



Report Cover Sheet

Report to:	Board of Directors	
Date of the Meeting:	26 June 2019	
Agenda Item:	P1-0122-19	
Title:	Infection Prevention & Control 2018/2019 Annual Report	
Report prepared by:	Joe Allan, Interim Head of Infection Prevention and Control Debbie Kretzer, Team Leader Infection Control Nurse	
Executive Lead:	Sheila Lloyd, Director of Nursing and Quality	
Status of the Report:	Public	Private
	√	

Paper previously considered by:	Integrated Governance Committee Quality Committee
Date & Decision:	6 June 2019, Approved 12 June 2019, Approved

Purpose of the Paper/Key Points for Discussion:	<p>This report sets out the arrangements for infection prevention and control within the Trust, and summarises the work and projects implemented during 2018 / 2019 to protect patients from healthcare associated infections (HCAI). The report demonstrates that the Trust is meeting the requirements of the Health and Social Care Act (2008) Code of Practice in the Prevention and Control of Infections.</p> <p>There are national contractual reduction objectives for Meticillin resistant <i>Staphylococcus aureus</i> (MRSA) bloodstream infections and <i>Clostridium difficile</i> infections and there are a number of infections that are mandatory for reporting to Public Health England listed below:</p> <ul style="list-style-type: none"> • Meticillin resistant <i>Staphylococcus aureus</i> (MRSA) bloodstream infections • <i>Clostridium difficile</i> infections • Meticillin sensitive <i>Staphylococcus aureus</i> (MSSA) bloodstream infections • <i>Escherichia coli</i> (<i>E.coli</i>) bloodstream infections • <i>Klebsiella spp.</i> bloodstream infections • <i>Pseudomonas aeruginosa</i> bloodstream infections • Vancomycin-resistant <i>Enterococcus</i> (VRE) bloodstream infections <p>This report demonstrates the continued commitment of the Trust and evidences the successes and service improvements achieved through the leadership of the DIPC and the IPC Team. It is also a testament to the commitment of a Trust workforce dedicated to keeping IPC high on everyone's agenda.</p>
---	--

	The Trust remains committed to preventing and reducing the incidence and risks associated with HCAIs and recognise the areas for further improvement, including across the wider health economy.
--	--

Action Required:	Discuss	√
	Approve	√
	For Information/Noting	

Next steps required	
---------------------	--

The paper links to the following strategic priorities (please tick)

Deliver outstanding care locally	√	Collaborative system leadership to deliver better patient care	
Retain and develop outstanding staff		Be enterprising	
Invest in research & innovation to deliver excellent patient care in the future		Maintain excellent quality, operational and financial performance	√

The paper relates to the following Board Assurance Framework (BAF) Risks

BAF Risk	Please Tick
1. If we do not optimise quality outcomes we will not be able to provide outstanding care	√
2. If we do not prioritise the costs of the delivering the Transforming Cancer Care Programme we will not be able to maintain our long-term financial strength and make appropriate strategic investments.	
3. If we do not have the right infrastructure (estate, communication & engagement, information and technology) we will be unable to deliver care close to home.	
4. If we do not have the right innovative workforce solutions including education and development, we will not have the right skills, in the right place, at the right time to deliver the outstanding care.	
5. If we do not have an organisational culture that promotes positive staff engagement and excellent health and well-being we will not be able to retain and attract the right workforce.	
6. If we fail to implement and optimise digital technology we will not deliver optimal patient outcomes and operational effectiveness.	
7. If we fail to position the organisation as a credible research partner we will limit patient access to clinical trials and affect our reputation as a specialist centre delivering excellent patient care in the future.	
8. If we do not retain system-side leadership, for example, SRO for Cancer Alliance and influence the National Cancer Policy, we will not have the right influence on the strategic direction to deliver outstanding cancer services for the population of Cheshire & Merseyside.	
9. If we do not support and invest in entrepreneurial ideas and adapt to changes in national priorities and market conditions we will stifle innovative cancer services for the future.	
10. If we do not continually support, lead and prioritise improved quality, operational and financial performance, we will not provide safe, efficient and effective cancer services.	√

Equality & Diversity Impact Assessment

Are there concerns that the policy/service could have an adverse impact on:	YES	NO
Age		√
Disability		√
Gender		√
Race		√
Sexual Orientation		√
Gender Reassignment		√
Religion/Belief		√
Pregnancy and Maternity		√

If YES to one or more of the above please add further detail and identify if a full impact assessment is required.

Director of Infection Prevention and Control Annual Report

2018-2019



The Clatterbridge Cancer Centre



NHS Foundation Trust

Foreword

I am pleased to introduce Clatterbridge Cancer Centre NHS Foundation Trust's Annual Infection Prevention and Control Report for the period 2018 – 2019.

As an organisation we are one of the UK's leading providers of non-surgical cancer treatment, including pioneering chemotherapy, radiotherapy and eye proton therapy. The Trust serves a population of approximately 2.3 million in Cheshire, Merseyside, North Wales and the Isle of Man, providing treatment at home, in chemotherapy clinics in hospitals across the region and at our main sites in Wirral, Liverpool and Aintree.

The report demonstrates that the Trust has continued to make substantial progress towards achieving the key priorities set out and outlines our continued commitment to promoting best practice in infection prevention and control and sustaining the reduction in the number of avoidable healthcare associated infections.

The organisation has expanded geographically over the last two years with inpatient beds at both Wirral and Liverpool and a number of hub sites to offer services to our patients closer to home. These changes have presented us with new challenges and to support this, the infection prevention and control team has expanded in order to ensure that all clinical teams understand their responsibility and comply with the requirements of the Health and Social Care Act (2008) and any learning is shared across the organisation.

Finally, the report outlines the priorities and future developments for 2019 – 2020.



Sheila Lloyd
Director for Infection Prevention and Control (DIPC)
Executive Director of Nursing & Quality

Contents

Executive summary

Summary of key achievements

1.0 Main Report

1.1 Staphylococcus aureus (MRSA)

1.2 Staphylococcus aureus (MSSA)

1.3 Clostridium difficile infection

1.4 Escherichia coli

1.5 Klebsiella spp.

1.6 Pseudomonas aeruginosa

1.7 Vancomycin-resistant Enterococcus

1.8 Influenza / respiratory Viruses

1.9 Norovirus

2.0 Infection Prevention and Control Team

3.0 Role of the Infection Prevention and Control Team

4.0 Infection Prevention and Control Committee

4.1 Infection Prevention and Control Sub-committee

5.0 External Bodies

5.1 The Health & Social Care Act

5.2 Care Quality Commission

6.0 Education

6.1 Mandatory Training

7.0 Guidelines / Policies

8.0 Hand Hygiene and Saving Lives High Impact Interventions Audits

8.1 Hand Hygiene: Saving Lives – Clean Your Hands

8.2 Saving Lives High Impact Interventions

8.3 Sharps Audit

8.4 Ward / Department Audits

8.5 Urinary Catheter Audit

9.0 Water Safety

9.1 Water safety Findings

10.0 Environmental Cleaning

10.1 Patient-Led assessment of the Care Environment

10.2 credits for Cleaning (C4C)

10.3 Hydrogen Peroxide Vapour

10.4 Equipment Decontamination

11.0 Antimicrobial Stewardship and Antibiotic Usage

12.0 Priorities and Future Developments for 2019 / 2020

13.0 Summary

Executive Summary: Overview of Infection Prevention and Control Activities and Achievements within the Trust

This report sets out the arrangements for infection prevention and control within the Trust, and summarises the work and projects implemented during 2018 / 2019 to protect patients from healthcare associated infections (HCAI). The report demonstrates that the Trust is meeting the requirements of the Health and Social Care Act (2008) Code of Practice in the Prevention and Control of Infections.

