



The Royal Wolverhampton
NHS Trust

Infection Prevention Annual Report 2023/24

DRAFT INFECTION PREVENTION ANNUAL REPORT 2023/24

EXECUTIVE SUMMARY

The Infection Prevention (IP) Team have seen another busy year, with challenges in the form of a national measles outbreak with large numbers of cases seen in the West Midlands, increases in the number of *Clostridioides difficile* and Carbapenemase Producing Enterbacteriaceae (CPE) cases, continued COVID-19 cases, and an increase in number of cases of influenza. Despite this, The Royal Wolverhampton NHS Trust (RWT) has maintained compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance (Department of Health, 2015). This report takes the opportunity to celebrate the successes and highlights the increasing challenges going forward.

Increased risk factors for healthcare acquired infections (HCAIs) are recognised in the ageing population, complexity and level of illness or disease, alongside changes in use of health services, and the expanding threat of highly resistant organisms. These are all considered when drawing up our local strategy for preventing HCAI. The work of the IP Team includes education, research and development, standard and policy setting, establishing assurance processes and, most importantly, ensuring patient safety in the prevention of spread and acquisition of new infections across RWT and the City. During 2023/24 the IP Team have continued to ensure that both staff and patients are updated with national guidance and appropriate personal protective equipment (PPE) recommendations, particularly regarding measles, CPE, COVID-19, and influenza. The IP team have strived to undertake proactive work, for example taking opportunities for staff education, involvement in regional and national initiatives and audits.

A notable undertaking by the IP team and Microbiologist colleagues was participation, as one of 78 NHS acute trusts, in the national point prevalence survey on healthcare associated infections (HCAIs), antimicrobial use (AMU) and antimicrobial stewardship (AMS) in England (2023). This will allow benchmarking with peer-group hospitals in England to identify opportunities for improvement. Local results feedback is expected in early 2024/25 with the national results to follow.

The annual target for MRSA bacteraemias is zero. Our total for the year 2023-24 was 3 post-48h MRSA bacteraemias, plus a further one that occurred within 28 days of discharge.

NHS England sets annual objectives for NHS Trusts for *Clostridioides difficile* and specific Gram-negative bacteraemia (*Escherichia coli*, *Klebsiella* and *Pseudomonas aeruginosa*). *Clostridioides difficile* was over trajectory this year with 80 RWT-attributable cases during the year, against an objective of 53. The objectives for *Escherichia coli*, *Klebsiella* and *Pseudomonas aeruginosa* were exceeded with 113/94, 35/29 and 16/15, respectively. The Trust received positive feedback following a Quality Assurance visit from Integrated Care Board (ICB) colleagues to review infection prevention and control practices of caring for a patient with loose stool/a possible *C. difficile* case.

Unfortunately, RWT recorded 54 device related hospital-acquired bacteraemias (DRHABs) during 2023/24 against an internal trajectory of 48. This was a slight improvement from last year where 58 were reported (and from 60 in the prior year).

There was an increase in patients identified with CPE. This year 98 were identified compared with 53 (2022/23), 27 (2021/22) and 18 (2020/21) and a significant increase to pre-pandemic case numbers (56 in 2019/20). Patients are still risk assessed as previously.

During 2024/25 the IP team will be working through the transition to the national Patient Safety Incident Response Framework (PSIRF) which will change the way The Royal Wolverhampton NHS Trust and Walsall Healthcare NHS Trust responds to patient safety events, and in this case infection related incidents.

PSIRF process replaces the Serious Incident Framework and is focused on how incidents happen – including the factors which contribute to them – while acknowledging system failings rather than casting blame on individuals.

Education and awareness have been one of the top priorities in supporting the endeavour of a well-informed workforce in relation to infection prevention and control, from fundamental IP practices to more specialist areas. This approach has been complemented by use of manned stands in high foot fall areas, screen savers and an IP special edition of the Care to Share publication.

Environmental controls continue to play an important role in our approach to tackling HCAI; the deep clean schedule has been challenged due to unavailability of a decant ward for much of the year as extra capacity was required. The Hotel Services team have continued to be a fundamental aspect of reducing the risk of infection, they have demonstrated on-going flexibility in response to requests for cleans and enhanced cleans. The team have undertaken important work providing cleaning of patient equipment in a temporary patient equipment cleaning centre (PECC). Alongside this the Hotel Services team have facilitated the development of a dedicated PECC at RWT which recently became operational.

The Intravenous Resource Team continues to deliver a high standard of line care with increasing numbers of patients discharged on Outpatient Parenteral Antibiotic Therapy (OPAT) and many lines were inserted by the skilled team.

Surgical Site Infection (SSI) Surveillance continues across all specialities with data shared with consultant surgeons via a monthly dashboard.

Influenza preparedness and prevention for patients and staff was a key activity. In line with national numbers of cases RWT has seen several influenza cases during this season. The uptake of influenza vaccine among front-line staff was 40% which was a decrease from uptake in 2022/23 (41%) and 2021/22 (58%).

There has continued to be proactive engagement and partnership working with our Public Health colleagues. Outbreak management support to care homes and very sheltered housing establishments across the Wolverhampton health economy was maintained, ensuring a seamless service across healthcare facilities throughout the city. During periods of reduced outbreak activity, infection prevention audits and education took place in care homes.

The IP team have undertaken collaborative working with IP, UKHSA and ICS/ICB colleagues and more locally they have continued to strengthen relationships and partnership working with Walsall Healthcare Trust IP colleagues and wider. Throughout 2023/24 both Trusts jointly developed and launched the first joint Infection Prevention and Control Delivery Plan (2023-2026) which is aligned to the Quality and Safety Enabling Strategy and joint organisational Quality Framework.,

There have been three directorate risks managed by IP team during 2023/24, one of which was closed in May 2023 following review and discussion at the Infection Prevention and Control Group (IPCG) meeting.

INTRODUCTION

The existing Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (also referred to as The Hygiene Code) was updated in December 2022:

[Health and Social Care Act 2008: code of practice on the prevention and control of infections - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections)

The code of practice document has been updated to reflect changes to the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014, and the role of infection prevention and control (IPC) (including cleanliness) in optimising antimicrobial use and reducing antimicrobial resistance. The Code of practice was revised in 2015 to make it clear to non-specialists that cleanliness is an integral part of IPC. The document takes account of changes to the IPC landscape and nomenclature that have occurred since the COVID-19 pandemic. The law states that the Code must be considered by the CQC when it makes decisions about registration. The regulations also say that providers must have regard to the Code when deciding how they will comply with registration requirements. So, by following the Code, registered providers can show that they meet the requirement set out in the regulations. The Code aims to exemplify what providers need to do to comply with the regulations.

CQC review the code requirements in relation to Fundamental Standard Regulation 12 – Safe care and treatment and Fundamental Standard Regulation 15 - Premises and equipment. The Trust is declaring full compliance with the Code.

INFECTION PREVENTION REPORTING STRUCTURE

Infection Prevention and Control Group (IPCG)

The IPCG continued to meet monthly during 2023/24, with meetings chaired by the Chief Medical Officer. Monthly reports are received by IPCG from the operational teams and supporting departments which demonstrate and assure compliance; this includes dashboards from the clinical Divisions and reports from Hotel Services, Pharmacy, Estates, TB service, Intravenous Resource Team, the Decontamination Lead and Occupational Health and Wellbeing. COVID-19 data and the Infection Prevention Board Assurance Framework document was also discussed. These meetings took place on Microsoft Teams.

The Head of Nursing for Corporate Support Services sits on the Trust's Nursing, Midwifery, Health Visiting and AHP Leaders Group and the Senior Matron Infection Prevention is Deputy chair Environment Group, IP Matrons attend the Matrons, Ward Managers, Senior Nurses, Midwives, Health Visitors and Allied Health Professions Group.

These forums offer an additional opportunity to feedback information to the wards and departments and receive information to inform the priorities and actions of the Infection Prevention Team.

Infection Prevention continues to report to the Integrated Care Board (ICB) as part of the commissioned services, to include jointly funded projects with Public Health. A Consultant Microbiologist sits on the Medicines Management Group. The Microbiologists continue to work with the Antimicrobial Pharmacist in monitoring, auditing, and education on the use of antimicrobials, and an Antimicrobial Stewardship Group meets regularly. The Ward Pharmacists monitor antimicrobial use around the hospital. An antimicrobial ward round has been in place since July 2021 which includes Consultant Microbiologist, Antimicrobial Pharmacist, and an Infection Prevention Practitioner.

The Infection Prevention Team hold a Surveillance meeting twice a month with a Microbiologist to review infection related surveillance data, an IP Governance meeting is held

to discuss team aspects, governance data which include policies, patient literature, audit and effectiveness, NICE guidance compliance, investigations including root cause analyses (RCA) completed and lessons learnt, compliments and complaints, internal and external visits and reviews, Freedom of Information requests, action plan monitoring and Health and Safety compliance.

Reports to the Trust Board

At every Trust Board the Chief Nursing Officer (CNO) presents the CNO Report for the organisation, which includes the most recent infection prevention performance data. Bi-monthly IP reports are presented to Trust Board, therefore, ensuring full sight and access to all information concerning the Trust's performance against the external and internal infection prevention targets and other infection related issues. Infection Prevention Board Assurance Framework document was presented at Trust Management Committee, Trust Board and Quality Governance Assurance Committee (QGAC). The Consultant Microbiologist delivers an IP report to the Quality & Safety Assurance Group (QSAG) twice yearly.

The Infection Prevention Team (IPT) comprises of the following individuals:

Sessional Commitment to Infection Prevention:

Name	Title	Sessional Commitment to Infection Prevention
Dr J Macve	Consultant Microbiologist, Infection Control Doctor	5.0 PA
Dr D K Dobie	Consultant Microbiologist, RWT Head of Microbiology Department, Infection Control Doctor Wolverhampton Service specification - Primary care, Pandemic Influenza lead	2.0 PA
Dr H E Jones	Consultant Microbiologist	0.5 PA
Dr K French	Consultant Microbiologist, Antimicrobial Stewardship lead started in post March 2021	0.5 PA

Pharmacy Staff

Mrs P Kang	Antimicrobial Stewardship Pharmacist	0.67WTE Left post in October 2023
Mrs H Sandhu	Antimicrobial Stewardship Pharmacist	1.0WTE commenced maternity leave in February 2024

The role of the full time Pharmacist has been recruited to, at the time of writing this report awaiting start date.

Infection Prevention Risks

Risk	Open/closed	Current grade	Key points of update
5648 – If CPE screening is not undertaken according to updated guidance RWT will not identify positive patients and will increase the risk of nosocomial transmission and outbreaks	Open	6 Yellow	Patients are risk assessed on admission, but this only includes if travel abroad or has been an inpatient in another health care setting not including RWT. A business case to be developed by BCPS to provide additional screening. capacity in the Microbiology Lab. Discussion required between BCPS and ICB.
5682 - The Trust is at risk of increased incidence of Healthcare Acquired Infections (HCAI) as there are a limited number of side rooms and a limited number of side rooms with ensuite facilities	Open	9 Amber	Risk of increased incidence of Healthcare Acquired Infections (HCAI) as there are a limited number of side rooms and a limited number of side rooms with ensuite facilities. There is a risk of inability to accommodate patients with suspected/laboratory confirmed specific infections due to a very limited number of negative pressure isolation rooms available for use at RWT.
5777 – (Accepted on TRR May 22) – Risk of outbreaks with potential to cause patient harm, disrupt activity and give rise to media attention	(risk closed May 2023 following discussion in May IPCG meeting).	Green	

Infection Prevention and Control Budget 2023/24

The funding for the Infection Prevention Team in Wolverhampton provided by RWT in 2023/24 consisted of a combination of RWT and the Black Country ICB.

A service provision continued to the Black Country ICB providing advice, quality assurance and education to independent contractors in Wolverhampton including contracted GPs and dentists and care homes, the funding for which is now detailed in a service specification.

A service level agreement with Wolverhampton City Council Public Health provides the provision of flu and norovirus outbreak management to all Wolverhampton care homes and very sheltered housing. Following the expiry of COVID-19 grant funding to Public Health teams in October 2022 the contract reverted to the pre pandemic contract to support Wolverhampton Care homes with outbreak management, from April 2023 a new service level agreement has been agreed.

After briefly achieving measles elimination in 2016 and 2017, by 2018 measles virus transmission had re-established in the UK, at a time when the whole of Europe was experiencing large epidemics. Increasing cases of measles were diagnosed across the UK, with confirmed and probable cases seen within the West Midlands and Black Country. Emergency portals and Primary Care were advised to be on alert for any adults/children who are displaying signs/symptoms of measles and isolate appropriately. National guidance was updated, and this was disseminated and implemented throughout the Trust upon receipt and the development of a local measles action card. Education and awareness were delivered by the IP team across the Trust to raise awareness for staff, patients and visitors. This was monitored at an Integrated Care System (ICS) measles system partner group and a Trust measles oversight group.

