



The Royal
Orthopaedic Hospital
NHS Foundation Trust

LESS PAIN

MORE INDEPENDENCE

LIFE-CHANGING CARE

Infection Prevention and Control

Annual Report 2022/2023



Infection Prevention and Control Annual Report 2022/23

Foreword by the Director of Infection Prevention and Control (DIPC)

Infection Prevention and Control (IPC) is fundamental in improving the safety and quality of care provided to patients. Healthcare-associated Infections (HCAI) can cause significant harm to those infected. As a result, IPC remains a key priority for the Royal Orthopaedic Hospital NHS Foundation Trust (ROH).

I am proud to be able to present the Infection Prevention and Control annual report for 2022/2023.

The NHS continues to experience unprecedented challenges clinically, operationally, and economically. However, our staff have sustained a culture of continuous improvement which is both patient-centred and safety-focused.

The Trust recognises that the effective prevention and control of HCAs is essential to ensure that patients using services at ROH receive safe and effective care. Effective prevention and control must be an integral part of everyday practice and applied consistently to ensure the safety of our patients. In addition, good management and organisational processes are crucial to ensure high standards of infection prevention and control measures are maintained.

This report demonstrates how the Trust has systems in place, for compliance with the Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance. The IPC agenda has continued to be strengthened with a highly visible Infection Prevention Team.

This report summarises the combined activities, commitment and hard work of the IPC Team, Board colleagues, all staff, governors, and volunteers across ROH, Clinical Commissioning Groups and the UK Health Security Agency (UKHSA) in relation to the prevention of HCAs.

Nicola Brockie
Chief Nurse and Director of Infection Prevention and Control

Key Achievements of 2022/23

- The Trust reported zero cases of MRSA bacteraemia which is the same compared to the previous 10 years.
- Strengthened system working ensured inclusion and representation of ROH at associated forums.
- Continued to deliver and improve the IPC training and education programme provided across the Trust.
- Organised and celebrated several key events in the IPC calendar across ROH, this included RCN Glove Awareness Day 2022, World Hand Hygiene Day, World Antimicrobial Awareness Week, and International Infection Prevention Week 2022.
- Carbapenem consumption has decreased compared to the previous financial year.
- The Trust has achieved the CCG2: Appropriate antibiotic prescribing for UTI in adults aged 16+ with an overall compliance of 45%.
- Educational programme for pharmacy team implemented including sessions on antimicrobial stewardship and prescribing.
- Regular medicines review with long term Bone Infection Service patients via telephone.

Key areas of Focus for 2023/24

Infection Prevention and Control is a top priority at The Royal Orthopaedic Hospital NHS Foundation Trust. Keeping our patients safe from harm is everyone's responsibility. The Infection Prevention & Control Team endeavour to support the delivery of continual improvement in order to deliver the best care for everyone and keep our patients at the heart of everything we do.

Our operational objectives for 2023/24 will focus on improving outcomes for our patients and provide a framework for our operational work plan, this includes:

- Embedding exemplary infection prevention and control practices by staff who are competent and confident in recognising and addressing infection prevention and control related risks and concerns.
- Providing a framework for appropriate antimicrobial usage, optimising treatment, and minimising the risk of healthcare associated infections.
- Providing a healthcare environment that is clean, safe and facilitates the prevention and control of infection.
- Working collaboratively with patients, patient advocates, Trust colleagues, system partners and commissioners as well as wider national organisations to improve the care we provide by being open, transparent, and inclusive.

Introduction

Effective prevention and control must be an integral part of everyday practice and applied consistently to ensure the safety of our patients. In addition, good management and organisational processes are crucial to ensure high standards of infection prevention and control measures are maintained. This report demonstrates how the Trust has systems in place for compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections. The Trust set out to continue the commitment to improve performance in infection prevention practice. As outlined in the Health and Social Care Act 2008, at the heart of this there are two principles:

- to deliver continuous improvements of care.
- it meets the need of the patient.

Compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections is monitored against 10 criteria which we will look at in detail in the next section.



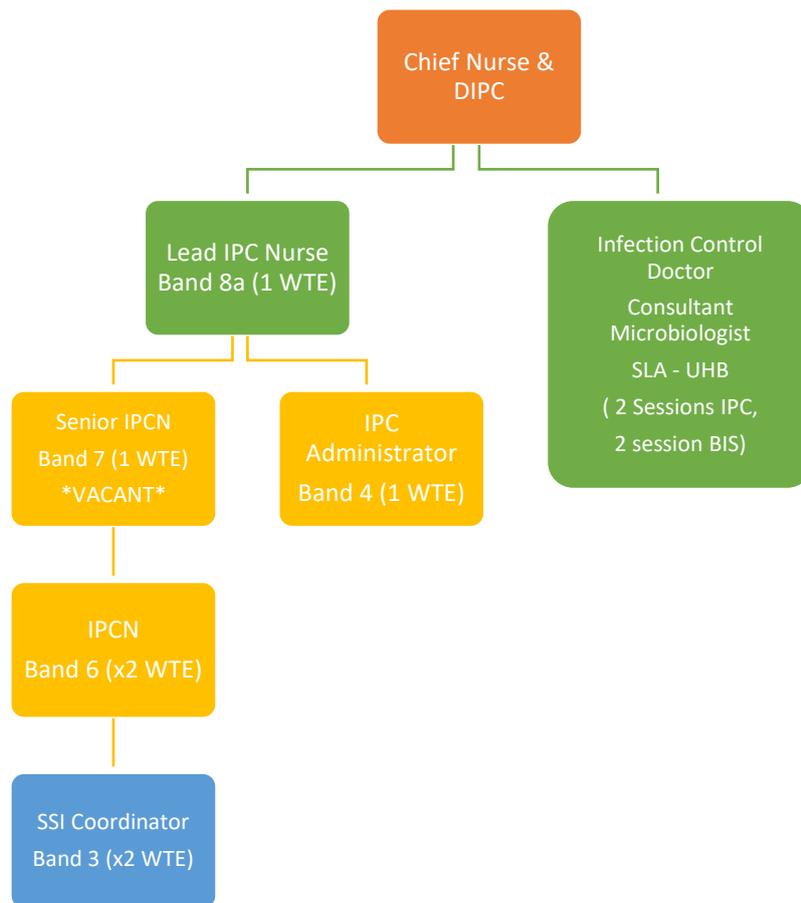
ROH IPC Vision

Preventing harm from infection by delivering clean, safe care.

ROH IPC Mission

To deliver a patient focused, expert infection prevention service that supports and empowers staff and patients through education, innovation, and role modelling, to ensure harm free care for all.

Infection Prevention and Control Team Structure (Criterion 1)



- Specialist IPC Team- Providing expert IPC advice and delivering IPC programme. Monday to Friday
- 24 hour access to Microbiologist advice - provided via SLA with UHB
- IPC doctor - SLA with UHB
- The IPC service is provided through a structured annual programme of work

During 2022/23 there were several changes of personnel and structure within the IPCT. The Bone Infection Service was funded to be a standalone service which combined with the formation of a new major revision service, to meet the ever-growing needs of the Trust which is external to the IPCT and managed separately.

External Reviews

No external reviews of IPC practice were undertaken during 2022/23.