Our results show that the Trust continues to be among the leaders in healthcare associated infection reduction in England and this report takes the opportunity to celebrate the successes and highlights the increasing challenges faced within healthcare.

A zero tolerance approach continues to be taken by the Trust towards all avoidable HCAI and good infection prevention and control (IPC) practice is essential to ensure that people who use the Trust services receive safe and effective care. Effective IPC practice must be part of everyday practice and be applied consistently by everyone. The publication of the IPC annual report is a requirement to demonstrate good governance and public accountability.

This report acknowledges the work and diligence of all grades of staff, clinical and non-clinical who play a vital role in improving the quality of patient experience as well as assisting to reduce the risk of infections. Additionally, the Trust continues to work collaboratively with a number of outside agencies as part of its IPC and governance arrangements.

The Trust has an experienced IPC Team in place that is directed by the Director of Infection Prevention and Control (DIPC). The IPC Team supports the organisation with all processes to ensure that services provided are safe and effective. The Trust has clear governance arrangements in place to ensure that IPC reporting is 'Floor to Board' and accessible to patients and the public.

There are national contractual reduction objectives for Methicillin resistant *Staphylococcus aureus* (MRSA) bloodstream infections and *Clostridium difficile* infections and there are a number of infections that are mandatory for reporting to Public Health England listed below:

- Methicillin resistant *Staphylococcus aureus* (MRSA) bloodstream infections
- *Clostridium difficile* infections
- Methicillin sensitive *Staphylococcus aureus* (MSSA) bloodstream infections
- *Escherichia coli* (*E.coli*) bloodstream infections
- *Klebsiella spp.*
- *Pseudomonas aeruginosa*
- Vancomycin-resistant *Enterococcus* (VRE) bloodstream infections

Summary of key achievements

The Trust achieved the MRSA bacteraemia (blood stream infection) objective with zero cases.

The Trust has met the allocated objective (maximum number of cases) for *Clostridium difficile* infection which is to have no more than 4 cases. The Trust reported 2 cases against the objective that were deemed unavoidable infections with no lapses in care.

The Trust introduced an IPC sub-committee that reports to the main IPC committee.

The Trust standard for when to undertake hand hygiene is in line with the World Health Organisation's '5 Moments' and audits against this standard have demonstrated excellent compliance across the Trust with scores ranging from 96% – 100% across clinical areas.

The Trust achieved good audit compliance against High Impact Interventions and this was supported by the new hand held electronic devices.

Antimicrobial stewardship has been promoted through multi-disciplinary team weekly antibiotic ward rounds and prevalence audits.

Environmental cleaning scores are consistently above 95% in all inpatient areas and on average 90% across all areas of the Trust.

The Trust was an active participant of the national cancer collaborative to reduce the incidence of gram negative blood stream infections and presented at a celebratory event in Birmingham in March 2019.

High level cleaning of patient areas with Hydrogen peroxide Vapour (HPV) continues to be used following the discharge of patients with high risk infections, in particular *Clostridium difficile* and Carbapenemase Producing *Enterobacteraea* (CPE).

Influenza vaccination programme was undertaken targeting frontline staff and the Trust achieved an 80.17% uptake rate across all staff groups.

The Infection Prevention and Control Team (IPCT) continue to work closely with the project management team in the design and build of the new Clatterbridge hospital in Liverpool.



Main Report

1.0 Healthcare Associated Infection Statistics

1.1 *Staphylococcus aureus* (MRSA)

All *Staphylococcus aureus* bacteraemia (bloodstream infections) either sensitive (MSSA) or resistant to Meticillin (MSSA) are reported on a mandatory basis through the Public Health England (PHE) HCAI Data Capture System (DCS). The Trust's data is published quarterly on the PHE website and indicates if infection is attributable against the Trust.

The Trust achieved zero MRSA blood stream infection cases with the last case being reported by the Trust in February 2012. The Trust has not had a patient with a MRSA blood stream infection since 2011.

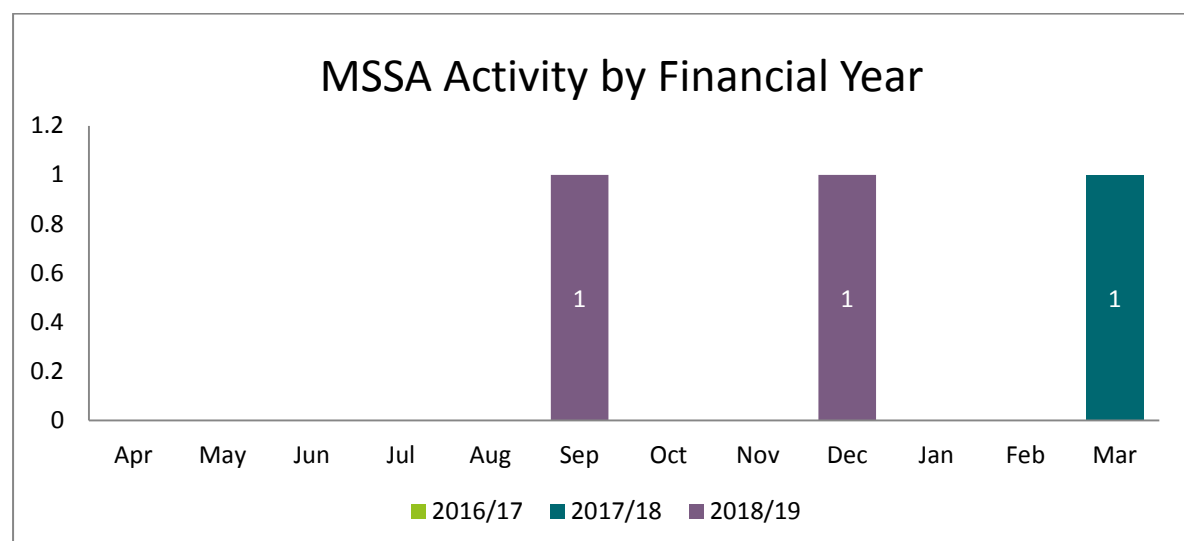
In line with national guidance, the Trust continues to undertake MRSA screening for all patients admitted and patients confirmed colonised with MRSA are risk assessed for isolation and prescribed eradication therapy.

An MRSA admission screening audit was completed in March 2019 and this demonstrated that 87% of inpatients received a screen prior to or within 24 hours of admission. Areas of non-compliance related to MRSA screens being omitted from clinical sites such as wounds and this was discussed with the clinical teams to action and is monitored daily by the IPC nurses and bed managers for appropriate side room utilization.

In January 2019 NHS England reported that the Trust is ranked 1st (among 148 Trusts in England) for MRSA bacteraemia.

1.2 *Staphylococcus aureus* (MSSA)

There is no national objective set for MSSA bacteraemia and the Trust reported two cases of MSSA to PHE in 2018 / 19 compared to four cases being reported in 2017 / 18. Both cases were not linked and following a post infection review any learning identified was shared with the clinical teams. Nationally there has been a steady increase in the number of MSSA cases being reported.



