

Trust Board	Item: Annual Report Infection Prevention & Control.
Date: 07.08.2019	Enclosure: I
Purpose of the Report: The Trust Board are provided with the Annual Report of Infection Prevention & Control 2018/19 in order to: <ul style="list-style-type: none"> • Provide assurance of the Trusts compliance with the Health and Social Care Act 2008 (DH, 2015) during 2018/19. • To keep the Trust Board informed of Infection Prevention & Control performance over the year. This is in addition to the key infection control performance measures which are reported through the Trust governance framework at each Trust Board meeting. • To highlight the aspects of good performance in the previous year, with regards to infection control and areas for further improvement. • To highlight the key areas of focus for 2019/20. 	
For: Information <input checked="" type="checkbox"/> Assurance <input checked="" type="checkbox"/> Discussion and input <input type="checkbox"/> Decision/approval <input type="checkbox"/>	
Sponsor (Executive Lead):	Sally Brittain Director of Nursing and Quality; Director of Infection Prevention & Control (DIPC)
Author:	Fran Brooke-Pearce, Infection Prevention & Control Clinical Nurse Specialist
Author Contact Details:	020 8934 3369
Risk Implications – Link to Assurance Framework or Corporate Risk Register:	Assurance Framework
Legal / Regulatory / Reputation Implications:	Health and Social Care Act 2008 (DH, 2015)
Link to Relevant CQC Domain: Safe <input checked="" type="checkbox"/> Effective <input type="checkbox"/> Caring <input type="checkbox"/> Responsive <input checked="" type="checkbox"/> Well Led <input checked="" type="checkbox"/>	
Link to Relevant Corporate Objective:	Corporate Objective 1
Document Previously Considered By:	Infection Prevention & Control Committee
Recommendations: Board members are requested to note the content of the report and priority areas for the coming year.	

ANNUAL REPORT
INFECTION PREVENTION & CONTROL
2018 / 2019



1. Executive Summary

Introduction and Purpose

The Trust has a statutory responsibility to be compliant with The Health and Social Care Act 2008 (DH, 2015). A requirement of this Act is for the Board of Directors to receive an annual report from the Director of Infection Prevention and Control (DIPC). This report details Infection Prevention and Control Team (IPCT) activity from April 2018 to March 2019, with an assessment of performance against national targets for the year.

Key Points:

- There was one Trust-apportioned meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia case reported against the national zero tolerance. Learning points from the Post Infection Review (PIR) have been progressed.
- There were 22 Trust-apportioned *Clostridium difficile* toxin (CDT) positive cases this year, with three being classed as a lapse in care out of the ceiling target of eight lapses in care. The Trust was the second in the country to use monoclonal antibody to prevent reoccurrence of *Clostridium difficile* infection this year.
- There were 13 Trust-apportioned meticillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia cases against no national target. PIR has been completed on each case and actions put into place where learning has been identified.
- The Trust reported 162 *Escherichia coli* (*E. coli*) bacteraemia cases in total, with 26 Trust apportioned cases. This is a reduction in the 31 Trust apportioned cases last year.
- There were 24 Vancomycin-resistant Enterococci (VRE) cases this year including 22 in the Intensive Care Unit (ITU) with no evidence of cross infection. This is a reduction from the 56 cases last year.
- There were 13 confirmed cases of Norovirus this year which is a vast reduction from numbers in previous years (117 last year). The reduction in numbers was reflected nationally and in the local community.
- High numbers of Influenza (flu) were reported again this year. There were a total of 508 cases this year and these were predominantly Influenza A. Most cases (96.5%) arrived at the Trust with symptoms and 50% of cases were able to be discharged home straight from ED. The Trust used the Point of Care Test again this year which was invaluable in terms of fast diagnosis and bed management.
- There were 13 cases of carbapenemase-producing *Enterobacteriaceae* (CPE) in the Trust this year. Work is ongoing to improve screening compliance.
- The Trust was rated 'Outstanding' by the Care Quality Commission (CQC) in August this year following inspection during May and June 2018. On 4th June 2018 members of the IPCT took part in the Care Quality Commission (CQC) Well-led Review Interviews, where the team were given positive feedback regarding Infection Control.
- The Trust considers itself to be compliant with The Health and Social Care Act 2008 (DH, 2015) and the team continue to monitor this through the Infection Control Annual Plan.
- Hand hygiene and bare below the elbow compliance has been audited on a monthly basis by the infection control link practitioners. The Trust target for hand hygiene compliance remains at 95%, which 94% of areas have achieved, just 6% achieving an amber score (70 – 95%) and no areas with red scores (<70%).
- The Trust participated in the surgical site infection surveillance system (SSISS) again this year for large bowel and orthopaedics. For both categories results were better in comparison to the displayed results from all hospitals over the previous 5 years.

2. Infection Prevention & Control Arrangements

Table 1 Infection Prevention & Control Team (IPCT)

Fran Brooke-Pearce	CNS Infection Prevention & Control (CNS IP&C)	1.0 WTE
Shona Ross	CNS Infection Prevention & Control (CNS IP&C)	1.0 WTE (0.6 from June 2018)
Vicky Wells	Infection Control Nurse	0.8 WTE (1.0 from June 2018)
Elli Demertzi	Consultant Microbiologist/Infection Control Doctor	3 PA's
Sally Brittain	Director of Infection Prevention & Control (DIPC)	

From June 1st 2018 one of the CNS IP&C took on the role of Trust Decontamination Lead two days a week (0.4 WTE). To cover the hours lost the current Infection Control Nurse increased her hours from 0.8 WTE to full time in June 2018 and the IPCT recruited a part time (11 hours per week) Band 5 Audit, Surveillance and Support Nurse commencing at the end of April 2019.

Infection Prevention & Control Committee (IPCC)

The IPCC is chaired by the DIPC. Each quarter the IPCT produce a report.

Table 2 Attendance at the IPCC - Terms of Reference Requirements

Required	10.04.18	10.07.18	09.10.18	15.01.19
Director of Nursing/ DIPC (chair)	Present	Present	Present	Present
CNSs Infection Prevention & Control	Present	Present	Present	Present
Consultant Microbiologist/ Infection Control Doctor	Present	Present	Present	Present
Infection Control Nurse	Present	Present	Present	Present
Head of Nursing	Absent	Present	Apologies	Present
Public Health England representative	Present	Present	Present	Present
Facilities Manager/ Estates Manager/ ISS Manager	Present	Present	Present	Present
Health & Safety Adviser	Present	Absent	Absent	Absent
Clinical Audit Representative	Present	Absent	Present	Present
Occupational Health Representative	Absent	Present	Present	Present
Matron (one to attend to represent matrons group)	Present	Present	Present	Present
Antibiotic Pharmacist			Present	Present
CSU Clinical Infection Prevention & Control Lead	Present	Present	Present	Present

Reporting line to the Trust Board

The IPCT reports directly to the DIPC, who is the Trust Director of Nursing and Quality. The DIPC meets regularly with the Chief Executive, chairs the IPCC meetings and is a member of the Quality Improvement Committee (QIC), Quality Assurance Committee (QAC) and Serious Incident Group (SIG). The IPCT provides reports for QIC and attends this meeting and Clinical Quality Review Group (CQRG) when required. Monthly updates are provided for the Trust Board Report.

IPCT Liaison with Service Lines

Representatives from the Service Lines attend the IPCC meetings and report back at Service Line Meetings (SLM).

Infection Control Support to the Wards

Each day the IPCT 'flag' new cases of infection in the patient CRS notes and phone results through to the clinical areas. This year the IPCT changed the way that their ward rounds are conducted and created a new standard operating procedure. Three times a week the team review all patients with infection control flags and discuss screening or treatment with the nurse in

charge of each ward, in order to expedite removal of flags and therefore releasing side rooms back into operation. If applicable, bay closures are also discussed with clear plans communicated for timescales for cleaning and re-opening bays. The matron / nurse in charge of the ward is responsible for reporting infection control activity in their own areas back to the bed meetings.