All individuals in the Team are encouraged to be members of the Infection Prevention Society (IPS) to give them the opportunity to attend conferences, courses, and study days to network with IP colleagues in other organisations. NHS England/Improvement (NHSEI) facilitated collaborative groups to share resources and educational packages for *C. diff*, gram negative bacteraemia and there was a new task and finish group for *C. diff* facilitated by the Black Country ICB which the IP team were active members of. There is also ongoing collaborative work with Walsall Healthcare Trust, with shared learning and resources.

The Team successfully provided support and leadership for sheltered housing and care home facilities, successfully working alongside the Community Rapid Intervention Team (RIT) to greatly enhance provision for COVID-19, Norovirus and Flu outbreak management and prevention of admission to acute services. Regular meetings were held with Black Country ICB, local authority, and Public Health to ensure that the care homes, predominantly, were managed appropriately.

Research, development, and innovation

Through the work of the Trust Catheter Group an electronic catheter passport was implemented and a standardised Catheter pack across the Acute Trust to promote standardisation and safe practice in the insertion of catheters and to support sustainability.

This work led to the catheter working group winning an award for innovative, use of data and analytics to improve patient outcomes at the Celebration of Digital, Innovation, Data and Technology Event 2024 with their poster and electronic catheter passport initiative.

The IP team commenced a research project to support data collection, implementation, and evaluation of the Catheter Care Behavioural Insights Research Programme, led by the HIN and Revealing Reality, using a grant provided by the Health Foundation.

Work continues to develop an IP app to support staff with up to date information and guidance.

As COVID-19 numbers and outbreaks continued to reduce the team were supporting the Trust in the restoration of business as usual and consideration of how to prevent and control all respiratory infections.

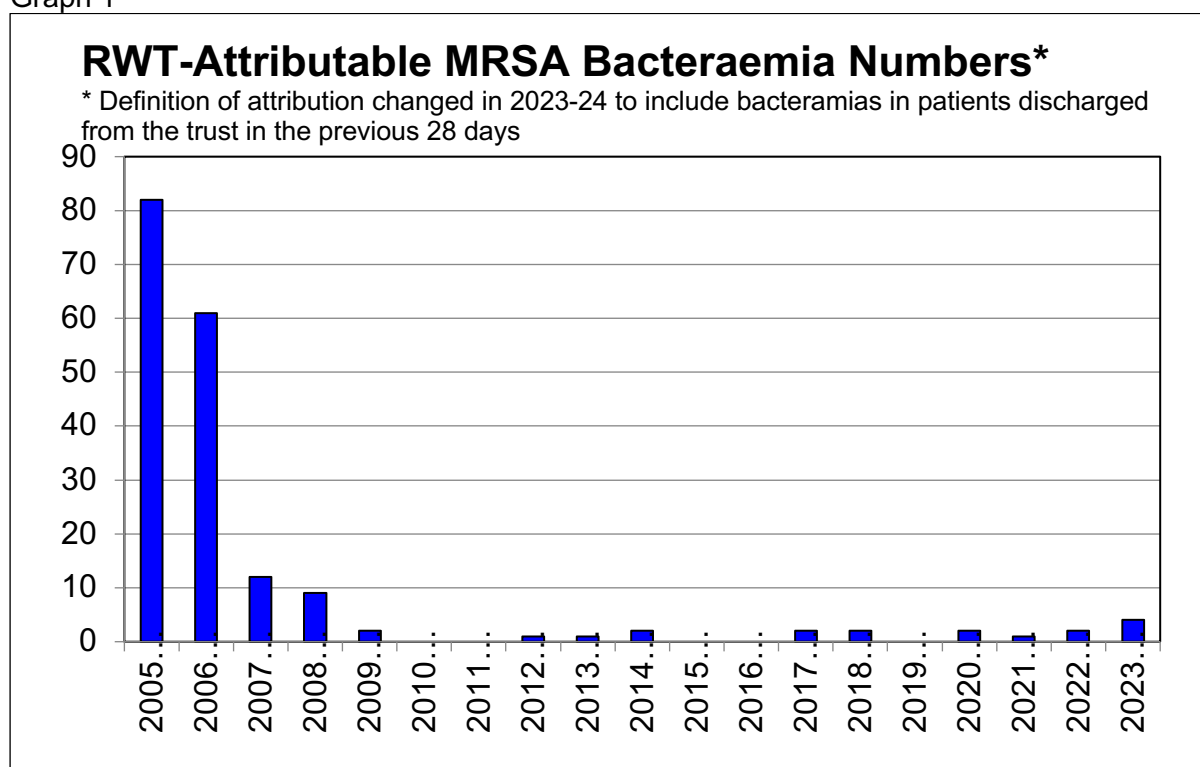
PERFORMANCE

a. **Meticillin Resistant *Staph. aureus* (MRSA) Bacteraemias**

The targets for the acute Trust and Wolverhampton CCG for MRSA bacteraemia are zero each year. The way that UKHSA are determining Trust-attributable MRSA bacteraemias has changed, although there has been no formal communication regarding this. Previously, only bacteraemias occurring post-48h were attributable, however, new categorisation is now being used. Bacteraemias are either Hospital Onset Healthcare Associated (HOHA, occurring ≥ 2 days after admission), Community Onset Healthcare Associated (COHA, occurring ≤ 28 days after discharge) or Community Onset Community Associated (COCA). Bacteraemias that fall under the first two categories (HOHA and COHA) are Trust-attributable. RWT had three HOHA and one COHA MRSA bacteraemia attributed to it during 2023-24 (compared with 2 Trust-attributable (HOHA) MRSA bacteraemias in 2022-23). The first HOHA episode was in October 2023, and was thought to be related to neutropenic sepsis. The second HOHA episode was in February and deemed related to an indwelling intravascular line, with the third HOHA episode was due to an infected intravascular port. The COHA bacteraemia was thought to have arisen from the urinary tract in a patient who intermittently self-catheterises and had been discharged from the Trust 15 days prior to the collection of the blood culture. Graph 1 shows the number of RWT-attributable MRSA bacteraemias for each year since 2005-06.

Four patients who had not had any recent contact with RWT were found to have an MRSA bacteraemia on admission to New Cross Hospital; all of cases were attributed to Black Country and West Birmingham ICB. Of these two were due to urinary/genital infections in patients with long-term urinary catheters, one due to a diabetic foot ulcer infection, and the fourth was from a groin abscess in a person who injects drugs. All Trust-attributed cases had RCAs carried out and Post-Infection Review (PIR) meetings, in conjunction with the ICB. The overall combined number of MRSA bacteraemias (Trust and Community) was therefore 8, which is the highest number seen since 2009-10.

Graph 1



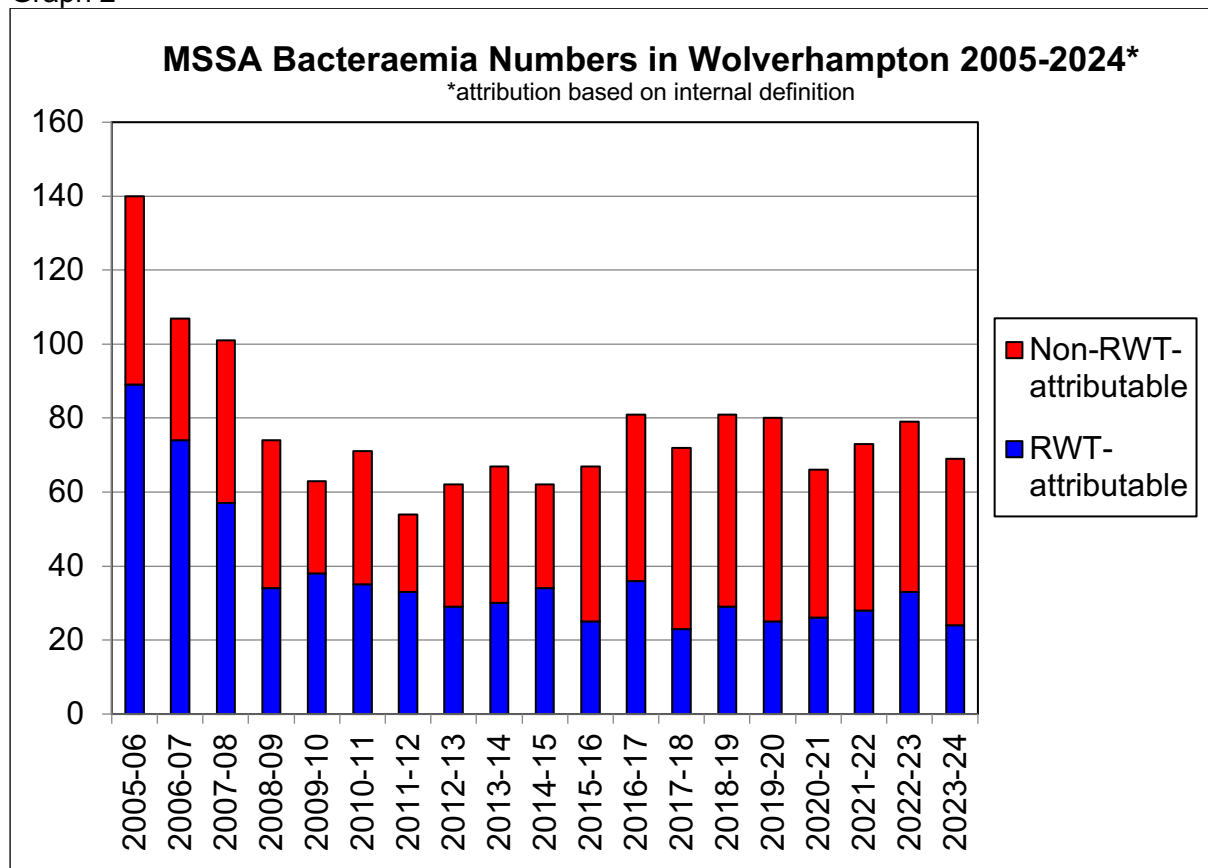
b. Meticillin Sensitive *Staph. aureus* (MSSA) Bacteraemias

National mandatory surveillance of MSSA bacteraemia began in January 2011, but locally we have undertaken surveillance of these infections for much longer than this, with this information used as a Key Performance Indicator (KPI) across the organisation. Graph 2 shows the annual total number of MSSA bacteraemia diagnosed in Wolverhampton since 2005-06, split according to whether these infections were attributable to RWT or not using our in-house definition of attribution (which includes patients who have been recently discharged from our hospital, or are regular or day-case attenders as being RWT-attributable).

It can be seen that the total number of cases is lower than the previous year's total, and the number of RWT-attributable cases has fallen since the previous year, with a total of 24 cases against an internal target of 24. Against the previous external definition of attribution (post-48h only) there were 26 RWT-attributable MSSA bacteraemias, compared with 19 cases last year. However, this external definition has again been changed to include those that occur within 28 days of discharge – the total for this 2023-24 therefore was 26 HOHA and 16 COHA.

A Root Cause Analysis is carried out on all RWT-attributable MSSA bacteraemias. These revealed: ten were related to intravenous lines including peripheral cannulae, with a further case related to an intravenous port infection, 4 were related to skin infection including infected pressure ulcers, two were thought to be from a chest infection, two were thought to have an abdominal source, one was due to infection of an old drain site, one was due to sialadenitis (bacterial infection of a salivary gland), one due to septic arthritis, one due to discitis and the source was uncertain for one.

