the role of the infection prevention link practitioners and development of Infection Prevention leads at divisional level. The next year is going to be increasingly challenging, and there are several key objectives within infection prevention, which are:

- Less than 46 cases of *Clostridium difficile*
- Zero cases of MRSA bacteraemia
- Deliver the infection prevention programme for 2016-15
- Continuously improve on the delivery of infection prevention practices thereby improving quality provision of safe care for our patients

Other challenges this year included the on-going problems associated with the management of Carbapenemase Resistant Enterobacteriaceae.

Reducing and preventing infections remains a high priority for us, and this report identifies those work streams that will continue into 2016-17 to further support safe and effective care for our patients.

The Infection Prevention and the IV Therapy Team for their continued hard work, passion and enthusiasm, not forgetting all staff who have demonstrated support and commitment to the healthcare association infection reduction agenda.

I would like to thank:

- Suzanne Morris; Deputy Director of Infection Prevention and Control
- Richard Pearce, OPAT Nurse
- Martin Still, Infection Prevention Nurse
- Andrew Davies, Infection Prevention Nurse Trainee
- Millie Ruwona, Infection Prevention Nurse Trainee
- Vikesh Gudka, Lead Pharmacist Infectious Diseases
- Peter Brown, Decontamination Operational Lead
- Lindsey McBride, Occupation Health Trainee
- Neville Clark; Deputy Director Facilities and Estates
- Terece Walters; Clinical Director Facilities and Estates

Who have helped in compiling this annual report.

Sherree Fagge
Chief Nurse
Director of Infection Prevention and Control

Section 2

Purpose of the report

We are one of the biggest teaching trusts in England, providing general and specialist service for more than a million people.

This annual report provides a concise summary and outlines the progress, activities and achievements in infection prevention made by the Trust against the annual infection prevention program, audit program and surveillance program, it is imperative that this report is read in conjunction with these programme of works and quarterly reviews for the same period.

The purpose of this report is to inform patients, public, Brighton and Hove, High Weald, Lewes and Havens, Horsham and Mid Sussex, Eastbourne. Hailsham and Seaford and Coastal West Sussex Clinical Commissioning Groups (CCGs), staff, the Trust Board of Directors of the infection prevention work undertaken in 2015-16, the management arrangements, the state of infection prevention and progress against performance targets.

This annual report has been compiled according to the guidelines issued by the Department of Health (DH), and fulfils the legal requirements of sections 1.1 and 1.3 of the Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (2015). The information provided in this report should be released to the public following the Trust Board's approval.

Healthcare associated infections (HCAI's) remain a top priority for the public, patients and staff. Avoidable infection are not only potentially devastating for our patients, and staff, they consume valuable healthcare resources. Investment into infection prevention is therefore both necessary and cost effective. The resources committed by the Trust to infection prevention can be appreciated within the contents of this report.

The Trust Board recognises and agrees their collective responsibility for minimising the risks of infection and has agreed the general means by which it prevents and controls these risks. The Infection Prevention Annual Report, together with the monthly Quality Infection Prevention Report, the annual Infection Prevention Programme of Work are the means by which the Trust Board assures itself that prevention, and control of infection risks are being managed effectively and that the Trust remains registered with the Care Quality Commission (CQC) without conditions.

The importance of maintaining high standards of infection prevention as well as cleanliness is a matter of national concern. The Health and Social Care Act 2008 (2015) clearly identifies that organisations must ensure that they have satisfactory and robust arrangements to manage

all areas concerning infection prevention, and control.

This Infection Prevention Annual Report 2015-16, demonstrates that infection prevention is given the highest strategic priority within the Trust, that the Trust is committed to achieving the goal of no preventable healthcare associated infections (HCAIs). This report provides assurance to the Trust Board that Brighton and Sussex University Hospitals NHS Trust (Trust) is meeting its statutory and NHS obligations, which is a requirement of the Care Quality Commission (CQC), and is compliant with the Code of Practice for Health and Social Care on the prevention and control of infection and CQC fundamental standards.

The Infection Prevention Team (IPT) and the Trust staff have faced new and varied challenges during 2015-16. This year the Trust has experienced a mixed level of attainment, and are very disappointed to report that the Trust year to end trajectory for *Clostridium difficile* infection and Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia were breached. In June 2015 it was predicated that the Trust was on target to breach its year to end trajectory for *Clostridium difficile* infection, the Trust was able to turn this tide and brought the Trust in just 1 case over its year to end trajectory.

2.1 General assessment of compliance with the Code of Practice for the NHS on the Prevention and Control of Healthcare Associated Infections

The Health Act approved by Parliament in October 2006 contains a Code of Practice for the prevention and control of healthcare associated infections. The code places a statutory duty on the Trust to 'ensure patients are cared for in a clean environment, where risk of HCAI's is kept as low as possible'. A revised version of the Code of

Practice was published in 2008, which was updated in 2012, and again in 2015.

All Trusts have to register with the Care Quality Commission (CQC); this body has the right to inspect the Trust compliance with the 'Health and Social Care Act, Code of Practice', which is a requirement for NHS Provider Compliance Assessment. Under the Code of Practice, the Trust must ensure that:

- So far as 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
- Patients presenting with an infection or who acquire an infection during treatment are identified promptly and managed according to good clinical practice for the purpose 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

Failure to observe the Code may either result in an improvement notice being issued to the Trust by the CQC following an inspection, or in it being reported for significant failings and placed on 'special measures'. All NHS organisations must be able to demonstrate that they are compliant with the Code.

Considerable amount of work has gone into meeting compliance with national guidelines and standards, including the Code of Practice and the National Health Service Litigation Authority (NHSLA). The Trust has registered with the CQC and declared full compliance with the ten compliance criteria detailed in the revised Code of Practice.

The IPT has collated documentary evidence for the assessment of compliance for the infection prevention, and control elements and these files are available for external assessment when required. Compliance is maintained via the infection prevention work programme.

Table 1: Compliance criteria for the Code of Practice

Criterion	Defined
Criterion 1:	Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider the susceptibility of service users and any risks that their environment and other users may pose to them
Criterion 2:	Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections

Criterion 3:	Ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance
Criterion 4:	Provide suitable accurate information on infections to service users, their visitors and any person concerned with providing further support or nursing/medical care in a timely fashion
Criterion 5:	Ensure prompt identification of people who have or are at risk of developing an infection so that they receive timely and appropriate treatment to reduce the risk of transmitting infection to other people
Criterion 6:	Systems to ensure that all care workers (including contractors and volunteers) are aware of and discharge their responsibilities in the process of preventing and controlling infection
Criterion 7:	Provide or secure adequate isolation facilities
Criterion 8:	Secure adequate access to laboratory support as appropriate
Criterion 9:	Have and adhere to policies, designed for the individual's care and provider organisations, that will help to prevent and control infections
Criterion 10:	Providers have a system in place to manage the occupational health needs and obligations of staff in relation to infection

For the forthcoming year; on-going overall compliance will be reviewed bi-monthly by the Director of Infection Prevention and Control, the Deputy Director of Infection Prevention and

Control and the Infection Prevention Doctor. Compliance and/or deficits in compliance will be reported to the Hospital Infection Prevention Committee (HIPC).

During Quarter 2, the NHS Trust Development Authority (TDA) visited the Trust and raised several concerns, stating that the Trust was in breach of the Health and Social Care Act. One main concern was the potential for no leadership, as the previous Consultant Nurse for Infection Prevention left the Trust in September 2015. In October 2016 a Deputy Director of Infection Prevention and Control was appointed for a six-month interim post, this was supported by the TDA. The TDA continued to provide the Trust with support during Quarter 4.

To aid the IPT to monitor the Trust compliance with the ten criteria's related to infection prevention, it is strongly recommended that the use of an IT software is used, which would use a dashboard approach in providing assurance of the Trust performance and compliance against the standard.

2.2 Introduction

The Brighton and Sussex University Hospital NHS Trust was formed in the 1990's by the merger of the two former acute hospital trusts in Sussex, creating one of the largest teaching trusts in the country.

Through the two main hospitals, and several satellite clinical areas, working in clinical partnership and interdependently provide a comprehensive range of hospital based medical, surgical, paediatric, obstetric and gynaecologic services. The Trust also provides specialist and tertiary services, including Cancer Services (Sussex Cancer Centre), Cardiac Surgery, Renal

Services, Intensive Care for adults and new born babies for more than a million people of Sussex.

The Trust is part of the Sussex County Health community and the services provided by the Trust are commissioned principally by Brighton and Hove Clinical Commissioning Group (CCG), as well as High Weald, Lewes and Havens CCG, Eastbourne. Hailsham and Seaford CCG, Horsham and Mid Sussex CCG and Coastal West Sussex CCG.

Infection prevention is a quality standard and is essential for the wellbeing and safety of patients, visitors and staff, it is central to the delivery of safe, cost effective healthcare. It impinges upon all aspects of healthcare delivery, and involves issues of quality, risk management, clinical governance, Health and Safety and consequently has a unique place within the Trust. An infection prevention programme with a firm structure is required in order to establish a managed environment that:

- secures the lowest possible rate of healthcare associated infections
- projects staff, visitors from unnecessary risks

It is important to take account of the many components of effective infection prevention practices that contribute to the reduction in HCAs; these include good hand hygiene, care of invasive devices, providing a safe, clean environment and patient involvement in preventative hygiene measures. It is therefore important to focus the infection prevention programme of work for the forthcoming year on all these elements.

The assurance framework for infection prevention across the Trust is now well established and comprises of the following main components:

- Healthcare associated infection integrated action plan
- Infection prevention annual programme of work
- Adverse events
- Internal audit
- Internal and mandatory surveillance

Other challenges this year include the on-going problems associated with the management of *Clostridium difficile* infection (CDI), the emerging Carbapenemase producing Enterobacteriaceae (CPE), Tuberculosis (TB) and Multi-Drug Resistance Tuberculosis (MDRTB).

There are two causes of HCAI that have external trajectory associated with them, which are placed on the Trust by the Department of Health (DH) and Public Health England (PHE):

- Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia
 - 2016-17 trajectory is zero cases
- *Clostridium difficile* infection (CDI)
 - 2016-17 trajectory is <46 cases

2.3 Compliance with annual programme of work

Following the interim Deputy Director of Infection Prevention and Control appointment in Quarter 3, the infection prevention programme of work was reviewed; several key points were identified. These were broken down further to Soft Facilities (Soft FM) Services and Infection Prevention Services. The Trust worked towards the completion of these during Quarter 3 and 4.

One aspect of the Soft FM Service program of work was in September 2015 the service was transferred from a private company to becoming an integral part of the Trust service. This was a massive undertaking, which involved the transfer via the TUPE process of 600 staff.

One aspect of the Infection Prevention part of the program of work was in relation to reducing the number of Trust acquired *Clostridium difficile* infections. In October 2015 one aspect of this program was the implementation of a monthly trajectory of cases, this enable the IPT and the Trust monitor much close the trend prior to the trend becoming too steep. This was successful and a downward trend was observed.

2.4 Annual programme of work 2016-17

This has been informed by a gap analysis carried out on the requirements of the 'Health and Social Care Act' plus additional requirements specific to local needs and in response to the local health economy strategy for infection prevention.

2.5 Key achievements

There were significant achievements in infection prevention across the Trust during 2015-16, these are summarised below.

Influenza vaccination:

53% of Trust staff was vaccinated against influenza this year, which indirectly improves our most vulnerable patient outcomes.

Clostridium difficile infection:

The number of *Clostridium difficile* infection attributable to the Trust was 47 cases, this was one cases over the year to end trajectory. In June 2015 it was predicated that the Trust would be over the year to end trajectory. For each case a rigorous root cause analysis (RCA) was

conducted internally by a multi-disciplinary team. On completion the RCA was presented to the Infection Prevention Action Group (IPAG). Following a set criteria the group reviewed the practices and confirmed if the case was:

- avoidable/unavoidable
- lapse in care/no in care
- Lessons learnt

Lessons were learnt in some cases, and implemented into practice across the Trust.

MRSA bacteraemia

The number of MRSA bacteraemia attributable to the Trust was one. This is one case over the year to end trajectory. The case was identified on the 15th July 2015; a Post Infection Review (PIR) was conducted internally by a multi-disciplinary team. On completion the PIR was presented to the IPAG, as for *Clostridium difficile* infection, the group reviewed the practices. Lessons were learnt and implemented into practice across the Trust. No further cases of MRSA bacteraemia were attributed to the Trust from August 2015 – March 2016.

Norovirus outbreak:

The Trust has experienced sporadic outbreaks of Norovirus throughout the year, a total of 20 outbreaks. In January-February 2016 there was a significant increase in the number of cases being reported in the surrounding community, which reflected in the number of outbreaks seen within the Trust. The outbreak were reviewed daily between the IPT, senior managers, clinical staff, and supporting staff. This enabled the outbreak to be monitored, and any additional control measures to be implemented immediately, this enabled the outbreak to be contained and controlled.

Hand hygiene

Promoting hand hygiene is a major challenge for the IPT; education, leaflet distribution, workshops and performance feedback have been associated with transient improvement.

For 2016-17 we wanted a strategy to result in sustained improvements. It is proposed that this will be launched on the 5th May 2016 – the World Health Organization hand hygiene awareness day, as the Trust hand hygiene campaign. The program will involve auditing, training, peer review, posters, review of hand hygiene productions, bare below the elbows principle.

A meeting was held with the Trust hand hygiene products (soap, alcohol based hand rub and paper towels) supplier in October and November 2015, this identified that the Trust had no current contract in place for either companies. This provided the IPT in conjunction with procurement to review the products used. In November 2015 this pieces of work began by inviting seven suppliers to an open day. Staff had the opportunity to review and evaluate the products, an open day was held on both hospital sites. The supplier then presented their products to key stakeholders during December 2015. Following evaluation of the information provided by the supplies, in March 2016 procurement offered the contract to Deb (for the soap and alcohol based hand rub) and SCA (for the paper towels etc). This work will continue into 2016-17, with a site survey, dispenser instalment and education.

Section 3

Infection Prevention Service

The Trust Infection prevention and control service is person centred, and uses an integrated approach, to promote multi-disciplinary working, which is fundamental to the delivering of high quality care and preventing and controlling infection

3.1 Description of Infection Prevention arrangements

The Chief Executive has overall responsibility for the control of infection within the Trust. Sherree Fagge, Chief Nurse, has the Trust designated Director of Infection Prevention and Control (DIPC). Suzanne Morris is the Trust designated Deputy Director of Infection Prevention and Control (DDIPC). They report directly to the Chief Executive (CEO). Infection prevention is discussed at every meeting of the Board of Directors, Executive Forum and Board of Governors.