Committee Structures and Governance



The Trust Infection Prevention and Control Committee (IPCC) is held bi-monthly and is chaired by the DIPC. A workplan is in place which details the cycle of reporting. Each clinical division and specialist service reports according to this to provide information by exception relating to IPC issues within their areas and assurance of mitigating actions taken to address these.

The main objective of the IPCC is to provide a strategic drive in ensuring improved performance in relation to reducing and preventing HCAs. The Committee has a designated Non-Executive Director as a core member.

The Trust IPCC met bi-monthly between April 2022 to March 2023.

Assurances associated to Trust IPC matters is also provided by the DIPC, quarterly to the Quality and Safety Committee (QSC), which reports directly to Trust Board.

To keep IPC high on the agenda the IPCT regularly attend and champion IPC at many of the Trusts' forums and meetings.

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Collaborative Working

Improved communication and patient flow lead to positive outcomes for patients and their families when the system works together. The IPCT have been actively engaged in maintaining and expanding networks locally, regionally, and nationally. This has included:

- Regional and national meetings with NHS England and Improvement (NHSE/I).
- Birmingham and Solihull (BSOL) system IPC Meetings.
- National personal protective equipment forums.

Infection Prevention Surveillance (Criterion 1)

The Trust participates in the mandatory HCAI surveillance programme facilitated by the UK Health Security Agency (UKHSA) including:

- *Clostridioides difficile* infection (CDI)

- Meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia
- Meticillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia
- *Escherichia coli* (*E coli*) bacteraemia
- *Klebsiella species* bacteraemia
- *Pseudomonas aeruginosa* (*P. aeruginosa*) bacteraemia
- Quarterly Mandatory Laboratory Return (QMLR)

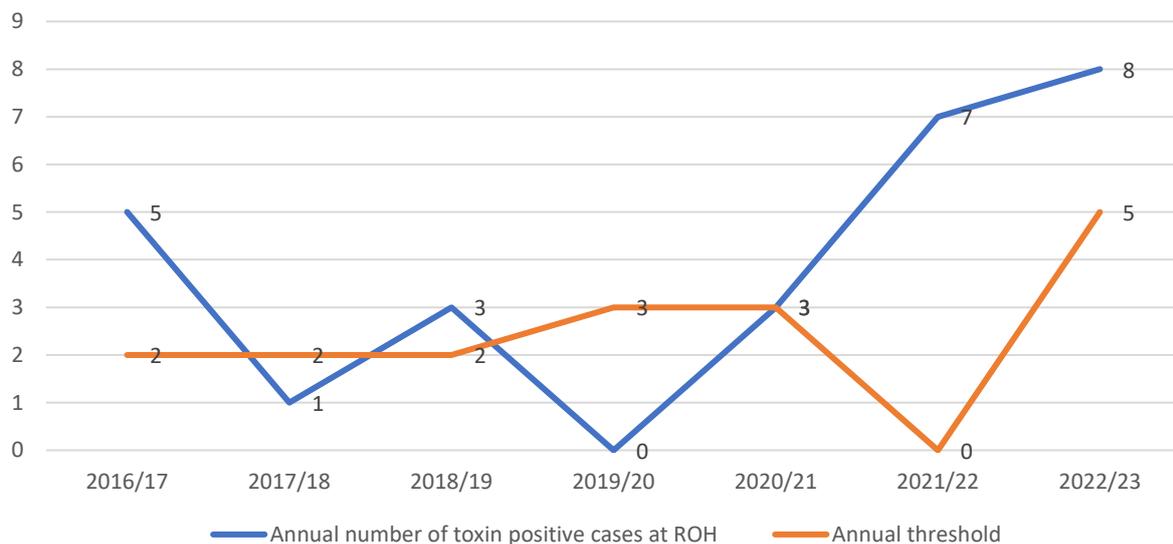
Performance is monitored by Birmingham and Solihull Integrated Care Board (formerly Clinical Commissioning Group - CCG).

National reduction objectives have been set for five of the six HCAI included in mandatory surveillance and due to the impact of the COVID-19 pandemic on hospital admissions the baseline period used to set these objectives was the calendar year 2019. MSSA is the only HCAI without a national objective.

***Clostridioides difficile* Infection (CDI)**

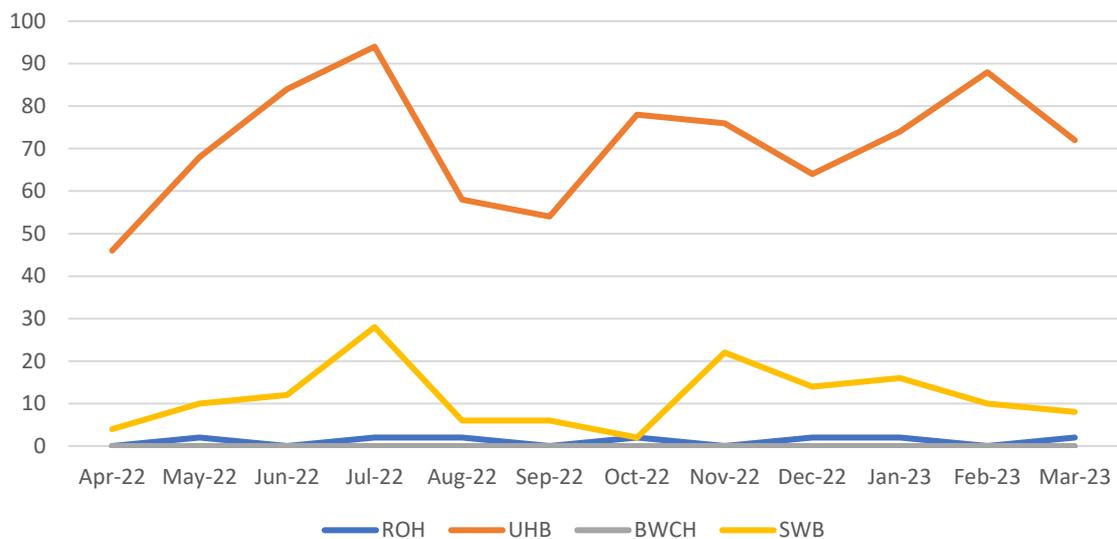
All toxin positive cases of CDI are reportable to UKHSA via the HCAI data capture system (DCS), and since April 2020, all healthcare associated (HOHA and COHA) cases count towards the ROH threshold.

Total number of toxin positive CDI reported by ROH annually



As can be seen in the table below, ROH contributes relatively few cases of *Clostridioides difficile* (*C. difficile*) to the overall BSOL system totals.