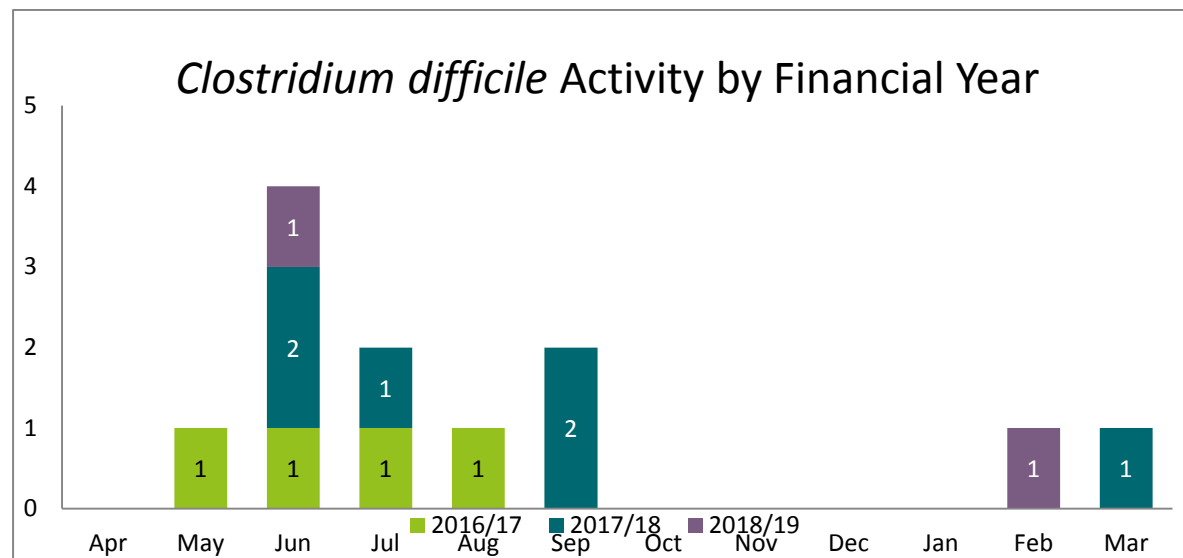
1.3 *Clostridium difficile* Infection

Clostridium difficile infection is identified through positive identification within a stool sample and cases attributable to the Trust are those identified after three days of admission. The objective (maximum threshold) for the Trust is no more than four cases. There were two cases of *Clostridium difficile* infection reported during this period and following post infection reviews both cases were deemed unavoidable. There was no evidence of local transmission and no periods of increased incidence.

The Trust has received its *Clostridium difficile* objective for 2019 / 2020 which is no more than 4 avoidable cases. In addition, PHE has changed the process of trust attributable / non-attributable case definition from 2019 / 20 to include recent association with an NHS organisation and it is anticipated that the revised definition will increase the number of cases to each organisation.

In January 2019 NHS England reported that the Trust is ranked 7th (among 148 Trusts in England) for *Clostridium difficile*.

The table below provides an overview of *Clostridium difficile* cases by financial year:



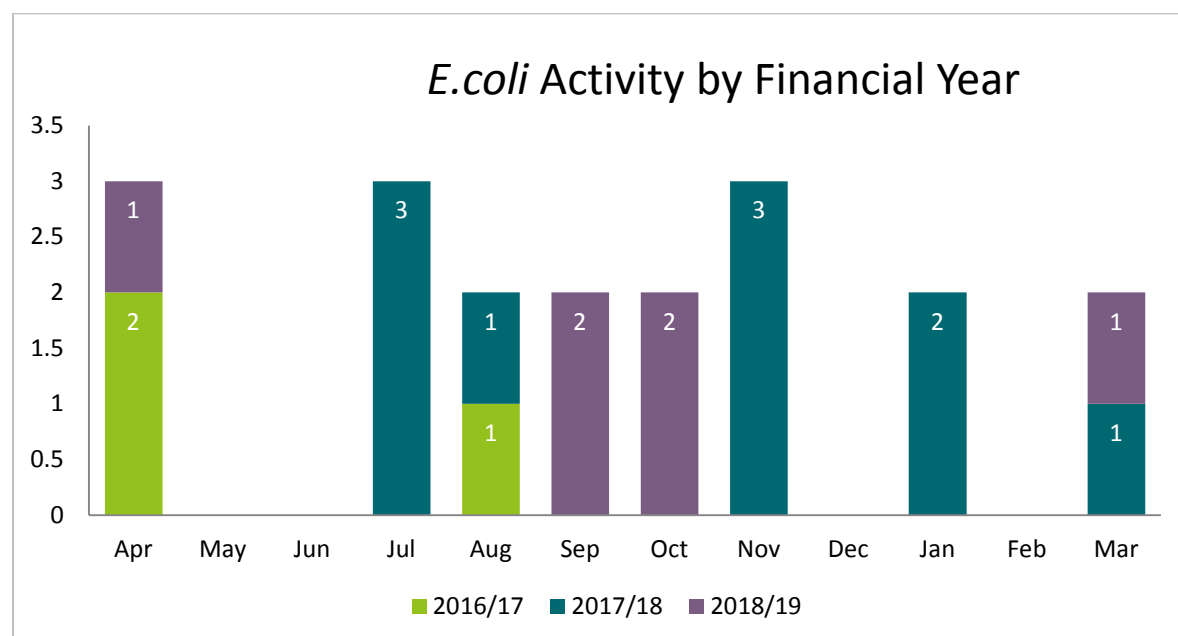
1.4 *Escherichia coli* (*E.coli*)

E.coli is commonly found in the bowel (intestines) of every person and national surveillance has identified that this organism is a common cause of blood stream infections and mandatory surveillance was introduced by PHE in 2017. The Trust objective (maximum threshold) for 2018 / 19 was no more than 10 cases attributable and this was achieved with 6 cases being reported.

The Trust has been working closely with the national cancer network (Royal Marsden and The Christie) to undertake a 'deep dive' into all cases of *E.coli* reported. This has involved a number of planning meeting to share learning and to monitor themes / trends from post infection reviews. There was a celebratory event held in Birmingham in March 2018 with the Trust Executive Nurse chairing part of the session and the IPC Team presenting the work on hydration and fluid balance.

In January 2019 NHS England reported that the Trust is ranked 10th (among 148 Trusts in England) for *E.coli* bacteraemia.

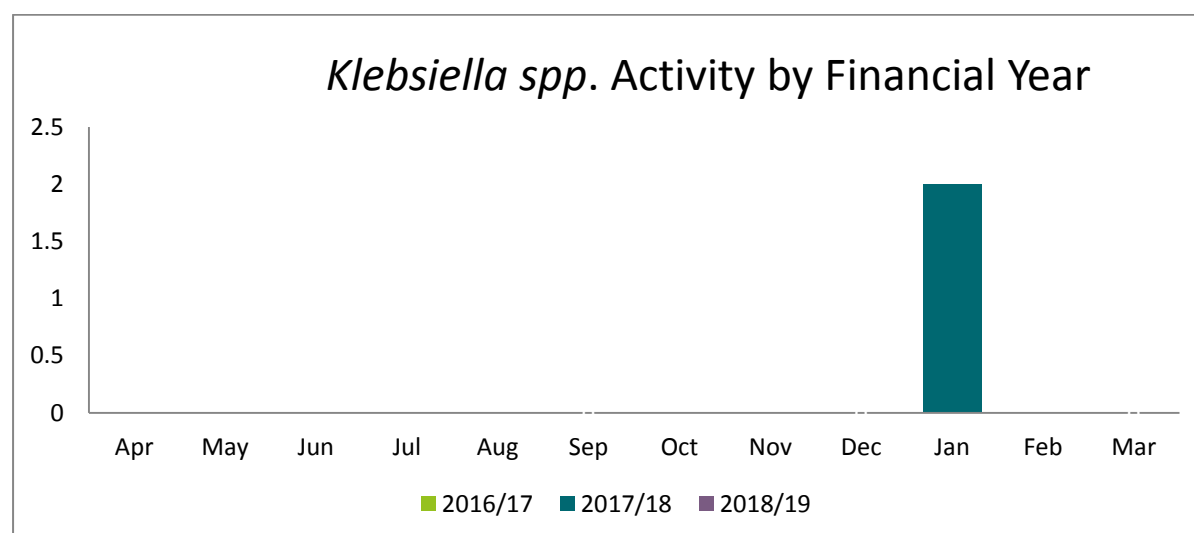
The table below provides an overview of E.coli cases by financial year:



1.5 *Klebsiella spp.* Bloodstream Infection

Mandatory surveillance for *Klebsiella spp.* bloodstream infection was introduced by PHE in April 2017 and there is no set threshold for this organism. The Trust report 3 cases during 2018 / 19 and these cases were subjected to a post infection review that identified no common theme although the likely source of infection for each case reviewed was considered to be respiratory, urine and gastrointestinal.

The table below provides an overview of Klebsiella cases by financial year:

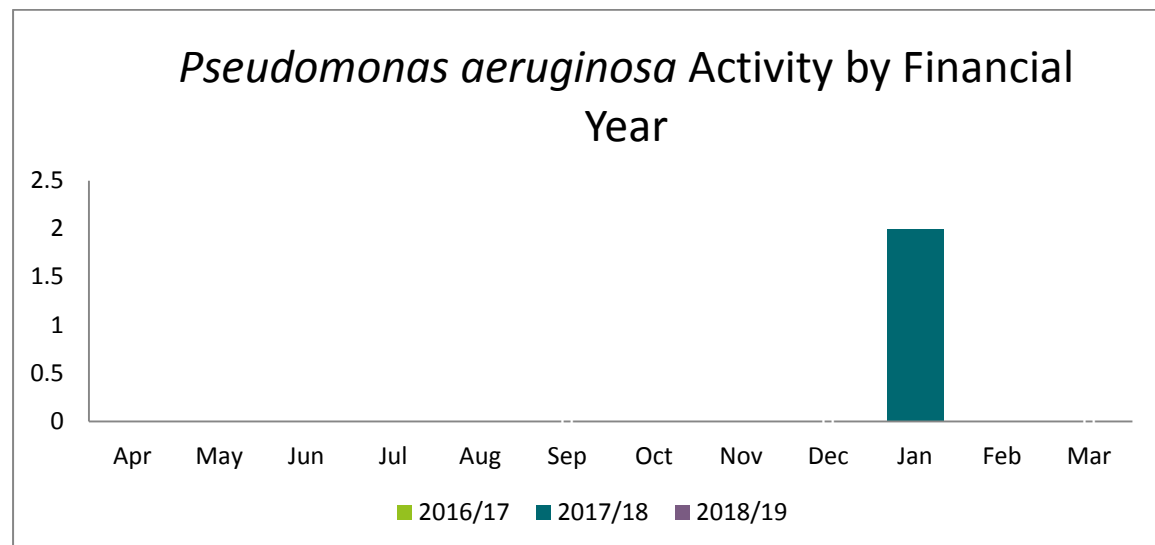


1.6 *Pseudomonas aeruginosa*

Mandatory surveillance for *Pseudomonas aeruginosa* was first introduced by PHE in September 2017 as an extension to the gram-negative surveillance introduced in April 2017 and there is no set threshold for this organism. The Trust reported 0 cases during

2018 / 2019.

The table below provides an overview of *Pseudomonas aeruginosa* cases by financial year:



1.7 Vancomycin-resistant Enterococcus (VRE)

Mandatory reporting of VRE bloodstream infections is reported to PHE on a quarterly basis and to date the Trust has not confirmed any cases. VRE screening is undertaken on patients on admission based on risk assessment and patients found to be colonised have been isolated in single rooms with appropriate IPC precautions in place to prevent onwards transmission to other susceptible patients.

1.8 Influenza / Respiratory Viruses

Public Health England briefing showed moderate levels of Influenza activity in the UK during the winter of 2018 / 2019, with both Influenza A and Influenza B being identified in confirmed cases. The impact was seen in both young and older adults with a number of care home outbreaks confirmed. Activity from other circulating respiratory viruses including respiratory syncytial viruses (RSV), rhinovirus, adenovirus and parainfluenza was similar to that reported in previous years.

All respiratory viruses have significant implications for our patients with associated high mortality in severely immunocompromised patients. When respiratory infections are circulating within the wider the community, staff, patients and visitors may be potential sources of infection, therefore, same day testing was undertaken to test patients admitted with a temperature and respiratory symptoms.

There was a number of inpatients managed with confirmed or exposure to Influenza during this period with no confirmed outbreaks. The IPC Team supported the Trust by advising on the appropriate management of patients with Influenza, including the appropriate use of personal protective equipment. The IPC Team provided daily updates and management plans on the patients with Influenza and this supported the bed management teams and resulted in no areas being closed.

The IPC Team developed a pictorial standard operating procedure to guide staff when obtaining specimens for Influenza. A number of FFP3 respirator 'Fit-Testing' training

sessions were delivered for staff that are required to perform aerosol generating procedures on patients with Influenza.

The IPC Team continued to support the national Influenza campaign and this year there was the introduction of an opt-out form to understand why staff did not want to be vaccinated. Also the Trust trained an increased number of staff to support vaccination uptake through increased availability and the target was to achieve over 75% as determined by the 2018 / 19 CQUIN. Following a successful Influenza campaign the Trust achieved 80.17% vaccination uptake for frontline staff and none frontline staff were also offered the vaccination. No staff members were excluded or placed on restricted duties due to Influenza.

An Influenza staff vaccination 'debrief' meeting was held to document what worked well and lessons learnt from the 2019 / 2020 Influenza campaign in preparation for the 2019 / 2020 Influenza vaccination campaign.

1.9 Norovirus

Norovirus outbreaks are reported to PHE as part of their voluntary surveillance scheme. Norovirus activity within the wider community was confirmed through the closure of beds in other hospitals and care homes locally. The Trust did not confirm any cases of Norovirus and did not close any wards due to diarrhea and vomiting (D&V) although patients that developed D&V was isolated within a timely manner with IPC precautions in place.

2.0 Infection Prevention & Control Team

The IPCT is led by the Director of Nursing in her capacity as Director of Infection Prevention and Control (DIPC) and additionally comprise:

- Lead Nurse Infection Prevention and Control
- Two Clinical Nurse Specialists for Infection Prevention and Control
- Consultant Microbiologist / Infection Control Doctor
- Antimicrobial Pharmacist
- Matrons
- Consultant Oncologist
- Facilities / Estates Manager
- IPC Champions and Ward / Department Managers

Sheila Lloyd as Director of Nursing and Quality joined the organisation 1st April 2018 and assumed the role of DIPC.