The Hospital Infection Prevention Committee (HIPC) is chaired by Sherree Fagge. The committee met bi-monthly until January 2015 when the frequency of the meeting was increased to monthly. The meeting has a wide representation throughout the Trust. The IPT reports to the Trust Board via the DIPC, and minutes and copies of papers tabled at the meeting are circulated widely, and maintained by the Senior Administrator for Infection Prevention.

The day to day business of infection prevention is carried out by the Infection Prevention Team

(IPT). It is imperative that the IPT has a range of expertise covering knowledge of infection prevention, medical microbiology, infectious disease, nursing procedures, building implications, surveillance and epidemiology, project management and research. The aim of the IPT, through the compilation and achievement of a robust annual programme of work, is to devise, implement and evaluate strategies to reduce Healthcare Associated Infections (HCAI's). A member of the team will undertake a 'reactive' role daily, this involves reviewing microbiological sample results, speaking to clinical staff to ensure the correct procedures are in place, and taken any enquires that come in that day. This releases the rest of the team to act more proactive, across the various sites of the Trust. This enhanced presence of the IPT in the clinical environment has greatly increased their accessibility for guidance and advice and has improved the management of HCAI's across the Trust.

The IPT has continued to move towards providing a more clinically orientated service, they have worked closely with Directorate Lead Nurses, Matrons, Ward Leaders and support service staff to facilitate development of best practice, provide

feedback and surveillance data across the Trust, thereby facilitating individual areas to develop 'ownership' of infection prevention, and control for their clinical area.

The IPT perform a number of activities that minimise the risk of infection to patients, staff and visitors including:

- Providing advice on all aspects of infection prevention, and control for clinical and supportive staff
- Providing advice and support on decontamination of medical and nursing equipment
- Providing advice and support to Directorate of Estates and his team in relation to the decontamination of the environment, maintenance of the building and in development of structural and innovation projects
- Providing advice and support to 3Ts, Capital projects in the development of structural and innovation projects
- Identifying building construction and renovation risk to infections in a building, and advising of interventions likely to minimise or eliminate those risks
- Liaising with staff involved in purchasing and planning to ensure infection prevention issues are given a high priority in their activities
- Actively involved in managing the risk of infection to both patients and staff
- Identifying risks of infection and advising of interventions likely to minimise or eliminate those risks
- Actively involved in managing the risk of infection both to patients and staff
- Identifying risks of infection and advising of interventions likely to minimise or eliminate those risks
- Management of outbreak of infection
- Management of norovirus outbreaks
- Education about infections and how to control and prevent them for all clinical staff
- Conducting a programme of audit (environmental, practice and target surveillance)
- Reviewing, Formulating policies, guidelines, procedures and protocols to ensure care is evidence based and high quality
- Interpreting and implementing national guidance at local level
- Involvement with refurbishment, new building and equipment projects
- Advice and information to patients and carers

The Infection Prevention Nurses (IPN's) will meet on a daily basis to discuss current infection prevention and control issues and formulate the day-to-day working programme for the team, review trajectory, share ideas and to work together to improve the overall outcome for the patients we serve. This approach utilising the communication cell principles, it has enable the team to improve their overall performance, which is an achievement of significant value to. This approach will continue into 2016-17.

The IPT will also have regularly discussion with the Consultant Microbiologist, Infection Prevention Doctor, and/or the Infectious Disease Doctor in relation to specific management requirements and clarification.

The IPN's meet weekly for an informal (no set agenda) meeting, which was implemented in December 2015. This meeting facilitates team building, discussion and education, this approach has been very successful and will be extended into 2016-17.

There is an Infection Prevention Operational Meeting, which is held monthly, the IPT and the Consultant Microbiologist/Infection Prevention Doctor attends. There is a set agenda for the meeting covering infection prevention issues identified at the throughout the Trust, project progress, to discuss and assess progress against trajectories, surveillance and outbreaks, health and safety, clinical governance, Unfortunately due to staffing shortage, and outbreaks, these meetings did not take place for Quarter 4, but will be reinstated in Quarter 1 during 2016-17.

Members of the IPT sit/attend the following meetings within the Trust:

- Mr Ishtiaq Ahmed surgical site infection review (cardiac) meeting (Monthly)
- Practice Improvement Meeting (PIM) (Weekly)
- Infection Prevention Link meetings (3 meetings a year)
- RCA investigation meetings (as required)
- PIR meeting (as required)
- Operational Group / Capacity and Flow management meetings (implemented as part of the reactive role in December 2015)
- Weekly IPT meeting
- Monthly IP Operational meeting

- Hospital Infection Prevention Committee meeting (Bi-monthly until January 2016, increased to monthly)
- Trust Water Safety Group meeting (Monthly)
- Trust Decontamination Committee (Monthly)
- Relevant meetings of groups dealing with developments, procurement and commissioning when appropriate
- 3T's Project
- Health and Safety meetings (Monthly)

3.2 Infection Prevention Team comprising of the following individuals

A comprehensive infection prevention service is provided Trust wide. The IPT provides a liaison and telephone consultation service for all inpatient and outpatient services, with arrangements for services cover during declared outbreaks of norovirus via the 'on-call' Consultant Microbiologist. During 2015-16 the team has been strengthened and enhanced by gaining a wider knowledge base and level of expertise. Infection Prevention expertise is provided across the Trust by a team consisting of specialist Infection Prevention Doctor, Consultant Microbiologist, Nurse Consultant, Infection Prevention Nurses with clerical support. The aim of the IPT is to reduce the risk of HCAI's to visitors, patients and staff whether they are using the Trust service or the wider community service.

The operational aspect of infection prevention was led by Valerie Unsworth until September 2015. The Trust had advertised this position but was unsuccessful in appointing.

Since October 2015 the infection prevention strategy has been led by Suzanne Morris, Deputy Director of Infection Prevention and Control, who was the Deputy co-ordination for the London South Trent Branch since August 2015, and was the Education Lead for Trent Branch of the Infection Prevention Society since April 2012. In her role as the Deputy Director of Infection Prevention and Control she has attended various meetings and committees. Using these forums to feedback additional information to the wards and departments, clinical staff, and receives information to inform the priorities and actions of the IPT.

During 2015–16 the IPT attended their Trust mandatory training and the following courses, study days and conferences:

- Andrew Davies MSc Infection Prevention and Control – distance learning 2nd Year
- Wendy Dabson MSc Infection Prevention – distance learning 2nd Year
- Martin Still MSc infectious Disease – distance learning 3rd Year
- Mildred Ruwona – Public Health England Surgical Site Infection Surveillance
- Mildred Ruwona – Public Health England Basic Microbiology
- Mariana Derias, I-Proc Training
- Sean Jupp, Oasis training
- Suzanne Morris, Aspergillus awareness
- Suzanne Morris, Appraisal training for managers
- Andrew Davies, Aspergillus awareness

Table 2: The Infection Prevention Team, by name, role and whole time equivalent (WTE)

Name and role within the IPT	PA/WTE
Dr Marc Cubbon, Consultant Microbiologist/Infection Prevention Doctor	2 PA
Dr Sally Curtis, Consultant Microbiologist	2 PA
Dr Sunil Sharma, Consultant Microbiologist	2 PA
Ms Valerie Unsworth Nurse Consultant	1.0 WTE
Mrs Suzanne Morris, Deputy Director of Infection Prevention and Control Nurse <i>(interim post October 2015. 0.8 WTE (February 2016))</i>	1.0 / 0.8 WTE
Mr Martin Still, Infection Prevention Nurse	1.0 WTE
Ms Angeline Boorer, Infection Prevention Nurse	1.0 WTE
Mr Martin Brook, Infection Prevention Nurse <i>(left April 2015)</i>	1.0 WTE
Mr Andrew Davies, Infection Prevention Nurse Trainee	1.8 WTE
Mrs Wendy Dabson Infection Prevention Nurse Trainee	1.8 WTE
Mrs Mildred Ruwona, Infection Prevention Nurse Trainee <i>(commence June 2015)</i>	1.0 WTE
Ms Shanti Deva Dass, Senior Administrator Infection Prevention <i>(left September 2015)</i>	1.0 WTE
Miss Mariana Derias, Senior Administrator Infection Prevention	1.0 WTE

<i>(commenced September 2015)</i>	
Mr Sean Jupp, Dater inputter <i>(commence January 2016 – Bank)</i>	1.0 WTE

Consultant medical microbiology support is provided by Dr Cubbon, Dr Curtis and Dr Sharma. Dr Cubbon is the Trust Infection Prevention Doctor and sits on the Water Safety Group, IPAG and HIPC. Dr Curtis is the microbiology antimicrobial stewardship lead for the Trust, and sits on the Drug and Therapeutics Committee, and works with the antimicrobial pharmacist Vikesh Gudka, in monitoring, auditing and education on the use of antimicrobials. The Ward Pharmacists continue to monitor antimicrobial use across the Trust and help with gathering data for the antimicrobial audits, which are fed back to the IPC by Vikesh Gudka. A written report is provided to each division.

The IPT continues to embed infection prevention responsibilities across the whole Trust. Trust staffs have shown they remain committed to working towards the infection prevention agenda by fulfilling their responsibilities, implementing action plans, reporting patients with infections, monitoring their progress and undertaking robust training.

For the forthcoming year a Trust wide infection prevention programme of work has been developed. This will be supported by the infection prevention links (IPL's). IPL's play a critical role in clinical practice, providing the opportunity to develop knowledge and play a key role in clinical practice to influence, and where necessary, change practice.

3.3 Infection Professional Links

Infection Professional Link's (IPL's) are practising nurses or multi-disciplinary team (MDT) members

who have an interest in infection prevention and are prepared to work as a link between the infection prevention specialist service and their clinical area of work. They are nominated by each clinical area. Many areas have chosen to have more than one staff member sharing the role. The IPL's come from a range of different clinical disciplines, and are the lynch pin in successfully reinforcing the message that infection prevention is everyone's responsibility. They place a key role in informing, educating and supporting their colleagues in the clinical area. They also undertake frequent audits of key aspects of clinical practice.

During 2015-16 the IPL's attended 3 IPL's meetings. This approach was reviewed, and will continue during 2016-17. These days will serve both an educational purpose, networking with colleagues, and as a means to keep the IPL's updated with relevant issues internally, local and nationally. They also provide a forum for exchanging ideas and for discussion around key issues. The agenda for the days/meeting will be based on local intelligence and national guidance.

At the time of writing this report the first meeting will be held on the 29th July. Previous meeting evaluation have identified that the IPL's have found this format to be very informative and the feedback has been very positive. IPL's preferred the whole day approach as it provided them the opportunity to share ideas and discuss with other link's from across the hospital site.

Role/responsibilities of the IPL's:

- Act as a role model and resource in relation to IP and promote best practice
- Attend quarterly meetings and feedback to clinical area/team

- Being visible in workplace, wearing a badge to identify themselves as the link professional
- Being accessible to all staff, MDT members, patients, staff and visitors
- Challenge poor practices and support staff in reviewing and changing these behaviour patterns
- Assist with undertaking of audits, education and training, outbreaks, RCA's and keep information board up to date
- Seek advice and guidance from the IPAC team when presented with new or complex situations
- Promote the use of appropriate documentation
- Assist and ensure that patients are isolated appropriately

3.4 Hospital Infection Prevention Committee

The Hospital Infection Prevention Committee (HIPC) meet every two months and has corporate responsibility for all infection prevention issues and monitoring the implementation of the annual infection prevention program. The frequency of the Committee was increased in January 2016 to monthly meetings. The Committee has the following sub-committees/groups, which each provide regular reports to the committee meetings:

- Trust Decontamination Group
- Trust Water Safety Group
- Trust Drug and Therapeutics Committee (antimicrobial stewardship)
- Infection Prevention Team Operational meeting
- Infection Prevention Action Group

The Committee receives surveillance reports on HCAI's, HCAI associated deaths, relevant RCA and PIR investigations, antimicrobial pharmacist reports, results of the antibiotics audits. The Deputy Director of Infection Prevention and Control and the Infection Prevention Doctor will update the Committee with progress against the annual infection programme of work and any exceptional reports.

3.5 Reports to the Trust Board

At every Trust Board the DIPC gives the Operational Performance Report for the Trust, which includes the most recent infection prevention and control performance data, trends and details of issues the IPT and the Trust are working on.

3.6 Budget allocation to infection prevention activities

The IPT provides an infection prevention service for the Trust (900 beds) across the Trust, and last year had annual pay budget of £379,241, annual non-pay budget of £12,684k, which covers course fees, travelling expenses, printing and stationary plus computers. The infection prevention and control activities of the Consultant Microbiologist is not differentiated from their general microbiology work in terms of pay costs, and as such it forms part of the Pathology SLA with Path Link, and is not related to the Infection Prevention budget.

3.7 Operational meetings

From January 2016, the Infection Prevention Nurses attended the lunch time operational meeting (Monday – Friday) at the Royal Sussex County Hospital (RSCH) site, to provide the operational team with information on the current in-patient situation in terms of numbers of

suspected and/or confirmed infectious cases and their location within the Trust, as well as to gather intelligence. This will continue has become part of the normal daily activity for the team during 2016-17.

3.8 Infection Prevention Nurse Ward Rounds

All new patients with an alert organism i.e. *Clostridium difficile* are reviewed individually by an Infection Prevention Nurse within 24 hours of the team being aware of the result. This is viewed nationally as good practice.

During a norovirus outbreak the ward was visited daily by an Infection Prevention Nurse, irrespective of which Hospital site the outbreak was occurring in. This approach has improved the management of these patients as well as compliance with infection prevention and control practices. In addition, the enhanced presence of the IPT in clinical areas greatly increased their availability for advice and guidance and improved communication with staff, patients and relatives.

From February 2016, the Band 7 Infection Prevention Nurses has accompanied the Consultant Microbiologist on his ITU and HDU ward rounds. This will continue, once the team are up to establishment this will be extended to incorporate Haematology and Cardiac, as well the Director of Infection Prevention and Control to also participate in these weekly ward rounds.

3.9 Hand hygiene awareness

Hand hygiene is the single most important measure to prevent infections. Promoting hand hygiene is a major challenge, during 2016-17 the IPT will re-launching its hand hygiene campaign, using a series of promotional materials, including education, leaflet distribution, workshops, which

will serve as a reminder of the '5 moments' for hand hygiene and the Trust seven steps for hand washing. Promoting hand hygiene is a major challenge for the IPT. Education, leaflet distribution, workshops and performance feedback will be associated with transient improvement; however we wanted a strategy to result in sustained improvements.

Promoting hand hygiene is a major challenge for the IPT; education, leaflet distribution, workshop, performance feedback, as these have been have been associated with transient improvement.

For 2016-17 we wanted a strategy to result in sustained improvements. It is proposed that this will be launched on the 5th May 2016 – the World Health Organization hand hygiene awareness day, as the Trust hand hygiene campaign. The program will involve auditing, training, peer review, posters, review of hand hygiene productions, bare below the elbows principle.