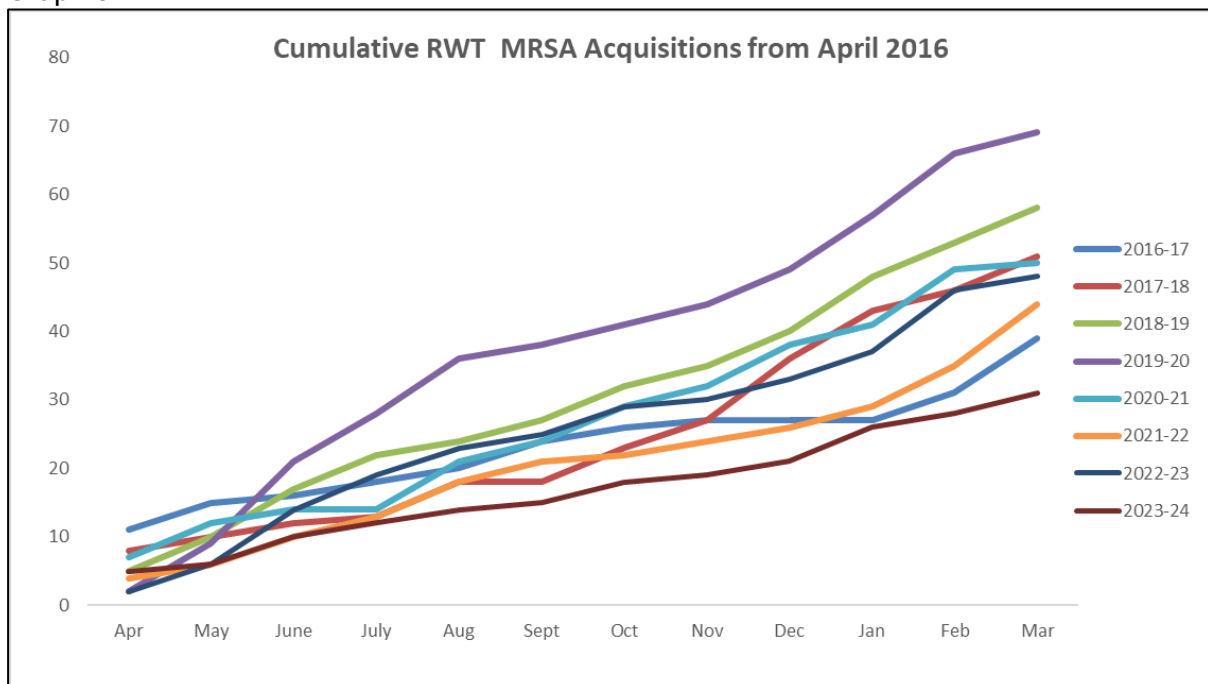
Graph 2



c. MRSA Acquisitions

Universal admission screening for MRSA has enabled us to monitor the acquisition of MRSA in RWT and use this as another KPI for the organisation. Graph 3 shows the number of MRSA acquisitions across RWT (including Cannock Chase Hospital from November 2014) over the past seven years. It can be seen that in 2023-24 there were only 31 acquisitions, which is the lowest figure we have ever seen. This demonstrates the importance of ensuring that admission screening regularly achieves our 90% target. Only the neonatal unit saw clusters of acquisitions, with two separate clusters in 2023-24. The first one was in June 2023 involving 3 patients; typing demonstrated similarity between the isolates suggesting transmission. The second one was in January-February 2024 involving six patients; typing demonstrated two separate outbreaks had occurred, one immediately after the other. PII meetings were arranged, with actions including staff education on hand hygiene and the decontamination of equipment, and actions to improve the environment.

Graph 3



d. Glycopeptide Resistant Enterococci (GRE) Bacteraemias

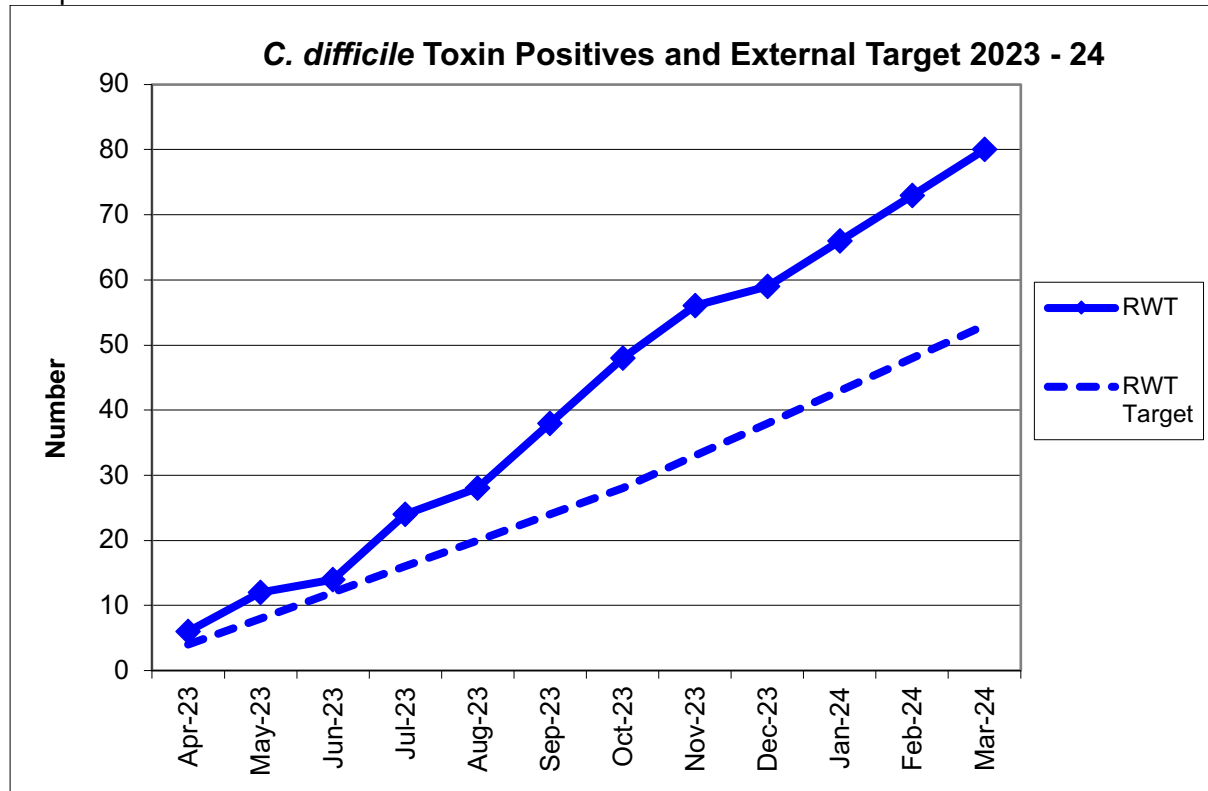
During the year there were four GRE bacteraemias in RWT in-patients. This compares with nine cases last year, and between two and nine cases per year during each of the preceding twelve years. The cases this year included three from Clinical Haematology Unit (CHU) B11 and one from Deanesly (C35).

e. Clostridioides difficile

Objectives for the number of *C. difficile* infections for Acute Trusts and sub Integrated Care Boards (ICB) were set for the year 2023-24 by NHS England (NHSE) based on nationally set target rates. The external objective for the number of *C. difficile* infections for RWT was 53 cases, reduced from 58 the previous year. At the end of the year, RWT had had 80 cases, so had exceeded the trajectory. The definition of an acute Trust-attributable case was changed in the year 2019-20, to include patients who had been discharged within 28 days of the positive sample, and also samples taken more than two rather than three days following admission. Wolverhampton Clinical Commissioning Group (CCG) is now included in Birmingham and

Black Country ICB therefore the number of community Wolverhampton cases is no longer easily monitored. Graph 4 shows the cumulative monthly performance against target for RWT.

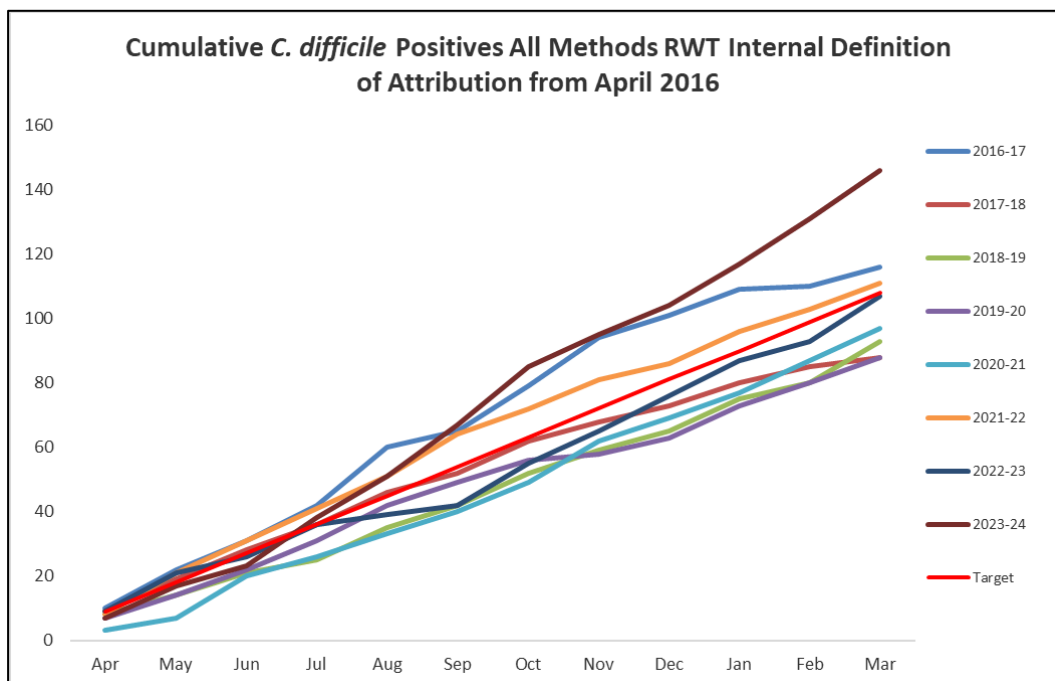
Graph 4



Negotiation is allowed with the commissioners of acute services to determine if any of the RWT-attributable cases could be determined to have been unavoidable. Of the cases in 2023-24, 27 were deemed avoidable, with 53 unavoidable.

The objectives are based on NHSEs definitions of attribution of infections, which only takes into account discharge from hospital within the last 28 days and only records those cases that give a *C. difficile* toxin positive result. Internally, we set another target that includes cases diagnosed 3 days into admission or within six weeks of discharge, unless the patient had been housed in another healthcare institution since discharge. This internal definition of infection includes all cases diagnosed with either a positive *C. difficile* PCR or toxin result. The PCR test is a measure of colonisation with strains of *C. difficile* capable of causing disease and allows us to better monitor the spread of *C. difficile*. It enables us to take appropriate barrier precautions with such patients to prevent spread or contamination of the environment, and to pre-emptively treat such patients if they develop symptoms. This year there were 146 cases diagnosed against the internal definition of attribution. This is significantly above our annual target of 108, and our highest number of cases since 2015-16.

Graph 5



If there are possible linked cases on a ward or clinical area, the isolates are sent for ribotyping to determine if the same strain of *C. difficile* has spread. Those that are the same ribotype then undergo further sub-type analysis. Usually, ribotyping demonstrates that there are different strains involved, and therefore that transmission has not occurred. Ribotyping indicated spread between two patients on ward A7 in August 2023; due to the relative infrequency of the identified strain, and the clear epidemiological link between the two cases, sub-type analysis was not deemed necessary to assume transmission had occurred. On A8 ward, ribotyping indicated possible spread between two patients, however sub-type analysis was not available in time for this report. Extra cleaning including hydrogen peroxide vapour (HPV) environmental decontamination, are carried out on all wards where apparent spread has occurred, while audits of the environment, practices on the ward and antimicrobial use are also undertaken. The ability to undertake routine full ward deep cleans has been limited by the inconsistent availability of a decant ward. Regular HPV decontamination of side-rooms in which *C. difficile* infected patients are located has not consistently occurred due to pressures on the limited isolation facilities available in the Trust.

Infection prevention and Health Protection colleagues from the ICB undertook a *Clostridioides difficile* Assurance / Supportive visit in Jan 2024. The purpose of the visit was to gain oversight and assurance around IPC, actions being taken to reduce *Clostridioides difficile* infection (CDI) cases across acute and community settings, and specifically to look at the pathway for patients with loose stools and known *C. difficile*. Positive feedback was received, actions were added to the Trust *C. difficile* action plan.

RWT are contributing to the ICB *C. diff* task and finish group, which commenced on 16th January 2024 and an NHSE education task and finish group to produce CDI resources for the region.

f. Hospital Acquired Bacteraemia (HABs) and Device-Related Hospital Acquired Bacteraemias (DRHABs)

Device-Related Hospital Acquired Bacteraemias (DRHABs) are used as another KPI for the Trust. All positive blood cultures are designated as being either significant or a contaminant by a Consultant Microbiologist, and the source of all significant positive blood cultures is determined. If the source is an implanted medical device and the patient has been in hospital for more than 48 hours when the blood culture was taken, or is within two weeks of discharge, or is a regular day-case attender, then it is designated as a DRHAB. Graph 6 shows how the Trust’s performance has improved over the years that this data has been collected, although in 2020-21 the numbers went up. The DRHAB target for this year was 48 and there were 52 DRHABs, which is an improvement on the previous three years. No target is set for HABs.