Consultant Microbiologist / Infection Control Doctor provision is provided by Wirral University Teaching Hospital to Clatterbridge (Wirral site) through a service level agreement (SLA). Consultant Microbiologist / Infection Control Doctor provision is provided by Royal Liverpool Hospital (RLH) to Haematology-Oncology based in Liverpool through an SLA.

Two newly appointed Clinical Nurse Specialists who joined in November / December 2018 and an interim Head of Infection Prevention and Control joined in January 2019.

The IPCT is appropriately trained and supported in further training within the specialty. Team members are given time and encouraged to attend relevant training courses and conferences to ensure that they remain up to date and in turn keep mandatory training sessions for staff refreshed and current.

The Clatterbridge Haematology-Oncology service remains hosted at Royal Liverpool Hospital (RLH) and until cancer services come together in the newly built hospital the IPC service is provided RLH IPCT. Good working relationships have been formed between both Clatterbridge IPCT and RLH IPCT in order to ensure that there are safe systems and processes in place to prevent and manage HCAI.

The IPC Team attended a number of regional and national meetings on a wide range of healthcare associated infection topics.

3.0 Role of the Infection Prevention & Control Team

The following roles are undertaken by the IPC Team:

- Advising on the prevention & management of HCAI
- Education & training
- Audit & surveillance
- Preventing & managing patients with actual / potential infections
- Investigations & controlling outbreaks
- Patient care / post infection reviews
- Development, implementation and monitoring of IPC policies
- Procurement of new equipment
- IPC in the built environment / estate upgrades
- National bacteraemia data reporting
- National *Clostridium difficile* data reporting
- Public Health England reporting
- Attending local, regional & national IPC forums

4.0 Infection Prevention and Control Committee

The IPC committee meets quarterly and is chaired by the Director of Nursing & Quality who is also the DIPC. The IPC committee receives update reports on infection prevention & control activities from both clinical and non-clinical departments within CCC. In addition to the DIPC, the IPC committee also comprises:

- Consultant Microbiologist / Infection Control Doctor
- Lead Nurse for Infection Prevention and Control
- Clinical Nurse Specialist Infection Prevention and Control
- Deputy Director of Nursing & Quality
- Antimicrobial Pharmacist
- Clinical Matrons / Senior Nurses
- Consultant in Oncology
- Propcare (water safety, cleaning, waste and maintenance)
- Public Health England

The IPC Team report to the IPC committee each quarter and in turn the IPC committee reports to Integrated Governance. The Trust Board receives an IPC update each quarter from the DIPC.

The IPC Team disseminates surveillance data to patients, staff and the public by displaying information on notice boards within each clinical area. Also surveillance data is updated monthly to the CCC website that can be accessed by the public. The IPC team promotes the use of patient information leaflets and display posters to educate on a wide range of IPC activities.

Throughout the reporting period the IPC Team has made changes in practice that has been supported by the IPC committee. These have included the management of patient with specific infections to align with national guidance and supporting the new CCC build in Liverpool. However, the majority of changes have been at local level and within clinical areas as a result of audit, observations or recommendations.

The IPC Team examined its effectiveness throughout the reporting period and the following details some of the work completed during the year:

- Worked with project managers and advised on the materials, fixtures and fittings for the new CCC hospital in Liverpool
- Supported staff with post infection reviews
- Provided management advice for patient with known / suspected infections
- Completed clinical environmental audits
- Attend daily operational meetings to supported staff with appropriate isolation / side room management
- Delivered a wide range of education to all staff grades
- Participated in the national cancer collaborative to reduce gram negative blood stream infections
- Fit testing for staff performing aerosol generating procedures on patients with Influenza

Due to workforce changes within the IPC Team during this year, the introduction of improving hydration and fluid balance as part of the national cancer collaborative was delayed but will be a priority for 2019 / 2020.

4.1 Infection Prevention and Control Sub-committee

In January 2019 the Trust introduced monthly IPC sub-committee meetings that is chaired by deputy director of nursing / lead IPC nurse and represented by all clinical areas, including hub sites. The terms of reference was agreed at the meeting held in February 2019.

The IPC sub-committee aims to support the discussions around the wider IPC agenda and reports to the Trust IPC committee, chaired by the DIPC.

5.0 External Bodies

5.1 The Health & Social Care Act

The Health and Social Care Act (2008) Code of Practice in the Prevention and Control of Infections, sets out the criteria by which managers of NHS organisations are to ensure that patients are cared for in a clean environment where the risk of healthcare associated infection is kept as low as possible.

The Health & Social Care action plan forms part of the IPC committee as a standing agenda item and any actions outstanding are managed or mitigated through this committee. Currently there are no actions that CCC is not fully compliant.

5.2 Care Quality Commission

In December 2018 and January 2019 the Care Quality Commission (CQC) visited the organisation as an unannounced inspection to undertake the 'well-led' review. The

overall CQC rating for the organisation was Good. CQC reported infection prevention and control across the organisation as:

- The service controlled infection risks well with systems and processes in place
- Staff kept themselves, equipment and the premises clean
- All areas were clean and tidy and free from clutter
- Equipment was checked for maintenance and cleanliness and these checks recorded

The Trust devised a CQC action plan based upon the recommendations within the report and the Trust meets weekly to monitor the implementation of the actions.

6.0 Education

6.1 Mandatory Training

Mandatory training in infection prevention & control is a requirement for all CCC staff including clinical, non-clinical, volunteers and contractors. The IPC Team updates the training packages annually and ensures that it reflects best practice, national recommendations and any learning that needs to be shared Trust wide. All staff receive training at either level 1 training which is aimed at all staff including contractors or level 2 which is aimed at clinical staff.

The IPC Team delivers a number of ad-hoc training sessions to a wide range of staff and the educational content is made relevant to the specific group. Staff can also access their mandatory training through the CCC on-line education portal.

The IPC Team has delivered education on standard infection prevention & control precautions (including, use of PPE, hand hygiene and isolation precautions) to Trust staff on induction and annual mandatory updates. Overall Trust compliance with IPC training for 2018 / 2019 was over 90% up from 60% overall in 2017 / 2018.

7.0 Guidelines / Policies

There have been no new IPC guidelines or policies developed during this period. The following guidelines and policies have been reviewed in line with Trust policy:

- MRSA policy
- Linen policy
- Decontamination policy
- Uniform and Dress Code policy

8.0 Hand Hygiene and Saving Lives High Impact Interventions Audits

Hand hygiene should be based on the use of an alcohol-based rub or, if hands are visibly dirty, by washing hands with soap and water. Weekly observational hand hygiene audits have been embedded into routine practice for many years and a minimum of 10 observations undertaken weekly in all inpatient areas and large departments and monthly in smaller outpatient areas including diagnostic imaging, radiotherapy and satellite chemotherapy clinics.

8.1 Hand Hygiene: Saving Lives – Clean Your Hands

In 2010, the Trust registered with the World Health Organisation (WHO) campaign to SAVE LIVES: Clean Your Hands and introduced the 5 Moments for Hand Hygiene using the self-assessment framework to focus on areas of hand hygiene requiring further development. The 5 Moments are:

- Before touching a patient
- Before aseptic task
- After body fluid exposure
- After touching a patient
- After contact with patient environment

Results from hand hygiene audits are entered directly onto a local system and displayed monthly throughout the Trust on designated IPC notice boards. Average scores for hand hygiene are consistently high ranging from 96% – 100% and this has been reinforced by local and national patient survey results.