October and November 2015, several meetings were held to establish the new hand hygiene product suppliers for the Trust. In March 2016 procurement offered the contract to Deb (for the soap and alcohol based hand rub) and SCA (for the paper towels etc). This work will continue into 2016-17, with a site survey, dispenser instalment and education.

Placing alcohol based hand rub at the point of care has been shown to improve healthcare staff compliance with hand hygiene. Observations of practice highlighted during an outbreak of norovirus, and routine practice in clinical areas identified that these were not always placed in a way to improve compliance. To address this issue, as from the 1st April 2016, during the site survey the placement of the alcohol based hand rub at the point of care will be implemented across

the Trust in all clinical areas. An antiviral alcohol based hand rub will be used, which will aid outbreak management, as it can remain insitu during a norovirus outbreak, thereby reducing the risk of cross contamination not only of norovirus but other microorganisms.

During 2016-17 the hand hygiene audit tool and dashboard will be reviewed and updated, and a Standard Operating Procedure will be developed and implemented in relation to hand hygiene practice monitoring/auditing.

The Trust has also pledged support to the World health Organization (WHO) global patient safety challenge in 2016-17, by actively promoting hand hygiene. The WHO hand hygiene awareness day is marked annually on the 5th May.

It provided assurance to the public that we are committed to improving and sustaining hand hygiene and saving lives by reducing our healthcare associated infection rate.

Although this approach in the literature has shown increased compliance with hand hygiene, it is not usually sustained, therefore it is imperative that we as an organisation make behavioural change as this is what is required to achieve long-lasting results.

3.10 Isolation signage

Isolation has been identified as one of the major strategies in prevention the transmission of infections, and the prevention of infections is an important part of the care we provide. The use of isolation precaution signage is a means to convey important safe practices about a patient and communicate the specific actions staff must take.

The isolation signage used by the Trust was issued in 2015, potential breaches data and

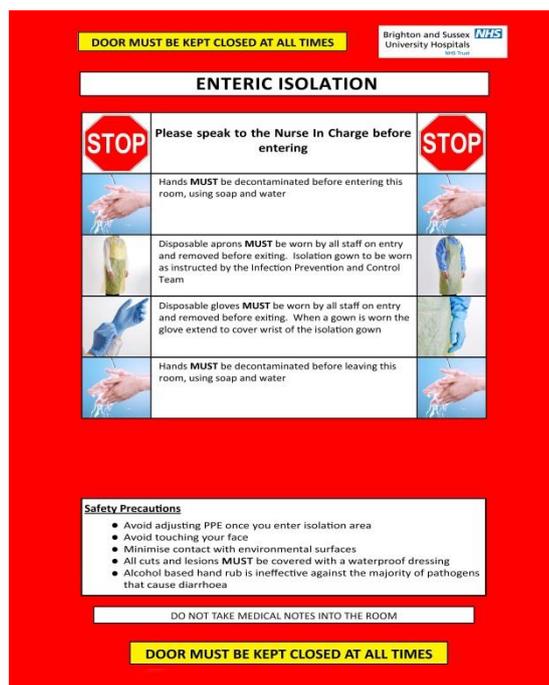
patient confidentiality principles i.e. wear FFP3 mask if patient has flu/TB stated on the poster. To address this and the variation in isolation practices, the posters have been redesigned, taking into account the reviewed and up dated isolation policy. The review expanded the present single signage to four categories of isolation precaution (this is in addition to Standard Precautions):

- Contact Precautions
- Respiratory Precautions
- Enteric Precautions
- Protective Precautions

The signage has instructions both in text and photographic images, for carrying out the level of isolation care required. The new isolation signage will help the Trust to:

- Prevent the spread of infections between patients / staff
- Support the Trust to comply with the Health and Social Care Act
- Provide assurance to patients, who tend to worry when practices are done differently
- Create consistency enabling staff to deliver safe care
- Increase compliance and understanding of consistent expectations
- Inform the relatives of what is required to help prevent the spread of infection

Picture 1: Isolation signage for enteric isolation precautions



Funding has been sourced and these posters will be printed and distributed during Quarter 1 in 2016-17, and replaced as required.

3.11. Policy and Standard Operating Procedure

The 'Code of Practice' requires the Trust to have in place core policies for the control and management of infection. The IPT recognises the importance of evidence based policies and procedures in ensuring effective compliance with national infection prevention and control standards. All policies comply with the Trust policy on policies and are available via the Trust intranet site. At renewal, all policies are examined to ensure compliance with the Trust Equality and Diversity Policy.

A total of 7 policies were reviewed, and revised and 5 new policies were developed during 2015-16, these included:

- Prevention of Aspergillosis and infection from other fungi during

demolition/construction and renovation activities (*New work held on H+S policy page*)

- Aseptic Non-Touch Technique Policy (*New*)
- Chickenpox and Shingles (Varicella zoster virus) Policy (*Reviewed and revised*)
- Clostridium difficile Infection Policy (*Reviewed and revised*)
- Management of a patient's body following their death with a suspected/confirmed infection policy (*New*)
- Assistance Dog and Pets as Therapy Dog Policy (*New*)
- Source Isolation Policy (*Reviewed and revised*)
- Ebola assessment pathway (*New*)
- Hand Hygiene Policy (*Reviewed and revised*)
- MRSA Policy (*Updated November 2015*)
- Viral Diarrhoea and Vomiting Outbreak Policy (*Reviewed and revised*)
- Occupational Health Tuberculosis screening policy (*Reviewed and revised*)

There are several policies that still require reviewing and there are several policies where the ownership of the policies should sit within other specialties, and not within infection prevention. A systematic programmed of work will be implemented for 2016-17, which will enable these to be review and revised, and where appropriate transfer of ownership to a more appropriate speciality.

3.12 New Builds and refurbishments

The IPT has provided support and advice to the Capital Project Managers on refurbishment works, as well as to 3T's in relation to the Trust new builds. It is a requirement of capital programmes

that infection prevention advice is sought in advance.

3.13 Reactive work

Reactive work refers to the day to day advice and support given by the IPT to all areas of the Trust either via the telephone, emails or in person. During 2016-17 it is planned that this activated will be logged and categorised.

Section 4

IV Therapy Service

The aim of the IV Therapy Service is to provide high quality; evidence based intravenous therapy nursing to patients within the Trust. The service aims to be comprehensive, flexible and easily accessible. The service also incorporates Outpatient Parenteral Antibiotic Therapy.

4.1 Introduction

While venous access has had real benefits in the delivery of healthcare, they have also had a significant negative impact on both the patient and the provider. The Intravenous (IV) Therapy Service commenced in 1999. It is a team of specially trained nurses, with a key deliverable to provide a service for the insertion of Peripherally inserted central catheters (PICC's) for patients across the Trust, an Out Patient Parenteral Antibiotic Therapy (OPAT) service for patients being discharged into the community with IV antibiotic therapy, and to reduce the number of device related hospital acquired bacteraemias especially relating to IV lines.

The IV Therapy Team ensure that patients have appropriate IV access for the type and duration of therapy they require, and enable discussions to take place between microbiology and the Clinical Teams to ensure that the most appropriate antimicrobial regime is in place prior to discharge.

4.2 Description of IV Therapy arrangements

Sherree Fagge, Chief Nurse, has the Trust designated Director of Infection Prevention and

Control (DIPC), and have overall responsibility for the IV Therapy Team. Suzanne Morris is the Trust designated Deputy Director of Infection Prevention and Control (DDIPC), and has overall managerial responsibility for the IV Therapy Team. They report directly to the Chief Executive (CEO).

The day to day business of the IV Therapy Service is carried out by the IV Therapy Team. It is imperative that the IV Therapy Team has a range of expertise covering knowledge of venous anatomy and insertion of PICC's, nursing procedures, surveillance and epidemiology. The aim of the IV Therapy Service is to provide high quality; evidence based IV therapy nursing to patients within the Trust, and manages the delivery of IV antibiotics to patients who are medically stable within their own homes. The team aims to provide a comprehensive, flexible and easily accessible service.

Members of the IV Therapy Team sit/attend the following meetings within the Trust:

- RCA investigation meetings (as required)
- PIR meeting (as required)

- Weekly IV Team meeting
- Ad-hoc meetings:
 - Procurement
 - Education – IRIS
 - MDT meetings

4.3 IV Therapy Team comprising of the following individuals

A comprehensive IV therapy service is provided Trust wide. The IV Therapy Team provides a liaison and telephone consultation service for all inpatient and outpatient services. During 2015-16 the team has been strengthened and enhanced by gaining a wider knowledge base and level of expertise. IV therapy expertise is provided across the Trust by a team consisting of specialist IV Clinical Nurses, Consultant Microbiologist, and Healthcare Workers. Clerical support was appointed on a 'Bank' contract in February 2016.

The operational aspect of the IV Therapy Service was led by Valerie Unsworth until September 2015. The Trust had advertised this position but was unsuccessful in appointing. Since October 2015 the IV Therapy strategy has been led by Suzanne Morris, Deputy Director of Infection Prevention and Control.

During 2015–16 the IV Therapy Team attended their Trust mandatory training and the following courses, study days and conferences:

- Lucy Francis, PGCert Education – Brighton and Sussex University – distance learning 2nd Year
- Richard Preece, IV/OPAT Conference
- Richard Preece, on-line course, Antimicrobial Stewardship

Table 3: The Infection Prevention Team, by name, role and whole time equivalent (WTE)

Name and role within the IPT	PA/WTE
Dr Marc Cubbon, Consultant Microbiologist/Infection Prevention Doctor	2 PA
Dr Sunil Sharma, Consultant Microbiologist	2 PA
Ms Valerie Unsworth Nurse Consultant	1.0 WTE
Mrs Suzanne Morris, Deputy Director of Infection Prevention and Control Nurse <i>(interim post October 2015. 0.8 WTE (February 2016))</i>	4 / 0.8 WTE
Mrs Edwina Montecillo, Nurse Practitioner	1.0 WTE
Ms Lucy Francis, Clinical Nurse Specialities	1.0 WTE
Mr Howard Mundin, Medical Devise Trainer	1.0 WTE
Mr Junjun Medran, Project Nurse	1.0 WTE
Mr Richard Preece, OPAT Nurse	1.0 WTE
Mrs Sue Murdoch, OPAT Nurse	1.0 WTE
Ms Lynn Collins, OPAT Nurse <i>(commenced February 2016)</i>	1.0 WTE
Ms Kathryn Mitchell, OPAT Nurse <i>(left November 2015)</i>	
Mrs Alex Ferreira, IV support worker	1.0 WTE
David Skinner, IV support worker <i>(left December 2015)</i>	1.0 WTE
Vacant position	1.0 WTE
Mr Andrew Ungoed, Clerical support <i>(commence February 2016 – Bank)</i>	1.0 WTE

Consultant medical microbiology support is provided by Dr Sharma and Dr Cubbon, with

antimicrobial pharmacist support provided by Vikesh Gudka.

4.4 Budget allocation to the IV Therapy Team

The IV Therapy Team provides an infection prevention service for the Trust (900 beds) across the Trust, and last year had annual pay budget of £351,202, annual non-pay budget of £8,334, which covers course fees, travelling expenses, printing and stationary plus licence fee for OPAT data-base.

4.5 Peripheral venous catheter service

Peripheral venous catheters (PVC's) are the most commonly used intravenous device used within the Trust, and are an essential element in the treatment of many conditions. They are primarily used for therapeutic purposes for the administration of medication, fluids and/or blood products. Patients with PVC's are usually considered a low risk compared to patients with a PICC/Central Venous Catheter (CVC) inserted, however they can be associated with complications such as haematoma, phlebitis, pain and local/systemic infections.

As part of the IV Therapy Service, insertion of peripheral intravenous cannulas was undertaken by the IV Therapy Support Workers. Records for the number of cannulas were inserted commenced in November 2015, since then 959 cannulas have been inserted.

For 2016-17 the IV Therapy Support will provide a service for the insertion of peripheral intravenous cannulas for difficult access cases. Routine insertion will remain part of the clinical staff role. The IV Therapy Support will assist the IV Therapy Nurse with the insertion of PICC's, this will enable provide the team more flexibility in the insertion of PICC's.

4.6 Peripherally Inserted Central Catheters Service

The team has created a very reactive service, and there is a definite aim to insert lines on the day of the patient's referral, if possible. This has had a dramatic effect on the speed with which patients are able to receive parenteral nutrition and long-term antimicrobial therapy, by removing the need for patients to wait for Hickman line insertion. The team has inserted 1,200 PICC lines (January 2015-May 2016).

The chart below indicates the number of lines inserted and the referring indications.

4.7 Outpatients Parenteral Antibiotic Therapy Service

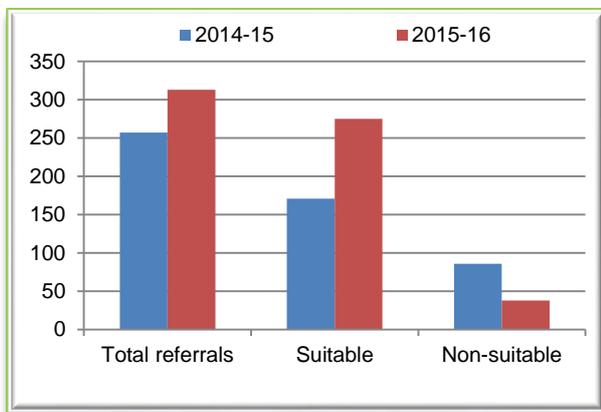
This form of service was first developed in the 1970's in America for the treatment of patients with cystic fibrosis; it has expanded substantially and is now the standard practice. The Outpatients Parenteral Antibiotic Therapy (OPAT) service is part of the IV Therapy Team's remit, and was initiated April 2014. Since the start of the service the team has seen 477 patients, this has equated to 10,248 treatment days.

It was set up to enable patients who are stable and well enough to be discharged; to be safely discharged home whilst receiving IV antibiotic therapy, with the support of the Community IV Therapy Team in Brighton and Hove, and West Sussex, and the Community District Nurse Teams in East Sussex. This eliminates the need to admit patients whose only reason to stay in hospital is to receive IV antibiotic therapy.

Patients are initially assessed by the Trust OPAT Nurses for suitability, with assistance from the Ward teams, and then referred to the Community IV Therapy Team / Community District Nurses, to

assess capacity for care provision within the community.

Graph 1: Demonstrates the number of referrals to OPAT since April 2014, and those that were suitable and accepted for OPAT.