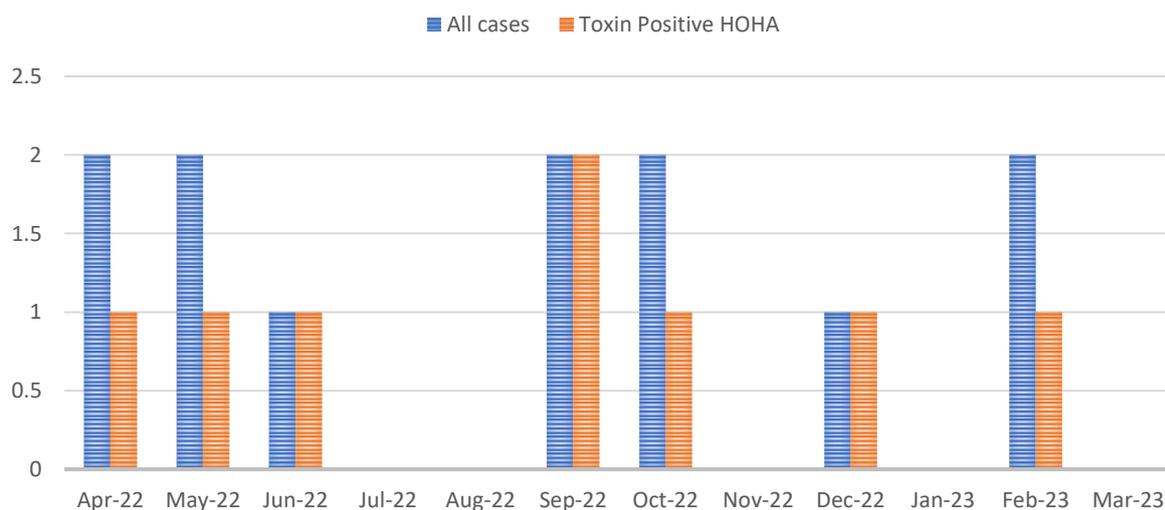
CDI cases reported by Trusts within BSOL system 2022/23*



*Data obtained from <https://www.gov.uk/government/statistics/c-difficile-infection-monthly-data-by-prior-trust-exposure>

Trusts are required under NHS standard contract to minimise rates of *Clostridioides difficile* so that they are no higher than the threshold level set by NHS England. The ROH CDI 'threshold' for 2022/23 was set at 5 healthcare-associated cases. For 2022/23 ROH reported 8 healthcare associated cases of CDI.

CDI cases reported by ROH between April 2022 and March 2023

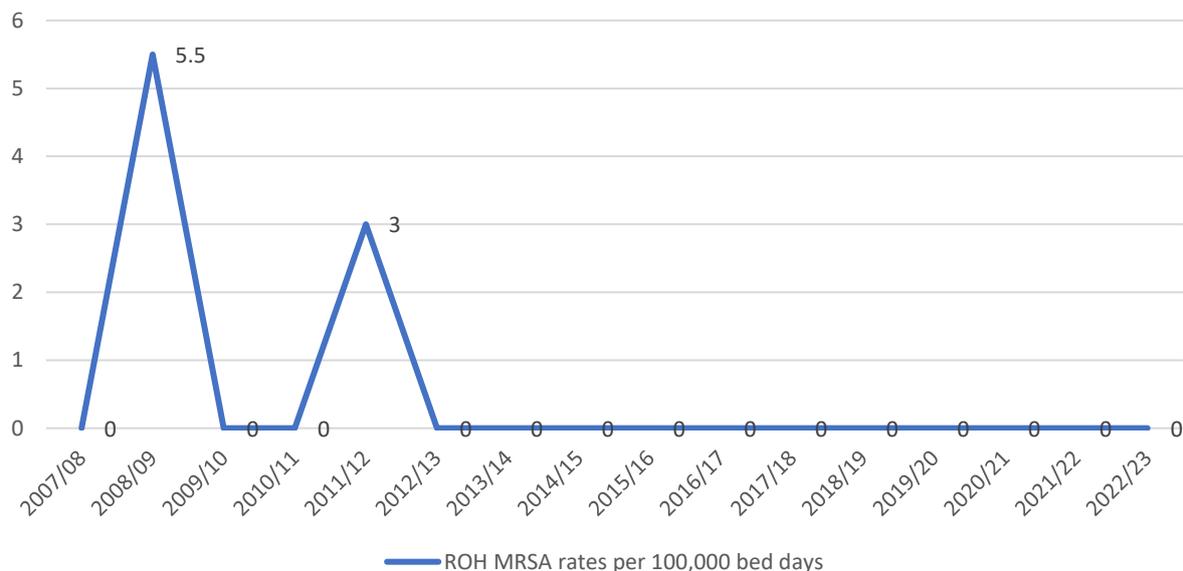


Up to and including 2022/23, NHS organisations have continued to be required to demonstrate year on year reductions in *Clostridioides difficile* Infection (CDI) cases. However, as published national data shows, the rate of improvement for CDI has slowed over recent years.

MRSA Bacteraemia

During 2022/23 ROH reported zero cases of MRSA bacteraemia which is the same compared to the previous 10 years.

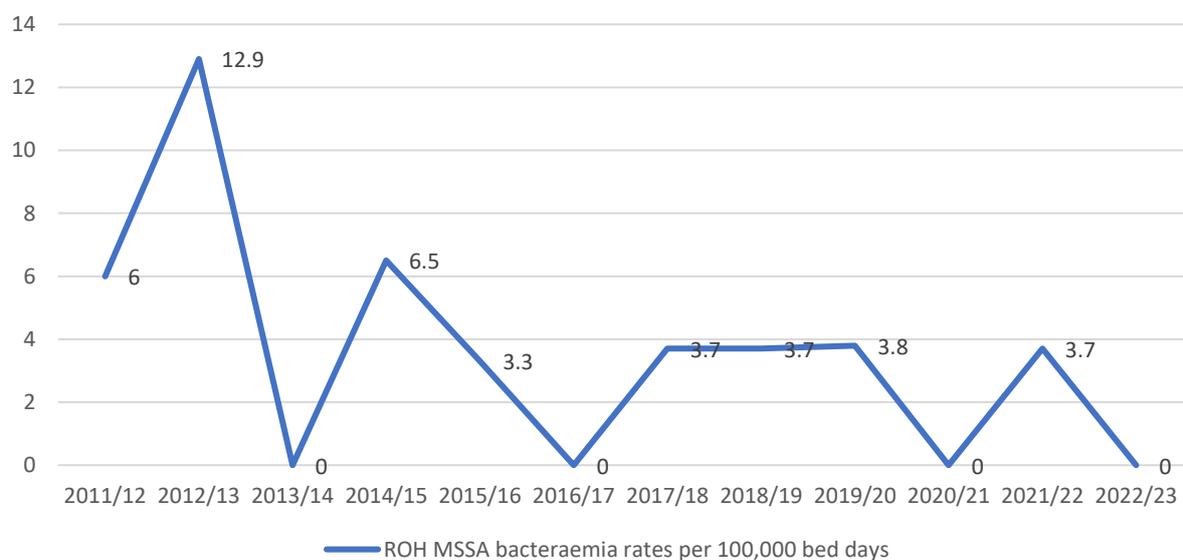
Methicillin resistant *Staphylococcus aureus* blood stream infections ROH rate per 100,000 bed days



MSSA Bacteraemia

ROH reported 0 MSSA bacteraemia during 2022/23. This is a decrease in cases from 2021/22 in which 1 case was reported.