8.2 Saving Lives High Impact Interventions

All clinical areas are required to monitor high risk procedures and aseptic techniques using the Department of Health Saving Lives High Impact Intervention (HII) tools to regulate practice and ensure a consistently high standard of care. Monitoring of HII at CCC was undertaken only sporadically during 2018-2019 as suitable monitoring systems were not consistently available to staff across all sites. Some, but not all HII systems were available via our Infection Prevention and Control Auditing system by means of quick practice audits but these no longer include clinical procedures.

The Department of Health monitoring tools were previously used extensively and reported to a database via a local website but the system required significant upgrades which would not be cost effective to use across all sites covered by CCC. Initially, haematology staff were able to utilise RLH systems but these were not accessible to other wards and departments at CCC. Therefore, an external contractor was commissioned to design a simple to use IT system which is now readily available on hand held devices in all clinical areas across all sites. All clinical areas are able to retrieve and display results and compare practice to other wards and departments.

8.3 Sharps Audit

All sharps related incidents (inoculation injuries) are monitored by the Health and Safety Lead and investigated as appropriate. In addition, an annual unannounced sharps audit was completed in March 2019 to monitor compliance and to support education / training.

8.3.1 Sharps Audit Findings

Nineteen (19) wards/departments were visited as part of the audit and seventy one (71) sharps containers sighted during the audit. The audit found no (0) sharps protruding out of a container, none (0) that were inappropriately assembled and none (0) more than three quarters full.

All staff must sign and date the sharps container following assembly and three (3) were observed not signed and one (1) sharps container was used to dispose of packaging. In all areas small sharps containers with trays were available to support the safe administration and disposal near to the patient.

The audit results were RAG rated and disseminated to all areas to share within their areas. Also the audit findings were discussed with senior nurses / managers at the IPC sub-committee meeting in March 2019.

8.4 Ward/Department Audits

All clinical areas are audited annually using the Infection Prevention Society (IPS) audit tool and the frequency of the re-audit is determined following the initial audit score and findings. In 2018/19 the compliance score was increased from 85% to 90% to ensure that standards continue to improve.

Elements routinely audited in the IPS audit include:

- Hand hygiene
- Clinical practices / sharps handling and disposal / waste disposal
- Ward environment / ward kitchen
- Care of equipment / linen handling and disposal
- Antisepsis and hygiene / disinfectants

IPS environmental audits have been completed in all inpatient areas and all satellite areas have been visited although not formally audited. All areas scored above 90% and feedback was for given formally to ward managers and matrons with specific focus on areas for improvement. The audits completed focused on specific areas to reduce or prevent healthcare associated infections, and these included:

- Management of patient with known / suspected infections
- Clinical / treatment rooms
- Clean / dirty utility
- Kitchens
- Bathrooms / showers

8.5 Urinary Catheter Audit

The IPC Team completed audits on inpatients with a urinary catheter to monitor compliance and to reduce the risk of a catheter-associated infection. The presence of any indwelling medical device increases the risk of patients acquiring an infection, therefore, the focus of education and training has been to emphasise the importance of placing catheters when absolutely necessary and remove as soon as no longer required. In addition, the Trust launched an individual patient catheter 'passport'.

Catheter associated urinary tract infection is monitored monthly by senior nurses as part of the Safety Thermometer and the results are discussed monthly at the Harm Free Care meeting.

9.0 Water Safety

The Water Safety Group was formally a sub-committee as part of the IPC committee until March 2019. PropCare is responsible for defining and executing operational checks of the water systems within the Wirral estate in accordance with Health Technical Memorandum (HTM) standards, in particular HTM 04-01 standard, and formally reporting the results of these standards to the Trust's through the IPC committee.

In March 2019 a monthly stand-alone Water Safety Group was established and terms of reference agreed. External contractors involved with the construction for the new

Clatterbridge Hospital in Liverpool are also represented at this group. The Water Safety Group agreed a work plan to ensure that the trust was fully compliant with HTM 04-01.

PropCare developed a detailed 'Planned Programme of Maintenance (PPM)' schedule for 2018/19 based a full asset survey and followed best practice guidance for a health care facility. In addition, the PPM continued with the Copper-Silver treatment to further enhance the water quality (this was originally a recommendation from the IPC committee in 2017).

The PPM delivered by PropCare tested and maintained activities relating to water systems for safety included:

- Daily flushing of little used outlets around the hospital
- Monthly microbiological testing of outlets for Legionella and Pseudomonas undertaken by Pro-Economy (independent company)
- Monthly sentinel temperature checks
- Quarterly shower maintenance
- Six monthly water storage tank inspection and maintenance
- Annual thermostatic mixing valve inspection and maintenance

9.1 Water Safety Findings

Legionella

During 2018/19 Legionella serogroup 2 was detected at low levels in three infrequently used water outlets but not in any showers or in high-risk areas and a number of control measures / remedial action plans put in place with an increased focus on domestic flushing. There have been no cases of patients acquiring infection due to Legionella.

Pseudomonas aeruginosa

During 2018/19 Pseudomonas aeruginosa was detected in one clinical area following routine screening. A number of control measures and remedial action plans put in place and follow up testing did not isolate further Pseudomonas aeruginosa. There have been no cases of patients acquiring infection due to Pseudomonas.

10.0 Environmental Cleaning

The Trust has systems and processes in place to ensure that all healthcare premises provided are suitable and fit for purpose. There is a standard operating procedure in place to determine the level of cleaning that is required, with a particular focus in patients with a known / suspected infection. The highest level of cleaning within the Trust is the use of Hydrogen Peroxide Vapour (HPV) and this is used as directed by the IPC Team.

Domestic services are provided by WUTH through a service level agreement that is managed by PropCare. The environments are monitored to ensure they are clean, maintained and in good physical repair and condition. Various audits are carried out by IPC, PropCare and Hotel services to monitor standards of cleanliness and to ensure that environmental policies and procedures are adhered to.

In addition the Trust participated in the annual Patient-Led Assessments of the Care Environment (PLACE). Environmental cleaning is monitored through a monthly audit programme using the national Credits 4 Cleaning (C4C) audit tool with all inpatient areas at the Clatterbridge site scoring consistently above 97%.

10.1 Patient-Led Assessment of the Care Environment (PLACE)

PLACE was introduced nationally in 2013 and replaced the Patient Environment Action Team (PEAT), and this process is to ensure that patients are at the centre of all inspections. The Trust PLACE assessments scores indicated that patients continue to be treated in a clean a safe environment. The Trust PLACE audit was completed in May 2018 and scored 98.5% compared to a national average of 97.6%.

10.2 Credits for Cleaning (C4C) / Servicetec Environmental Monitoring Tools

C4C audits are undertaken monthly by domestic supervisors and highlight both cleanliness and maintenance issues in line with the national cleaning standards. Cleanliness concerns are immediately actioned, estates issues are reported to PropCare for them to be rectified and clinical cleanliness concerns raised with the ward/department manager for immediate action. Overall scores at Clatterbridge site for inpatient areas was 97%.

Cleanliness scores at the Clatterbridge Liverpool site is monitored monthly by RLH domestic services provider using an audit tool known as Servicetec. Servicetec also monitors the national cleaning standards and findings discussed with the ward/department manager for immediate action. Overall scores for inpatient areas in Liverpool was 95%.

Findings and percentage compliance against both C4C and Servicetec are displayed at the entrance to each clinical area.