All OPAT patients continue to have their medical condition and therapy closely supervised by a multidisciplinary team weekly via a 'virtual ward round, which is attended by the Consultant Microbiologist, Pharmacist, representative from the Community IV Therapy Team, and the Trust OPAT Nurse. This include monitoring the patients' blood weekly, and if required the patients can be seen in the weekly OPAT clinic by the Consultant Microbiologist. The team also monitors the patient's clinical outcomes, complications and readmissions

We have a proven record that this service has contributed to reducing a patient's length of stay in the Trust, promoting early discharge, improving the patients experience and outcomes. Receiving IV antibiotics at home rather than in the Trust improves the quality of life for our patients, and reduces the risk of them acquiring a hospital acquired infection.

Table 4: Demonstrates the number of bed days saved, and a cost saving based on an estimated bed day costing £300, since April 2014.

	2014-15	2015-16
Bed days saved	2990	6559
Cost saving based on £300.00 pd	£897,000	£1,967,700

Table 5: Demonstrates the number of bed days lost in 2014-15 due to lack of capacity within the community to provide OPAT, this was mainly within Brighton and Hove, and the cost based on an estimated bed day costing £300.

	2014-15	2015-16
Bed days lost due to lack of capacity		348
Cost based on £300.00pd		£104,400

This service provides patients and Clinical teams the assurance that progress is properly reviewed, appropriate antibiotics are administered for the correct period of time, and weekly feedback is provided to all teams involved with the patients care.

Table 6: Demonstrate the types of infection reviewed by the OPAT team during 2015-16.

Type of infections	No of infections
Lyme	1
Empyema	1
Aspergillosis	1
Myocarditis	1
TB	1

Spinal abscess	2
Eczema	3
Meningitis	3
Brain abscess	6
Lung abscess	7
Pyelonephritis/UTI	9
Discitis	10
Bacteraemia	11
Liver abscess/infection	12
Endocarditis	14
Bronchiectasis	14
Wound infection	17
Cellulitis	41
Non/Join infection	88

4.8 Monitoring

Monitoring is an important aspect of the IV service provided. The IV team are planning to monitor IV practices during 2016-17, which will include peripheral venous catheter audit for all clinical areas across the Trust, and repeat patient satisfaction survey.

Table 7: A patient satisfaction survey was conducted during 2015-16. The team received 171 replies.

Question	Results
Are you satisfied with the OPAT service	170
Would you have OPAT again	171
Would you recommend OPST to others	171

One patient was not satisfied with the OPAT service, this was because he had to attend the hospital daily, which was difficult for him, and he would prefer to have a nurse visit him at home. This would have been the prefer option for the team, but there was no capacity within the community to provide this service.

The feedback the team has received from patients is overwhelmingly positive, citing the benefits of receiving treatment at home, the ability to return to work and the care and support, and expertise of the Trust OPAT service and the community IV Therapy Team.

The IV Therapy team are a highly valued resource, enhancing the quality of patient care while increasing patient satisfaction. The service has continued to go from strength to strength; this will continue during 2016-17 by improving communication with the patients, review ambulatory clinic times, review capacity within the community, with particular emphasis on the community provision for Brighton and Hove patients.

Section 5

Surveillance

Surveillance of infections is one of the most important components of infection prevention practices. It is defined as the ongoing, systematic collection, analysis, interpretation and dissemination of data regarding an infectious event. This information forms the bases of the infection prevention service provided to the Trust.

The IPT is responsible for conducting both mandatory and local surveillance. Surveillance has been curtailed to just mandatory healthcare infection surveillance and outbreak surveillance. The aim of surveillance is to produce timely information on infection rates and trends, detect outbreaks, inform evaluations and changes to clinical practice and aid effective targeting of preventative efforts.

Surveillance of HCAI's 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, and provide information for the planning of services and allocation of resources and to evaluate the impact of any interventions aimed at reducing infection risk. By targeting appropriate interventions, surveillance contributes significantly to reducing rates of infection and is recognised as an important contributor to good infection prevention and control practices.

Mandatory 'Target organisms' surveillance is conducted, and the data entered into the Public Health England (PHE) Healthcare Capture Data System (HCDS). The Trust complies fully with the mandatory surveillance system for HCAI's including staphylococcal (including MSSA and MRSA bacteraemia, *E. coli* bacteraemia, *Clostridium difficile* infection).

The mandatory orthopaedic surgical site infections for total knee replacements was undertaken by the IPT, which was conducted between July – September 2015, and October – December 2015. Results are discussed further within this section under surgical site infections.

All 'serious incidents' associated with infections are reported to the Clinical Commissioning Group (CCG) and NHS England as per the definition under 'Serious Incident Management System' (STEIS), and the Public Health England.

Monthly surveillance reports are circulated to all members of the HIPC. The reports include 'Target organisms' surveillance as well as outbreak data, audit results, compliance with

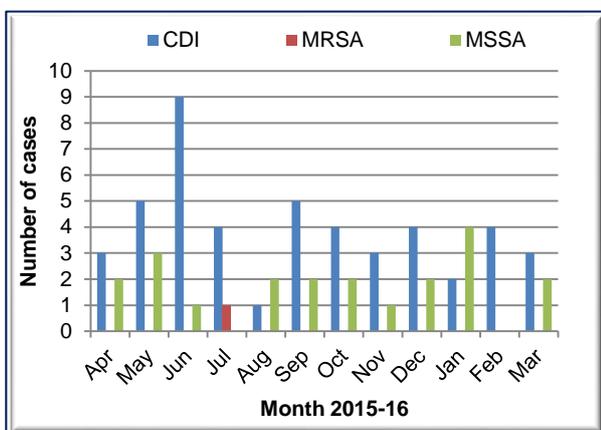
policy. As well as these reports being incorporated into the Trust Board performance management process, they are reviewed by the CCG. In addition the IPT provides monthly reports, which includes surveillance data on MRSA screening on admission, MRSA/MSSA hospital acquired bacteraemia, hospital acquired *Clostridium difficile* infection, including Period of Increased Incidents (PII's) and outbreaks.

5.1 Mandatory Healthcare Associated Infection Surveillance

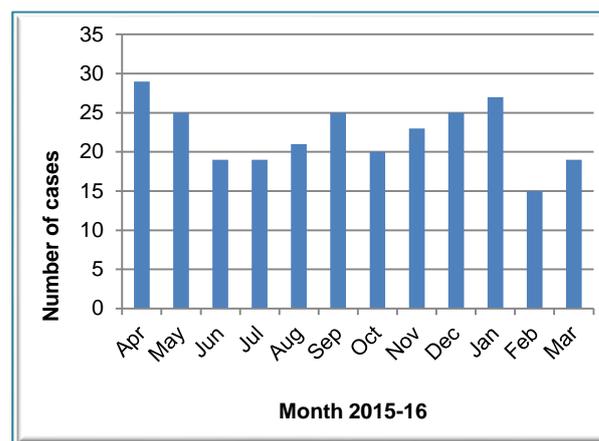
Each year trajectory for the reduction of healthcare associated infections is set nationally. For 2016-17 the Trust trajectories are:

- MRSA bacteraemia: zero cases
- *Clostridium difficile* infections: <46 cases

Graph 2: Demonstrates the numbers of monthly cases of hospital acquired infections for 2015-16



Graph 3: Demonstrates the number of monthly cases of both community and hospital acquired *E. coli* Bacteraemia for 2015-16.



The IPT uses the Trust bacteraemia rates to monitor improvements within the Trust, rather than comparison between Trusts. This is because there is several variable for instance clinical practice of when to take blood cultures, which makes the interpretation of any comparison between Trusts difficult. Patients with a bacteraemia were identified by daily review of all positive blood cultures by the Consultant Microbiologist. The daily Cognos report is ran, which feeds into an internal program developed by the laboratory information computer technology personal, which is referred to as IC-Tracker, this informs the IPT of all positive results. An IP alert is placed on Oasis (patient admission system), which flags on the system, and the clinical areas are can identify potential risk when the patient is readmitted to the Trust, and enables the clinical staff to notify the IPT, who can offer support and guidance as required.

Meticillin Sensitive *Staphylococcus aureus* Bacteraemia

Staphylococcus aureus is a common bacterium that commonly colonises the human skin. Like Meticillin Resistant *Staphylococcus aureus* (MRSA) it is a bacterium that causes a range of infections when the bacteria enter the body. The infections range from very minor (superficial skin infections) to life threatening infections of the

heart valves, joint infections and blood stream infections. Between April 2015 and March 2016 the Trust reported 21 cases of Trust apportioned MSSA bacteraemia, and 56 cases of Non-Trust apportioned MSSA bacteraemia.

There is no reduction trajectory for MSSA set nationally; the work which the Trust has undertaken to underpin the significant reduction in MRSA bacteraemia supports prevention of MSSA, although patients are not routinely screened in the same way. However, in order to further reduce MSSA bacteraemia (both line and non-line related) the following strategies are planned:

- There will be continued effort to reduce the number of infections associated with medical devices, including intravascular and urinary catheters
- Standardise the use of Chlor-Prep® (Chlorhexidine gluconate 2% and 70% isopropyl alcohol) for cleaning the insertion site, when peripheral and central venous catheter dressings are changed, across the Trust

Graph 4: Demonstrates the monthly counts of MSSA bacteraemia split by Trust apportioned (TA) and Non-Trust apportioned (CA) cases; April 2015 – March 2016

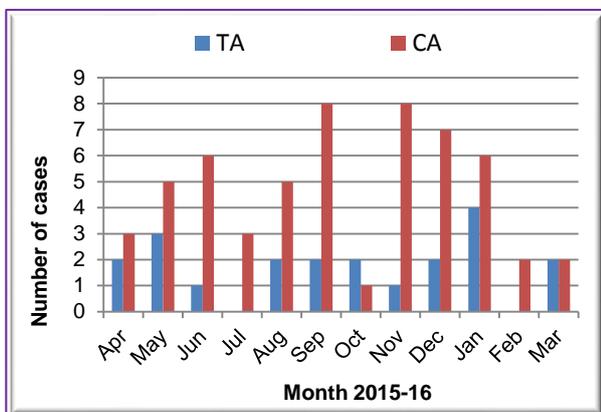


Table 8: Demonstrates the total number of MSSA bacteraemia patients receiving care within the Trust during 2015-16 and their attribution (either Trust acquired or Non-Trust acquired).

	Trust acquired	Non-Trust acquired
Apr	2	3
May	3	5
Jun	1	6
Jul	0	3
Aug	2	5
Sep	2	8
Oct	2	1
Nov	1	8
Dec	2	7
Jan	4	5
Feb	0	2
Mar	2	2
Total	21	56

Meticillin Resistant *Staphylococcus aureus* Bacteraemia

MRSA mandatory surveillance commenced in April 2010, with the 3rd Party definition incorporated in April 2014.

This year the Trust was very disappointed to report that the objective for incidents of Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia was breached. Between April 2015 and March 2016 the Trust reported one case of Trust apportioned MRSA bacteraemia in July 2016, one case 3rd Party in August 2016 to the Public Health England (PHE) Healthcare Associated Infection surveillance database.

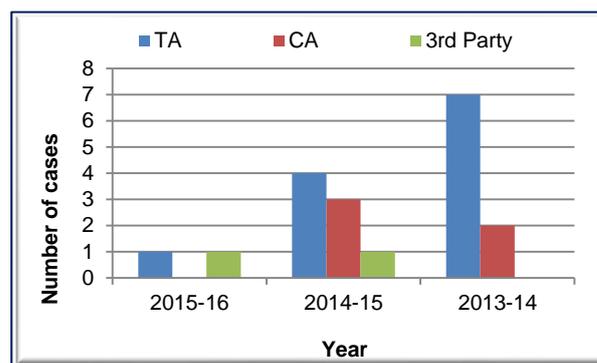
A Post Infection Review (PIR) was conducted by a multi-discipline team with support from the IPT for the Trust acquired case. The results and

recommendations were reported to the HIPC. Implementation of the actions arising from the PIR was led by the Ward Leader, Matron and Directorate Lead Nurse. .

The national trajectory for the Trust for 2016-17 is zero cases of Trust apportioned MRSA bacteraemia. The work which the Trust has undertaken to reduce MRSA bacteraemia continues. In order to further reduce MRSA bacteraemia the following strategies are planned:

- Continued effort to reduce the number of infections associated with medical devices, including intravascular and urinary catheters
- PIR will be performed on all MRSA bacteraemia, with the results of these investigations and their recommendations being monitored at the HIPC
- Standardise the use Chlor-Prep® for cleaning the insertion site, when peripheral and central venous catheter dressings are changed, across the Trust
- Training and support materials to be issued to highlight the screening requirements for MRSA for high risk patients across the Trust

Graph 5: This graph demonstrates the annual counts of MRSA bacteraemia since April 2013. The Trust has made a steady decrease in the number of cases reported.



Escherichia coli bacteraemia

Escherichia coli (*E. coli*) is the most common cause of bacteraemia, with the highest rates being seen in those aged 64 years and older. The second most common group are those aged less than 1 year, with a higher incidence in males than females. Between April 2015 and March 2016 the Trust recorded 267 cases of *E. coli* bacteraemia. There is no reduction target set nationally. .

Clostridium difficile infection

Clostridium difficile infections (CDI) are reported for all patients over the age of two for the year 2015-16 to the PHE Healthcare Associated Infection surveillance database. This year the Trust was very disappointed to report that the objective for incidents of CDI was breached, with a total number of cases attributable to the Trust being 47 cases (trajectory was 46 cases). The rate of CDI remains challenging, with a trajectory of 46 cases for 2016-17. It is clear that the Trust has to focus efforts on further reducing cases of CDI in the forthcoming year. Patients admitted to elderly care are considered to be more at risk of acquiring CDI. This is in line with epidemiology of the infection whereby it is acknowledged that elderly debilitated patients are at increased risk of the disease. It is important to note, that although the target is based on the DH definitions of attribution of infections, this does not take into account recent discharges from hospital, and

patients that have developed symptoms within 4 weeks of their discharge, or cases that have occurred within 72 hours of admission.

Graph 6: Demonstrates the number of cases of *C. difficile* infection reported against the trajectory for the Trust during 2015-16.

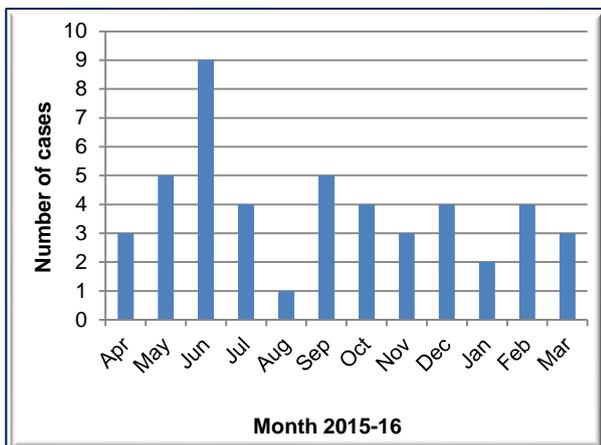


Table 9: Demonstrates the monthly acquisition against the monthly trajectory for 2015-16, which were implemented in October 2015.