Graph 6

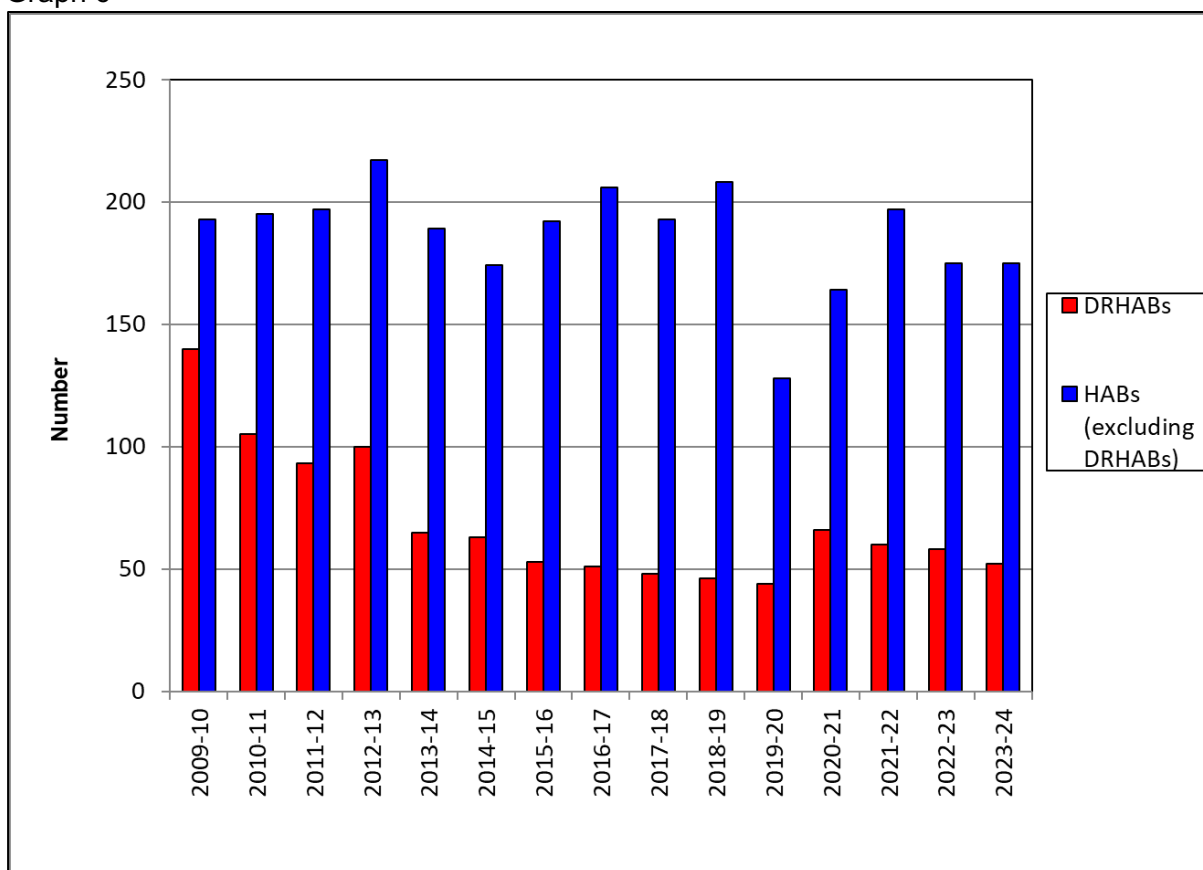


Table 1 shows the blood culture data, with sources of DRHABs over the course of the year and data from the previous two years and from the first year this data was collected, for comparison. It demonstrates that the total number of blood cultures collected continues to increase each year. Regarding DRHABs, it can be seen that, following an increase in the numbers in 2020-21, we have seen a decrease over the last three years, although this remains higher than the annual numbers that were achieved prior to the COVID-19 pandemic. Table 2 shows that critical care DRHAB numbers remained low following the high numbers in 2020-21 (possible reasons for the high numbers included increased patient numbers, use of non-

critical care staff, and use of the prone position for care of COVID-19 patients). Line infections overall have fallen again this year, following the increase in 2020-21.

Table 1

	2009-10	2020-21	2021-22	2022-23	2023-24
Blood Cultures taken	10,943	17,013	15,990	19,076	19,825
Blood Culture positives	1,113	1,151	1,127	1,150	1,152
Blood Culture significant	824	755	835	782	834
Blood Culture contaminants	299	394	292	368	318
Hospital Acquired Bacteraemia (HAB)	333	230	257	233	227
Device-Related HABs:	140	66	60	58	53
Lines	91	30	39	36	33
Urinary Catheters	15	24	18	20	16
VAP	14	5	0	0	0
?VAP/?Line	7	3	0	0	0
Nephrostomy	4	2	1	2	3
Pacemaker	4	0	1	0	0
PEG	1	0	0	0	0
Other	4	1	1	0	0

Table 2

Ward / Area	2009-10	2020-21	2021-22	2022-23	2023-24
Clinical Haematology Unit	35	3	5	7	4
Durnall / Chemotherapy	7	3	0	8	3
Deanesly Ward	6	2	2	0	3
Neonatal Unit	26	7	11	3	8
Renal Dialysis Unit (including satellite units)	19	5	10	10	2
Critical Care Unit	8	16	1	1	2
Cardiac (excluding CCU)	3	1	1	2	1
Surgical Wards	21	8	8	10	10
Medical Wards	12	14	16	12	10
West Park and Cannock Chase Hospitals	0	3	3	2	3
Other wards	3	4	3	3	4

g. Gram negative Bacteraemias

In August 2021, objectives were issued for the first time to Trusts by NHS England for the numbers of bacteraemias caused by the organisms *Escherichia coli*, *Klebsiella* species and *Pseudomonas aeruginosa*. These organisms are found in the gastrointestinal tract, and most commonly are associated with infections of the urinary tract or biliary tree. Trust-attributable bacteraemias are those that occur on day 2 or more of admission (HOHA), or within 28 days of discharge from any inpatient admission, including day case admissions (COHA). Last year the Trust was below all 3 objectives and so the objectives for 2023-24 were reduced (the previous year's objectives are shown in brackets). Table 2 shows that in 2023-24 RWT was above the threshold of 94 *E. coli* bacteraemias, with 113 for the year. *Klebsiella* and *P. aeruginosa* bacteraemias were also above the 2023-24 objectives. For comparison the numbers from the previous years are also shown in the table. The COVID-19 pandemic most likely affected numbers in 2020, however it can be seen that numbers of Gram negative

bacteraemias in 2018 were higher than in 2019. The reasons for these fluctuations are unknown (please note historical numbers are taken from internal data sets and so may not entirely match those numbers held by NHS England).

Other than targeting the small number of these infections that are related to devices (device-related RWT-attributable *E. coli* bacteremia fell from over 11% in 2010-11 to just under 4% of the total in 2020-21), the ubiquity of these organisms in the gastrointestinal tract and the nature of the infections that they cause mean that other targets for intervention are not clear cut.

Table 3

	<i>Escherichia coli</i>	<i>Klebsiella spp</i>	<i>Pseudomonas aeruginosa</i>
Target 2023-24 (Target 2022-23)	94 (103)	29 (35)	15 (18)
Number 2023-24	113	35	16
Number 2022-23	95	32	17
Number 2021-22	103	36	16
Number 2020	81	22	18
Number 2019	97	20	14
Number 2018	122	43	18

h. Carbapenemase-Producing Enterobacteriaceae (CPEs)

The carbapenem group of antibiotics are regarded as the antibiotic of last resort in many situations in which they are used. CPEs are organisms that produce enzymes (the common enzymes being NDM, KPC, and OXA-48) that destroy these antibiotics. The main take-away from this section of the report is that numbers of patients colonised with these, often untreatable organisms, is increasing year on year. Hospitals within the West Midlands have seen sizeable and ongoing outbreaks with these organisms, with associated bacteraemias. It is well recognized that infections with these highly resistant organisms carry a significant mortality, particularly in high risk groups such as those undergoing treatment for cancer, likely related to the fact that some of these bacteria are resistant to **all** antibiotics. To reduce the risk of this occurring at RWT, it is vital that we have sufficient and appropriate isolation facilities, alongside a comprehensive screening strategy.

RWT has had a screening strategy for a number of years to try to control the spread of these organisms. However, new guidance regarding screening was issued in 2020 by Public Health England, which recommended rectal screening of all patients admitted to high-risk areas including critical care and oncology units, and also all patients who have been admitted to hospital in the last year. Currently RWT still uses a risk-based screening strategy to include all patients who have travelled abroad or had healthcare in a hospital other than RWT in the last year. We remain unable to implement the new guidance so far, because the need to agree a screening method across the four Black Country Pathology Service Trusts, alongside the necessary funding, has prevented progress with this.

Table 3 shows that up until the end of 2017-18 the number of patients in Wolverhampton found to be carrying these organisms was rising annually, but in 2018-19 this rise appears to have stalled. This may be related to introduction of the CPE policy including improved detection of carriers, reducing incidences of spread. In the spring of 2019-20, however, molecular testing was introduced as the first-line screening method. This is far more sensitive and is capable of detecting multiple resistance mechanisms. Of note, prior to the introduction of this method it was very difficult to detect OXA-48 producing organisms.

In 2020-21 there was a marked decrease in the number of new patients identified carrying CPE. This most likely reflects the reduction in overseas travel due to the COVID-19 pandemic,

with perhaps a contribution also from reduced screening due to reduced elective activity. As the country has seen a recovery in both international travel and elective hospital activity, numbers started to rise again, and this year are higher than pre-pandemic levels, and in fact the highest to date.

The majority of CPEs continue to be detected from screening samples rather than from clinical isolates, which shows the screening strategy is working. There were 7 patients identified as positive from clinical samples. Five of these patients were from the community with little information available as to their risk factors. Of those patients who had samples taken in the Trust, one had been admitted 2 months previously and the other one week previously. Neither had any identified risk factor that would have prompted screening. The first patient had a positive blood culture with CPE (KPC); this is the third CPE bacteraemia that we have seen in the Trust, with the previous two bacteraemias occurring in 2022.

Screening of contact patients for the case on orthopaedics found 2 further cases on this ward. This was the only outbreak of CPE during the year, with 3 patients on the same ward found to be carrying the same CPE enzyme (KPC). Typing in this context is limited because only the organisms and not the resistance genes can be typed currently, and the genes can spread readily between different bacteria in the gastrointestinal tract.

Table 3

	NDM	OXA-48	KPC	Others	Total
2012-13	2	0	0	0	2
2013-14	5	1	2	0	8
2014-15	2	0	6	0	8
2015-16	4	1	7	0	12
2016-17	7	2	10	0	19
2017-18	19	6	9	2	34*
2018-19	15	3	2	0	20
2019-20	26	34	5	2	56*
2020-21	6	12	4	0	18*
2021-22	10	14	4	0	27*
2022-23	22	32	7	0	53*
2023-24	44	57	9	1	98*

*The number of patients is fewer than the combined number of resistance mechanisms because some patients carried more than one resistance mechanism.

Table 4

	Detected from screens	Detected from clinical samples	Total
2012-13	0	2	2
2013-14	2	6	8
2014-15	1	6	7

2015-16	4	7	11
2016-17	13	5	18
2017-18	31	3	34
2018-19	20	0	20
2019-20	48	8	56
2020-21	13	5	18
2021-22	25	2	27
2022-23	43	10	53
2023-24	91	7	98

OUTBREAKS AND INCIDENTS

The Trust has an Outbreak/Serious Incidents (SI) Policy and incidents are reported and managed in line with this policy. Outbreaks/Incidents are managed by Post Incident Review meetings (PIR) held within seven working days wherever practicable and chaired by an Executive Director/Head of Corporate Services or Senior Matron supported by key healthcare professionals. A 48-hour report is completed by the Infection Prevention Team to outline the suspected outbreak or incident, and this is submitted to the area concerned. If the subsequent PIR investigation and sampling confirms that it is an SI a thirty-day report is compiled, agreed with Directorates, and submitted to the ICB. If typing results indicate that it is not an outbreak and other ward indicators are assessed to be at the required infection prevention standards, then a request to downgrade the SI can be made to the ICB. Frequent meetings are held to manage and monitor the outbreak/incident to discuss individual cases and arrange appropriate sampling or screening, support patient experience and care, inform, arrange appropriate decontamination of the affected areas, and reduce the risk of spread to other areas whilst maintaining the operational function of the hospital and patient flow. Different outbreaks/incidents demand different responses but are managed with precision and collaborative working between the multi-disciplinary teams across the health economy.

COVID-19

There were 42 outbreaks across the Organisation. Outbreak meetings were arranged where each outbreak was discussed and investigated. External partners including NHS England/Improvement (NHSE/I), the Integrated Care Board (ICB) Wolverhampton Place and UK Health Security Agency (UKHSA) were all invited to attend. In January 2023 the ICB COVID-19 Outbreak Serious Incident (SI) reporting process for the Black Country System v1.1 was introduced in the Trust. This guidance informed the decision to report COVID-19 outbreaks through local outbreak management processes and national reporting unless there was an impact on a service, ward closure or moderate/severe harm was identified where the Trust incident process was followed.

Healthcare associated infections were identified following NHSE/I guidance in June 2020. Cases that were identified 8 – 14 days post admission are classed as probable and over 14

days definite were all investigated through the Datix process. There was a total of 257 HCAI in 2023/24

- Quarter 1 April – June – 74
- Quarter 2 July – September – 45
- Quarter 3 October – December – 82
- Quarter 4 January – March - 56

Common themes from COVID-19 outbreak meetings:

- Infection Prevention is everyone's business. All staff should feel empowered to question other staff if they are not wearing appropriate PPE or washing their hands
- Ventilation – open windows for 10 minutes every hour
- PPE usage. Fatigue amongst staff to always wear appropriate PPE
- Reintroduction of visiting
- Routine Lateral Flow testing ceased for healthcare staff
- COVID-19 national screening changes
- Changes in National guidance to business as usual
- Environmental challenges- due to the hospital estate

As COVID-19 numbers and outbreaks continued to reduce the team were supporting the Trust in the restoration of business as usual and consideration of how to prevent and control all respiratory infections. This was supported and complemented with a robust joint RWT and WHT respiratory risk assessment which was approved at Executive level.