10.3 Hydrogen Peroxide Vapour (HPV)

Effective room decontamination is essential to reduce the risk of cross infection from pathogenic organisms between patients. This is particularly concerning when managing *Clostridium difficile* and other multi-resistant organisms such as CPE. Domestic supervisors are trained in the use of HPV and this level of cleaning is recognised as the 'gold standard' for managing and preventing further outbreaks. HPV cleans are undertaken at the request of the IPC Team once the patient room has been vacated and this involves a pre-clean of the room / equipment with a Hypochlorite agent before the process of HPV using Nocospray equipment.

The Trust completed HPV cleans following the vacation of rooms of patients with known or suspected *Clostridium difficile* or CPE.

10.4 Equipment Decontamination

The effective decontamination of reusable surgical instruments and equipment is essential in minimising the risk of transmission of infectious agents. All record keeping and monitoring associated with sterilisation is undertaken by the Theatre Manager as the nominated 'decontamination lead'.

10.4.1 Sterile Services

To achieve the acceptable standards of decontamination the Trust established a SLA with BMI Hospital Decontamination Services Limited. The SLA outlines decontamination and sterilisation of equipment used in theatres, dental services and outpatient departments. 274 sets of equipment routinely sent to BMI and included:

- All reusable theatre equipment
- Papillon applicators
- Cyclotron mouth plates
- Head and neck instruments
- All reusable dental equipment

Routine audits are undertaken on the equipment returned from BMI and all equipment is recorded for traceability purposes.

High-level disinfection is undertaken in very limited circumstances in designated areas using agreed protocols of Chlorine Dioxide and sterile wipes. Documentation for each individual process is checked for traceability, completed at the appropriate time (after each session) and leak tested if contains internal channels (Nasendoscopes).

10.4.2 Mattresses

An ongoing programme of mattress audits is undertaken monthly by ward housekeepers to ensure that hospital mattresses have intact covers and are impermeable to body fluids. An annual audit is also undertaken Trustwide.

The Trust replaced all mattresses to introduce a combination of static foam and dynamic pressure relieving device which can be decontaminated in situ on the wards. The ongoing management and purchase is facilitated by the Trust's Medical Coordinator supported by the IPC Team.

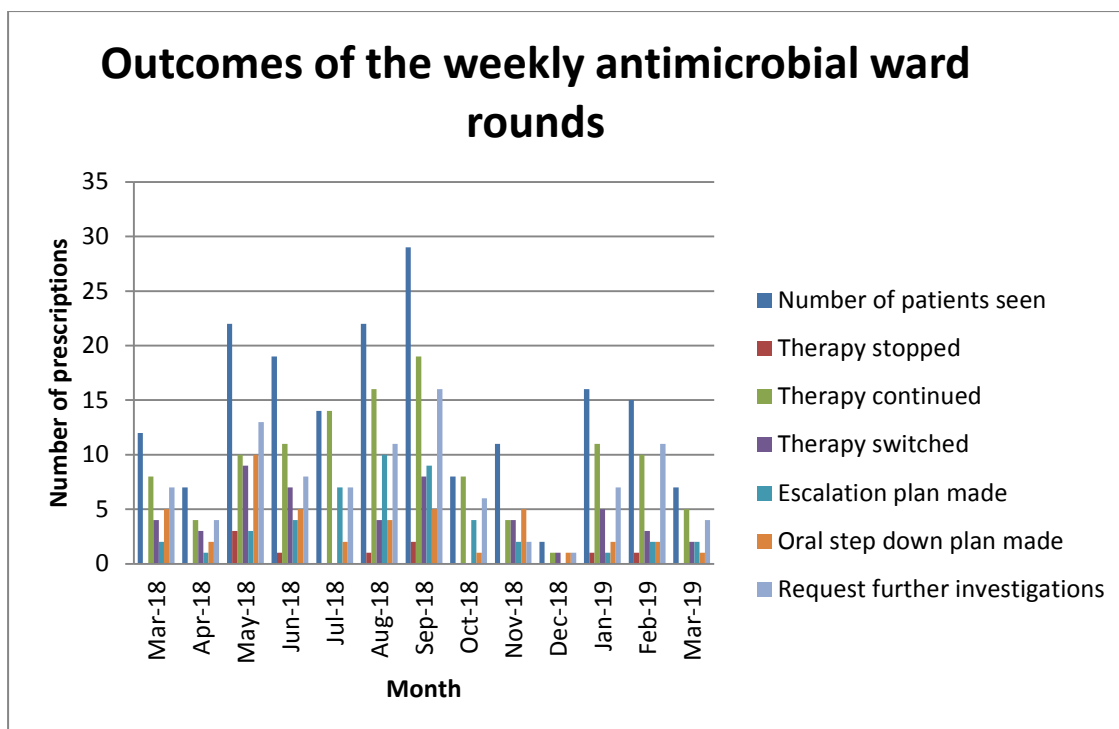
10.4.3 Other Equipment

Agreed processes covered by the Decontamination Policy are used by healthcare staff to decontaminate lower risk items of medical equipment. The processes routinely used include the use of disinfectant wipes, chlorine based disinfectants or hydrogen peroxide.

11.0 Antimicrobial Stewardship and Antibiotic Usage

Public Health England's (PHE) update Antimicrobial Stewardship: Start smart - then focus states that evidence based antimicrobial stewardship should be combined with a robust auditing programme to ensure appropriate use of antibiotics in secondary care. Weekly microbiology ward rounds take place at CCC-Wirral on the 3 inpatient wards every Thursday morning. The team comprises of a consultant microbiologist, an infection control nurse and an antimicrobial pharmacist.

The ward round has been met with positive feedback from medical staff and has had a positive impact on patient care; which is reflected in improved compliance with NHS England Antimicrobial Resistance Commissioning for Quality and Innovation (AMR CQUIN) indicators. Table below is a summary of ward round compliance.



11.2 Antibiotic Audits

The Trust completes monthly antibiotic point prevalence surveys compiled by the Antimicrobial Pharmacist and based on the self-assessment toolkit from PHE's publication. All antimicrobial prescriptions for acute infections are reviewed by ward pharmacists on a designated date each month (CCC - Wirral) or on alternate months (CCC-Liverpool) to determine the appropriateness of agents prescribed within the Trust. Specifically, the pharmacists assess the prescriptions for the following:

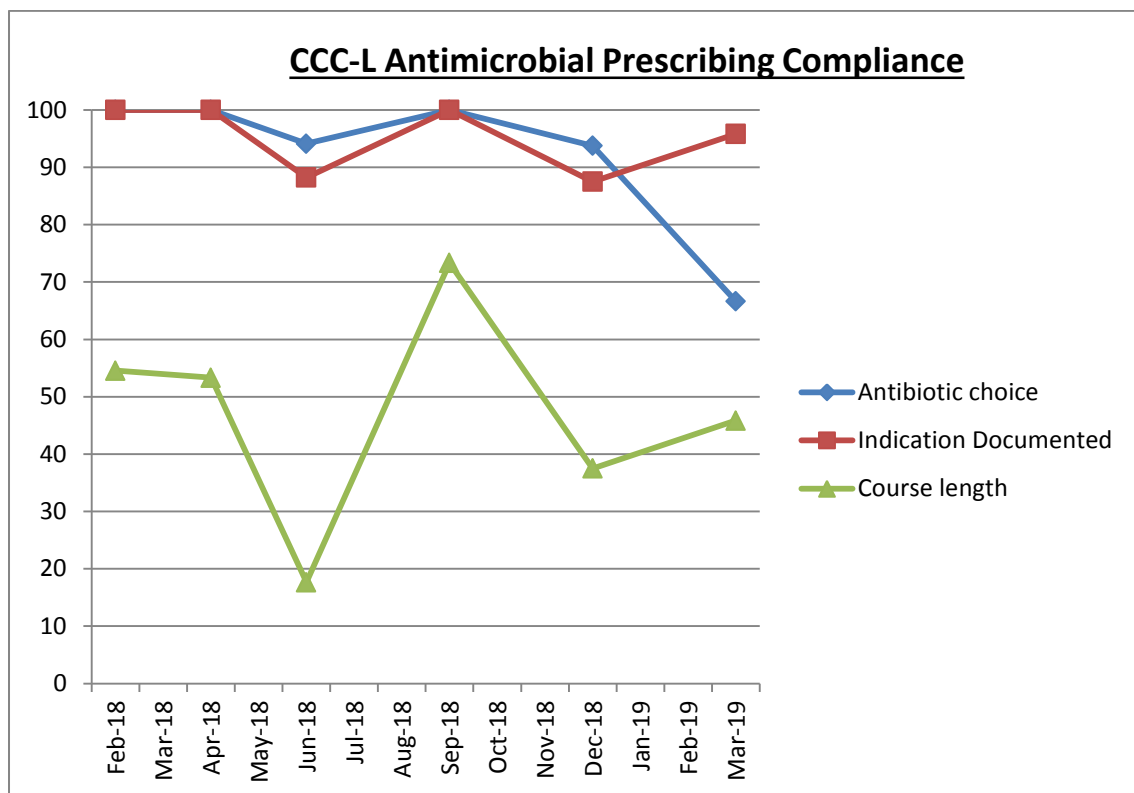
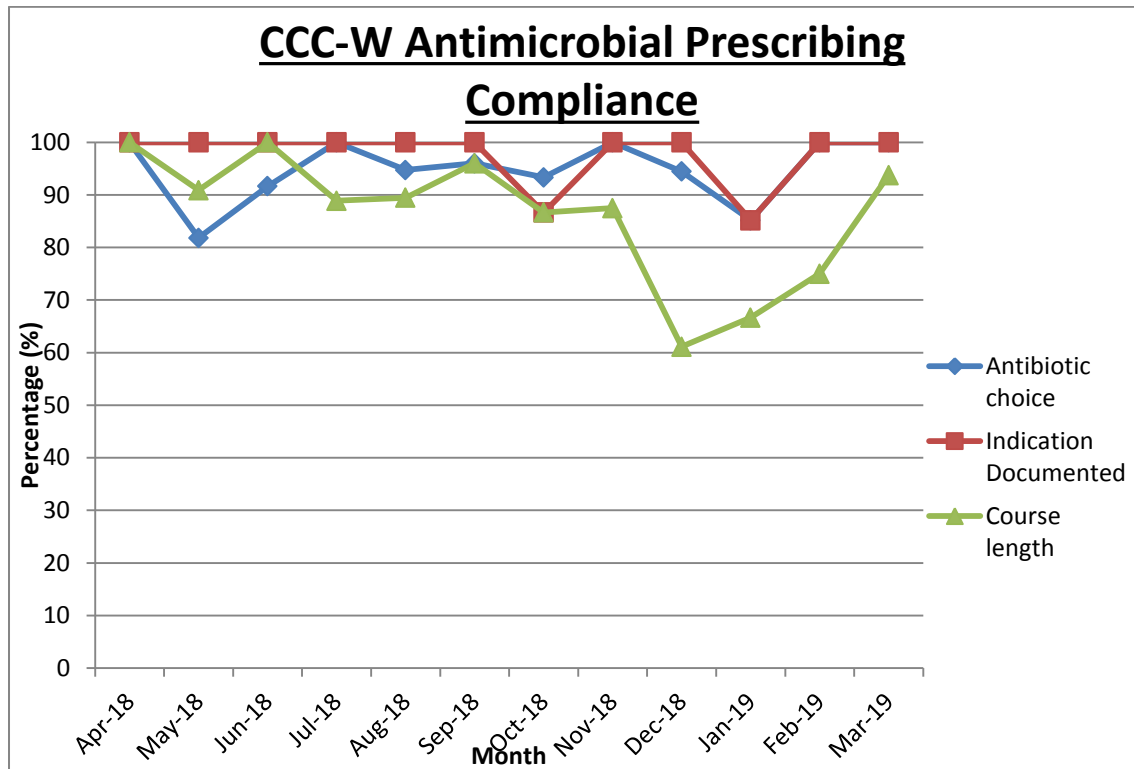
- Choice of antimicrobial in line with the Trust's antibiotic formulary
- Evidence of documentation of the indication of treatment
- Evidence of documentation of the intended treatment duration or review

Results are escalated via the Antibiotic Stewardship group on a quarterly basis and via the Drugs and Therapeutics Committee.

The CCC Wirral site antimicrobial prescribing compliance has been consistently above 80% in all 3 areas of audit with the exception of the course length/review documentation during the 3-month period of December 2018 to February 2019.

The CCC Liverpool site point prevalence data is collected and collated by the Royal Liverpool Hospital antimicrobial pharmacist team via an SLA. The data demonstrates that improvements are required in all 3 areas of audit, in particular course length / review documentation and the improvements will be monitored through the Antimicrobial Stewardship Group. In addition, CCC Pharmacy teams have improved access to the IT systems at Royal Liverpool Hospital and this support future audits.

In order to improve the compliance with documentation surrounding the use of antimicrobials, a template titled "microbiology review" was created in Meditech to prompt ward doctors on the details that require documentation. This has also improved the identification of when advice has been given by microbiology and the follow up of escalation or de-escalation plans especially out of hours and at weekends.



12.0 Priorities and Future Developments for 2019 / 2020

Priority	Actions
1) IPC Team service delivery	The IPC Team will develop a programme of work to ensure that each clinical area is compliant with the health and social Care Act (2008)
2) The new build Clatterbridge Hospital Liverpool	The IPC Team will continue to work closely with the project design team to ensure that the new build Clatterbridge Hospital in Liverpool is compliant with Infection Control in the Built Environment
3) Water Safety	IPC Team will continue to work closely with PropCare to ensure that water systems are compliant with HTM 04-01
4) Cancer Network	The IPC Team will continue to participate with the Cancer Network to reduce rates of E.coli bloodstream infections
5) Antimicrobial resistance (AMR)	To work collaboratively with pharmacy, microbiology and medical colleagues to achieve medicine optimisation in relation to AMR
6) Influenza	The IPC Team will support the organisation with the staff vaccination programme and provide a monthly update to the Trust's Integrated Governance Committee
7) Audit and surveillance	To continue with the planned audit programme and ongoing surveillance of HCAI
8) Education	The IPC Team will continue to deliver education in line with the Trust's objective. IPC promotional awareness / campaigns will take place.

13.0 Summary

This report demonstrates the continued commitment of the Trust and evidences the successes and service improvements achieved through the leadership of the DIPC and the IPC Team. It is also a testament to the commitment of a Trust workforce dedicated to keeping IPC high on everyone's agenda.

The Trust remains committed to preventing and reducing the incidence and risks associated with HCAs and recognise the areas for further improvement, including across the wider health economy.

Clatterbridge Cancer Centre will continue to embed a robust governance approach to IPC across the organisation and the IPC Team and all staff will continue to deliver high quality safe care to patients with a focus on the prevention of all avoidable healthcare associated infections.