Antibiotic Prescribing and Stewardship

The Antibiotic Stewardship Group (established in February 2013) continues to promote excellence in antimicrobial prescribing. This group reports to the IPCG and the Drugs and Therapeutics Group. A full-time Antimicrobial Pharmacist post was approved by the Trust Investment Committee in December 2018, allowing more in depth monitoring and review of antimicrobial prescribing. Work this year has focused on:

- Working towards the 2018/2019 antibiotic and antifungal stewardship CQUINs (Commissioning for Quality and Innovation) with an associated value of £117K:
 - Reducing antimicrobial consumption, reducing carbapenem consumption and increasing the use of antimicrobials from the WHO recommended ACCESS list.
 - Reviewing antifungal prescriptions and ensuring a specialist review by a Consultant Microbiologist and Antimicrobial Pharmacist.
 - Including patients on carbapenem and systemic anti-fungal therapy on the antimicrobial stewardship ward round list for review.
- Harmonising a joint formulary between the four hospitals in South-West London where infection control was the first speciality to be reviewed. Up-to-date recommendations are being circulated by the project leads for implementation.
- Auditing:
 - Re-audit of the effectiveness of temocillin linked with clinical outcomes.
 - Ongoing monthly audit of 25 prescriptions reviewing antibiotic appropriateness, against empirical Trust guidelines, demonstrating results above 80%.
 - Gentamicin prescribing audit demonstrating good results and vast improvement from previous years, following the implementation of the gentamicin calculator, with over 90% of correct doses being prescribed when weight and height details were available.
- Reviewing and updating Trust Empirical Antibiotic Guidelines, completed in January 2019.
- Updating Richmond and Kingston GP guidelines for antimicrobial prescribing, in collaboration with primary care pharmacists.
- Review of incident reports related to antimicrobial use, which demonstrated that gentamicin is the medication involved in the highest number of reported incidents. Actions include:
 - Training for junior doctors regarding gentamicin use at induction.
 - Medicine safety briefings with the ward doctors conducted by the pharmacists containing an area of focus on gentamicin.
 - Role and responsibility reminders regarding gentamicin being circulated in the Medicines Safety Newsletter.
 - Introduction of a pre-configured reminder added to the documentation on AAU prompting the medical team to review antibiotics and their duration.
 - Creation of a gentamicin patient information leaflet for patients on prolonged courses of gentamicin.
- Improving documentation of microbiology advice by using electronic microbiology referrals via CRS from Monday to Friday up to 3pm.
- Implementing a training and education programme for health care professionals; including pharmacists, junior doctors, urology department, non-medical prescribers.
- Ongoing review of new antimicrobial agents, agreeing strategies for their use and monitoring their effectiveness. A new antibiotic was added to the Trust formulary in January;

ceftazidime-avibactam, providing the Trust with more options in treating multi-drug resistant gram negative bacteria.

- Working towards the use of a new treatment called Bezlotoxumab, a monoclonal antibody to treat patients with recurrent *C. difficile* infection for introduction in April 2019. Kingston Hospital NHS Foundation Trust is the second trust in London to use this medication.
- Daily antimicrobial stewardship ward rounds following recruitment of the full-time Antimicrobial Pharmacist. This has a positive effect on: reducing treatment lengths; ensuring step down to narrower spectrum agents and oral antibiotics; and keeping overall consumption of antimicrobials as low as possible. Areas of high antibiotic usage are targeted and reviewed on a regular basis.

Collaborative working with Community Services/ Service Level Agreements

The IPCT continue to work with the community in the following ways:

- The Consultant Microbiologists provide Infection Control cover for Your HealthCare (Kingston), Hounslow & Richmond Community Healthcare Alliance & Royal Hospital for Neuro-disability.
- The IPCT provide infection control advice, an annual environmental infection control audit, and access to Trust policies and guidelines for Princess Alice Hospice in Esher.
- The IPCT have a service level agreement in place with the Private Patients Unit (on site).
- The IPCT liaise with the community Infection Control Nurses when required.
- The IPCT liaise with Public Health England (PHE) / South London Health Protection Team / North East London Commissioning Support Unit when required.

Decontamination Group

The IPCT attend quarterly Decontamination Group meetings chaired by the Infection Control Doctor. The purpose of the group is to ensure that reusable medical devices are effectively decontaminated:

- in accordance with published standards
- in fit-for-purpose premises
- by trained and competent staff
- in adherence to manufacturer's validated guidance, which is reflected in local procedures.

The Decontamination Group was previously accountable to the Health and Safety Committee, but this has now changed to the IPCC.

Other Meetings

Members of the IPCT attend a number of Trust and external meetings:

- Medical Devices Committee
- PLACE / Matrons ACE
- Water Safety
- Decontamination Group
- Nursing, Midwifery and AHP Board
- London Neonatal Operational Delivery Network Infection Control and Prevention Task & Finish Group
- DIPC Forum
- Waste meeting

3. Targets and outcomes

The Health and Social Care Act 2008 provides Trusts with a code of practice for the prevention and control of healthcare associated infections (HCAIs) and makes clear their statutory

responsibilities. Each Trust is expected to have sufficient systems in place to apply evidence-based protocols and to comply with the relevant provisions of the document so as to minimise risk of infection to patients, staff and visitors. The Trust considers itself to be compliant with this document and continues to monitor this through the IPCT Annual Plan.

The Infection Control Nurse continues to carry out infection control spot checks on a rolling programme and works closely with the link practitioners to ensure that aspects of the Health and Social Care Act are in place. On 4th June 2018 members of the IPCT took part in the Care Quality Commission (CQC) Well-led Review Interviews, where the team were given positive feedback regarding Infection Control. The CQC concluded that 'There were good standards of infection prevent and control. All areas we inspected were visibly clean and staff adhered to bare below the elbow protocols'. The Trust was the first acute Trust in London to be rated as 'Outstanding' by the CQC for overall quality and leadership this year.

4. **Mandatory Reporting of Healthcare Associated Infections (HCAI)**

Over the past year the Trust Business Intelligence Team (BIT), following sign off by the DIPC, reported the following HCAI statistics to PHE:

- Meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia rates.
- Meticillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia rates.
- *Clostridium difficile* toxin (CDT) positive infection rates.
- *Escherichia coli* (*E. coli*) bacteraemia rates.

Mandatory HCAI surveillance results have been reported via the quarterly report to IPCC and QIC, and to the Trust Board by the DIPC. Post Infection Reviews (PIRs) of cases have been presented to SLM and SIG in order to facilitate learning. The Trust reports Serious Incidents (SIs) related to infection control and outbreaks of infection, and there were no SIs relating to infection prevention and control this year.

5. **Trust Reportable Healthcare Associated Infections**

Meticillin-resistant *Staphylococcus aureus* (MRSA) Bacteraemia

The total number of Trust-apportioned MRSA bacteraemia (blood stream infection) cases for the year was one against a ceiling target of zero. Cases are deemed Trust-apportioned if the blood cultures are taken on or after the third day of admission. PIR was carried out on the positive case and presented to Service Line Meeting (SLM) and SIG in order to facilitate shared learning.

The patient was admitted to Kennet ward in early April 2018 and was previously MRSA positive in 2017 in a screen and a leg wound swab. The patient wasn't screened on this admission. MRSA was grown from a leg ulcer swab on 24.04.18. Right arm cellulitis was documented on 30.04.18 from an old cannula site. The cannula had been removed on the 27.04.18 due to slight pain and redness. Visual Infusion Phlebitis (VIP) scores had been documented for most shifts, demonstrating room for improvement. The patient died and upon review by the Medical Director and the Director of Nursing and Quality it was declared that MRSA was not the cause of death. Learning points from the case were to ensure MRSA screening on admission for all previous positive cases and thorough documentation of intravenous device inspection (see section 9).