Norovirus or Suspected Norovirus

Norovirus is a self-limiting diarrhoea and vomiting bug that usually lasts 48 – 72 hours and is usually more prevalent in the winter months earning it the nickname “Winter Vomiting Bug”. There were 3 outbreaks of confirmed Norovirus, 2 resulting in ward closures.

Influenza

This is a respiratory virus. There were 2 Influenza A outbreaks detected in 2023/24. Incident meetings were held for both outbreaks.

***Clostridioides difficile* related incidents and outbreaks**

All patients identified with *C. difficile* are reviewed following the sample result by the IPT/ Microbiologist and as part of a weekly multidisciplinary ward round. Increased incidence of *C. difficile* is managed and monitored in line with IP06 Policy. A period of increase in incidence (PII) within a 28-day period triggers a Post Incident Review (PIR) or a Serious Incident (SI) depending on the circumstances. Any actions from the review meetings are implemented at ward level.

There were 19 PIIs reported in 2023/24 involving *C. difficile*. In 1 incident 2 cases were found to have the same ribotypes suggesting onward transmission between patients. Robust actions were identified following each PIR to include increased environmental cleaning using HPV, hand hygiene assessments for all staff in the areas and reinforcement of infection prevention principles including timely sampling and isolation at onset of symptoms. Due to bed capacity side rooms were not always available, so moving patients every 7 days to a clean side room was not always feasible.

A *Clostridioides difficile* Assurance / Supportive Visit was carried out by Black Country ICB on 11th January 2024. The purpose of the visit was to gain oversight and assurance around IPC and actions being taken to reduce CDI cases across acute and community settings. The visit was positive, and the Trust received good feedback.

One of the key areas of good practice identified was the Patient Equipment Cleaning Centre (PECC). The team were observed cleaning patient beds and equipment to a high standard to support the ward teams. A permanent location for the PECC has been identified and building works are ongoing. There are plans for the new centre to open in spring 2024. It was also noted staff were knowledgeable and isolation protocols were adhered to when managing patients with diarrhoea. All key themes identified for improvement were added to the Trust *C. diff* action plan which is monitored at IPCG

Carbapenemase-Producing Enterbacteriales (CPE)

Enterobacteriaceae are a large family of bacteria that usually live harmlessly in the gut of all humans and animals. These organisms are also some of the most common causes of urinary tract, intra-abdominal and bloodstream infections. They include species such as *Escherichia coli*, *Klebsiella* spp. and *Enterobacter* spp.

The carbapenems are a family of antibiotics including meropenem and ertapenem that are usually reserved for serious infections caused by drug-resistant Gram-negative bacteria (including *Enterobacteriaceae*). Carbapenemases are enzymes that destroy carbapenem antibiotics, conferring resistance. There are several different types of Carbapenemases, of which KPC, OXA-48, NDM and VIM enzymes are currently the most common. In the UK over recent years, there has been a rapid increase in the incidence of infection and colonisation by multi-drug resistant Carbapenemase-producing organisms. Several clusters and outbreaks have been reported in England, some of which have been contained, providing evidence that, when appropriate control measures are implemented, these clusters and outbreaks can be managed effectively.

There has been an increase in CPE cases detected in 2023/24 possibly due to increased screening as elective activity increased and the return of international travel following the lifting of COVID-19 restrictions. Most identified cases were detected on screens following risk assessment on admission and were isolated prior to the result. There was one outbreak of CPE during the year, 1 patient was identified as CPE positive from a clinical sample taken 6 days after admission. 2 further patients were identified as CPE positive from rectal screens following contact tracing and cloud screening of the ward. An incident meeting was held, and all actions were implemented at ward level including weekly CPE screening for all patients. No further cases were identified.

HOTEL SERVICES AND DEEP CLEAN PROGRAMME

The Trust's Housekeeping Services are managed in-house.

The Housekeeping Services are split into three sections for the different sites covered: New Cross Hospital and West Park Hospital, Cannock Chase Hospital and Community Premises. The table below details who is responsible for which area:

Area	Manager	Deputy
New Cross Hospital	Amy Hill	Tina Tipton
Cannock Chase Hospital	Damian Jones	Paul Warrilow
West Park & Community Premises	Brendan Houston	Julie Burgess

The management structure for each of the three areas is supported by a well-trained team of Day and Evening Supervisors.

The Community premises include the following sites:

Castlecroft Medical Centre, Coalway Road, Lea Road Medical Practice, Oxley Practice, Pendeford Health Centre, Penn Manor, Primrose Lane Health Centre, Maltings, Warstones, Maurice Jackson Renal Unit, Thornley Street Surgery and West Park GP Surgery.

The Housekeeping Services Managers and Head of Facilities meet monthly with the Senior Matron for Infection Prevention at the Environment Group. This meeting is chaired by the Head of Facilities, who presents a report from the Environment Group to the IPCG.

Training

During the year priority has been given to ensure that all Hotel Services staff, Housekeeping, Catering and Portering completed their annual mandatory hand hygiene and IP Level 1 training.

Monitoring

The cleanliness technical audits are conducted by the Hotel Services Monitoring Officer and the Domestic Supervisors in accordance with the "National Standards of Healthcare Cleanliness, 2021". This document assigns areas within hospitals a 'functional risk', and this informs the frequency of the audit:

- FR1 areas are audited weekly
- FR2 areas are audited monthly
- FR3 areas are audited bi-monthly
- FR4 areas are audited quarterly
- FR5 areas are audited six-monthly
- FR6 areas are audited annually

In the main, the audits are carried out electronically, using a bespoke monitoring system.

Budget Allocation

The pay budget for the whole of Housekeeping Services for the year 2023/24 was £10,401,134; the non-pay budget was £1,448,271.

Clinical Responsibility / Access

The Domestic Staff play a pivotal role in ensuring the hospital is a safe environment for patients, visitors and staff. The Domestic Services Department is very receptive to clinical need and responds to emergency and urgent situations rapidly and fully whenever possible 24 hours a day.

Deep Clean

This team has been in place since October 2008 and are required to deep clean all areas at least annually.

To support the Deep Clean Programme, the Housekeeping Department also operates its own in-house HPV system. This is used, in both the annual scheduled programme and also used throughout the year, to support the reduced risk of transmission of Norovirus and *C. difficile*. At time of writing RWT is currently without a decant facility which means not all the wards were able to be fully proactively deep cleaned this year. We have concentrated on outpatient areas and theatres throughout the year.

Ultraviolet Light Decontamination

The Domestic Service trialled the use of UV-C light decontamination throughout 2019-2020 on AMU. This has resulted in the Trust approving a business case that has allowed the Housekeeping Service at New Cross Hospital to proactively decontaminate areas on AMU, the Emergency Department, and Renal treatment area with a timely turn around since 2020-2021 and has carried on throughout the following years.

Patient Equipment Cleaning Centre (PEC Centre)

2022-2023 saw the implementation of the Patient Equipment Cleaning Centre being reintroduced. This service manually cleans patient beds, mattresses, over bed tables, and patient chairs after green and amber discharges with a chlorine and detergent solution. The equipment is then steam cleaned followed by HPV decontamination before being placed, covered, in clean storage.

These clean equipment sets are dispatched to discharges where the domestic cleans the rest of the room and the dirty equipment taken away to the dirty storage area of the PEC Centre awaiting decontamination.

The service is currently only able to be used to assist push discharge areas as well as assisting wards that require a deep clean but are unable to decant.

A purpose-built PEC facility has recently opened on the New Cross site.

ANTIMICROBIAL STEWARDSHIP

- Antimicrobial use
- AMR CQUIN
- Antimicrobial resistance data
- AMS team activities

ANTIMICROBIAL USE

We report on the following markers of antibiotic use:

1. Total antibiotic usage (for both in-patients and out-patients) per 1,000 admissions.
2. Total usage (for both in-patients and out-patients) of carbapenems per 1,000 admissions.
3. The proportion of antibiotic usage (for both in-patients and out-patients) within the Access group of the AWaRe category.
4. Percentage reduction in prescribing from the 'Watch' and 'Reserve' groups of antibiotics.

The Access group of antibiotics includes: phenoxymethylpenicillin, nitrofurantoin, metronidazole, gentamicin, flucloxacillin, doxycycline, co-trimoxazole, amoxicillin, ampicillin, benzylpenicillin, benzathine benzylpenicillin, procaine benzylpenicillin, oral fosfomycin, fusidic acid, pivmecillinam, tetracycline and trimethoprim.

At the time of writing, data is available up to the end of quarter two for 2023/24. This data is in the public domain, accessible through UKHSA's 'Fingertips' Website:

<https://fingertips.phe.org.uk/profile/amr-local-indicators>

Total antibiotic usage

RWT's total antibiotic usage has consistently been lower than the average for England over the period shown with this trend becoming more pronounced over time.

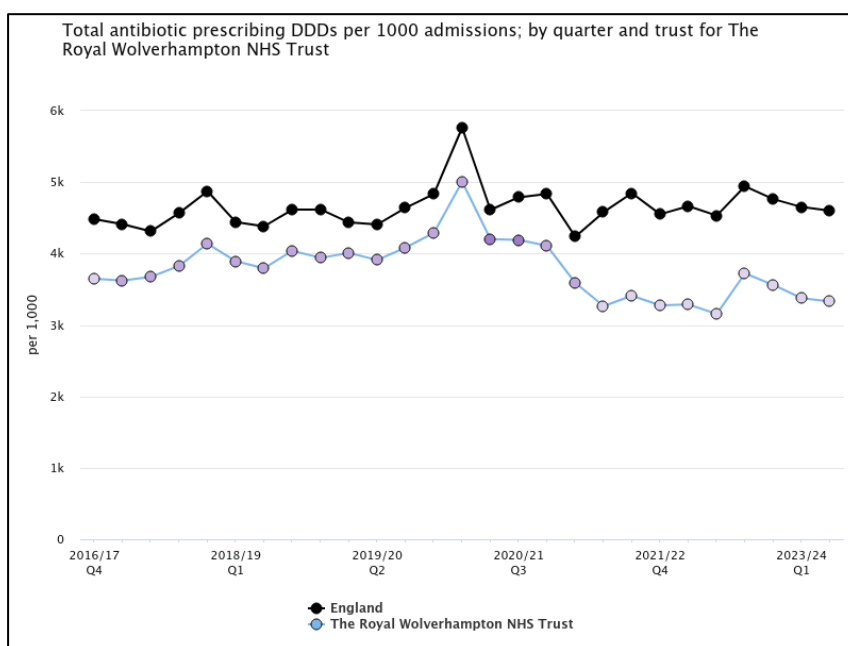


Figure 1. Total antibiotic prescribing RWT

Carbapenem use

Carbapenems are very broad-spectrum antibiotics, often an agent of last resort. RWT has, in the past, prescribed more carbapenems than the average for England with a spike seen in quarter one 2020-2021, coinciding with the first wave of COVID-19. In the last 12 months, carbapenem prescribing in RWT has increased and is now above the England average.

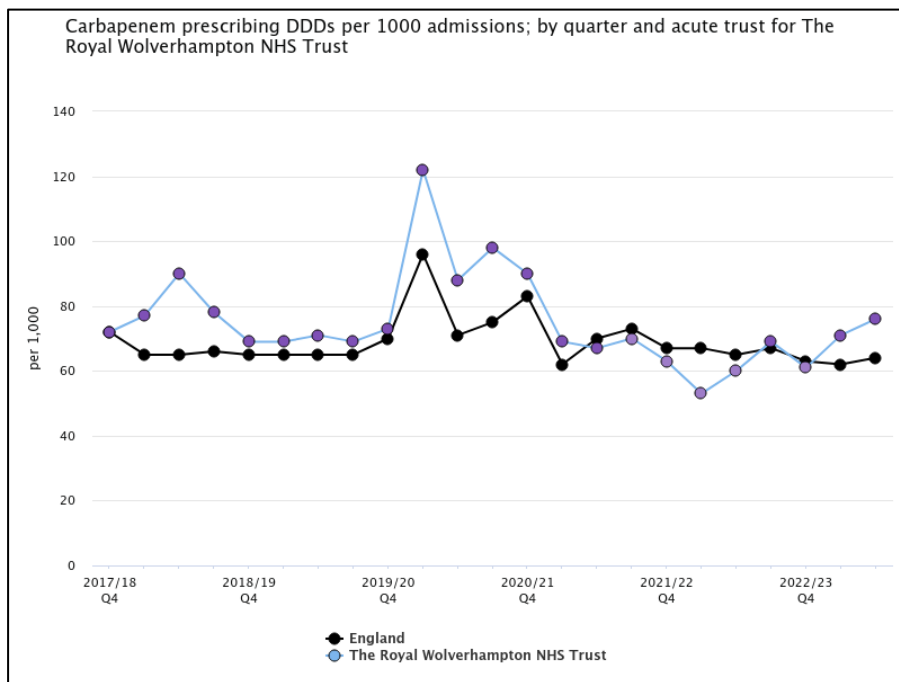


Figure 2. Carbapenem prescribing RWT

Access Antibiotics

We aim to use a greater proportion of antibiotics from the WHO 'Access' group of antibiotics and a lower proportion from the 'Watch' and 'Reserve' groups. RWT is performing above average for England, with an average of 54% of antibiotics prescribed from the 'Access' group compared with an average of 50% for England in Q2 2023-24.