MSSA bacteraemia rates per 100,00 ROH bed days



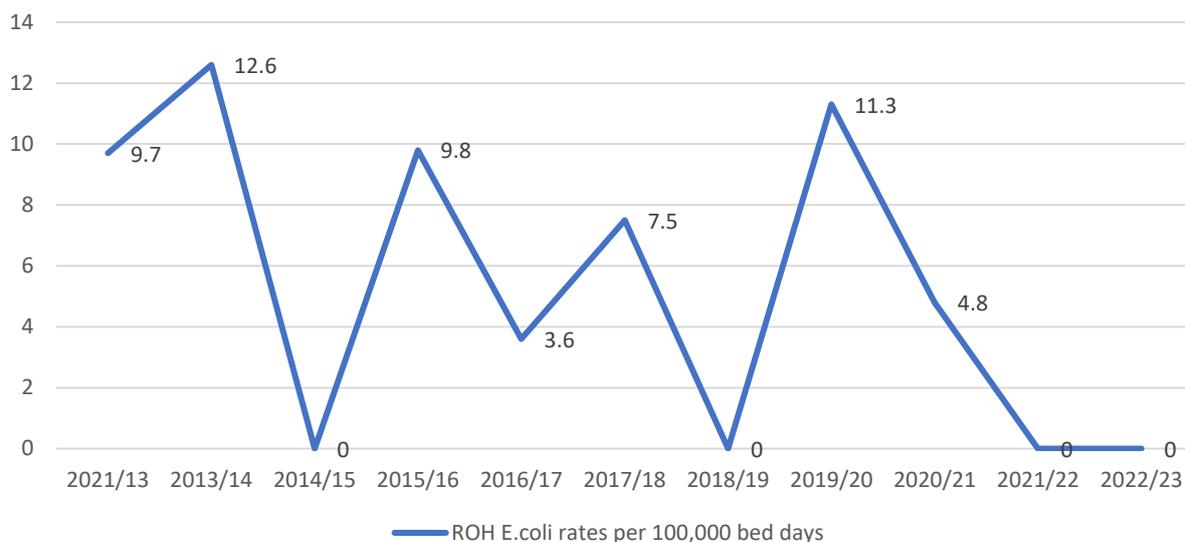
Gram-negative Organism Bacteraemia

Gram-negative bacteria such as *Escherichia coli*, *Klebsiella spp.* and *Pseudomonas aeruginosa* are the leading causes of healthcare associated bacteraemia.

Escherichia coli (*E. coli*) Bacteraemia

ROH reported 0 *E. coli* bacteraemia during 2022/23. This is the same as the number of cases reported during the previous year.

ROH annual *E. coli* bacteraemia rates per 100,000 bed days

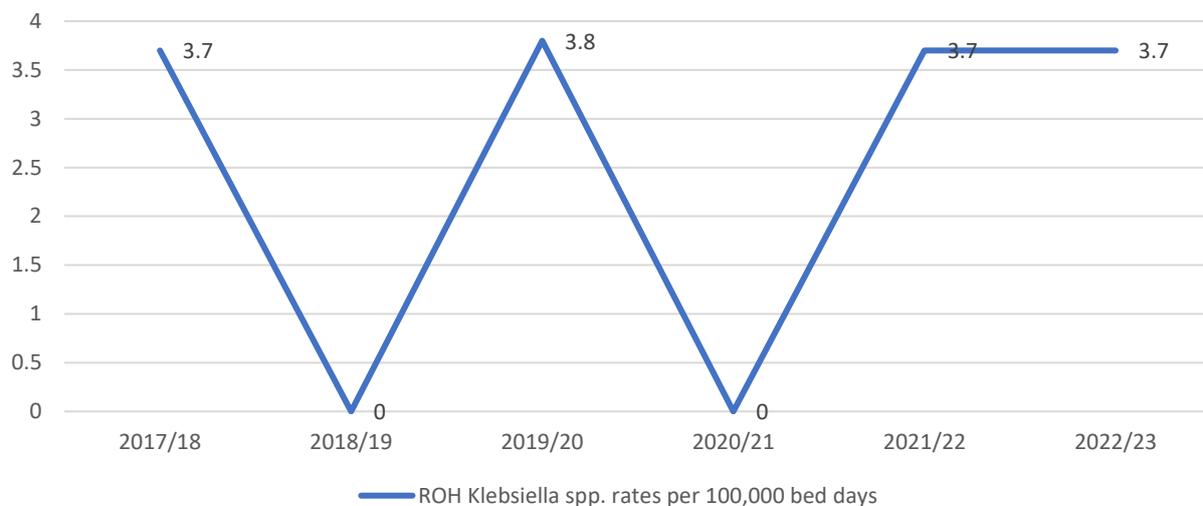


Klebsiella spp. Bacteraemia

ROH reported 1 *Klebsiella spp.* bacteraemia during 2022/23. This is the same as the number of cases reported during the previous year.

The case was subject to a PIR which found no clear source of infection. The patient had multiple risk factors and invasive devices which may have contributed to the development of the bacteraemia.

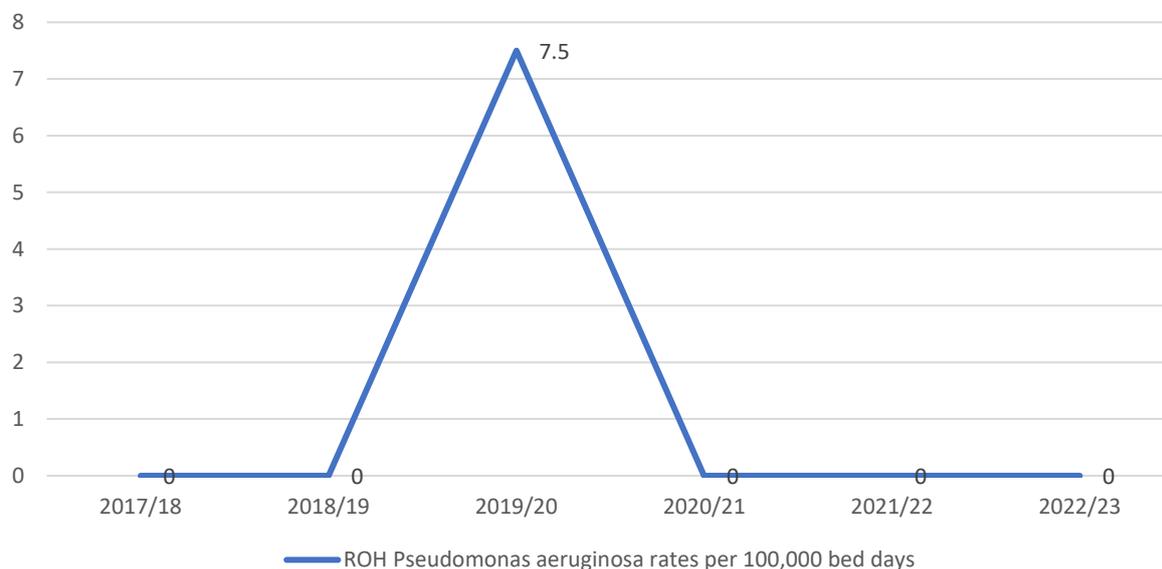
ROH annual *Klebsiella* bacteraemia rates per 100,000 bed days



***Pseudomonas aeruginosa* Bacteraemia**

ROH reported 0 *P. aeruginosa* bacteraemia during 2022/23. This is the same as the number of cases reported during the previous year.

ROH annual *P. aeruginosa* bacteraemia rates per 100,000 bed days



Carbapenemase producing *enterobacteriaceae* (CPE)

During 2022/23, ROH CPE screening guidance was updated to reflect changes to the national CPE screening guidance as described in Framework of actions to contain Carbapenemase-producing *Enterobacterales* (UKHSA, 2022).