Meticillin-sensitive *Staphylococcus aureus* (MSSA) Bacteraemia

There were 13 Trust-apportioned MSSA bacteraemia cases reported this year. There is no national benchmark or annual threshold set for MSSA bacteraemia rates. Learning identified from PIR undertaken were generated into action plans which this year included documentation of

insertion and maintenance of intravenous devices (see section 9) and the production of an ascitic drain competency framework.

***Clostridium difficile* Toxin (CDT)**

There were 22 Trust-apportioned CDT positive cases in total this year. Cases were deemed Trust-apportioned this year if the infection is diagnosed from a sample taken on or after the fourth day of admission.

The Trust may have faced a financial penalty if there were more than eight lapses in care, identified by evidence that policies and procedures consistent with Trust guidance were not followed (NHS Improvement 2018). There were three lapses in care this year as assessed by the North East London Commissioning Support Unit Infection Control Nurse Specialist; two were due to late collection of stool specimens and one was due to transmission of infection. The IPCT have continued to remind staff regarding sending stool samples as soon as diarrhoea commences rather than waiting to assess once laxatives and other potentially causative medications have stopped. The transmission of infection occurred on Hardy ward (Gastroenterology). At the time there was a period of increased incidence (PII) of *C. difficile* when three patients tested positive in a 28 day period. Two patients who had been in the same bay for eight days had the same type, which demonstrated transmission. The first case in the bay was not initially considered to be an infection risk due to his clinical condition and the use of laxatives. Weekly PII audits were completed until there had been no new cases for 28 days; these demonstrated consistent good compliance with infection control practice.

Reporting Changes

In February 2019 it was announced by PHE that from April 2019 there would be changes in reporting, particularly regarding the *C. difficile* non-Trust apportionment rule:

- Cases will be deemed Trust apportioned if the sample is taken on or after the 3rd day of admission (rather than the 4th day of admission) and will be referred to as 'hospital onset healthcare associated'.
- Those normally considered to be non-Trust apportioned will be counted in the Trust numbers if they have been an in-patient the hospital within the four weeks preceding the positive result date and will be referred to as 'community onset healthcare associated' infections.

The Trust will have an allowance of 45 cases in total for 2019-2020. However it is likely that Trust numbers will increase due to the new rules outlined above regarding Trust apportionment. The process for Lapse in Care review will remain the same and will inform local contractual decisions about penalties.

The Trust was the second in the country to use monoclonal antibody to prevent reoccurrence of *Clostridium difficile* infection this year.

Gram Negative Blood Stream Infections

In 2017 the Secretary of State for Health launched an important ambition to reduce healthcare associated Gram-negative bloodstream infections by 50% by 2021 (NHS Improvement 2017). The initiative started with *E. coli* bacteraemias, and this was then extended to include *Pseudomonas aeruginosa* and *Klebsiella species*. However, it has been recognised that this has been unachievable and the timespan has now been increased. The most recent government paper (DH 2019) outlining the UK's five-year national action plan (2019–2024) for tackling

antimicrobial resistance with reference to the planned 20 year vision includes the following targets, to:

- Halve healthcare associated Gram-negative blood stream infections;
- Reduce the number of specific drug-resistant infections in people by 10% by 2025;
- Reduce UK antimicrobial use in humans by 15% by 2024;
- Reduce UK antibiotic use in food-producing animals by 25% between 2016 and 2020 and define new objectives by 2021 for 2025; and
- Be able to report on the percentage of prescriptions supported by a diagnostic test or decision support tool by 2024.

Escherichia coli (E. coli) Bacteraemia

The Trust reported a total of 162 cases of *E. coli* bacteraemia this year. This number includes 136 non-Trust apportioned cases, and 26 Trust apportioned cases which is a decrease of Trust apportioned cases from the 31 reported last year.

The Trust has carried out a PIR on all Trust apportioned *E. coli* bacteraemia cases since 2017. Of the Trust apportioned cases 11 of the 26 cases had a primary focus of the urinary tract; five in the gastrointestinal tract; four in the hepatobiliary tract (with one patient having a likely source in both the gastrointestinal and hepatobiliary tract); one each in the respiratory tract and genito-urinary tract; one classified as 'other' and four were unknown.

Of the 136 non-Trust apportioned cases 99 had a primary focus point of the urinary tract. The emphasis continues to focus on reducing urinary tract infections and the Matrons for Elderly Care and Surgery & Urology continue to take the lead on this. The Matrons and the IPCT are involved in the South West London cross sector improvement work regarding catheter care.

Klebsiella Species / Pseudomonas aeruginosa Bacteraemia

The Trust reported two Trust apportioned cases of *Pseudomonas aeruginosa*; and nine Trust apportioned cases of *Klebsiella species* this year.

6.0 Outbreaks and Incidents

Vancomycin-resistant Enterococci (VRE)

There were 24 VRE cases this year including 22 in the Intensive Care Unit (ITU) with no evidence of cross infection. This is a reduction from the 56 cases last year.

During quarter four there were four patients with the same strain of VRE. Although all four patients had been to ITU there was no evidence of direct cross infection as all patients had been in the unit at different times, and in most cases had been nursed in different areas of the unit.

- Two patients were in side room 2 but their admissions were a month apart.
- Two patients were also in AAU with one patient in side room 1 from 31/01/19 – 05/02/19 and the other in side room 3 from 01/03/19 – 03/03/19. The rooms are separated by another room and therefore it is felt that this is unlikely to be significant.

The whole unit had an isolation clean and curtain change and ITU staff implemented a daily checklist for environment and equipment cleaning, as well as weekly hand hygiene auditing.

Specimens are sent for typing where necessary and this year 20/24 specimens were sent as demonstrated in the table below:

Table 3 ITU VRE typing and ward areas

Typing	Number of cases	Ward/s
Unique	8	Intensive Care Unit
SGEO07EC-31	1	Intensive Care Unit
SGEO07EC-32	2	Intensive Care Unit (No cross infection)
SGEO07EC-28	1	Intensive Care Unit
SGEO07EC-30	4	Intensive Care Unit (No cross infection)
SGEO07EC-33	1	Intensive Care Unit
SGEO07EC-34	1	Intensive Care Unit
SGEO07EC-35	1	Intensive Care Unit
SGEO07EC-36	1	Kennet Ward

Norovirus

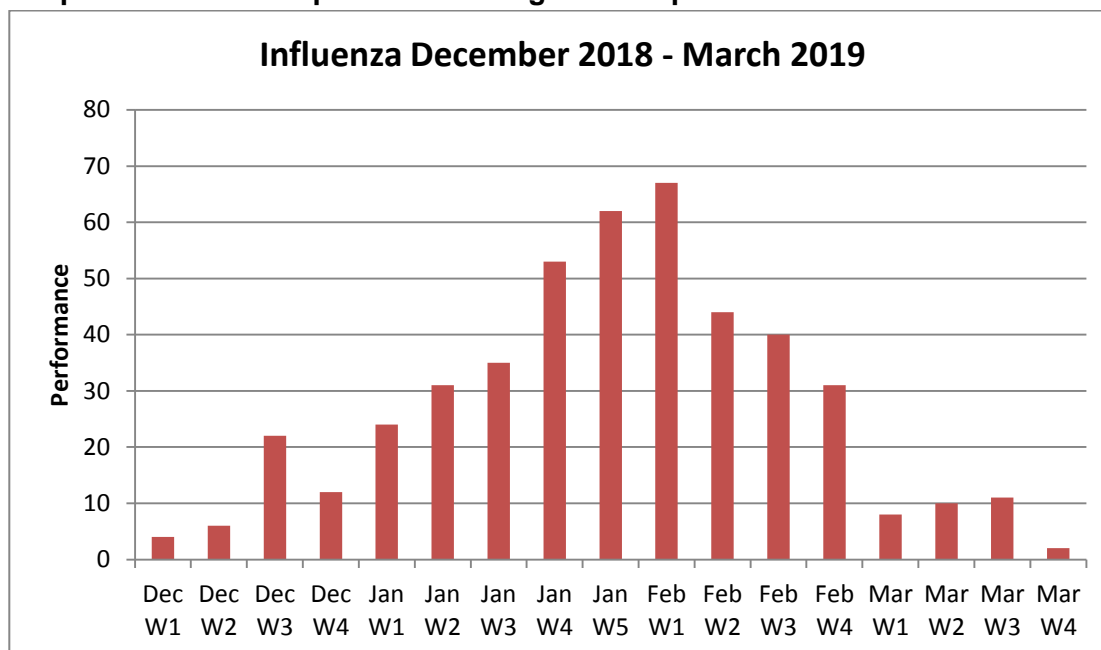
There were 15 cases of confirmed Norovirus this year with five cases in the Acute Assessment unit, one in the Intensive Care Unit and the others in six different medical wards. All were isolated cases with no demonstrated cross infection.