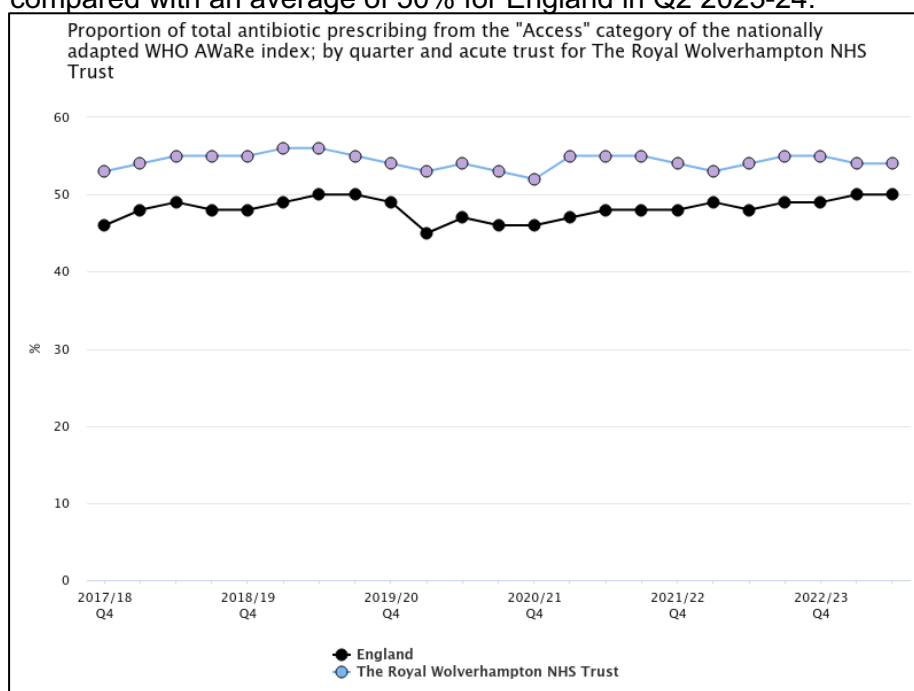


Figure 3. Access group prescribing RWT

Watch and Reserve Antibiotics

Included in the standard contract is a requirement to reduce our antibiotic prescribing from the 'watch' and 'reserve' antibiotic classes. The target is a 10% reduction in prescribing from these groups from a baseline figure from 2017. RWT has achieved a 7.5% reduction, which although it falls short of the 10% target, we can be reassured that our prescribing from this group per 1000 admissions is better than three out of four of our neighbouring trusts. There is no financial penalty for not reaching the 10% target.

Trust	Total Watch + Reserve DDDs per 1000 admissions 2017	Target in Watch + Reserve DDDs per 1000 admissions for 2023/24	Total Watch + Reserve DDDs per 1000 admissions Q4 2022-23 to Q3 2023-24	% difference in Watch + Reserve DDDs per 1000 admissions from 2017 baseline	MEETING or NOT YET MEETING the 10% reduction target in Watch + Reserve DDDs per 1000 admissions compared to 2017 baseline
Walsall Healthcare NHS Trust	1786	1608	1305	-26.9	MEETING
The Royal Wolverhampton NHS Trust	1685	1517	1555	-7.8	NOT YET MEETING
The Dudley Group NHS Foundation Trust	1801	1621	1629	-9.5	NOT YET MEETING
Sandwell and West Birmingham Hospitals NHS Trust	1490	1341	1886	26.6	NOT YET MEETING

Table 1. Watch and Reserve antibiotic prescribing.

AMR CQUIN

The 2023/24 CQUIN required 100 adult (non-intensive care) patients on IV antibiotics to be audited every quarter and assessed for suitability for oral antibiotics. Weekly AMS ward rounds were conducted to carry out this audit and wards were rotated weekly to cover a range of clinical specialities. To receive the maximum payment, it was required that 40% or fewer patients were on IV antibiotics, despite already having met the switch criteria. The IV to oral switch CQUIN has been met by RWT and all data has been submitted.

Trust in the ICB	Q1 result	Q2 result	Q3 result	Q4 result
The Royal Wolverhampton NHS Trust	31%	20%	29%	19%
Walsall Healthcare NHS Trust	no data	22%	34%	no data yet
The Dudley Group NHS Foundation Trust	19%	15%	15%	no data yet
Sandwell and West Birmingham Hospitals NHS Trust	22%	23%	28%	no data yet

Table 2. AMR CQUIN data

The mandatory CQUIN scheme has been paused for 2024/25. During the pause NHSE have committed to making available a set of indicators which systems may use if they wish to operate a "CQUIN-like" quality incentivisation process in 2024/25. RWT will not be able to submit data for at least Q1 2024/25 due to pharmacy staffing.

Prompt switching of intravenous to oral antibiotic	
Description	Achieving 15% (or fewer) patients still receiving IV antibiotics past the point at which they meet switching criteria.
Numerator	Of the denominator, those who, at the point of audit, have already met the criteria for switching from IV to oral administration of antibiotics according to adult (16+ years of age) or paediatric (under 16 years of age) criteria as appropriate.
Denominator	Total number of adult and paediatric inpatients with active prescriptions for IV antibiotics at the point of audit (sample size 100 patients per quarter, aim to cover all included wards/specialities).
Exclusions	Patients in HDU and ICU Patients treated with intravenous antifungals or antivirals
Data reporting and performance	For local agreement between provider and commissioner – the UKHSA portal will continue to take submissions where providers and commissioners wish to use this route. Details can be found in the AMR Programme FutureNHS Workspace (link below).
Scope	Acute Period: All quarters
Suggested thresholds	Minimum: 25% Maximum: 15% Please note that for this indicator, a LOWER % = better performance Whole period %
Lead contact	england.amrprescribingworkstream@nhs.net

ANTIBIOTIC RESISTANCE

Resistance data is currently drawn from the UKHSA fingertips website. Resistance in *E. coli* is used to give an impression of resistance rates in Gram-negative enteric pathogens. In the past, RWT have had higher rates of resistance than the national average for gentamicin, cephalosporins and ciprofloxacin. Our Tazocin resistance rates have been lower than average. Most recent data shows a worsening of Gram negative resistance rates across the board. This is likely to be contributing to our increasing use of carbapenems to adequately treat patients with infections caused by multi-drug resistant pathogens.

% <i>E. coli</i> bacteraemia isolates resistant to antibiotic					
Antibiotic	RWT 2020	RWT 2021	RWT 2022	RWT 2023	Average for England 2023
Tazocin	7.7	11	10	12.0	12.2
Ciprofloxacin	30.4	34	21	38.0	20.8
Cephalosporins	18.1	19.0	15.0	24.0	16.8
Gentamicin	14.0	15.0	8.0	19.0	11.7

Table 3. *E.coli* resistance data.

AMS TEAM ACTIVITIES

AMS Ward Rounds

The AMS team conduct AMS ward rounds reviewing antibiotic prescriptions on a weekly basis, alternating between surgical and medical ward, but also prioritising wards that have had recent outbreaks of hospital acquired infections such as *Clostridioides difficile*. In the year 2023-24 we reviewed 400 inpatients all of which were included in the CQUIN data. The breakdown of this data including wards covered and interventions made is not currently available and AMS ward rounds are currently paused due to pharmacy staffing.

AMS teaching

Monthly AMS teaching with the junior pharmacists, focusing on Teicoplanin dosing, *C. difficile*, OPAT, prompting an IV to Oral switch, and antimicrobial sensitivities continued whilst there was a pharmacist in post. This is now on hold until resources are in place to restart.

The microbiology consultant team endeavour to provide education to the medical and nursing staff. We have provided teaching for IMT and Foundation level doctors as well as IP link nurse training. Our capacity to continue or expand this teaching is limited by consultant microbiologist time pressures.

Other activities over the last 12 months:

- Completion of the ICB formulary harmonisation process.
- Trust Antimicrobial Policy MP 05 reviewed and updated via Trust Policy Group.
- Antibiotic guidelines updates 2023/24 via the MicroGuide app:
 - Gentamicin, vancomycin and teicoplanin prescribing
 - Empirical prescribing for infective endocarditis
 - Drug monographs for Daptomycin, Dalbavancin, Cefiderocol, Ceftazidime/avibactam, Fidaxomicin, Fosfomycin, Pivmecillinam, Temocillin and Moxifloxacin.
 - CSF Biofire Multiplex PCR interpretation guide
 - Staph aureus bacteraemia guideline
 - IV to Oral switch guidance

AMS team aims for the coming year:

- Establish in post a new band 8b antimicrobial pharmacist.
- Re-establish the Antimicrobial Stewardship Group (ASG).
- Reduce use of quinolones in response to the MHRA alert published January 2024.
- Review Trust mandatory AMS training modules.
- Review and update the following antibiotic guidelines:
 - Intra-abdominal infection
 - Sepsis of unknown source
- Continue to engage with ICB AMS regional work streams.

AUDIT

Primary Care GPs

Audits have taken place in Primary care General Practices in Wolverhampton. There are a total of 56 practices, inclusive of 9 practices under RWT.

A specific audit tool for RWT practices has been developed. Risks continue to be managed in line with RWT processes.

To date the following practices to have integrated with RWT are: Alfred Squire Road, Coalway Road Surgery, Lea Road Surgery, Oxley Surgery, Penn Manor Medical Practice, Thornley Street Surgery, Warstones Surgery, West Park Surgery, Tettenhall Rd Medical Practice.

Policies and Audit

Infection Prevention policies have been reviewed accordingly during the year to ensure they reflect national guidance. There has also been a programme of policy audits undertaken to assure the Trust of compliance and to identify learning needs and actions required.

The current policy suite includes the following policies:

Policy number	Policy title	Policy reviewed	Policy audited
IP01	Hand Hygiene		x
IP02	Preventing Infection associated with the Built Environment		x
IP03	Prevention and Control of MRSA, VRE and other Antibiotic Resistant Organism		x
IP04	Transportation of clean and contaminated instruments, equipment and specimens	x	x
IP05	Linen	x	
IP06	<i>Clostridioides difficile</i>	x	x
IP07	Viral Haemorrhagic Fever		
IP08	IP Operational Policy	x	
IP09	Glove Policy		
IP10	Isolation Policy for infectious diseases	x	
IP11	IP Management of patients affected by common UK Parasites		
IP12	Standard Precautions		
IP13	Outbreaks of Communicable Infection/ Infection Prevention Serious Untoward Incidents		
IP18	Norovirus		
IP19	Blood and Body fluid spillage Management		
IP20	Urinary Catheter Policy	x	x
IP21	Control and Management of TSE including CJD	x	

Compliance

Guidance released throughout the year has been appraised and incorporated into policy/process where appropriate:

Guidance/Report/Alert	Recommendation/Action taken
COVID-19 guidance updated several times during the last 12 months	All recommendations and actions taken. RWT/WHT joint respiratory virus risk

	assessment updated. Trust Respiratory Protocol PRT04 updated.
NHS England NHS Standard Contract 2023/24: Minimising Clostridioides difficile and Gram-negative bloodstream infections May 2023, Version 1	External trajectories noted for 2023/24
Measles guidance updated several times during the last 12 months.	All recommendations and actions taken. Trust action card, pathways for UTC's, emergency portals and Paediatric services developed and reviewed at the Trust Measles oversight Group and shared
TASK53012 RETURN DRAFT IPC PSIRF Investigation Matrix - FOR DISCUSSION	Trust development of a Patient Safety Incident Response Plan (PSIRF), HCAI review processes being developed and aligned with PSIRF

Environment Audits

The Environment Audits of inpatient areas are conducted on a monthly basis by the clinical team and annually they are accompanied by IP, Estates and Hotel Service Supervisors. The audits are reviewed by the Clinical Leads, Infection Prevention and Hotel Services at the monthly Environment Group. Peer review audits are completed by the IP team as a minimum twice yearly and at additional times if there are any concerns.

Infection Prevention Annual audits

The Infection Prevention team complete an annual audit for inpatient, clinical areas including theatres and Primary care. The tool is completed on My Assurance to support electronic reports and gives visual access to ward and department managers.