RAG Status	Monthly trajectory	Number	Total
April		3	3
May		5	8
Jun		9	17
Jul		4	21
Aug		1	22
Sep		5	27
Oct	4	4	31
Nov	3	3	34
Dec	4	4	38
Jan	2	2	40
Feb	4	4	44
Mar	2	3	47
Total	19	47	

Table 10: Demonstrates the total number of cases across the health economy, including

hospital acquired *C. difficile* cases, Trust infection and national infection rate (% CDI infection rate per 100,000 bed days) for each year from April 2007 to March 2015 (at the time of writing this report the 2015-16 data has not been published by the PHE). There has been a steady reduction of CDI Trust acquired cases over this period (TA = Trust acquired).

	TA	Health economy	Infection rate	National rate
2007-08	319	542	198.7%	148.7%
2008-09	172	320	108.08%	95.7%
2009-10	148	270	89.6%	68.6%
2010-11	135	252	93.7%	61.9%
2011-12	74	145	55.9%	52%
2012-13	52	124	46.1%	42.7%
2013-14	48	124	46.4%	38.9%
2014-15	45	104	38.6%	41%
2015-16	47			

Table 11: Demonstrates the total number of CDI patients receiving care within the Trust during 2015-16 and their attribution (either Trust acquired or Non-Trust acquired).

	Trust acquired	Non-Trust acquired
Apr	3	5
May	5	6
Jun	9	10
Jul	4	3
Aug	1	5
Sep	5	7
Oct	4	2
Nov	3	4
Dec	4	7
Jan	2	4
Feb	4	3

Mar	3	3
Total	47	59

5.2 Surgical Site Infections

The Public Health England surgical site infection (SSI) surveillance service assesses speciality specific surgical site infections, on a quarterly basis. The Trust participates in this surveillance using the standard case definitions and surveillance methodology, which are provided to enable comparable rates to be produced. The reporting of orthopaedic SSI became compulsory in 2006, other components of the scheme remains voluntary.

Orthopaedic surgical site infection surveillance

The Trust conforms to the requirements of the PHE SSI surveillance by undertaking at least one major orthopaedic procedure for at least 3 months every year. The Trust undertook Total Knee Replacement (TKR) for a month period (October 2015 – March 2016). In total 310 patients were included in the surveillance. 3 patients were found to have a SSI, which were categorised as a deep seated infection. The Trust rate was 0.96%, with the national average is 0.5%.

All the potential cases are reviewed and validated by a multidisciplinary team, including the Orthopaedic Consultant, prior to submitting to PHE following their SSI criteria. The data was shared across the division. There were no common factors/themes between the 3 cases. The causative agents for these SSI were:

- Coagulase negative *Staphylococcus*
- *Staphylococcus epidemidus*
- *Staphylococcus aureus*

Mandatory orthopaedic surgical site infection surveillance will be undertaken during 2016-17.

Cardiac Surgical Site Infections

The IPT carries voluntary surgical site surveillance for coronary artery bypass (CABG) surgery. This surveillance was suspended from April 2015 – till June 2015, due to reduced staffing levels within IPT. The surveillance was recommended in August 2015.

Data from August – September 2016, was not entered into the PHE surgical site database, as it was not a complete 3 month period, the data was monitored in-house.

A total of 339 CABG were performed during 2016-17, 245 of these were included within the surgical site infection surveillance. These can be broken down to 163 CABG and 82 non CABG surgical procedures. A multidisciplinary team, including the surgical team, IPT and a Consultant Microbiologist, reviews each patient identified. Of these there were a total of 18 post-operative infections identified; using the PHE surgical site surveillance criteria these were breakdown further into deep and superficial infections.

Table 12: Demonstrates 2015-16 rates of infection for CABG

	No ops	Deep infections	Superficial infections	% Rate
Aug-Sep	55	2	4	10.9
Oct-Dec	108	2	5	5.56

Table 13: Demonstrates 2015-16 rates of infections for non-CABG

	No ops	Deep infections	Superficial infections	% Rate
Aug-	31	1	1	6.45

Sep				
Oct- Dec	51	0	3	5.88

The IPT conducted investigation to establish if there were any practices that could have increased the rate of infections seen. At the time of the investigation the clinical area was also reviewed by the Lead for Infection Prevention from the Trust Development Authority (TDA) (from April 2016, TDA will be part of NHS Improvement), during this review several practices were highlighted and an action plan was compiled and implemented by the Cardiac Matron, this was monitored at IPAG until completed, copy of the action plan is available from the IPT or Cardiac Matron.

5.3. Serious Incidents

The Trust reports any incident which meets the definition of a Serious Incident (SI) as requested by NHS England. The reports are submitted via STEIS. During 2016-17, a Standard Operating Procedure will be developed as guidance for which infection event would require reporting via the Trust Datix system, or be escalated to a SI.

The Trust is required to report to the CCG those incidents that fulfil the SI criteria; the following summarise 2015-16:

- There were one (1) MRSA bacteraemia reported
- There were zero *C. difficile* cases classified as 1a on the death certificate where *C. difficile* had a significant contribution to the cause of death

- There were no reports of infected healthcare worker or patient incident necessitating a look back exercise

5.4 Period of Increased Incidents

There were six suspected or confirmed Periods of Increased Incident (PII) during 2015-16. The IPT are confident these were sporadic (unlinked) cases. The majority of these cases were clinically mild, although they frequently occurred in patients who were seriously ill from other causes. These incidents were reported internally via the Trust Datix system, and as required to the PHE, CCG as part of the internal mandatory surveillance of HCAI i.e. PII related to *C. difficile*. Reports on these incidents are available from the IPT. A summary of the reports is available below.

Table 14: Highlights which wards which were reported as having a PII.

Ward	Date	Number of cases	Ribotype
Howard 1	June	2	005 002
L8 Tower	May/June	2	005 Sporadic
L9 Haemat	May/June	2	Not sent 005
Bailey	June	2 (same patient)	078 078
L8a East	August	2	015 087
Trafford	October	2	005 054

* PII – Period of Increased Incident, two (2) or more cases occurring >48hrs post admission (not relapses) in a 28 days period on one clinical area

It is reasonable to assume following the ribotyping (genetic fingerprinting) and MLVA typing (a more discriminative typing system) results that, currently, person-to-person spread through patients or staff represents the most likely route of transmission.

It is possible to say with certainty that the PII on L9 Haematology was not an outbreak situation, as it was not possible to identify the ribotyping of the second case, as the Trust microbiological laboratory had not kept the sample.

Baily Ward was reported as a PII in line with the criteria, however this was the same patient, and after further investigation, the patients' CDI states had relapsed (it is well documented that 20% of cases with have a relapse of their condition).

The importance of prompt isolation, use of personal protective equipment and hand hygiene in the prevention of further cases of *C. difficile* infection cannot be over emphasised.

When a ward has PII, the following actions are implemented by the IPT:

- Isolating appropriately according to the Trust Isolation Policy
- Implement control measures i.e. correct use of PPE, cleaning of the environment and equipment, in the case of *C. difficile* the removal of the alcohol based hand rub from the point of care
- Complete DATIX
- Communication email is circulated to Clinical Staff, Senior Management Team, DIPC, IPT, Consultant Microbiologist, Operational Team, Bed Managers on a daily basis following patients review

- Patients, and where necessary carers/relatives, are informed and kept up to date with the situation
- Sample is forwarded to the Reference Laboratory for ribotyping
- RCA investigation is commenced
- Hot spot / CDI audits are undertaken by the IPT
- Communication with external stakeholders i.e. CCG, PHE

The following themes were highlighted in the RCA investigation for these cases:

- Lapses in care were identified in 6cases, these included, inadequate cleaning of toilets, delay in source isolation, delay treatment
- There was a breach in the protocol for sending samples
- Antimicrobial prescribing in two case was not followed as per Trust policy

During 2016-17 the IPT will undertake a CDI spot audit for all positive Trust acquired and Community acquired CDI's within 24hrs of the IPT being notified of the result. There will also be a change in relation to the number of samples sent to the PHE Reference Laboratory for ribotyping, which at present is a service with no charge, however due to the volume of samples sent to the laboratory by the Trust; it has been suggest that a charge may be necessary. On review it was noted that the Trust microbiological laboratory was forwarding all positive *C. difficile* samples from across the health economy. It has been agreed as from the 1st April 2016, samples will only be forwarded to the Reference Laboratory on the request of the Consultant Microbiologist and/or the IPT, and only in the event of a PII. The

Trust microbiology laboratory will store all positive CDI samples in the freezer for up to 6 months.

5.5 Outbreaks

Norovirus outbreaks

Outbreaks of norovirus are essentially difficult to predict, and have a significant impact on the operational services of the Trust; it impacts upon elective activity and the correct placement of patients on wards. Due to the sudden onset of symptoms there is frequently no prodromal period prior to the onset of vomiting/diarrhoea.

However from January 2016, norovirus activity in neighbouring Trust and the local community had increased several weeks prior to a case being seen within the Trust.

Our outbreaks were sporadic and the operational impact of norovirus was well managed with relatively little disruption to the Trust. The IPT worked with clinical staff to resolve the sporadic outbreaks of diarrhoea and vomiting, which was greatly facilitated by the use of rapid diagnostic technology, which enabled the team to determine on the same day whether norovirus was implicated or not.

Between April 2015 and March 2016, there were 20 reported outbreaks of norovirus, and affecting the wards, which were either partially or completely closed. Although the initial control measure is to close bays rather than wards, the management principle is to discuss the management with the Clinical Staff, Deputy DPIC, IPN's and Consultant Microbiologist daily. As these were individual wards, meetings were held with the clinical staff daily.

From January 2016, all cases were reported as via the Trust Datix system. Once the outbreak was declared to be over, a formal written report

was submitted within 30 days. In all episodes of confirmed or suspected norovirus there was no evidence of spread of the virus within the Trust. This is testament to the hard work of nursing and housekeeping staff. IPT received reports that on several occasions visitors had suddenly developed vomiting during a visit, or had visited and then revealed when made aware of the outbreak that they have had symptoms in the preceding days. This makes the control mechanisms very difficult to implement.

The management strategy for norovirus outbreak was generally done by closing the bay/ward to transfers and admission, with cleaning of the ward before re-opening; 48 hours after the last affected patient had become asymptomatic. During 2015-16 the management strategy used evolved around containment and compartmentalisation of the ward, enabling patients to be cohort nursed i.e. symptomatic patients and contact patients. This involved initially closure of the bays to transfer and admission, if the outbreak should spread and affect 50% of the ward, the ward status was upgraded to complete ward closure for admission and transfer.

Once the ward had been closed, it was important to aim to have this ward back in circulation as soon as possible; therefore as beds became available through discharges; patients were moved into single rooms or cohorted into a bay. This allowed affected areas of the ward to be cleaned and opened sooner.

Although there were some difficulties in understanding the concept, the ward staff embraced it and implemented it well, which was highlighted in their swift management and containment of the virus. By using good sound infection prevention and control practices, it was possible to contain the outbreak.

It is not possible at this stage to benchmark this approach against previous year's management of norovirus outbreak, however by continuing to following this approach and embed this management style within the culture of the Trust, it is the assumption that there will be:

- A reduction in the number of ward closures
- Reduction in the number of closed beds
- The duration of bed closure will be shortened
- Improved efficiency of outbreak management
- Reduce operational disruption

The epidemiology of the outbreak is highly suggestive of multi-focal outbreaks with the virus being brought into the hospital on numerous occasions. Similar outbreaks were observed over the same period in other local Trusts and also within the community. During the year, there continued to be effective collaboration between the Operational Team and the IPT, which lead to prompt and successful containment. All wards which were closed or restricted were closed to discharge and/or admission as recommended by the IPT.

Once norovirus has been identified as the causative agent, it is not required to continue to send samples from symptomatic patients from that particular clinical area. There are several strains of norovirus and further testing is not undertaken by the Trust to establish any specific strains.

Table 15: The following tables outline the wards where a norovirus outbreak was either confirmed or suspected, numbers of symptomatic patients and staff, duration of the outbreaks, and the total number of bed lost days for each area affected.

The number of staff relates to the number of symptomatic staff, which worked directly in that particular clinical area. It does not take account symptomatic staff in other areas of the Trust.

Key: C = Confirmed case, S = Suspected case, Pt = Patients number, St = Staff Numbers

	Ward	Pt	St	C/S	Bed days lost
Apr	Chichester	16	2	C	18
Apr	Pycombe	20	1	C	71
Apr	Solomon	6	0	C	0
May	Egremont	9	7	S	64
Jun	Level 8 TKT	12	0	S	23
Aug	Bristol	12	5	C	21
Sep	Newick	6	0	S	8
Oct	Overton	5	0	S	0
Nov	Emerald	3	2	C	2
Nov	Jowers	9	17	C	14
Dec	Emerald	6	0	S	7
Dec	Pyecombe	3	1	S	1
Dec	Pyecombe	4	1	S	17
Dec	Ardingly	4	0	S	0
Jan	Ansty	7	5	C	22
Jan	Albion Lewes	4	1	C	4
Feb	RACH Level 8	6	4	C	47
Mar	Ardingly	5	6	C	3
Mar	RACH Level 9	6	13	C	0

Mar	Ardingly	5	6	C	3
Total		148	71	N/A	325

Influenza outbreaks

The Trust influenza surveillance is compiled from monitoring influenza activity and severity within the Trust; the sources include laboratory confirmation reports, and reporting from the wards of influenza like illness. Hospital acquired influenza outbreak can occur in all type of ward with the Trust. Their consequences for patients and the Trust in terms of morbidity, mortality and costs are considerable. The source of the infection could not be confirmed with certainty, since any individual is capable of transmitting the virus to susceptible individuals within the Trust. The IPT investigates these, which can help to identify the source of infection, prevent additional cases and increase the Trust knowledge of infection control to face future outbreaks.

Management of these outbreaks involved discussion with the Consultant Virologist, and the area clinical staff, including the areas Directorate/Specialty Lead. In the majority of cases the patients were cohorted rather than transferred to a single room (limited number available across the trust).

Table 16: The following tables outline the wards where an influenza outbreak was either confirmed or suspected, numbers of symptomatic patients and staff, duration of the outbreaks, and the total number of bed lost days for each area affected. The number of staff relates to the number of symptomatic staff, which worked directly in that particular clinical area. It does not take account symptomatic staff in other areas of the Trust.

Key: C = Confirmed case, S = Suspected case, Pt = Patients number, St = Staff Numbers.

	Ward	Pt	St	C/S
Mar	Catherine James	3	0	3
Mar	Dialysis Ward	6	9	2

Although there are no indications at present for an Influenza Pandemic, it is imperative that the Trust is prepared for the potential.