Influenza (Flu)

Flu point of care testing (POCT) was re-commenced in the Emergency Department (ED) and in the Acute Assessment Unit (AAU) during the latter part of December 2019. Flu POCT gives a result in 20 minutes of taking the throat swab. Prior to that, specimens were sent to the South West London Pathology Laboratory, where results typically take one to two days to be returned to the Trust

The total number of flu cases this year was 508 and these were predominantly influenza A. Most cases (96.5%) arrived at the Trust with symptoms. Furthermore, 50% of cases were discharged straight home from ED once diagnosed and other health risks had been ruled out. Positive cases were prescribed flu treatment where applicable and in-patients / those requiring admission to the Trust were isolated accordingly. Contacts of positive cases were isolated, and prescribed prophylactic treatment where appropriate.

Graph 1 Flu numbers per week at Kingston Hospital



Carbapenemase-producing *Enterobacteriaceae* (CPE)

There were 13 patients found to have CPE in total this year.

In April 2018 there was an incident involving an in-patient who tested positive for a CPE in his sputum. This patient did not fit the criteria for CPE screening however sometime into his admission he mentioned that he had 'an infection' that another hospital had told him about that he couldn't recall the name of, which transpired to be CPE. Inpatient contacts were screened and six patients subsequently tested positive for the same organism. Infection control precautions were implemented for all cases and contact tracing and flagging of patient records was completed. An incident meeting was held with input from PHE. This resulted in an action plan which included revision of the CPE guideline to include screening of visitors to the UK with frequent hospital attendances in their own country.

Positive results on admission to the Trust were identified in two patients who were transferred from other Trusts and four visitors from other countries (two from India, one each from South Africa and Italy).

Measles

There were six cases of childhood measles this year. Four children who had presented in ED were discharged home with only one case requiring follow up of other patient contacts in ED. Two children had been admitted to the paediatric wards and both cases required follow up and 'warn and inform' letters to the parents and GPs. Staff contact tracing was completed for all cases.

Scabies

There were three cases of scabies this year with one case each in Kennet, Hardy and Canbury wards. Patients with suspected scabies are isolated and staff are advised to wear gloves and gowns. An urgent dermatology review is requested as soon as possible. Prior to these measures, any staff having had direct (skin to skin) contact and experiencing signs and symptoms are advised to report to the Occupational Health and Wellbeing Department as early as possible.

There was one case of scabies in a father of a new born infant delivered here. The father had already received treatment himself but following consultation with a paediatrician it was advised that the mother and baby should also have prophylactic treatment.

Group A Streptococcus (GAS)

There were a total of 34 GAS and 12 invasive GAS cases this year. All cases were risk assessed using the Trust IPCT GAS Action card and where applicable advice was given regarding treatment, isolation, cleaning and contact tracing. Staff contacts of were informed of the need for heightened awareness of the signs and symptoms of GAS for 30 days.

Chickenpox and Shingles

There were four cases of chicken pox and six cases of shingles over the year. All patient cases and susceptible patients exposed to chicken pox and shingles were isolated. In addition, immunocompromised patients, or patients with an uncertain history of chickenpox, were tested for immunity as soon as possible. 'Warn and inform' letters were sent to discharged patients and their GPs. Pregnant staff / those without a history of chickenpox who had contact with a positive case were referred to Occupational Health and Wellbeing for management and advice.

Panton-Valentine Leukocidin (PVL) *Staphylococcus aureus* (SA)

In April 2018 there was a patient with PVL SA sputum in Hamble ward and ITU. Contact tracing was carried out and patients remaining in hospital were screened and letters were sent to

discharged patients and their GPs. Staff contacts were followed up by Occupational Health & Wellbeing.

Pertussis

In July 2018 a health care worker was diagnosed with pertussis which was likely to have been contracted from a patient. PHE guidance regarding management of contacts was followed and Occupational Health and Wellbeing were informed. There was no concern regarding patient contacts as the healthcare worker had not had significant exposure to any patients in the priority risk group. PHE were directly involved in the management of this case.

Hepatitis A Staff Member

At the end of February a member of staff was an in-patient at the hospital and found to have Hepatitis A. Following risk assessment and discussion with PHE it was agreed that immunisation of staff was not required in this instance due to inconsistent exposure.

7. Surveillance

Surgical Site Infection Surveillance Service (SSISS)

Results for the large bowel surveillance carried out in quarter two demonstrated an infection rate of 7.9% for the Trust. Results from all hospitals in this category for the previous five years demonstrate an infection rate of 10.6%. The site and nature of the surgery presents a higher risk of infection.

Results for repair of neck of femur surveillance carried out in quarter three demonstrated an infection rate of 0.0% for the Trust. Results from all hospitals in this category for the previous five years demonstrate an infection rate of 1.2%.

8. Hand Hygiene Compliance

Hand Hygiene Audits

The Department of Health (DH) Saving Lives hand hygiene audits have been carried out by the infection control link practitioners on a monthly basis. The Trust target for hand hygiene compliance remains at 95%, which 94% of areas have achieved, with just 6% achieving an amber score (70 – 95%) and no areas with red scores (<70%). Please refer to Appendix 1.

Bare below the elbow (BBE)

The Trust continues to monitor compliance with the DH initiative 'Bare below the elbow' with all staff working in clinical areas. Compliance is monitored during hand hygiene audits and staff are advised to directly challenge poor practice and escalate to the DIPC / Medical Director if necessary.

9. Asepsis and Intravenous (IV) Device Care

Asepsis

The IPCT have continued to carry out asepsis training on the Trust clinical skills day, which is provided to all new Trust employees. Parts of the process of asepsis are monitored via the DH Saving Lives initiative (see Section 10.0).

Local Intravenous Central Line Work

Following on from the audit carried out at the end of 2017 and due to some PIRs demonstrating the need for improved documentation regarding IV devices, members of the IPCT have carried out the following:

- An initial Quality Improvement (QIP) huddle on Bronte ward, in order to inform staff and generate ideas regarding IV insertion, maintenance and documentation.
- Staff reminders through various meetings and discussions about documentation of insertion of IV devices and care (including VIP scores) using the Intravenous Access chart on CRS rather than in the documentation section. There is still room for improvement and a plan has been put into place to engage the Link Practitioners in monthly IV documentation audits to promote improvement in their own ward areas.
- A trial of IV line labelling in Bronte ward, however the chosen system proved too complicated. Since then the IPCT have liaised with the company Vygon to produce bespoke IV line labels in a much simpler form, which will be available soon.
- Biopatch (a 2% Chlorhexidine patch placed around the insertion site of all central lines in order to prevent infection) was introduced into the Trust in 2016, and two further training awareness sessions on each ward have taken place by the Company Representative as a reminder to staff.
- Provision of posters demonstrating different line types (i.e. Hickman, Midline, PICC line) for staff in all clinical areas.
- Further specific infection control points added to the PDN drop in session on IV's for staff with sessions being promoted by the PDN's.
- Planning for a re-audit of IV devices later this year in order to monitor infection rates and improvements in practice, and to establish whether any further actions are required.