ESTATES PROGRAMMES

It is recognised that buildings must be safe to reduce the risk of infection through design and building works. The IP team have worked collaboratively with Estates (Capital and Maintenance) this year on a range of both small and large building projects to ensure patient safety is always maintained. The Environment Group receives a report from Estates on planned developments which ensures the IP team are informed of future projects.

INFECTION PREVENTION REPRESENTATION AT KEY MEETINGS

The IP team have maintained representation on numerous working groups this year as a method of ensuring appropriate IP advice is communicated and to ensure that infection prevention is built into design, policy and thinking across the organisation. These groups include:

- Capacity meetings
- Clinical Practices Working Group
- Clinical Practices Ratification Group
- Environment Group
- Health and Safety Operational Group
- Health and Safety Steering Group
- Sharps Safety Group
- Water Safety Group
- Ventilation Safety Group
- Medical Devices Group

Clinical Procurement Equipment Group (CPEG)
Theatre Procurement Equipment Group (TPEG)
Quality and Safety Action Group (QSAG)
Quality Governance Assurance Group (QGAC)
Matrons, Senior Nurses, Midwives and Health Visitors Group
COVID-19 and Influenza Vaccination Operational Group
COVID-19 and Influenza Vaccination Oversight Group
Infection Prevention and Control Group
Trust Management Committee
Trust Board
Decontamination Group
Fire Safety Group
Tenanted Buildings Working Group
Antimicrobial Stewardship Group
C. diff Task & Finish Group
Catheter and Continence Group
Sustainability
Measles Oversight Group

1. INTRAVENOUS RESOURCE TEAM

The IV Resource Team continues to provide three key deliverables to the Trust - the insertion of long intravenous lines for the provision of a variety of intravenous therapies across the organisation including chemotherapy, the facilitation of an Outpatient Parenteral Antimicrobial Therapy (OPAT) service which enables patients to return home whilst receiving intravenous antibiotics via community teams, and thirdly work to reduce Device Related Hospital Acquired Bacteraemia (DRHAB) occurrence with the support of Infection Prevention.

Long line insertion and maintenance.

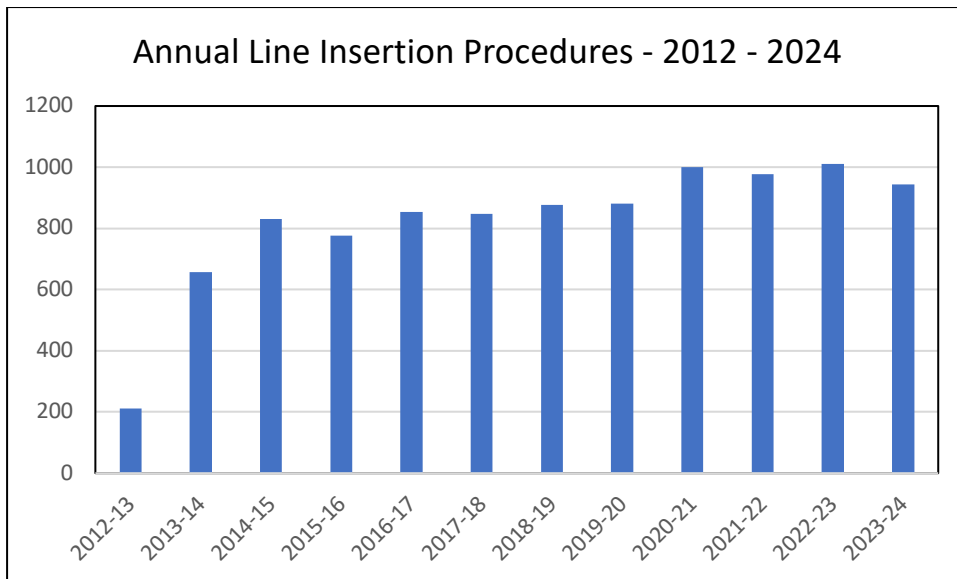
The Team continues to support Haematology and Oncology by the insertion of 2 lines per weekday for chemotherapy outpatients, alongside those required for inpatients within the speciality. Line insertions for critical care patients have also nearly doubled over recent years, this is of especial benefit to ward areas receiving patients where staff are inexperienced in accessing multi lumen central venous catheters. Other outpatient line insertions continue to be provided across the Trust, in particular for the respiratory centre and endoscopy suite.

This year the Team has inserted 944 lines, bringing the total number since the inception of the service to nearly 10,000. This is despite the additional staffing pressures across the year presented by long term absence in the form of maternity leave for 2 team members.

Alongside the increased demands and staffing pressures the IV Team has continued to follow up all inpatients from line insertion to removal, ensuring patients are monitored for any line associated complications including thrombus formation and clinical signs of infection. Dressing changes are performed promptly on a minimum of weekly basis, and clinical teams urged to remove lines when no longer needed.

In order to increase efficiency, the service is trialling the referrals section of the Care Flow Connect system. This has already been implemented effectively across the Intensive Critical Care Unit and Cardiothoracic Ward areas, and planning is in place for wider roll out. Utilising this system will streamline communication with ward areas and reduce the time delays and inefficiencies associated with the current use of telephones and bleeps.

Sadly, a business case submitted last year for expansion of the service was unsuccessful. When appropriate this will be revisited, with a focus on reducing delays for critical care patients awaiting long peripheral line insertion prior to discharge to general ward areas, and the introduction of a peripheral arm port insertion service for patients with long term complex vascular access needs.

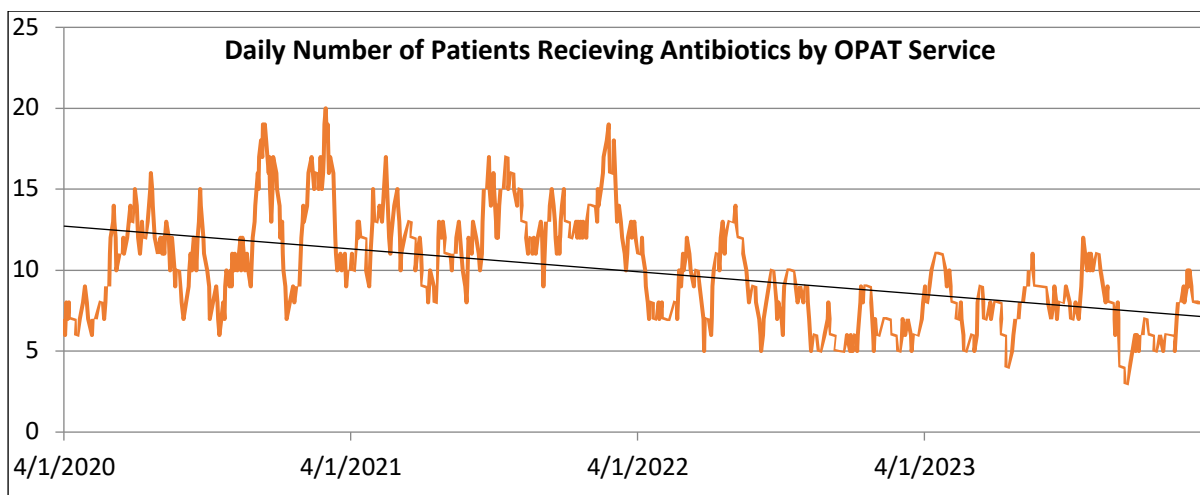


Outpatients Parenteral Antibiotic Therapy (OPAT) service.

The OPAT service enables patients to be discharged to their home environment whilst completing courses of intravenous antibiotics which traditionally would have required prolonged admission time until course completion which can be several weeks. Patients receive their medication either via a community nursing team attending their home on a daily basis, or by clinic attendance if adequately mobile. Patients benefit from recovering in their home environment surrounded by family and friends, whilst reducing inpatient service requirements for the Trust. The OPAT service works with a wide variety of community nursing teams covering the West Midlands, Shropshire and Staffordshire.

Over the past year 131 patients have been cared for via OPAT, saving the Trust a total of approximately 4,000 bed days. OPAT related activity reflects a slight decrease when compared with previous years, and so the reasons behind this will be investigated to identify other strategies which could be put in place to enable more patients to be discharged via this route.

One such issue is the ability to overcome obstructions to discharge where patients need to remain on antibiotics requiring frequent doses per day as opposed to switching to a once daily alternative. A trial regarding the use of elastomeric pumps, which would enable patients to remain on these drugs via 24-hour continuous infusion, commenced last summer with 6 patients successfully treated. The trial has been temporarily put on hold due to inadequate supporting staff numbers within Pharmacy, however it is hoped that it will be recommenced when such pressures resolve.



Device Related Hospital Acquired Bacteraemias (DRHABs)

The numbers of bacteraemias relating to medical devices including urinary catheters and vascular access devices remain unchanged. This is in part explained by the high levels of clinical pressures felt across the Trust. The IV Team continues to assist with education regarding the care and maintenance of IV lines. More staff members have been able to access training by the implementation of online sessions for general iv access, and the implementation of Parenteral Nutrition half day study sessions supported by Nutrition and Dietetics and Division 1 Practice Education Facilitators. These sessions include a practical element for parenteral nutrition bag changing - recognised as high risk for bacteraemia occurrence, and it is planned for these sessions to increase in number with the return of full IV Team staffing levels later this summer.

Urinary catheter work has in part focussed on the implementation of an electronic urinary catheter passport accessed via the clinical web portal. This system greatly aids communication between community and acute nursing teams regarding the indication for urinary catheter insertion and the associated dates of insertion and removal.

External opportunities

National work relating to Quality Improvement Projects relating to both urinary catheters and vascular access devices continues via the Infection Prevention Society and Device Related Infection Prevention Practice (DRIPP) collaborative. A surveillance tool for the monitoring of line related bacteraemias has been created and trialled in prototype form. Once permissions have been granted the aim is for this standardised data to be shared within the 5 co-ordinating Trusts to establish how care can be improved on analysis of the results. This is a very exciting piece of work which is aimed to become freely available for use across the NHS when a secure electronic app is created based on the pilot study prototype. The Trust is also involved with the implementation of a trial of a similarly accessible system for urinary catheters, currently being developed.

TUBERCULOSIS SERVICE

Tuberculosis (TB) is an infectious disease that is treatable and curable but continues to be a major public health issue. It is a serious, potentially fatal, disease that requires prolonged and complex treatment and is also an infection risk to close contacts, posing a significant burden on the patient, family and NHS. Those in under-served-populations (which include migrants, refugees, asylum seekers and those with social risk factors - homelessness, imprisonment, and drug use and alcohol misuse) are at higher risk of acquiring TB. The incidence of TB in England is higher than most other Western European countries. Nationally, the highest rates of TB are seen in London, with the West Midlands having the highest rates outside of London. The activity of the TB service ensures that TB cases in Wolverhampton are well managed according to NICE guidance and reduce the threat of spread in the city. Where active (infectious) cases are identified there is a swift response to contact tracing with appropriate education (e.g. to workplaces and family members) to reduce anxiety.

Persons with latent TB infection are not infectious and cannot spread TB infection to others; however, it is known that approximately 10% of latent cases can progress to active TB disease which is transmissible. New Entrants screening was introduced at the beginning of 2020. Information of new entrants is provided from Flag 4 data. For the period 2021/22 on average was 20.79%, during the period 22/23 the positive rate was 26.1 % (increase 5.31%). All positive patient's for LTBI are offered treatment.

The TB Service support with the 3 local prisons Oakwood is the second biggest prison in Europe and operated by G4S, Featherstone is Category C men's prison and Brinsford is youth offenders and operated by HM Prison Service. The TB Team support when there are TB cases and with contact tracing. Each prison has identified link nurses to enable a good working relationship. Support when query TB cases, this is supported with referrals, and guidance is given. There is no initial screening program in place at present, however any prisoner that presents with a cough and any signs and symptoms are isolated and screened. Continued educational sessions are provided to prison health care staff.

The BCG immunisation programme is a risk-based programme. The vaccine is recommended for individuals at higher risk of exposure to TB, particularly to protect against serious forms of disease in infants. Local pathways are agreed in the Trust for delivery of BCG vaccinations by Maternity from birth to the age of one New-born screening team. All targeted children from birth will have a severe combined immunodeficiency (SCID) blood spot test. The TB team has worked with local commissioners to facilitate BCG vaccination that was required for eligible children over one year old up to <18 years old.

The TB service deliver TB education sessions to Statutory and non-statutory sectors across the Wolverhampton area and South Staffordshire, Cannock and surrounding areas. Educational sessions will include epidemiology of TB, local incidence, high risk groups and settings. The signs and symptoms of active TB and Latent TB and treatments. Raise awareness of TB and provide a local service overview which will include pathway and referral process to the TB service.

The training session can be delivered in a few formats via face-to-face sessions or via online platforms. Power point will be used to deliver the session by a TB Nurse specialist or TB Support Outreach worker. Handouts can be provided or sent electronically via email (preferred method).