ROH reported 2 cases of CPE during 2022/23. Both cases were identified pre-admission, because of enhanced screening implemented as described above.

Reporting of quarterly totals of rectal swabs and faecal specimens taken for CPE screening was added to the mandatory quarterly laboratory returns (QMLR) section of the HCAI DCS in October 2019, and reporting became mandatory in October 2020.

Number of samples sent to be tested for CPE during 2022

Year/Quarter	Jan to March	April to June	July to Sep	Oct to Dec
2021	25	56	31	38
2022	58	300	300	348

Norovirus

During 2022/23, ROH reported 0 Norovirus cases and 0 Norovirus associated outbreaks. This is the same as the number of cases reported the previous year.

Influenza

During 2022/23, ROH reported 1 case of Influenza, identified on admission to the Trust and 0 influenza outbreaks.

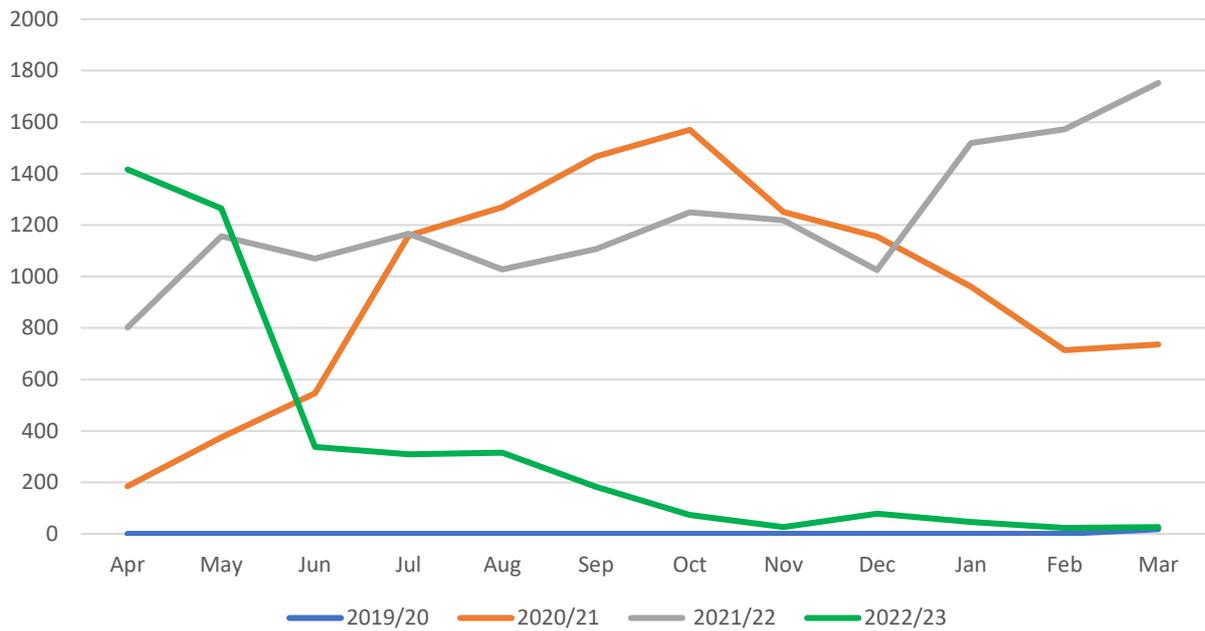
COVID-19

Between April 2022 to March 2023 the Trust cared for 37 patients that tested positive for COVID-19.

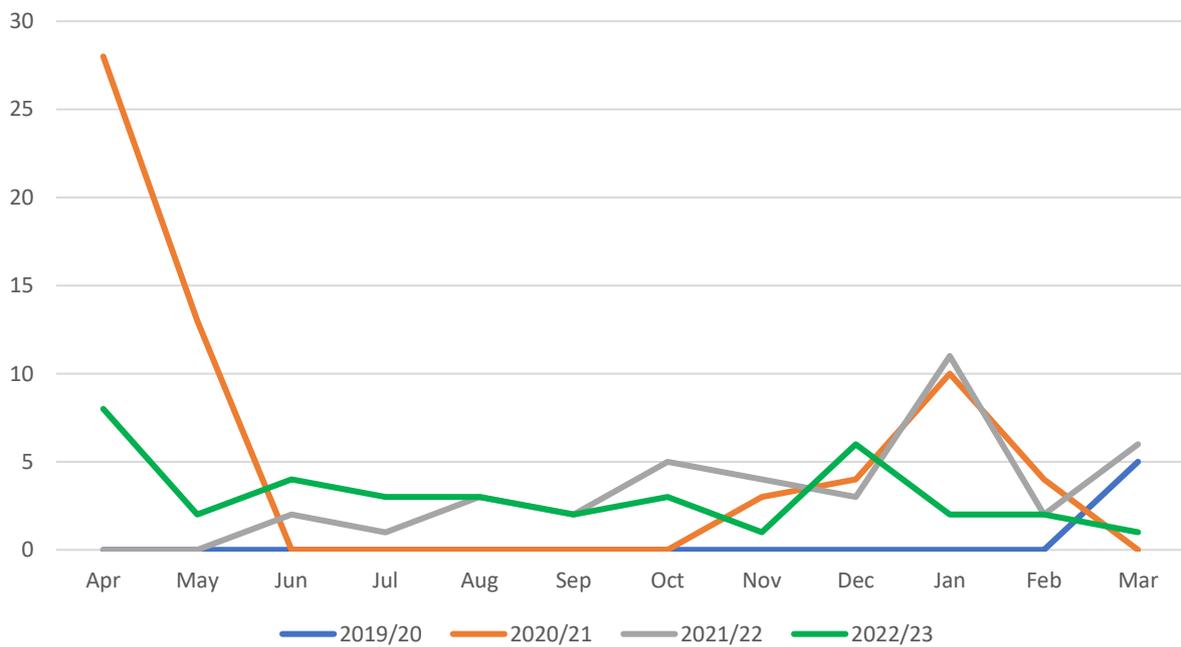
Days from admission to positive result – healthcare onset	2019/20	2020/21	2021/22	2022/23
0-2 days (unlikely)	2	11	25	22
3-7 days (indeterminate)	0	28	7	6
8-14 days (Probable)	1	15	2	3
> 15 days (Definite)	2	7	5	6
Totals	5	61	39	37

The graph below details the number of COVID-19 tests performed, positive cases and deaths reported between April 2022 and March 2023. To note, there were no staff deaths linked to COVID-19 in the Trust.