10. Saving Lives Initiative / High Impact Interventions (HII's)

The Infection Control Link Practitioners continue to carry out monthly audits from the DH 'Saving Lives High Impact Interventions' programme. This includes auditing hand hygiene; peripheral line insertion and care; urinary catheter insertion and care; and isolation practices. Aspects of the Saving Lives audit scores can be viewed on Nursing and Midwifery Quality Scorecard and are disseminated to the divisions via the Infection Control Quarterly Report. The ITU also carry out aspects of the HII's regarding ventilator associated pneumonia / tracheostomy and central venous access devices via ICNARC (Intensive Care National Audit Research Centre).

The IPCT and Business Intelligence Team worked together to incorporate some of the new elements in the updated DH Saving Lives programme (DH, 2017), ready to commence in April 2019.

11. Care of the Environment Trust Cleaning Services

ISS Mediclean continue to use a microfibre cleaning system, supplemented with Chlorclean (a chlorine-based detergent) for isolation rooms and in outbreak situations. Cleaning scores are routinely recorded as a quality indicator. Trust Curtain Changing guidelines are in place, with curtains dated when changed. The schedule for the rolling programme is available in each ward area as are the dates of any ad-hoc curtain changes requested by staff.

Infection Control training is given to all ISS Mediclean staff on induction by an external company.

ISS Mediclean have provided extra cleaning due to infections as requested by the IPCT.

Patient-Lead Assessments of the Care Environment (PLACE)

The IPCT participated in the annual PLACE assessment this year. The Trust achieved a score of 98% for cleanliness and hand hygiene in 2018, which was an increase of 3% on the 2017 score.

The national average was 99%. In addition the IPCT joined the Matrons 'ACE' (assessment of the care environment) with Matrons, the Maintenance Team, ISS, Trust Health and Safety Advisor and the Waste Manager. ACE assessments monitor cleanliness and the fabric of the building in one area every fortnight on a rolling programme.

Equipment Cleanliness Audits

A Head of Nursing and the Infection Control Clinical Nurse Specialist have been carrying out equipment cleaning audits on a monthly basis, looking at ten key pieces of equipment and generating a percentage score, which is colour coded. Scores have improved and results are demonstrated in Appendix 2. As the year has progressed other areas have been added to the list. The Infection Control Link Practitioners have also continued to carry out their own monthly equipment audits.

Blood Pressure (BP) Cuff Audit

PHE (2016) guidance recommends single patient use blood pressure cuffs for patients with CPE. On 09.07.18 the IPCT audited the type of BP cuff (single patient use/ reusable) being used with isolated patients and what is used to clean reusable BP cuffs. The findings demonstrated that 26/28 clinical areas used reusable BP cuffs for patients in isolation and that 27/28 clinical areas cleaned reusable BP cuffs using detergent wipes or chlorine wipes. It was recommended that patients being nursed in isolation should have a single patient use BP cuff for the duration of their patient journey and that chlorine wipes should be used for commodes only.

Environmental Audit

The IPCT completed environment audits and made recommendations for improvement in the following areas:

- Cardiology Catheter Lab 25.04.18
- Day Surgery Unit (DSU) Endoscopy 13.06.18.
- Assisted conception unit 30.08.18
- Gynae OPD 16.11.18
- Mortuary 05.09.18
- Princess Alice Hospice 17.09.18
- Mobile Glaucoma Unit 24.09.18
- Hawks Road Clinic 13.11.18
- Ebbisham Care Centre 14.12.18
- Cleaner's cupboards (maternity room F330 13.08.18; Royal Eye Unit 14.01.19; SWRU 22.01.19.)
- SSD 26.02.19
- The IPCT followed up environmental issues identified by Royal Marsden Infection Control Team during an audit in Sir William Rous Unit (SWRU) on 28.11.18.

Reports with robust action plans were provided to stakeholders on completion of each audit.

Infection Control Spot Checks

The Infection Control Nurse undertook infection control spot checks in most clinical areas in the Trust throughout 2018–19. During these visits environmental aspects (cleaning and maintenance) were monitored and reported where necessary and infection control practices (hand hygiene, patient isolation, glove usage etc.) were observed and discussed where required.

Clinical Audit

Percutaneous Endoscopic Gastrostomy (PEG) site infection audit

In order to determine the number of successful PEG placements and complications post PEG, in accordance with the requirements of current BSG quality standards, an audit was completed of PEG insertions from 01/04/2018- 30/03/19. There were 19 PEG insertion procedures completed during that time. Patients' CRS documentation was reviewed post procedure to ascertain if any patient(s) developed signs of infection or complications post procedure:

- 100% of PEG insertions from 01/04/2018 – 30/03/2019 were placed satisfactorily;
- Seven patients (36%) had positive microbiology cultures;
- Five patients (26%) developed infection post insertion and required antibiotic treatment;
- One patient (5%) developed a wound infection with cellulitis around the PEG site, which was considered to be directly related to the PEG insertion;
- One patient (5%) was queried to have developed peritonitis, which was considered to be possibly related to PEG insertion. The patient was treated as such, but the case was not investigated further as the patient required palliative care;
- The other three infections (urosepsis, sepsis of unknown source) were not considered to be related to PEG insertion;
- No patients (0%) developed bleeding requiring transfusion;
- No patients (0%) required an ascitic tap;
- No patients (0%) developed post-procedure bleeding that required transfusion.

It was discussed that skin disinfection prior to PEG insertion could have been a contributory factor to the development of wound infection post procedure. Betadine is currently used. The IPCT recommended the use of 2% chlorhexidine in 70% alcohol unless chlorhexidine sensitivity was present. The CNS Nutrition developed an action plan as follows:

- Compare the Trust antibiotic practice to other centres;
- Consider a period of antibiotic surveillance, monitoring the administration and efficacy of antibiotic prophylaxis;
- Consider implementation of a single use application of 2% chlorhexidine in 70% alcohol to replace Betadine;
- Introduce a 'PEG pack' with all the items needed for the procedure.

Hydrex Audit

At the Healthcare Infection Society spring meeting an outbreak of infection that occurred at a private physio clinic was discussed and the source of the infection was a multi-use spray bottle of skin disinfectant (Hydrex). Hydrex Pink is a solution of 0.5% w/v Chlorhexidine Gluconate and 70% alcohol for pre-operative skin disinfection prior to minor surgical procedures. This product is used in the Trust and therefore an investigation was carried out. In response the following recommendations were made:

- 0.5% chlorhexidine in 70% alcohol for skin disinfection should be used for all central and peripheral nerve blocks and lumbar puncture. If an alternative preparation is required, Povidone-iodine 10% (aqueous) should be used. This includes paediatrics.
- 2% chlorhexidine in 70% isopropyl alcohol should be used for:
 - Skin preparation before breast, lung or liver biopsy or joint injection in the Muscular Skeletal Clinic;
 - Skin disinfection prior to wire removal / joint injections in the Orthopaedic Out-patients Department.

Further guidance was provided:

- For advice on wound care the Tissue Viability Nurses should be consulted.
- Bottles of Hydrex Pink should be dated when first opened and discarded after two years.
- If the surface of the bottle of Hydrex Pink solution appears to be contaminated, it should be cleaned using a sanicloth AF universal wipe. If grossly contaminated / the contents appear contaminated it should be discarded.
- Hands should be washed before applying Hydrex Pink solution and an aseptic technique should be adopted for application.

The audit report was shared with services involved plus pharmacy, plastics, anaesthetics & tissue viability for their input.