5.6 Incidents

Hurstwood Park Theatre Ventilation

In July 2015, the ventilation system at Hurstwood Park 1 and 2 theatres highlighted there were multiple failures with the ventilation system, including incorrectly fitted filters, filters with holes in them, gross soiling and evident corrosion. The IPT conducted air sampling, which showed a high fungal count. Both theatres were closed immediately, and an action plan implemented to correct the deficits.

It was not possible to identify when the ventilation system started to fail, therefore the IPT undertook a look-back exercise to identify if there were an higher than expected rate of fungal infections in patients who had undergone surgery at Hurstwood Park for the previous 12 months. This did not identify any patients.

Mycobacteria chimaera associated with heater cooler machines

In April 2015, PHE contacted all acute Trusts in England advising them of an international outbreak of invasive *Mycobacteria chimaera*

associated with heater cooler machines used during cardiac surgery. PHE advised that they were leading and co-ordinating the investigation of the outbreak in England. In September 2016, there had been 13 confirmed cases in England, of which 2 were from the Trust. The IPT and the Cardiac team have assisted the PHE with the outbreak investigation, and have followed their and the manufactures advice on implementing the required control measures.

Pseudomonas aeruginosa

In June 2015, 4 clinical swabs from neonates on the Trevor Mann Baby Unit (TMBU) were positive for *Pseudomonas aeruginosa*. One patient developed a blood stream infection and died in July 2015. An investigation was immediately implemented, which identified 2 water sources in the TMBU were positive for *Pseudomonas aeruginosa*, and that chlorine dioxide (ClO₂) levels in one of the water tanks in the Thomas Kemp Towers (TKT) were low.

Further testing of the samples from the patient, their cot, showed that the types *Pseudomonas aeruginosa* were indistinguishable, which suggested that the patients infection was connected to the water supply, although the mode of transmission was not identified. The other cases were not connected to this case or each other, further testing identified different typing for each case.

As a consequent of this incident, a trigger has been set that if the parameter falls to 0.3mg/L an alert will be sent to the designated member of Band V staff, and a number of staff within the Trust.

Theatres Level 5

During September 2015 there was a significant flood within the department, which involved a large amount of water overflowing from a toilet. Due to the volume of water involved and concerns that it might compromise the lifts the Fire Brigade were called.

The area was closed (theatres 1-8); a neurosurgical theatre was put on standby to take any category 1 patient requiring emergency surgery. Immediate actions were implemented; however the increased flow overwhelmed the efforts of the staff. The water seeped through to the vascular equipment store beneath; staff had been informed and had moved the equipment, preventing it becoming contaminated. The eruption then subsided and 'cleared itself', Estates have not been able to identify the reason to why the toilet overflowed. The area received a deep clean and was reopened.

Section 6

Antimicrobial Stewardship

Antimicrobial stewardship optimises the treatment of infection and minimises the associated collateral damage such as the emergence of resistant organisms and *Clostridium difficile* infection.

6.1 Introduction

There are many different resistance mechanisms that bacteria have to render antibiotics ineffective, amongst the group of microorganisms known as coliforms two of the most significant resistances are to gentamicin and β lactam (penicillin class) antibiotics (extended spectrum β lactamase (ESBL) producing microorganisms). Not all coliform microorganisms are tested for these resistance mechanisms, so the number of coliforms found to be resistant depends, to a large degree, on the numbers that are tested and the way in which the laboratory reports the results.

Antimicrobial stewardship is recognised as being a critical component of *Clostridium difficile* infection control. Despite exceeding our target for Trust-apportioned *Clostridium difficile* infections (47 cases against a target of 46) a year-on-year reduction was seen compared with 2014-15.

Antimicrobial Stewardship is an overarching system of strategies to improve the use of antibiotics to benefit patient outcomes from infection, and it remains an integral part in the Trust achieving its *Clostridium difficile* infections. Continued reduction in overall antimicrobial

consumption and particularly penicillin and carbapenem prescribing is a priority in slowing the emergence of antimicrobial resistance.

The approach within in the Trust is proactive i.e. antimicrobial policy, formulary and restriction, guidelines or pathways for treatment and prophylaxis, and reactive i.e. antimicrobial prescription review, audit and feedback. The National Antimicrobial Resistance CQUIN for 2016-17 is an opportunity to further the Antimicrobial Stewardship agenda.

6.2 Key achievements

We have made significant achievements during 2015-16 including:

- Smartphone App of local adult antimicrobial guidelines was updated in March 2015
- Complete review of adult empirical antimicrobial guidelines, available on the info net
- Outpatient parenteral antimicrobial therapy service full established

- Introduction of pharmacist referral criteria in line with 'Start Smart, then Focus'
- Launch of antimicrobials e-learning module for medical and non-medical prescribers in SCRIPT (Standard Computerised Revalidation Instruments in Prescribing and Therapeutics)
- Annual point prevalence audit completed in December 2015
- Targeted antimicrobial stewardship ward rounds in various specialities
- £33k saving haematology/oncology anti-fungal use via Antifungal Stewardship

6.3 Key goals

Our key goals for 2016-17 include:

- Publish paediatric antimicrobial guidelines as Smartphone App
- To successfully bid for an additional senior antimicrobial pharmacist
- To support the introduction of a travel medicine clinic
- To publish research on the impact of a dedicated antimicrobial prescribing chart and targeted antimicrobial ward round with respect to antimicrobial consumption
- To extend the breadth of surgical antimicrobial prophylaxis guidelines
- Broaden antimicrobial formulary to reduce penicillin and carbapenem use
- To achieve antimicrobial resistance national CQUINN 2016-17
- Increase frequency of point prevalence audits to monthly
- Introduce point of care testing and procalcitonin tests to reduce antimicrobial consumption

Section 7

Decontamination

The purpose of decontamination is to prevent the spread of microorganisms and other noxious contaminants that may threaten the health of human or animals, or damage the environment.

7.1 Decontamination services

Sterilisation of re-usable surgical devices was undertaken centrally on site within the Sterile Services Departments (SSD), which are fully compliant with the Medical Devices Directive 93/42/EEC annexe 5 (sterility only) and has an auditable ISO 13485:2012 Quality Management System, for Medical Devices.

Decontamination of flexible endoscopes was undertaken within the Endoscopes Decontamination Units, which are working within the ISO 13485:2012 and are JAG registered for bowel cancer screening.

7.2 Decontamination Group

The aim of the group is to ensure that equipment used for patient care is decontaminated safely, effectively and in accordance with published standards.

The Head of Decontamination was appointed as the Decontamination Operational Lead in January 2016. The Trust has an appointed Authorised Engineer for Decontamination (AED). The Deputy Director of Infection Prevention and Control and the IPT has worked in conjunction with the

Decontamination Operational Lead in providing decontamination advice throughout the Trust, and attending the Decontamination Committee.

The Decontamination Committee meets monthly and reports to the Hospital Infection Prevention Committee on all decontamination matters.

7.3 Rinse water testing

The Trust monitors the quality of the rinse water used for the Endoscope Washer Disinfectors (EWD'S). Samples are taken weekly. Adverse results are dealt with in a timely manner. Disruptions to service delivery caused by adverse water testing results have decreased.

7.4 Validation

A validation of the AER's is a national requirement. Lancer continued to service the units in accordance with the testing standards.

7.5 Audits

Audits of SSD's and EDU's are carried out on a regular basis by an external notified body on behalf of the MHRA.

7.6 Sterilisers

The SSD at PRH has recently had two new Sterilisers installed and commissioned with a third expected this year. Following a lengthy tendering process all the Washer Disinfectors at PRH are about to be replaced, along with this the capacity will be greater with the introduction of more chambers.

7.7 Cold Reverse Osmosis at Royal Sussex County Hospital

The cold reverse osmosis (RO) loop, which supplies the cold water requirements of the thermal washers, endoscopy washer disinfectors and Fulton steam generators, due to design and materials, has been problematic in maintaining a low bacterial count.

In 2010, it was identified the risk could be reduced by upgrading the system, since the original installation (2000) an increasing awareness of the management of these system with the introduction of enhanced monitoring for decontamination of endoscopes. The use of stainless steel pipework, heat sanitisation and chilling along with better fittings and installation techniques all contribute to superior results.

The continued management of the system has been essential and this was successful until recently, despite a number of repairs alterations and sanitisation procedures, the measured Total Viable Counts (TVC's) levels have been increasing. In December 2015, Lubron and 2030 Laboratories were contacted for assistance to remedy the continuing raising counts. In January 2016 made an on-site visit and identified several key-points.

5.8 Sorin 3 T Heater-Cooler

Sorin 3T Heater-Cooler Unit (HCU) are used in cardiac surgery. A Field Safety Notice was issued by the manufacturer in June 2015, when they became aware of cases on non-tuberculosis mycobacteria endocarditis, or deep infection following open heart surgery during which a HCU was used.

An increase in the frequency of the decontamination process as well as certain water testing was recommended. This was implemented by the Clinical Perfusion Team, two machines have been sent back to the manufactures in Germany for complete stripping and decontamination. The Trust continues to monitor the water results and decontamination process for these machines.

7.9 Key priorities

The key priorities for decontamination for 2016-17 include:

- New Washers at PRH
- Replacement Reverse Osmosis System at RSCH
- New Trust Policy for the Loaning in of Surgical Instruments
- Centralising ENT OPD Decontamination
- Conducting Decontamination Audits throughout the Trust
- Increasing the use of the H₂O₂ & Gas Plasma steriliser
- Revise Testing regime based on HTM 01-01 and HTM 01-06 when published

Section 8

Education

Our vision is to provide consistently excellent and safe patient-centred care, through staff having the required knowledge to reduce the risk of infections.

The Trust has a statutory obligation as part of its registration to ensure that all staff receives appropriate education and training in infection prevention and control (DH 2015). The 'Code of Practice' also requires that induction and training programmes for new staff and on-going education for existing staff, including volunteers, incorporating the principles and practice of prevention of infection, that reflects national competencies as outlined by Skills for Health (2011).

The General Medical Council (GMC (2009)) has also published outcomes and standards that include infection prevention for undergraduate medical doctors. Likewise, the Nursing and Midwifery Council mandate that infection prevention is covered on pre-registration nursing courses (Nursing and Midwifery Council (NMC (2010))).

All healthcare workers, whether or not they are involved in direct patient care, must acknowledge that compliance with the principles of infection prevention practice with all patients at all times helps to minimise the transmission of infection between patients, staff and visitors.

Many patients are vulnerable to infections this can delay their recovery or can even be fatal. Infections also considerably increase the costs to the Trust.

Although there is a wealth of infection prevention information and evidence available, this is often inaccessible to those working at ward or department level. Education is recognised as having an important role in preventing and containing infections. Training and education is essential to promoting safe practice, and is integral to the overall delivery of an effective infection prevention service. The purpose of infection prevention training is to enhance and develop staff knowledge with regard to the standard infection prevention principles, to target microorganisms, and target conditions in order to facilitate safe, effective infection prevention practice, and thus prevent the spread of infection and improve our patient outcomes.

Training and education remains pivotal to the Trust's approach to reducing infection rates and can occur in many forms, both formal and informal. During 2015-16 the IPT has continued to be proactive in the delivery of education and has utilised a number of methods including

meetings, face to face training session, practical training sessions, hand hygiene practice and ad-hoc sessions to optimise ward based healthcare by providing education that emphasis infection prevention. All training packages reflected basic infection prevention principles as well as highlighting local issues i.e. local surveillance.

The IPT also provided bespoke general infection prevention training, including hand hygiene utilising the 'glow box' for the several wards on all Hospital sites.

The IPT continues to provide education in different ways to meet the needs of the Trust, it is becoming increasingly difficult for staff to be released from their duties and to this end the IPT have been working with the Learning and Development Department in developing a clinical and non-clinical e-learning package for infection prevention, which will go live in 2016-17.

1. Education delivered

An annual education programme is produced which outlines the Trust training programme, which includes an assessment of the training needs of different staff groups and is designed to meet local and national educational needs and requirements. Infection prevention training continues to be embedded in many of the Trust's training and education programmes.

During 2015-16 the IPT delivered 109 hours of education/ training via 59 sessions. Approximately 5310 staff, students (medical/ nursing) and other groups e.g. volunteers and school leavers undertook education related activities in relation to infection prevention.

All new staff to the Trust receives basic infection prevention training from the IPT as part of their induction to the Trust. New staffs, who do not

attend, are chased up by the Learning and Development Department, to ensure they attend at a later date. In order to ensure consistency for the Trust induction, the learning outcomes as specified by Skills for Health (2011) were covered for all staff.

The Core Module (mandatory) updates included a 45 min face to face presentation for non-clinical and clinical staff. The sessions focus on providing information related to the basic principles of infection prevention practices. For the update the expectation is that staffs are familiar with the content of the IP workbook (clinical or non-clinical). The session is an opportunity to update on the position of the organisation in relation to infection prevention and negotiate learning outcomes so as to suite those in attendance. For example, when delivering an update specifically to phlebotomy teams then the focus can be on blood borne virus protection and sharps management. For the 12 month period to February 2016, 44% of clinical staff and 58% of non-clinical staff were up-to-date with Infection Prevention. This is below expectation and it is anticipated that alongside the current face to face sessions and the work book that staff will soon be able to take advantage of e-learning via the IRIS system.

The Trust is well below compliance for mandatory infection prevention updates for Trust staff. Part of the 2016-17 IP programme of work will be to review infection prevention delivery. Current formats are face to face, the workbook and e-learning via IRIS will be coming online soon. It is anticipated that staff will be required to complete the workbook annually and pass a quiz. The IPT are also reviewing the potential of delivering appropriate training via deferent media, and are reviewing the development of a hand hygiene e-

learning package and MRSA awareness e-learning package for 2016-17.

Other options to explore include interactive sessions using technology such as the personal response system and this will allow immediate testing of knowledge with feedback and evaluation.