Each session will maintain a record of all sessions requested, delivered and with attendances. The TB Service can also provide each attendee with a certificate of attendance if required.

SURGICAL SITE INFECTION SURVEILLANCE (SSIS)

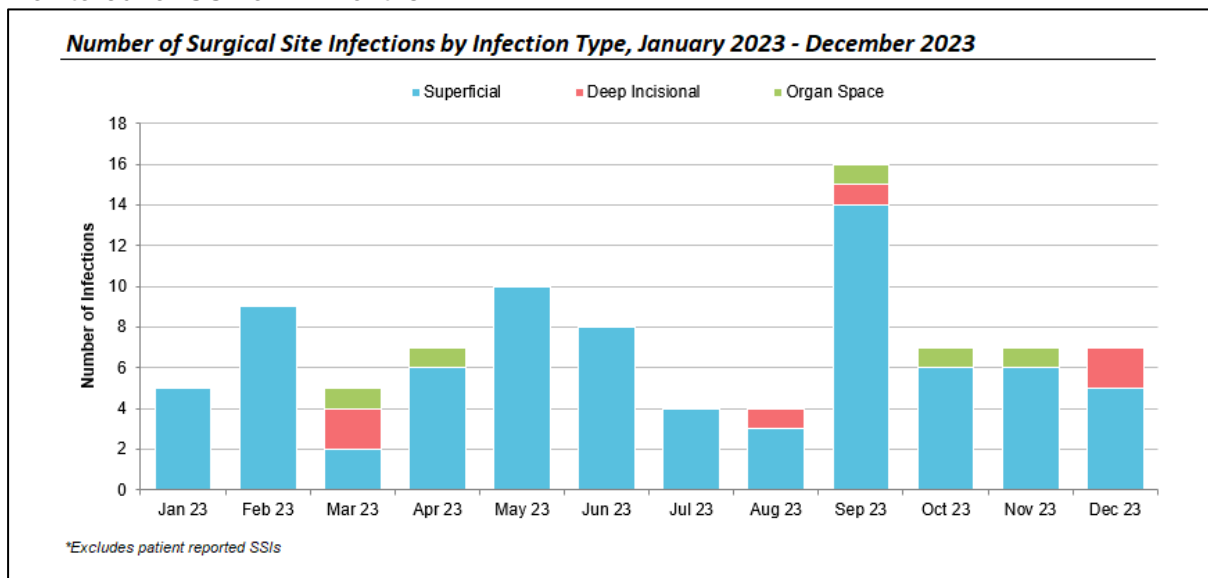
The SSIS Team consists of:

- Band 7 IPN with responsibility to operationally manage the team
- 1.0 WTE Band 6 SSIS Nurse
- 2.5 WTE Band 3 SSIS Co-ordinators
- 1.0 WTE Administrative support

The Trust has continued to collect and report on data around SSIS since 2012. The Trust currently undertakes data collection for all knife to skin procedures 365 days a year and we have a standardised approach using methodology set by U.K. Health Security Agency (Formerly Public Health England) to collect data across our inpatient facilities. This amounts to surveillance of over 1,000 procedures each month from both RWT and Cannock Chase Hospitals during a normal year.

The criteria for diagnoses of infections are set by U.K. Health Security Agency and differentiates between superficial, deep and organ/space infections.

The service currently follows up all patients at 30 days post operatively using telephone surveillance. All patients who have had surgery where an implant has been inserted are monitored for SSI for 12 months.



An electronic based surveillance system is used by the SSIS team which ensures environmental friendliness and compliance with data protection legislation. The surveillance system used has an interface with Silverlink (theatre system used) allowing for accurate surgical data to be transferred. This system also allows for the SSIS team to complete and upload data to U.K. Health Security Agency for the mandatory reporting of hip and knee replacements and surgery for fractured neck of femur. Data is also submitted for Coronary Artery Bypass Graft (CABG) and valve replacement, totalling over 2,500 procedures per annum.

This data is used to compare local rates of SSI over time and against a benchmark rate obtained from data published by all Trusts. This enables Trusts to inform and guide the review or change of local practice to improve the quality of care.

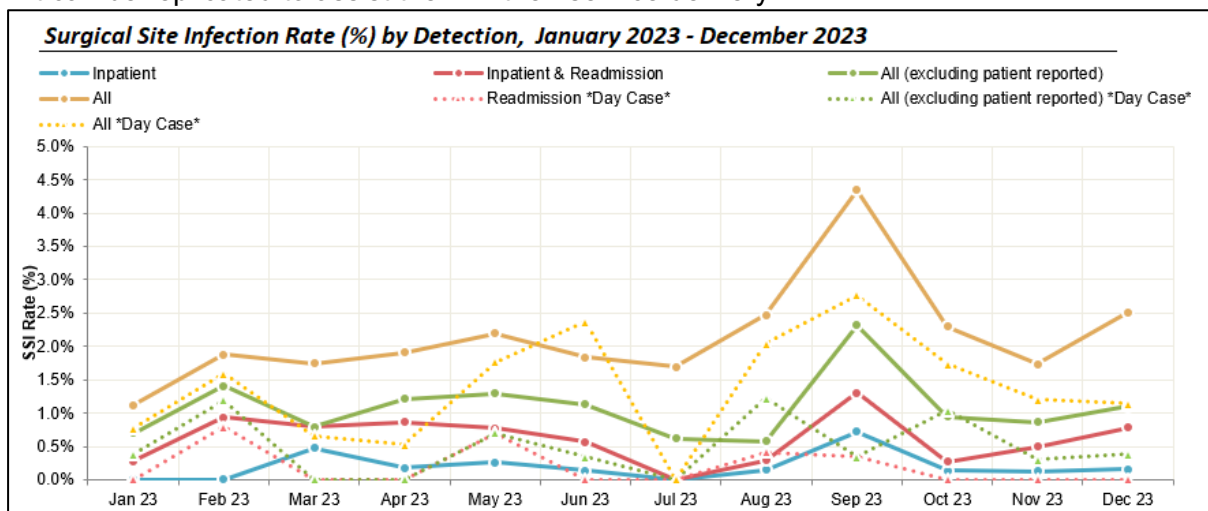
All other surgery data is collated for internal quality reporting. In total, surveillance for more than 8,000 inpatient and 3,000 day case procedures in 2023.

A local report and this data are shared with the Divisional Surgical Director on a monthly basis. Consultants have their own personal code which allows them to identify their own rates and comparisons can be made within their speciality, it also means that the data is anonymised. This is used to drive further improvement.

Month	No. Procedures	Surgical Site Infections			SSI Rate (%)				
		Inpatient	Horizontal (Category) Axis	Patient Reported	Inpatient	Inpatient & Readmission	All (excluding patient reported)	All	
January 2023	712	0	2	3	3	0.0%	0.3%	0.7%	1.1%
February 2023	638	0	6	3	3	0.0%	0.9%	1.4%	1.9%
March 2023	632	3	2	0	6	0.5%	0.8%	0.8%	1.7%
April 2023	578	1	4	2	4	0.2%	0.9%	1.2%	1.9%
May 2023	774	2	4	4	7	0.3%	0.8%	1.3%	2.2%
June 2023	707	1	3	4	5	0.1%	0.6%	1.1%	1.8%
July 2023	648	0	0	4	7	0.0%	0.0%	0.6%	1.7%
August 2023	689	1	1	2	13	0.1%	0.3%	0.6%	2.5%
September 2023	691	5	4	7	14	0.7%	1.3%	2.3%	4.3%
October 2023	741	1	1	5	10	0.1%	0.3%	0.9%	2.3%
November 2023	806	1	3	3	7	0.1%	0.5%	0.9%	1.7%
December 2023	637	1	4	2	9	0.2%	0.8%	1.1%	2.5%

Data is presented at the Infection Prevention and Control Group (IPCG) and the Infection Prevention Team surveillance meetings where new initiatives and directives are discussed by the team, such as new NICE guidance NG125 and antimicrobial dissolvable sutures, which have been incorporated into practice.

The data set and system we use is highly commended by other organisations and we continue to host visits from other Trusts, to review our methods of data collection and reporting to see if it can be replicated to assist them in their service delivery.



RWT has also collaborated with other Trusts in the region as part of a NHSE initiative for the reduction of avoidable SSI's. Primary drivers were to increase knowledge of SSI's and engagement among patients and staff. Task and finish groups were set up to focus on specific areas such as normothermia, skin prep, educational resources, and post discharge surveillance. This initiative is ongoing.

A large scale audit involving pre-operative clinics, theatres and wards has recently been undertaken, using a toolkit devised by 'One Together' which is a collaboration of The Infection Prevention Society, The Association for Perioperative Practice, The College of Operating Department Practitioners, The Royal College of Nursing, The Central Sterilising Club and 3M. The tool is designed to demonstrate compliance with infection prevention practices across the surgical pathway.

An audit was also undertaken in 2023 for perioperative 'Normothermia' to identify if patients' temperature is maintained throughout the surgical journey, as it has been shown that hypothermia can increase the risk of surgical patients developing infections. The audit was completed on patients who had undergone hip and knee arthroplasties at Cannock Chase Hospital. The results were circulated for discussion at their governance meeting, with the aim of improving compliance to NICE guidance and patient safety.

THE CONTINENCE CARE SERVICE (CCS)

The Continence Care Service (CCS) has demonstrated unwavering commitment to enhancing the standards of Continence Care within the acute and community healthcare sectors throughout 2023 and 2024. Notably, we supported the establishment of a collaborative working group, in conjunction with the multidisciplinary team, aimed at elevating Continence Care standards across diverse healthcare settings.

Our partnership with Ontex, a leading product supplier, enabled us to provide comprehensive training in care homes, elevating standards for individuals in nursing and residential care facilities. Additionally, we prioritized the optimization of communication systems between the continence service and the NHS Distribution Centre, streamlining processes for enhanced efficiency.

Transitioning our health centre into a Continence Hub for the community was a significant milestone. This hub serves as a focal point for individuals seeking support for continence-related issues, offering concurrent clinics staffed by allied professionals. The vibrant and welcoming environment, adorned with health promotion displays, reinforces our commitment to holistic care.

In response to the escalating cost-of-living crisis, the CCS remains steadfast in its mission to extend support to individuals experiencing incontinence-related challenges. We recognise the growing prevalence of incontinence poverty and have intensified efforts to alleviate its impact through collaborative initiatives with consumers, carers, and healthcare professionals.

Despite facing financial constraints exacerbated by external economic factors, such as fuel and raw material price hikes, the CCS remains resolute in its dedication to delivering high-quality, evidence-based continence care. Our focus on promoting rehabilitation and maintaining cost-effective product provision underscores our commitment to optimising patient outcomes while navigating financial challenges.

Throughout the review period, the CCS maintained a proactive stance in raising awareness and destigmatizing bladder and bowel continence care through initiatives like our active Facebook group. By fostering dialogue and disseminating valuable information, we empower individuals to seek support and access resources tailored to their needs.

In terms of operational efficiency and staff well-being, the CCS upheld its exemplary Team Stress Risk Assessment 'Green' Score, reflecting our commitment to prioritising the safety and well-being of both patients and staff. Daily communications and comprehensive training ensured that our team remained equipped to deliver exceptional care amidst evolving clinical and operational landscapes.

In conclusion, the CCS persevered in its mission to provide patient-centred, dignified care, navigating challenges with resilience and unity. Our collaborative efforts with RWT colleagues exemplify the spirit of TEAM NHS, reaffirming our collective commitment to excellence in healthcare delivery.

IP future plans for 2024/25

Following the end of the COVID-19 pandemic in May 2023 the IP team has continued to support the Trust to return to a business as usual position, whilst managing all respiratory viruses.

This is a challenging time for Infection Prevention and healthcare as we see a national increase in Measles cases and most recently Pertussis.

The IP team will continue to work towards identifying Hospital Acquired Pneumonia (HAP), Ventilator Associated Pneumonia (VAP) and Catheter associated urinary tract infections (CAUTI) rates which will be supported by the results from the National Point prevalence survey (PPS). This survey is the sixth national survey on healthcare-associated infections (HCAI) and the third national PPS on antimicrobial use (AMU), as a Trust we will use this to benchmark against the national data with the target to reduce the number of avoidable healthcare acquired infections.

We will enable and empower our staff to be able to practice the fundamental elements of IPC on a consistent basis. This will be achieved through education, educational resources and information, employing innovation methods where appropriate, utilising quality improvement methodologies, aligned policies and IPC visibility. We will influence the endeavour to meet or positively exceed nationally set objectives for C. diff and Gram-negative bacteraemia.

In line with the National shift to a Patient Safety Incident Response Framework (PSIRF) and the Trusts development of a Patient Safety Incident Response Plan we will develop HCAI review processes aligned with PSIRF. Incident review meetings will continue where learning can be identified and then shared.

The IP team will continue to work collaboratively with colleagues and partners towards our collective vision, as defined in our joint Trust Strategy "To deliver exceptional care together to improve the health and wellbeing of our communities".