MRSA Screening Compliance Audit

In quarter one there were 527 patients admitted to the Trust who met the criteria for MRSA screening. A random sample of 221 was selected for an audit of screening and decolonisation compliance. The results demonstrated that 174 patients were managed in accordance with Trust guidance (79%) and 47 were not (21%). Analysis of results identified CRS issues and lack of awareness of the MRSA screening requirements as contributory factors and an action plan to address these issues was implemented, with an emphasis on staff training.

CPE Point Prevalence Audit

In line with national policy the Trust aims to screen all patients with a history of CPE; contacts of CPE positive patients; patients who have been an inpatient in a UK hospital or hospital abroad in the last year; and patients visiting from abroad who have had regular hospital visits over the past 12 months. The IPCT carried out two snapshot audits of five wards in November 2018 and March 2019. The audits demonstrated that more work is required in order to improve compliance with screening. Actions taken:

- Results reported back to the ward Senior Nurses and Infection Control Link Practitioners.
- The IPCT check 'flags' on in-patients three times a week and follow up known CPE positive patients / contacts on a daily basis.
- CPE screening has been discussed on the wards at the 'BIG4' meetings.
- Further audit will be carried out to monitor compliance.

13. Mask Fit Testing

Mask fit testing is available for all staff and is of particular focus in high risk areas. Sessions continue to be provided in different locations on a monthly basis by the Infection Control Nurse, however uptake has been poor and the process is not efficient. Risk assessment has been carried out and a new method of testing and new masks, which will increase compliance, are currently being taken through the Trust and South West London procurement process.

14. Decontamination

From June 1st 2018 one of the CNSs Infection Prevention & Control became the Trust Decontamination Lead. A full Decontamination Annual Report is available upon request.

15. New Builds / Refurbishments

The IPCT provided expert guidance on new builds and refurbishments throughout the year.

The Built Environment

The IPCT provided input to the fire stopping project throughout the Trust, the refurbishment of theatres, radiology, the planned refurbishment of Sir William Rous Unit (SWRU) and Worcester ward, and the delivery of the ED urgent care centre. Audits were completed for the pain room in

main theatre, the assisted conception unit procedure room, various clinical rooms in REU and at Raynes Park Health Centre to assess these areas suitability for proposed increases in activity.

Planned Refurbishment

The IPCT advised on room specifications, fixtures fittings and finishes throughout the transformation of the former microbiology lab into an extended outpatient department, plus the planned refurbishments in ITU, SWRU, Radiology, Princess Alexandra Wing, ED majors and resus, Maternity, plus the conversion of Claremont ward on Esher Level 7 into an endoscopy suite. In accordance with infection control guidance new flooring was installed in the Assisted Conception Unit to enable the facility to be used for minor operations.

16. Recognition

Members of the IPCT and Audit Department won second prize at the Clinical Audit and Quality Improvement seminar for their Local Intravenous Central Line Audit poster.

Dr Elli Demertzi (Infection Control Doctor) and Fran Brooke-Pearce (CNS Infection Prevention & Control) presented their experience of implementing the POCT for influenza at a PHE event in London in May 2018 and were co-authors in the PHE paper 'Point of Care Tests for Influenza and other Respiratory Viruses' as early adopters of the flu POCT (PHE, 2017). In November 2018 they submitted a separate article called 'Introduction of Cobas Liat Influenza A & B for Rapid Point of Care Diagnosis' to the Journal of Infection Prevention and this was accepted for publication this year. Guidance published by PHE on management of winter pressures (NHS Improvement, 2018) cited Kingston Hospital NHS Foundation Trust as an example of good practice.

17. Infection Control Staff Training

Face to face training sessions for new staff on corporate induction were provided by the team. Infection Control classroom based training has been delivered on induction training for the new band 2 and band 5 nurses. The team continue to support training for volunteers. Additional training has been supplied when requested. Asepsis has been covered by the infection control nurse on clinical skills training days.

Infection Control Day in November 2018

A three day event was arranged by the Head of Nursing for Unplanned Care including Infection Control, Falls Management and Wound Care. The prize money from the Clinical Audit and Quality Improvement Seminar IV Audit poster was used for the Infection Control Day which was on November 14th. The IPCT encouraged all Link Practitioners to use the day for an infection control focus in their own clinical areas with prizes awarded for the most engaging activities. The day was a huge success with most areas taking part and lots of very inspiring ideas and activities.

18. Policy/ Guideline Review

There are around 70 Infection Control policies/ procedures/ guidelines available on the Trust intranet. All have been updated this year as required and ratified through the Infection Control Committee. Compliance is monitored against some via the DH Saving lives initiative and audit project work.

19. Further Infection Prevention & Control Initiatives

London Neonatal Operational Delivery Network Infection Control and Prevention Task & Finish Group

One of the CNSs joined this forum, which was established to produce pan-London infection control guidance for neonatal units, specifically focussing on resistant organisms with a view to facilitating safe transfer and repatriation between units.

DIPC Forum

Dr Elli Demertzi attends the London DIPC Forum meeting every quarter where all new NHS Improvement / PHE initiatives and CQUINs regarding *C.difficile* infection, Gram negative sepsis, Antibiotic Resistance and Antimicrobial Stewardship and emerging Infection Control issues are presented and discussed.

Link Practitioners

The Trust currently has Infection Control Link Practitioners in each clinical area. This person is allocated one day every two months specifically for infection control responsibilities including carrying out the Saving Lives audits and ensuring best practice regarding infection control in their own areas. Quarterly study days, in which the Link Practitioner business meeting is incorporated, have continued this year. The Infection Control nurse continues to work with the Link Practitioners on a rolling programme.

Infection Prevention & Control Information for Patients, Relatives and Visitors

Infection Prevention & Control is included on the Trust website for patients, relatives and visitors. Included on the website are leaflets on VRE, CPE, ESBL, Flu and Norovirus having been approved by the Patient information Review Group and Communication Team. Information sheets on reducing the risk of infection whilst in hospital, respiratory syncytial virus (RSV) and diarrhoea and vomiting are also available.

19. Summary and Conclusion

Over the past year the IPCT has:

- Contributed to the Trust achieving a CQC Trust rating of 'Outstanding'.
- Initiated a new way of completing the infection control ward rounds, including thorough checks of all patients with an infection control 'flag' to ensure screening /treatment is up to date and removal of flags as early as possible in order to free up side rooms.
- Instigated the POCT for influenza again this year, providing results in 20 minutes. 50% of patients with confirmed influenza were discharged on the same day this year which had a huge impact on bed management and patient experience this winter.
- Enabled the Trust to be cited as an example of good practice in guidance published by PHE regarding management of winter pressures regarding influenza POCT.
- Managed outbreaks and incidents of infection.
- Organised an 'Infection Control Day' as requested by the HON, enticing some very inspirational ideas by the infection control Link Practitioners.
- Used monoclonal antibody to prevent reoccurrence of *Clostridium difficile* infection this year, making us the second Trust in the country to do so.
- Won second prize at the Clinical Audit and Quality Improvement Seminar with an IV Audit poster and worked towards ensuring best practice regarding intravenous devices.
- Maintained improved hand hygiene scores with no red rated compliance scores (below 70%) and demonstrating mostly green scores (above 95%) for the year.
- Continued close monitoring of equipment cleaning to ensure improvements.

- Carried out SSIS and demonstrated low levels of infection.
- Trained new members of staff on Corporate Induction and Band 2 and 5 New Nurses Induction.
- Supported building and refurbishment projects throughout the Trust and advised on the suitability of environments for clinical activity, in accordance with published guidance.
- Strengthened the Decontamination agenda and provided greater visibility and assurance on decontamination practices and problems across the Trust.

20. Recommendations / Key Priorities for 2019/2020

Priorities will be monitored via the IPCT Annual Plan for 2019-2020.