Table 17: Infection prevention is an integral part of induction and Core Module (mandatory) update training, as well as several bespoke training sessions. The table below demonstrates infection prevention training undertaken in 2015-2016

Session	Participants	Number of participants	Method of delivery	Learning outcomes	Frequency/ dates	Number of sessions	Estimated Hours
Trust Induction	All new starters to the Trust. Excludes volunteers	1000	Face to face	Satisfy skills (2011) for health competency framework and passport schemes	Twice monthly. Once in Brighton, Once in Haywards Heath	2	18
Annual update - clinical staff	All clinical staff (6000)	2640	Face to face (lecture style) and workbook	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes	Several times a month	3	27
Annual update - clinical staff	Consultants	Included in total clinical staff		Consultants are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes and discuss data	Three times a year	3	1.5
Annual update - clinical staff	Renal	Included in total clinical staff	Face to face (specialist) and workbook	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes related to the speciality	Monthly	12	12

Annual update - clinical staff	Phlebotomy	20	Face to face (specialist)	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes related to the speciality	10.02.2016; 18.02.2016	2	2
Annual update - clinical staff	PIMS	40	Face to face	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes. There is a focus on leadership in relation to Infection Prevention	twice a year	2	2
Annual update - clinical staff	Cardiothoracic teams	20	face to face	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes related to the speciality: Nursing roles/responsibilities in relation to infection prevention; Trust roles/responsibilities in relation to infection prevention; Integrating infection prevention into all activities/interventions; Areas that infection prevention is linked within the Trust; Hot topics- CDI (targets, staff actions, our audits)	01.03.2016; 18.03.2016. Ad hoc hand hygiene audits	2	5

				and ice machines (audit results, impact on Trust water supply); Hand hygiene (PPP, practical activity, discussion); Questions			
Annual update - clinical staff	Cardiac Cath labs	7	Face to face	Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes related to the speciality	Annually	1	1
Three yearly update	Non-clinical staff (1382)	802		Staffs are already expected to know skills for health competencies and these are summarised in a workbook. This is an update in relation to how BSUH is performing and to clarify any specific outcomes	Monthly	12	3.0
HCA induction	Healthcare assistants	30		What is infection prevention; how do organisms spread; examples of vectors/fomites; common infections in hospitals; importance of hand washing; alcohol hand rubs; environmental cleaning and the importance of; commode cleaning	Monthly	2	2
Volunteers				Skills for health competencies: responsibilities; hand hygiene; personal protective equipment; dealing with blood spillage; management of injury; cleaning of equipment/ environment and	RSCH 20 May 2015 7 September	1 1	0.5 0.5

					personal fitness for work	2015		
					30	26 November		0.5
					28	23 February 2016	1	0.5
					25	PRH		
					11	11 June 2015	1	0.5
					22	6 October 2015	1	0.5
					25	19 January 2016	1	0.5
					187	15 February 2016	1	0.5
University Students	BSc Year 3 Nursing	40	Face to face	Revision and application of standard principles for infection prevention according to NICE (2012) clinical guideline and epic3 (2015)	17.09.2015 3 hours x 2	2	6	
University Students	BSc Year 3 Nursing	40	Face to face	Revision and application of standard principles for infection prevention according to NICE (2012) clinical guideline and epic3 (2015)	12.10.2015 3 hours x2	2	6	
Medical Students	BSMS Module 301: Clinical Foundation Course Year 3	137	Face to face lecture theatre	Satisfy skills (2011) for health competency framework and outcomes for General Medical Council (2009)	23.09.2015	1	2	
Medical Students	Year one - hand hygiene training	100	Face to face - anatomy class	Hand hygiene training using the light box	15th and 16th October 2015. Two x 2 hour sessions	2	4	
Princes Trust	School leavers	20	Face to face	The journey of a specimen	01.03.2016	1	1	

Sporicidal wipe training	Ward staff	40	Face to face by a company representative from Clinell®	A company representative visited clinical areas and went through use of the sporicidal wipe	2	15
Total		5310			59	111.5

Section 9

Occupational Health

Our staff health is important to us. Occupational Health Team works closely with the Infection Prevention Team to ensure that staffs are protected against infection.

9.1 Occupational Health Service

The Occupational Health (OH) and Immunisation Service is provided by the Trust, free of charge to all staff. The immunisation programme assists in the protection of both staff and patients from infections. Whilst participation in the immunisation programme is generally voluntary, for certain groups of staff there are formal requirements from the DH, to which the Trust adheres, in relation to freedom from infection and specific clinical duties (exposure prone procedures). Staffs have a professional duty to seek and take advice from Occupational Health if they are at risk from or believe they may have acquired a serious communicable disease for instance TB or a blood borne virus (BBV). Guidance to staff with other infections is also available from Infection Prevention who, in collaboration with Occupational Health, will take the final decision on any risk that may be posed to patients by potentially or actually infectious staff.

General arrangements; at pre-employment and other times determined by the Trust policy staff will attend OH for health and immunisation review and update as appropriate.

For staff undertaking exposure prone procedures (EPP) specific instructions exist from the DH in relation to TB, Hepatitis B (HBV), Hepatitis C (HCV) and Human Immunodeficiency Virus (HIV). Employing managers identify staff who may undertake such work, and appropriate testing and/or immunisation with due regard to confidentiality will be carried out by the OH service

Staff with infections, and untoward exposure to infections Occupational Health offers a confidential service to staff with infections, or who may have been placed at risk (e.g. needle-stick injuries, exposure to infectious patients), and follows up/liases with other specialists as appropriate including Infection Prevention. OH liaises closely with the Infection Prevention Team and the Health and Safety Team in relation to risk assessment of generic and specific exposures.

9.2 Sharp injuries

OH provides a report to the HIPC and the Health and Safety Committee, which provides an overview of the sharps and splash incidents that had occurred within the Trust. Annual report is sent to all Divisional Heads for dissemination.

The data include Trust employees as well as other staff working on the Trust premises, students on placements.

The annual report runs from January – December 2015. There were a total of 205 sharps injuries and 54 splashes reported to OH during 2015. The information below indicates that there does not appear to have been a decline in sharp injuries since the introduction of safer sharp devices, however it must be noted that the correct use of safer sharp devices may have prevented a further 35 injuries from occurring.

Occupational Health continues to provide information for new staff to the Trust via the Trust induction on the prevention and management of sharps and splash injuries. This information is reinforced with mandatory training, which is available through IRIS,

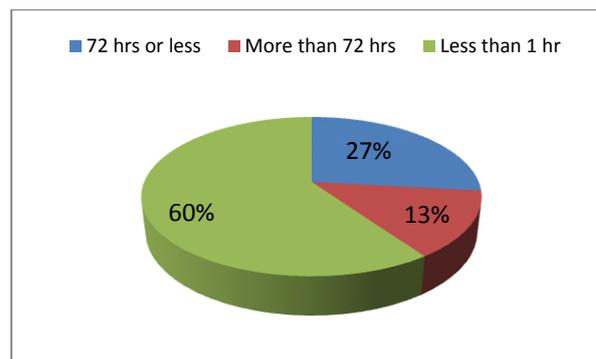
Table 18: Demonstrates the number of incidents reported to OH each year since 2009.

Year		No. of incidents
2009	213	
2010		218
2011		267
2012		270
2013		243
2014		240
2015		259

Table 19: Highlights the highest number of incidents per month occurred in May and November, with 27 injuries being reported. There is no visible trend over the past 7 years emerging with regard to particular months of the year when more incidents might occur.

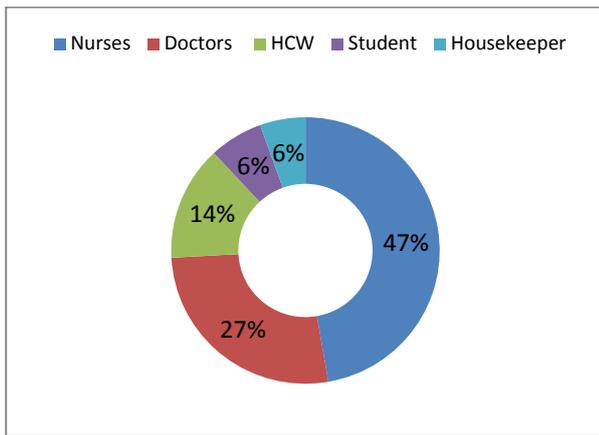
	2009	2010	2011	2012	2013	2014	2015
Jan	29	22	28	23	29	26	20
Feb	16	15	16	20	18	11	23
Mar	13	15	16	14	20	22	20
Apr	13	16	23	14	18	17	20
May	8	19	28	22	23	18	27
Jun	21	21	26	26	19	24	13
Jul	19	18	22	27	27	17	23
Aug	21	25	22	18	19	22	23
Sep	19	20	19	30	19	20	19
Oct	19	13	21	24	17	22	26
Nov	23	17	27	30	18	11	27
Dec	13	17	19	22	16	30	18

Chart 7: 88% of the incidents were reported in less than 72 hours, the optimum time for HIV post exposure prophylaxis to be given (7% less than 2014-15). 59% of all incidents were reported in less than one hour (6% less than 2014-15).



PPE provided was not worn in 29% of the total number of injuries sustained; this number included 45 staff members who failed to use eye protection and subsequently received splash injuries.

Chart 8: Demonstrates the staff groups which sustained an incident. Students included both medical and nursing students while on placement at the Trust. Housekeepers sustained their injury due to incorrectly disposed sharps; the majority of these were disposed of within the clinical waste stream.



A number of source patients were known to have a blood born virus at the time of the incident:

- HIV 7 cases
- Hepatitis C 6 cases
- Hepatitis B 1 case

The 90% of individuals were known to be protected against Hepatitis B at the time of the incident. 4% had no cover and 6% the status was unknown at the time of assessment.

Table 20: Demonstrates the type of sharp injury involved.

Causative sharp	Total
Suture needle	35
Vacutainer and needle	30
Subcut insulin needle	21
Butterfly	19
Blue needle	12
ABG	10
Scapel	10
Hollowbore	9
Orange needle	3
White needle	2

It should be noted that safer sharps information was not documented for the first month of the assessment period for 2015 or for previous years. Data collected since February 2015- December

2015 has shown 23 injuries occurred whilst using a safer sharp device. 8 of these injuries were caused whilst covering the needle with the protective cap and a further 12 injuries occurred to individuals not using a safer sharp device when they are available within the Trust.

9.3 Health and Safety Regulations 2013

The European Directive (Council Directive 2010/32/EU) to prevent injuries and infections to health care workers from sharps was transposed into UK Regulations in May 2013 namely, The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013.

Healthcare workers sharps injuries are primarily associated with occupational transmission of hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). Needle stick or sharps injuries occur when a needle or other sharp instrument accidentally penetrates the skin, which is referred to as percutaneous injury. If the needle or sharp instrument is contaminated with blood or other body fluid, there is the potential for transmission of infection, and when this occurs in a work context, the term occupational exposure is used. When blood or other body fluid splashes into the eyes, nose or mouth or onto broken skin, the exposure is said to be mucocutaneous, the risk of transmission of infection is lower than for percutaneous exposure but still significant.

Everyone has a role to play in the prevention of sharps injuries to healthcare workers, from the Chief Executive and Board Directors, who have overall legal responsibility for the Health and Safety of their staff, to the individual nurse or health care worker, all have a duty to ensure that

they protect themselves and others around them by safely using and disposing of sharp equipment.

Lyn Allison (Head of Health and Safety) is the Trust Lead for the implementation of the Health and Safety (Sharp Instruments in Healthcare) Regulations 2013. The Trust has implemented the Directive in a number of areas but we are not yet fully compliant with the regulations. The most crucial aspect at this time is the completion of risk assessments to ensure:

- a) We avoid the unnecessary use of medical sharps altogether, where there is a reasonably practicable alternative
- b) Where the use of medical sharps is necessary, substitute suitable "safer sharps" incorporating protection mechanisms where it is reasonably practicable to do so

The Trust has commenced the risk assessments. Initially this involved identify the use of the various forms of sharps within the Trust. From this further work is in progress to:

- a) Where possible, remove the sharps
- b) Where this is not possible or practicable, identify appropriate safety devices and replace
- c) If this is not practical then to complete a further risk assessment to mitigate the risk

We will put in place review procedures to implement the regulations, and to identify whether or not procedures are being followed and if not, why not, so that action can be taken to improve

areas where compliance is inadequate. An effective review process involves consultation with staff and their representatives, reporting through both the Health and Safety Committee and the Trust Infection Prevention Committee.

Section 10

Infection Prevention Audits

Healthcare workers compliance with infection prevention practices and principles is vital in preventing the spread of infection. One tool to assess infection prevention practice in clinical areas is audits.

Clinical Audit is paramount to clinical improvement within infection prevention and the reduction of HCAs. The 'Code of Practice' requires the Trust to have in place a programme of audit to ensure that key policies and practices are being implemented appropriately. The IPT ensure that infection prevention audits are undertaken within the clinical area as per the IPT program of work. This program is not an exhaustive list of the audits undertaken, and many additional audits will be conducted as part of an event or Trust activities. The Trust amended the Infection Prevention Society (IPS) for hospitals audit tool.

1. Source isolation of patients with diarrhoea audit

Patients with suspected infectious diarrhoea in accordance of the Trust *Clostridium difficile* policy (IC 008) are source isolated at the time a sample is taken. If the patient can't be isolated within three hours of taking the sample, a DATIX must be completed and the situation escalated via line management. During June 2015 the IPT identified patients across the Trust who had a faeces sample booked into the microbiology laboratory for *Clostridium difficile* testing. 39 patients were

identified as having faeces samples in the laboratory, of these 54% (21) were not source isolated according to the OASIS patient management system. No DATIX forms had been submitted for any of the 21 patients that had not been source isolated. It is recommended that all patients suspected to have infectious diarrhoea are source isolated at the time a sample is taken. If it is not possible to source isolate the case within three hours of taking the sample a DATIX should be completed by the clinical area.

2. Visual Infusion Phlebitis Score Audit

During August 2015 the IPT in conjunction with the IV Therapy Team visited and audited 17 in-patient clinical areas across the Trust. 100 peripheral venous catheters (PVC's) were reviewed, feedback both positive and negative was provided immediately to clinical staff by the auditor, in areas where compliance issues were identified, this was followed up with a repeat visit.

69% of the PVC's had visual infusion phlebitis (VIP) score correctly documented, 78% of PVC's were insitu for less than 3 days. 12% of PVC's had no VIP score recorded.

3. Commode audit

Commodes are in use constantly, and their surfaces are constantly being handled, which provides an opportunity for many pathogens present to be transferred to not only other surfaces but also more importantly to our patients. It is important that all parts including underneath is visibly clean with no blood and body substances, dust, dirt, debris or spillage, and that there is no damage.

During December 2015 the IPT undertook a commode audit throughout the Trust. In each clinical area, the Nurse in Charge on the day of the audit was provided with immediate feedback of the audit findings. If this was not possible a follow up call or email was done. The auditor visited 31 areas across the Trust and visually inspected 94 commodes for structural integrity and cleanliness. 9% of commodes had visual soiling and this was unacceptable, posing a risk to patient safety and Trust registration with the CQC. 10% of commodes had damage to the frames and 21% had damage to the soft seat covers. It is essential that staff disinfect commodes with sporicidal wipes after every use and add the 'I am clean label'; only 36 % of commodes had this label in place. It was recommended that damaged commodes were replaced as a matter of urgency, which has been completed. As a result of this audit, the IPT have trial a new commode, which is not the standardised commode for commode replacement throughout the Trust.

4. MRSA screening audit

The MRSA screening policy (IC 007) states that patients should be screened within 24 hours for emergency admission, and at least 2 weeks prior to admission for elective cases. During December 2015 the IPT visited and audited 14 patient areas across the Trust. 34 patients were asked if they had

been screen for MRSA, 100% said they had. There was no evidence of documentation in 17%.