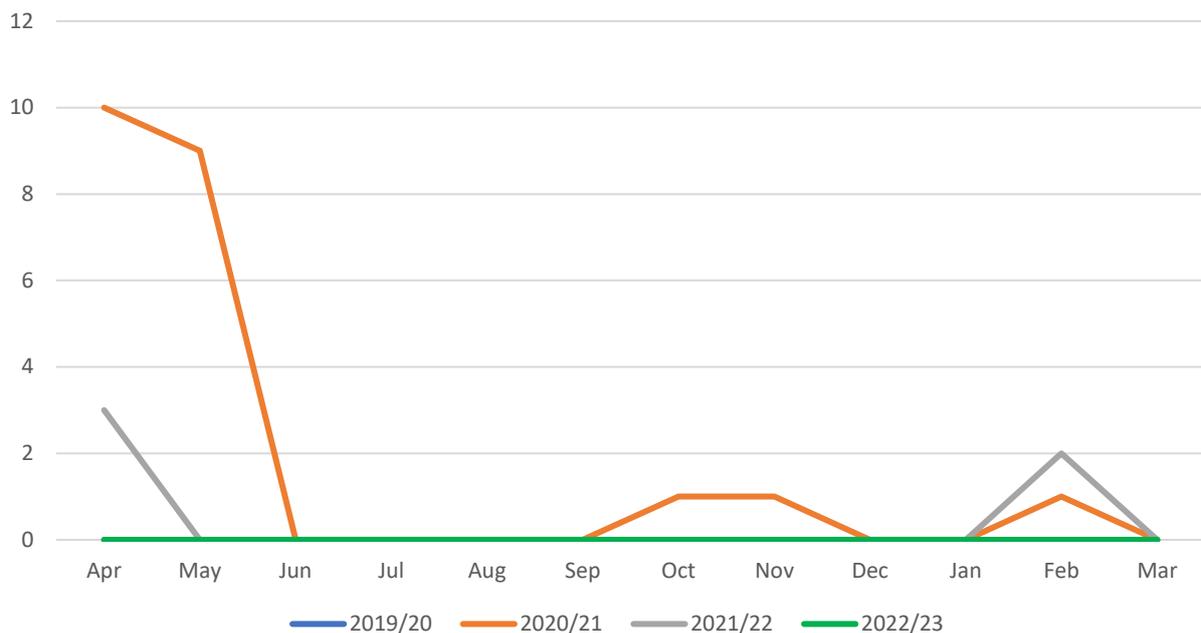
Total number of COVID-19 PCR swabs sent by ROH between March 2020 and March 2023



Total number of positive COVID-19 cases identified at ROH **on or during admission** between March 2020 and March 2023



Total number of COVID-19 related deaths at ROH between March 2020 and March 2023



All COVID-19 related deaths were investigated following the ROH learning from deaths process.

During 2022/23, ROH reported 5 COVID-19 outbreaks, 2 of which were in clinical areas and involved patients.

All COVID-19 outbreaks are investigated fully with the involvement of NHSE, UKHSA and the CCG IPCT. For all outbreaks, the outbreak management control group is formed (chaired by the DIPC) and meet daily to review the situation and manage cases as well as oversee the implementation of mitigations and actions to prevent further transmission.

The IPCT report all COVID-19 related outbreaks via the online COVID-19 reporting system and update them with changes until the outbreak is declared closed.

IPC Audit Programme (Criterion 1)

Each year the ROH IPCT review the audit programme to ensure it meets the needs of the organisation and demonstrates compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections.

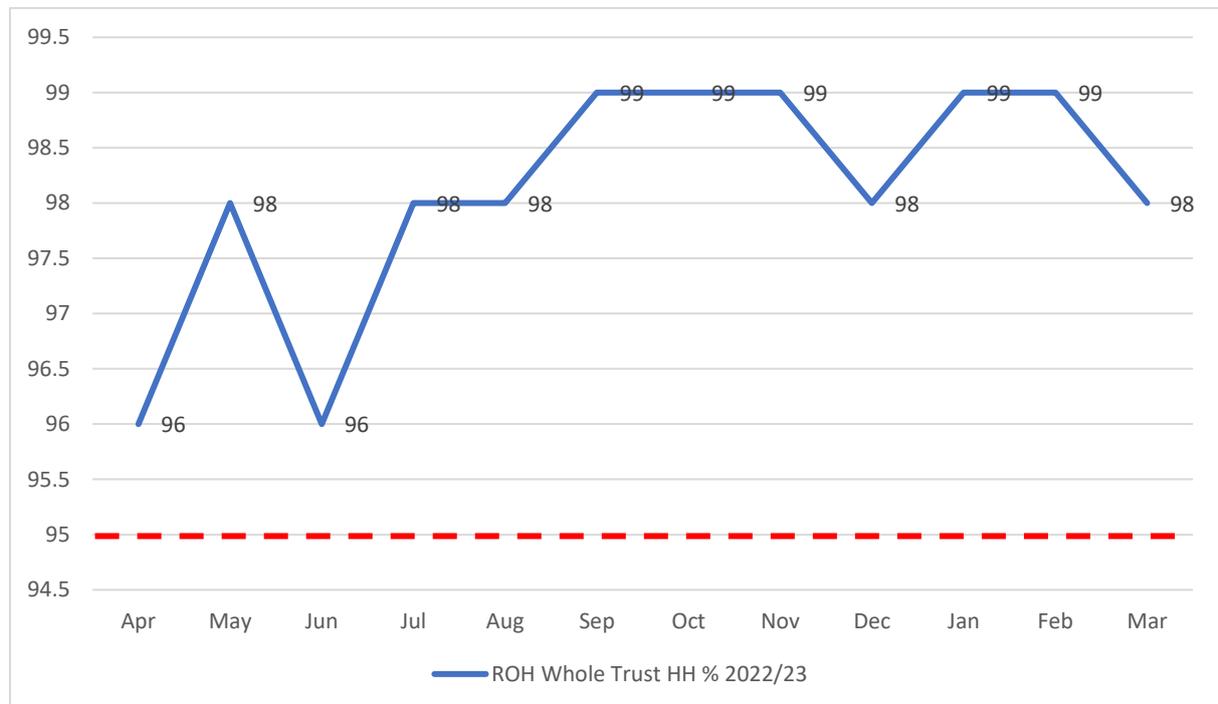
Hand Hygiene Audits (inc. bare below the elbows)

Hand hygiene audits are undertaken monthly by all clinical areas. Data is manually entered onto the quality dashboard by each area.

The hand hygiene compliance target for ROH has historically been >95%.

From the audits undertaken during 2022/23, moment 1 - before patient contact is the most frequently missed opportunity to perform hand hygiene.

ROH Trust Hand Hygiene Compliance April 2022 to March 2023



IPC Quality Assurance Audit (inc. use of isolation, TBPs, equipment cleanliness etc.)