- Continually monitor and ensure best practice in infection control in order to have measures in place for the aim of meeting infection rate targets set by the DH.
- Observe and work towards MRSA / MSSA bacteraemia / new *C. difficile* targets as set by PHE, ensuring that PIR is carried out and monitored by the clinical / nursing teams through SLM and SIG, to ensure learning where applicable.
- Continue to manage infection outbreaks and incidents efficiently in order to keep our patients, staff and visitors as safe as possible whilst maintaining hospital functioning. Liaise with PHE / CSU where required regarding outbreaks and incidents.
- Continue to flag patients on CRS with a new reported infection on a daily basis and advise staff regarding management of the infections. Carry out POCT for suspected flu patients during the summer months when the machine is in the POC lab. Oversee POC testing in ED and AAU alongside the POC team during the winter months.
- Ensure that patients with known infections are managed appropriately by checking all in-patient infection flags two to three times a week; advising staff of screening / treatment requirements in order to remove infection risk flags where possible and thereby facilitating release of side rooms. Continue to work towards optimal screening of patients for MRSA, CPE, VRE etc. and prompt stool sampling in accordance with DH requirements.
- Complete on-going work to ensure the best care of intravenous devices in order to prevent infections, ensuring conclusion of the IV audit action plan and further monitoring.
- Monitor hand hygiene and bare below the elbow score audits and facilitate improvements where required.
- Monitor the environment in clinical areas in terms of infection control by carrying out monthly equipment audits; and environmental spot checks on a rolling programme.
- Survey surgical site infection as part of the Surgical Site Infection Surveillance Service, carrying out six months of orthopaedic surveillance as a minimum.
- Aim to ensure that staff are adequately protected against certain respiratory infections by improving the numbers of staff passing the mask fit test. Implement the 'Portacount' machine which is a new improved method of mask fit testing; and ensure that staff are able to use suitable masks for the purpose.
- Provide infection control training to new and existing members of staff where required.
- Provide support to the Matrons in the Trust working collaboratively with other areas in the Catheter Care of Practice project.
- Work in tandem with Estates, Maintenance and Capital Projects to ensure that the fixtures, fittings and finishes of new builds and refurbishments are reflective of the relevant Health Technical Memoranda and Health Building Notes, to provide the optimum environment in which to deliver care ensuring that the risk of infection to patients during works projects is minimised throughout.
- Work towards inspiring a group of effective Infection Control Link Practitioners, who are responsible for day to day infection control matters in their own areas of work.

- Continue to attend and support meetings and groups (Matrons ACE, PLACE, Medical Devices Group, Water Safety, SIG, Nursing and Midwifery Board, etc.).
- Further progress the Decontamination agenda.
Plan for 2019/2020 antimicrobial stewardship CQUINS, with specific targets and action plans:
 - Lower urinary tract infection management in elderly patients
 - Surgical prophylaxis in patients undergoing elective colorectal surgery
 - Antifungal stewardship work.

21. References, sources and further reading

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Appendix 1
Hand Hygiene 2018 – 2019 per Month by Clinical Area

Ward / Area	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
ED (Emergency Department)	95.9%	98.0%	96.9%	99.0%	96.9%	96.9%	96.9%	96.9%	94.9%	94.9%	94.8%	95.9%
ED – (Paediatrics)		96.6%	100.0%	100.0%	100.0%					98.4%		
Acute Assessment Unit (AAU)	98.0%	96.0%	93.0%	96.0%	92.0%	98.0%	93.0%	93.9%	92.0%	93.0%	96.0%	87.8%
AEC (Ambulatory Emergency Care)	96.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Alex ward	100.0%	100.0%	97.7%	100.0%	100.0%	100.0%	96.9%	100.0%	97.9%	100.0%	100.0%	99.0%
Astor ward	98.0%	98.0%	89.0%	98.0%	97.0%	98.0%		76.0%	97.8%		97.9%	97.9%
Audiology Department	96.9%	96.3%	96.6%	95.7%	92.6%	98.8%	96.7%	93.8%	97.0%	98.0%	97.0%	98.0%
Blyth ward	100.0%	100.0%						90.0%	100.0%	99.0%	100.0%	100.0%
Bronte ward	99.0%	100.0%	98.0%	98.0%	99.0%	99.0%	99.0%	97.0%	97.5%	99.0%	99.0%	98.0%
Cambridge ward	100.0%	100.0%	100.0%	97.9%	95.8%	100.0%	99.0%	100.0%	100.0%	100.0%	97.9%	97.0%
Canbury ward	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Derwent ward	100.0%	99.0%	96.9%	100.0%	98.0%	97.9%	96.9%	98.0%	98.0%	98.0%	100.0%	99.0%
Day Surgery Unit (DSU)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		98.0%	100.0%	100.0%	99.0%
Hamble ward	96.0%	99.0%	96.8%	95.7%	95.7%	95.5%	94.8%	95.9%	95.9%	95.8%	96.0%	92.7%
Hardy ward	100.0%	100.0%	98.9%	98.8%	98.8%	98.9%	97.8%	98.9%	98.9%	98.9%	100.0%	98.9%
Isabella ward		100.0%	100.0%		100.0%	100.0%	97.4%	100.0%	98.5%	98.8%	100.0%	100.0%
Intensive Care Unit (ITU)	98.0%	98.0%	95.0%	97.5%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	97.4%	99.0%
Keats ward		93.0%	90.0%	97.0%	99.0%	97.0%	100.0%	95.9%		98.0%	97.0%	98.0%
Kennet ward	100.0%	100.0%	100.0%	98.0%	100.0%	99.0%	100.0%	100.0%	100.0%	99.0%	100.0%	98.0%
Main Theatres	94.9%	100.0%	95.0%	100.0%	100.0%	100.0%	95.1%	100.0%	100.0%	100.0%	100.0%	100.0%
Maternity - Delivery Suite	99.0%	99.0%	98.0%	100.0%	100.0%	100.0%	98.0%	100.0%	98.0%	100.0%	100.0%	98.0%
Maternity - Malden Suite	100.0%	97.9%	100.0%	100.0%				97.9%			97.9%	95.9%
Maternity - Thameside Antenatal	99.0%	99.0%	99.0%	96.9%	96.9%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Maternity - Thameside Postnatal	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		100.0%	100.0%	98.0%
Maternity - Transitional Care	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Maternity - Worcester	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	97.2%	100.0%
Neonatal Unit (NNU)	97.3%	100.0%		97.9%	99.0%	100.0%	100.0%	95.8%	97.9%	96.2%	100.0%	99.0%
Ophthalmology - REU	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Princess Alexandra Wing (Dental)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Radiology	97.4%	100.0%	100.0%	97.4%	97.4%	97.7%	100.0%	100.0%	97.8%	100.0%	100.0%	97.6%
Sunshine ward	95.7%	95.8%	95.6%	94.0%	95.7%	95.7%	96.9%	97.2%		98.9%	97.2%	96.9%