It was an excellent result that 100% patients stated that they had been screened on admission for MRSA. The small number of patients is not a representation of the Trust, and therefore lacks statistical power. It would be beneficial to undertake a larger piece of work with more numbers; this has been included within the IP programme of work for 2016-17.

5. Infection prevention spot check audits

The audit tool was distributed to all departmental leads during October – December 2015. The expectation was that the tool would be used by clinical staff, findings to be shared at directorate and quality meetings and any issues rectified immediately. From December 2015 the IPT also utilised the audit tool and has thus far audited five areas across the Trust. Compliance was poor in one area and 100% in others. Some elements within the audit required observations of practice for a set time or number of activities. Feedback was given immediately to the areas audited and the area with poor compliance re-audited. The expectation is that all areas audited are 100% compliant.

Table 21: Highlights the wards reviewed and their scores

Clinical Area	Audit score
Chichester Ward	100%
Ardingly Ward	80%
Pyecombe Ward	0%
Balcombe Ward	60%
Newick Ward	89%
Pyecombe Ward	76%

During February 2016 the IPT undertook a further IP spot check audit. Compliance ranged for 67-

85%. Feedback was given immediately to the Ward Leader; this was reinforced with an email.

Table 22: Highlights the wards reviewed and their scores

Clinical Area	Audit score
Ardingly Ward	67%
Pyecombe Ward	76%
Albion and Lewis	85%
Level 6aNewick Ward	82%
ITU RSCH	76%

The audit process across the Trust is on-going, and is part of the IPT program of work for 2016-17.

6. Hand hygiene audit

It is the Trust policy that alcohol based hand rub is available at the point of care i.e. within easy reach of the bed/trolley space. Exception to this is children's services or where there is a lack of physical space within the environment to suitable place an alcohol based hand rub. Individual personal toggles should be considered in these areas.

During September 2015 the IPT visited and audited 76 patient areas across the Trust, 91% of areas visited had alcohol based hand rub available at the point of care. Feedback was given immediately to areas that were not compliant with the Trust Hand Hygiene Policy. The IPT conducted a follow up audit for areas that were zero compliant.

The Infectious Disease Ward traditionally provided care for patients with confirmed *C. difficile* infection, where hand washing with soap and water is the recommendation, as alcohol based hand rubs are ineffectual against *C. difficile*. However, since cases of *C. difficile* have fallen dramatically within the Trust over the years, this particular ward now cares for patients with other conditions, where the use of an alcohol based hand rub is appropriate.

It was recommended that alcohol based hand rubs were implemented at the point of care, and staff receive appropriate training in their use. This was implemented and the area re-audited where they achieved a 100% compliance rate.

Section 11

Facilities and Hotel Services

Continuous measurement and management of performance of Estates and Facility Management Service is also vital in the prevention and control of hospital acquired infection.

1. Cleanliness

Cleanliness remains high on the Trust agenda and regular meetings continue to be held at all levels of the organisation. The monitoring of clinical areas is undertaken by the Facilities Department on a weekly and monthly basis following the National Standards of Cleanliness guidelines (2007). The results are fed back to IPAG, and the Ward / Department Leaders, Matrons, DLN's are able to access the results via the dashboard. The scores and any actions needed are discussed initially with the Ward / Department staff and then with the DLN's at IPAG. An overview of the Trust position is presented to the members of HIPC.

Facilities are involved with the management of outbreaks with the IPT, from whom the lead on appropriate response is taken; this has enabled areas to be brought back in to service in a timely fashion.

2. Ward level linen management review

The Trust has a service contact with Berendsen, which are accredited to the highest European standards. This provides a day to day processing service for the Trust to meet our requirements and

expectations. A review of linen management was undertaken. During the review it was noticed that the linen was clean and in a good state of repair. However there were some issues identified:

- a) The linen cupboards on occasion were open. Linen trollies were also observed and several were found not to have covers, or where covers were provided these were inconsistently utilised
- b) Linen is transported from the linen store area to clinical areas uncovered
- c) It was observed that clinical staff often removed bed linen and carried it to the sluice without personal protective equipment, rather than dispose of it into the skip at the point of generation

It is recommended during 2016-17, due to the extensive building work that is taking place, to reduce the risk of linen becoming contaminated with *Aspergillum* that the Trust considers providing either dedicated linen trolley covers or linen remains in the plastic packing, while being transferred to the clinical areas, especially to high risk areas.

3. Waste management

The Trust has service rolling contract with SRCL, Cox and Veolia to provide a professional, efficient waste disposal service and ensure compliance with the latest waste legislation. Compliance with duty of care waste audits was undertaken in 2015-16.

During 2015-16 Facilities and IPT have been proactively involved in improving waste management arrangements within the Trust, to ensure the Trust is moving towards compliance with HTM 07-01 'Safe Management of Healthcare Wastes', RCN best practice document 'The management of waste from health, social and personal care (2014), as well as assisting the Trust to identify associated cost savings, and establishment of a service contract.

The Trust will potentially incur change and a cost increase associated with disposal of clinical waste due to poor segregation practice. It is essential that staff i.e. waste producers segregate in line with training, practice and legislation. In the worst case failure to do so may result in prosecution and HSE/EA sanction.

A review of waste management at ward levels was undertaken during 2015-16. During this review it was noted wards had dedicated (but mostly non-compliant) waste collection rooms.

Across all sites of the Trust it was routinely observed that domestic and clinical waste was on occasion being mixed. Domestic waste in clinical waste, although not deemed an infection concern as such, raises the operational and financial concern referred to earlier, further it is contrary to Policy. The Trust waste management arrangements is not complex. It has been concluded that this practice was more based on convenience rather than complexity.

It is recommended during 2016-17 that the Trust considers:

- implement the 'bag to bed' approach for the disposal of clinical waste
- the placement of waste bins
- Waste Group, regular meetings
- Waste audit

4. Patient Environment Action Team

Patient Environment Action Team (PLACE) assessments were introduced in April 2013 to replace the former Patient Environment Action Team (PEAT) assessments undertaken from 2000-2012. These are the third results from the revised process.

PLACE is a self-assessment of a range of non-clinical services which contribute to the environment in which healthcare is delivered in the both the NHS, independent and private healthcare sector in England.

New for 2015 Dementia element, the assessment was focussed on the flooring, décor and signage, including availability of hand rails and appropriate seating, and to a lesser extent food. The items included within the assessment did not constitute the full range of issues requiring assessment as there are too numerous. The assessment did include a number of key issues, and Trust are encouraged to undertake a more comprehensive assessment at a later date.

For comparison purposes, a national average of scores is calculated. This average is weighted to take account of hospital size; the weighting factor is bed numbers. In 2015 the Trust scored above average in terms of Food and Hydration, many other hospital sites achieved higher than the national average for several of the elements.

However the Trust was less than the national average for the Dementia element of PLACE.

Table 23: Demonstrates the Trust percentage score for each element in comparison to the national average. Hospital sites have been highlighted in yellow, when they are higher than the then the national average for 2015

Site	C	FH	PDW	CAM	D
RSCH	99.7	96.21	80.25	76.93	58.39
RACH	100	96.75	96.95	94.24	n/a
SEN	100	98.67	85.32	87.01	66.79
PRH	99.50	98.16	87.34	91.54	70.72
HWP	96.12	97.36	83.76	74.53	65.36
SOTC	98.54	95.91	86.00	92.21	70.99
NAT	97.57	88.49	86.03	90.11	74.51

KEY:

- C** Cleanliness
- FH** Food Hydration
- PDW** Privacy, Dignity Wellbeing
- CAM** Condition, Appearance Maintenance
- D** Dementia

Alongside the disappointment in some of the scores achieved it is important not to forget the hard work done by many of our staff who work to deliver the best possible environment for care within the resource and infrastructure available. PLACE is a snap shot, moment in time and has a subjective factor.

The assessments were produced with input from public representatives "Patient Assessors" alongside clinical, IPT and Facilities staff. Whilst the Trust met organisation, process and submission timetables critically PLACE held a low

profile against other Patient Experience undertakings. Involvement and assurance assessments and audits relying, once again, on the hard work and input of the few involved.

Our 2015 assessments had only a small number of patient assessors available, some of whom (by their admission) felt poorly briefed and understood little of the purpose or process. The aim of PLACE is not to lead or direct assessors. This may have influenced adversely some marks.

Conversely it is pleasing Food and Hydration scored above the national average. Whilst we obviously have more work to do in improving the satisfaction patients feel towards all the areas identified within the elements reviewed.

5. Soft Facility Management

Soft Facility Management (Soft FM) Service, including housekeeping, patient catering, portering, management of waste, linen, post and grounds were provided by Sodexo. In September 2015, this service was brought back in-house, to be an integral part of the Trust; this was a massive undertaking and involved the transfer of 600 members of staff via the TUPE process.

The Trust recognised that this was a large and complex challenge, and would take up to 18 months to implement the service, but during this transition it is implemented smoothly and runs safely for our colleagues and patients. One important element that was identified by staff was to feel valued and be easily identified by other colleagues, patients and staffs; therefore a standard uniform was implemented.

The Trust moved to disposable cleaning cloths on the 1st September 2015, due to the washing machines requiring urgent upgrading. Unfortunately the replacement of these machines

has not been completed within the original agreed time frame, and remains an on-going concern for the Trust. It is planned for the machines to be installed during 2016-17 and reusable cloths implemented.

The Trust implemented an automated auditing system, which enables audit results to be sent directly to the clinical teams as soon as the audit has been completed. A summary of the audit for housekeeping and nursing is presented to IPAG. In January 2016, clinical teams were able to access their results via the shared drive, this removes the requirement for Soft FM to email information, this process has empowered clinical teams, by ensuring they have accurate, up to date information available to them in a timely manner.

It was imperative that the Soft FM service was able to provide support/ respond to requests in a timely manner. To enable this to be achieved the service required to have in place a timely, accurate communication strategy, with a clear aim of restoring confidence in the Help Desk. A significant amount of progress has been made; the ultimate end is that the system will be allowed to text messages via the Trust radios, as well as an email response to all users of the Help Desk including the clinical teams.

6. Ventilation systems

To comply with the HTM 03-01, the Trust has recently appointed an Authorising Engineer (AE) who is independent of the Trust to give advice and assurance to the Trust. The AE's initial audit has started but is work in progressing.

The Trust has also trained a number of Estates Managers and Craftsperson's to act as Authorised Persons (AP's) and Competent Persons (CP's). These people have been trained but not formally appointed to the roles. Finalising these

appointments is important in delivering compliance in this area.

The systems installed vary in age from 40+ years old up to modern day. On the older systems there has been limited plant replacement and the Air handling units on these systems have a lifespan of 15-20 years so are well overdue for replacement.

These critical systems are subjected to an annual verification which is a condition review and performance test to ensure the systems are in good condition and perform to an adequate standard. These are done by specialist external companies and appear to be up to date.

The systems are subject to preventative maintenance (undertaken by Honeywell on a contract basis) and the in house team are used for day to day repairs.

In summary, the Trust is at a relatively low base regarding compliance with the HTM 03-01. Significant improvements are needed and should be achievable if the requirements are given the necessary priority.

The department plans to undertake a thorough review of installed equipment with the AE to ensure all critical systems are identified with a view to creating a comprehensive plan of work. This will involve day to day repairs, minor capital issues and a broader investment plan.

In addition, there will be a review of the current maintenance arrangements to ensure they are robust and a review of the validation arrangements to ensure reports are clear and remedial actions needed are well communicated.

7. Water systems

There is a Water Safety Group, which meets monthly and a water subgroup this however stopped meeting towards the end of 2015, and the time allocated for this is now taken up with the review of the Contractors reports.

The Trust has a dedicated Authorising Engineer Dr Paul McDermott who carries out independent audits for process, reports, contractor, Trust and gives recommendations on all things related to the management of safe water. He also routinely attends the Water committee meetings

Water quality is monitored via the Contractor and by the Trust staff. The contractor samples, monitors and reports high counts of *Legionella* via samples; 130 samples taken at RSCH and 30 at PRH per month.

Pseudomonas is sampled on a six monthly basis (in line with current guidance) and reported in the same way. All high counts are recorded via Zeta Safe and reported to the Trust via the specialist contractor. The Trust reviews every high count and issue 1 of 14 jobs sets as a work order, these tasks are recorded on FSI and are therefore fully auditable.

Service level agreements (SLA's) are established for any remedial works and clearly define the time to respond and complete the remedial actions, if they are nearing or have gone over time an alert is raised to the management team to take appropriate action.

In the last 4 months high recorded results have fallen month on month to 18% of positives against samples taken. Estates have now deliberately targeted areas that have not been routinely tested (non-clinical) to assess other areas.

RSCH is currently protected by using two chemicals Abulox in Barry building and Chlorine

Dioxide elsewhere. PRH is covered using silver copper, PRH has returned only 3 high counts in the last 12 months for *Legionella*, 1 was a water fountain and 2 for the boiler house shower.

Water temperatures and chemical dosing levels are sampled by Contractor and again reported by exception via Zeta Safe. Flushing is undertaken by Trust staff with on nominated little used outlets. L8 Guard is in use in Jubilee building and Barry, however it should be rolled out across the Trust. At present Soft Services do not routinely flush the little used outlets although the previous soft service provider Sodexo use too under their contract. Work will be undertaken during the forthcoming year to implement this action.

All water tanks routinely inspected and if necessary cleaned and this programme of work is up to date. There is also a programme to reline 2 tanks at PRH to include new pumps and controls to increase availability, isolations and circulation. However, consideration should be given to the replacement of such tanks.

PRH continues to run with a lower hot water temperature with derogation in place from several years ago, this needs to be reviewed by the Water Safety Group.

In 2016-17 the Trust is planning to commence trials on new shower disinfection, Klenze produced for Public Health England. This is whole supported by the AE, Water Safety Group and IPT. Conclusion of the trial is expected in November 2016, and will be included in the Infection Prevention Annual Report for 2016-17.

Further actions planned for 2016-17 include:

- There are currently no automatic monitoring controls on the chemical dosing it systems, there are however local

controls but it is planned to connect these to the BMS system for alerts to be raised automatically if any parameters are exceeded

- Consider the replacement of the water cisterns rather than lining them
 - Develop an action plan and associated investment programme for both water systems and ventilation systems
 - Strengthen the current governance arrangements for the management of engineering systems
 - Undertake training of additional staff to allow them to undertake AP duties.
- Work with the soft service team to implement a routine flushing arrangement to enhance turnover within the water systems.
 - Review PRH derogation for low system circulation temperature
 - Develop enhanced BMS monitoring arrangements to allow visibility of the performance of all sections of the Trusts water distribution systems

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