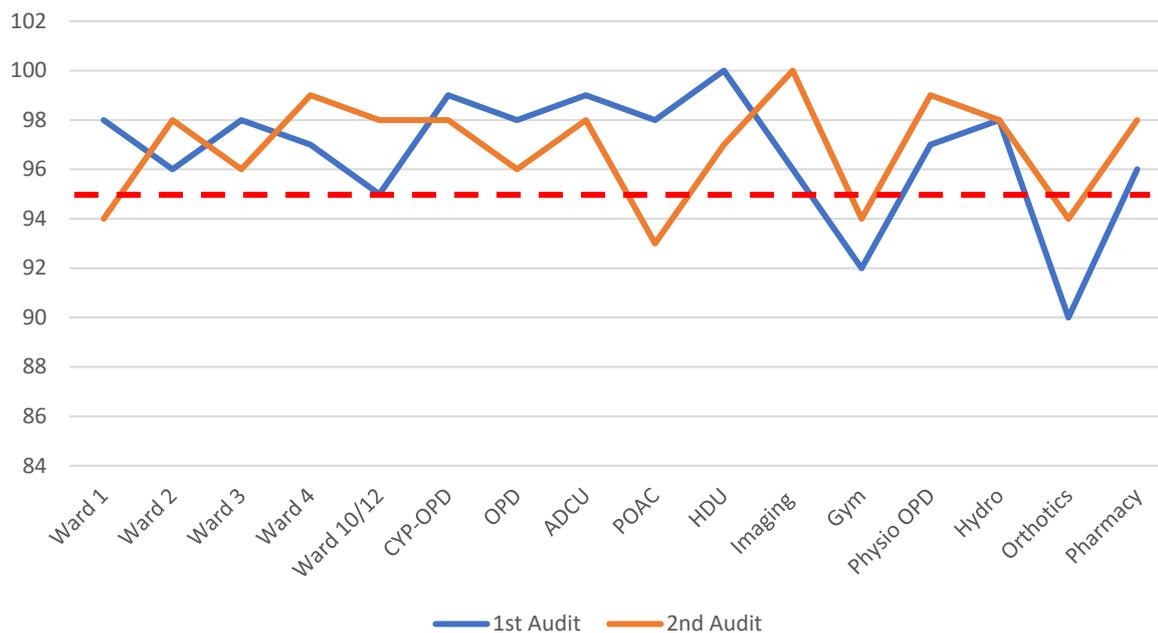
These are spot checks that are undertaken by the IPCT in response to increased concerns relating to practice within a specific area e.g., in response to a suspected outbreak.

These audits can be undertaken by anyone (IPCT, Ward/Dept. manager, Matron) to monitor the IPC practice in a specific area.

IPC audit (environment & practice)

All clinical areas are audited by the IPCT in conjunction with facilities and estates every 6 months. This is a formal structured review based on an audit tool developed by the Infection Prevention Society (IPS).

IPC audit (6 monthly) undertaken during 2022/23



All audits that fail (<95%) have improvement recommendations made and are re-audited until compliance achieved, however re-audit figures are not included in the chart above.

Commode Audit

Commode audits are undertaken monthly in all areas that have commodes by the IPCT. The audit is pass or fail. Most failures are related to the absence of cleaning assurance tape, which is required to be applied at the end of the cleaning process, prior to storage. An audit failure due to lack of assurance of cleaning is just as significant as an audit that fails due to being visibly soiled. Microorganisms cannot be seen by eye and without any definitive evidence of cleaning taking place, we must assume that the equipment is dirty.

High Impact Interventions

The HII's are an evidence-based approach that relate to key clinical procedures or care processes. When these HII's are performed appropriately they can reduce the risk of infection. They were developed to provide a practical way of highlighting the critical elements of a procedure or care process, the key actions required and a means of demonstrating assurance.

Overall compliance with the HII bundles across the Trust remains high which indicates good standards of care being delivered. To ensure improvements and provide ongoing assurance of these standards being maintained, further work is taking place to ensure documentation of care provided is accurately documented each time a device is accessed or reviewed.

Safe Management of the Healthcare Environment (Criterion 2)

Facilities – Cleanliness

Cleaning and environmental decontamination services provided at ROH are undertaken by an in-house team within the Facilities department. These services are provided by a dedicated team of environmental cleaners and an enhanced cleaning team.

Environmental cleaners provide cover in all patient areas from 06:00 to 22:00hrs Monday to Friday and 08:30 to 19:00hrs Saturday & Sunday. The enhanced cleaning team undertake all enhanced cleaning and terminal cleaning requests which includes UV-C & Bioquell between the hours 08:30hrs to 05:30hrs (split over two long shifts) Monday to Sunday.

Training for domestic staff continues to be provided by the housekeeping coordinators which includes the completion of a training manual.

National Cleaning Standards

During May 2021 NHS England published the 'National Standards of Healthcare Cleanliness 2021'. Since the publication of the standards, facilities have welcomed the opportunity to measure performance in a uniform way, and to benchmark Trust cleaning services against other healthcare environments. Our star ratings are derived from the original audit score at the time of audit. Scores can only be updated following the next full re-audit. The monthly star ratings are displayed within all patient facing locations displays. This system enables easier administration and allows monitoring to take place.

Patient-Led Assessments of the Care Environment (PLACE)

Good environments matter. A clean environment is the foundation for lower infection rates, while good food promotes recovery and improves the patient experience. High standards of privacy promote patient dignity, and good maintenance and décor support a safe and comfortable environment. But good environments don't just happen. Without the efforts of all staff, the benefits of cleanliness, good food, privacy, and proper maintenance may be lost.

Patient-led assessments of the care environment (PLACE) assist organisations to understand how well they are meeting the needs of their patients and identify where improvements can be made. Assessments were performed over a one-day period on the 11th of November 2022 with Trust volunteers and lead personal, and uses information gleaned directly from patient assessors to report how well our trust has performed – in terms of national standards and against other similar trusts. Assessments were undertaken on our wards, clinics, out-patient departments, and public areas.

PLACE Audit Scores 2022/23

Discipline	National Average	ROH 2022/23	Comment
Cleanliness	98.01	99.49	Above national average
Food	90.23	96.15	Above national average
Organisational Food	90.23	91.67	Above national average
Ward Food	90.23	97.62	Above national average
Privacy, Dignity	84.08	91.62	Above national average
Condition/Appearance	95.79	96.71	Above national average
Dementia	80.60	86.81	Above national average
Disability	82.49	88.96	Above national average

A summary report along with an agreed action plan has been written, outlining key areas in where improvements can be made. These actions are monitored through the care quality and patient experience and engagement groups, which meet bi-monthly.

Ventilation

The ventilation safety group continues to meet bi-monthly and reports via upward report to the IPCC. The DIPC is responsible for reporting on activities and recommendations of the VSG to the Quality and Safety Committee which feeds into Trust Board.

Water Safety

The Water Safety Group (WSG) continues to meet bi-monthly and reports upwardly to the IPCC. The group is chaired by the Deputy Director of Delivery (Estates). As per requirements set out in HTM 04-01: Safe water in healthcare premises, it is a multidisciplinary group formed to oversee the commissioning, development, implementation, and review of the Water Safety Plan (WSP).

Safe Management of Healthcare Equipment (Criterion 2)

Decontamination

No decontamination of critical devices is undertaken onsite at ROH. This is contracted out to BBraun, who deliver an accredited decontamination service and oversee the process and management of all decontamination of surgical instruments. No other equipment used onsite or offsite as part of ROH services requires sterile decontamination.

As set out in HTM 01-01, which offers best practice guidance on the whole decontamination cycle including the management and decontamination of surgical instruments used in acute care, ROH have an appointed Sterile Services Manager (SSM) who takes responsibility for coordinating activity between the theatre, decontamination, and supply/purchase teams. They

ensure that the inventory of surgical instruments is proactively reviewed and managed in accordance with national and local guidance, clinical requirements, and industry best practice.

The SSM reports to the Trust’s Decontamination lead. This position is held by the DIPC. The SSM provides an upward report on decontamination at IPCC.

Antimicrobial Stewardship (Criterion 3)

The Trust Antimicrobial Stewardship Group (AMSG) meets quarterly and includes representatives from pharmacy, microbiology, nursing, and medical staff. This group produces and manages policy regarding AMS and responds to concerns in this area. The group produces upward reports and escalates concerns via the Drugs and Therapeutics Committee (DTC) and IPCC. The Trust’s Antimicrobial Pharmacist also produces quarterly consumption reports that are reported at DTC and IPCC.