Appendix 2 Equipment Cleaning Monthly Audits

Ward / Area	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
ED Majors		70%	50%	60%	100%	40%	30%	70%	40%	80%	90%	70%
Resus		90%	90%	80%	70%	30%	60%	100%	90%	100%	100%	100%
Clinical Decisions Unit (CDU)		90%	90%	80%	70%	70%	60%	100%	80%	100%	80%	100%
Urgent Treatment Centre (UTC)			100%	80%	90%	100%	100%	100%	90%	100%	100%	100%
RAP		100%	70%	100%	100%	100%	50%	80%	60%	80%	90%	100%
ED (Paediatrics)		60%	100%	90%	100%	90%	50%	60%	90%	90%	70%	80%
Alex ward		100%	100%	90%	100%	100%	90%	100%	70%	100%	100%	100%
Astor ward		100%	70%	90%	100%	90%	70%	90%	100%	90%	100%	90%
Blyth ward		100%						50%	90%	80%	90%	90%
Kennet ward		100%	70%	100%	100%	70%	100%	90%	90%	100%	90%	100%
Bronte ward		100%	100%	100%	100%	90%	80%	100%	70%	100%	100%	90%
Derwent ward		80%	100%	80%	100%	70%	90%	100%	50%	100%	100%	90%
Hardy ward		50%	90%	90%	100%	100%	80%	90%	90%	100%	90%	100%
Hamble ward		100%	90%	90%	90%	80%	40%	100%	90%	100%	60%	90%
Keats ward		90%	70%	80%	100%	90%	100%	80%	90%	100%	100%	70%
Acute Assessment Unit (AAU)		75%	80%	85%	90%	90%	80%	80%	80%	95%	85%	85%
Cambridge ward			60%	90%	100%	70%	80%	80%	50%	80%	100%	80%
Canbury ward		40%	60%	100%	100%	50%	70%	100%	60%	90%	60%	70%
Isabella ward		100%	90%	40%	100%	100%	70%	100%		70%	40%	80%
Out-patient Department (OPD) L4	83%	76%	76%	75%	86%	60%	100%	70%	100%	100%	90%	80%
OPD ENT	90%	100%	100%	80%	90%	90%	100%	100%	90%	90%	100%	60%
Sir William Rouse Unit (SWRU)	100%	100%	100%	90%	80%	80%	100%	100%	100%	100%	100%	90%
Phlebotomy						97%	90%	80%	100%	90%	100%	100%
Gynae OPD							100%	90%	100%	100%	80%	50%
Dental department					70%		70%	70%	100%	90%	90%	100%
Sunshine ward					100%	60%	60%	90%	90%	100%	100%	100%
Dolphin					100%		90%	90%	80%	100%	100%	100%

Ward / Area	Apr 2018	May 2019	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
Maternity Transitional Care					80%	80%	80%	70%	60%	40%	90%	80%
Maternity Thameside Postnatal						90%	80%	100%	80%	60%		40%
Maternity Thameside Antenatal						100%	50%	20%	30%	70%	80%	50%
Maternity Malden Suite						70%	100%	70%	30%	40%	70%	100%
Delivery Suite					50%	90%	60%	20%	70%	70%	90%	100%
Worcester Ward					100%	80%	70%	70%	80%	60%	90%	90%
Neonatal Unit					100%	-	80%	100%	40%	100%	70%	70%
Royal Eye Unit					80%	-	90%	80%		70%	100%	80%
Intensive Care Unit					70%	50%	80%	100%	60%	100%	100%	90%
Pre-assessment Unit					80%	60%	80%	100%	80%	100%	100%	100%
Radiology									70%	60%	100%	100%
Assisted Conception Unit										70%	90%	100%
Haematology Day Unit										70%	80%	40%
Medical Decisions Unit											100%	100%

Key

Green >90%

Amber 70 - 90%

Red <70%

Appendix 3 Glossary of terms

Asepsis - the prevention of microbial contamination of living tissue/fluid or sterile materials by excluding, removing or killing micro-organisms.

Bacteraemia – the presence of micro-organisms in the bloodstream.

Biopatch – a small disc applied to the intravenous insertion site containing Chlorhexidine Gluconate to reduce the risk of infection while the absorbent foam draws discharge away from the catheter site.

Blood cultures - a laboratory test to check for bacteria or other microorganisms in a blood sample.

Blood stream infection - the presence of microbes in the blood with significant clinical consequences (e.g. fever, chills, and hypotension)

Carbapenemase-producing Enterobacteriaceae - Enterobacteriaceae are a large family of bacteria that live harmlessly in the gut of all humans and animals however, they can cause opportunistic infections. Carbapenem antibiotics are a powerful group of antibiotics. Rapid spread of carbapenem-resistant bacteria has the potential to pose an increasing threat to public health.

Clostridium difficile - is an organism that lives in the gut that sometimes produces a toxin which causes colitis.

CRS - the NHS Care Records Service is a service provided by NHS Connecting for Health for the National Health Service in England which provides mobile patient records and documentation.

Decolonisation protocol – topical treatments given to patients with MRSA skin carriage, consisting of cream in the nose and a skin wash.

E.coli – (*Escherichia coli*) bacteria that are normal flora of the intestine with some strains having the ability to cause infection in other areas of the body (i.e. blood, urine). *E.coli* are also becoming an important reservoir of extended-spectrum beta-lactamases (ESBLs) which are multiple antibiotic resistant.

Gram negative blood stream infection - an infection in the blood stream caused by Gram-negative bacteria such as *Escherichia coli*, *Klebsiella* and *Pseudomonas aeruginosa*.

Group A Streptococcus - (GAS) is a bacterium which can colonise the throat, skin and anogenital tract. It can cause a diverse range of skin, soft tissue and respiratory tract infections. GAS can occasionally cause infections that are extremely severe, such as necrotising fasciitis. Invasive GAS (iGAS) is when the bacteria are found in the blood stream i.e. by taking blood cultures.

Healthcare associated infection (HCAI) - any infection that develops as a result of receiving healthcare treatment.

Hepatitis A – an acute viral illness.

Influenza- a respiratory illness associated with infection by influenza virus. Symptoms frequently include headache, fever, cough, sore throat, aching muscles and joints.

Intravenous device - a device inserted into the vein for giving medications or fluids (including cannula and central line).

Klebsiella – bacteria that are normal flora of the intestine but can cause opportunistic infections elsewhere in the body (i.e. blood, urine)

'Lapse in Care' – a term used with regards to *Clostridium difficile* toxin positive patients when there has been an aspect of care or treatment outlined in hospital policy (or guidelines) that has not been adhered to.

Measles – a common and highly infectious childhood illness that may affect any age group. Early symptoms include the onset of fever, malaise (aches and pains), coryza (head cold), conjunctivitis (red eyes) and cough. It is vaccine preventable.

Meticillin sensitive *Staphylococcus aureus* (MSSA) - *Staphylococcus aureus* is a bacterium that commonly colonises human skin and mucosa e.g. inside the nose, without causing any problems. However, the bacterium is capable of causing infections, i.e. in a wound or the blood stream.

Meticillin resistant *Staphylococcus aureus* (MRSA) - strains of *Staphylococcus aureus* that are resistant to many of the antibiotics commonly used to treat infections. Some strains are more likely to cause an infection than others i.e. they are more virulent.

Norovirus - the most common cause of infectious gastroenteritis (diarrhoea and vomiting) in England and Wales. The illness is generally mild and people usually recover fully within 2-3 days.

Outbreak - two or more epidemiologically linked cases of infection caused by the same micro-organism in place and / or time.

Panton-Valentine Leukocidin (PVL) MRSA / *Staphylococcus aureus* (SA) - Some strains of MRSA or SA (see above) are more likely to cause infections than others i.e. they are more virulent. Strains that produce a toxin called Panton-Valentine Leukocidin (PVL) are more likely to cause infections, particularly of the skin.

Patient 'Flag' – a system of alerting staff to important information regarding a patient in their CRS records.

PEG tube - a percutaneous endoscopic gastrostomy tube is an endoscopic tube that is passed into a patient's stomach through the abdominal wall, most commonly to provide a means of feeding when oral intake is not adequate.

Pertussis – whooping cough, a respiratory infection.

Pseudomonas – gram negative bacteria that are common in the environment but which can cause clinical infection particularly in people with diabetes or those who are immunocompromised.
Pseudomonas aeruginosa

Scabies - is an intensely itchy and contagious skin infestation which can be passed from one person to another by touching.

Surveillance – the systematic observation of the occurrence of disease in a population with analysis and dissemination of the results.

Vancomycin resistant enterococci (VRE) Enterococci are Gram-positive bacteria that are naturally present in the intestinal tract of all people. Vancomycin is an antibiotic to which some strains of enterococci have become resistant. The resistant strains are referred to as VRE.

Visual Infusion Phlebitis score - a standardised approach to monitoring intravenous device sites. Phlebitis is inflammation of the wall of a vein which can be caused by a number of things, including intravenous devices.