The action of the AMSG continues to be hampered by the lack of attendance of the medical and nursing representatives. This means that the group meetings are often non-quotate. Actions by the group can therefore be difficult to implement.

ROH Antibiotic Consumption (2022/23)

Consumption of antibiotics is monitored by the Chief Pharmacist and analysed for trends by the Antimicrobial Pharmacist. Several audits have been completed during 2022/23 to assess appropriateness of antimicrobial usage within the Trust. The pharmacy team continue to undertake interventions relating to inappropriate antibiotic usage with prescribing teams to maintain good antimicrobial stewardship. Total antibiotic usage is monitored quarterly and ROH continues to maintain usage below the England average.

All antibiotics

Total Antibiotic consumption data in defined daily doses (DDDs) and DDD per 1000 admissions compared to the 2018 reference year (Jan to Dec) for all antibiotics including those prescribed by the Bone Infection Service (BIS):

Year	2018	2019/20	2020/21	2021/22	2022/23
Total Antimicrobial consumption (DDD)	42008	48607	39194	50179	54783
Target Total DDD		41587.9	41587.9	41587.9	41587.9
Antimicrobial consumption Per 1000 admission	3239	3719	5518	3947	4125
Target DDD/ 1000		3206	3206	3206	3093

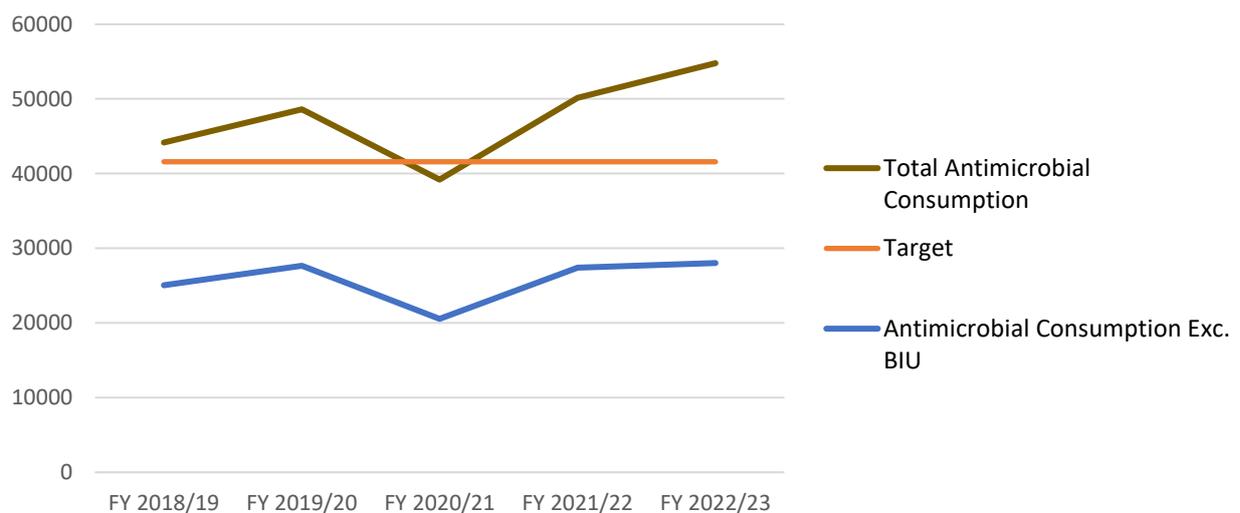
Total Antibiotic consumption data in DDDs and DDD per 1000 admissions compared to the 2018 reference year (Jan to Dec) for all antibiotics excluding those prescribed by the BIS:

Year	2019/20	2020/21	2021/22	2022/23
Total Antimicrobial consumption (DDD) (Excluding BIU)	27647	20549	27408	28024
Target Total DDD	41587.9	41587.9	41587.9	41587.9
Antimicrobial consumption Per 1000 admission (Excluding BIU)	2115	2894	2159	2110
Target DDD/ 1000	3206	3206	3206	3093

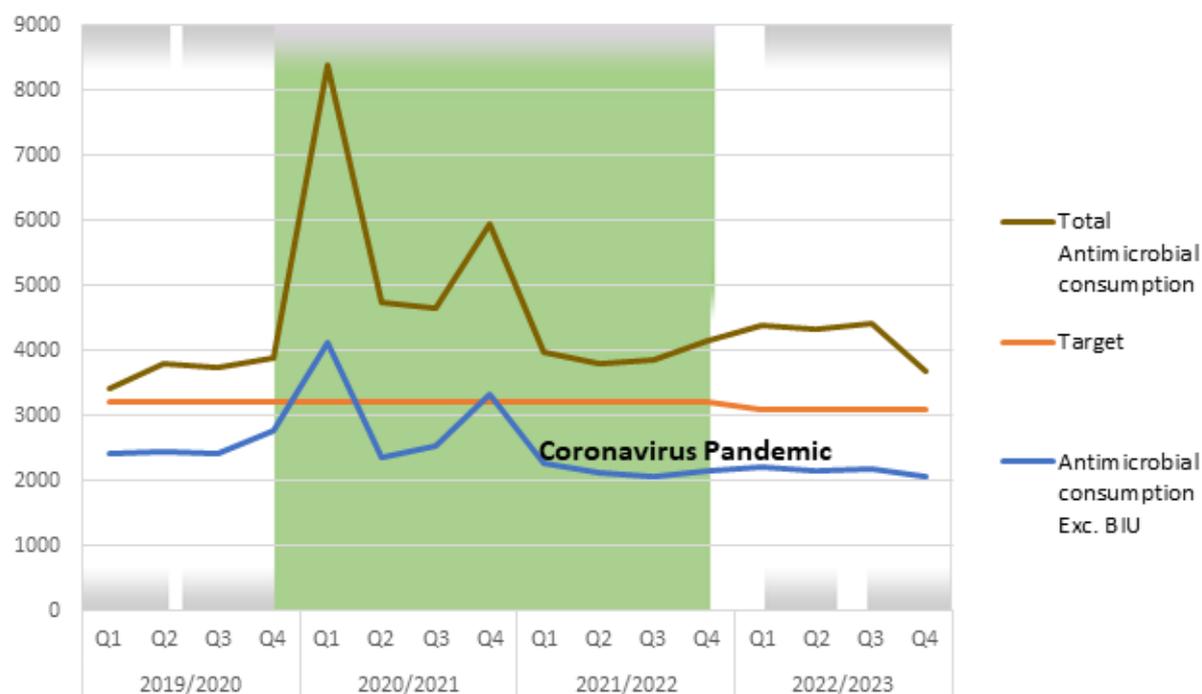
Total antimicrobial consumption (DDD) 2019/20 to 2021/22

The tables above provide a breakdown of the overall antimicrobial consumption for each financial year since 2018. The data shows that the overall consumption has increased in 2022/23 compared to the previous year. However, if we exclude the antibiotics used for the Bone Infection Service, we are below the NHSE targets.

Total antimicrobial consumption (DDD) 2019/20 to 2022/23:



Quarterly antimicrobial consumption – 2019/20 to 2022/23 (DDD/1000 patients):



Carbapenem Usage

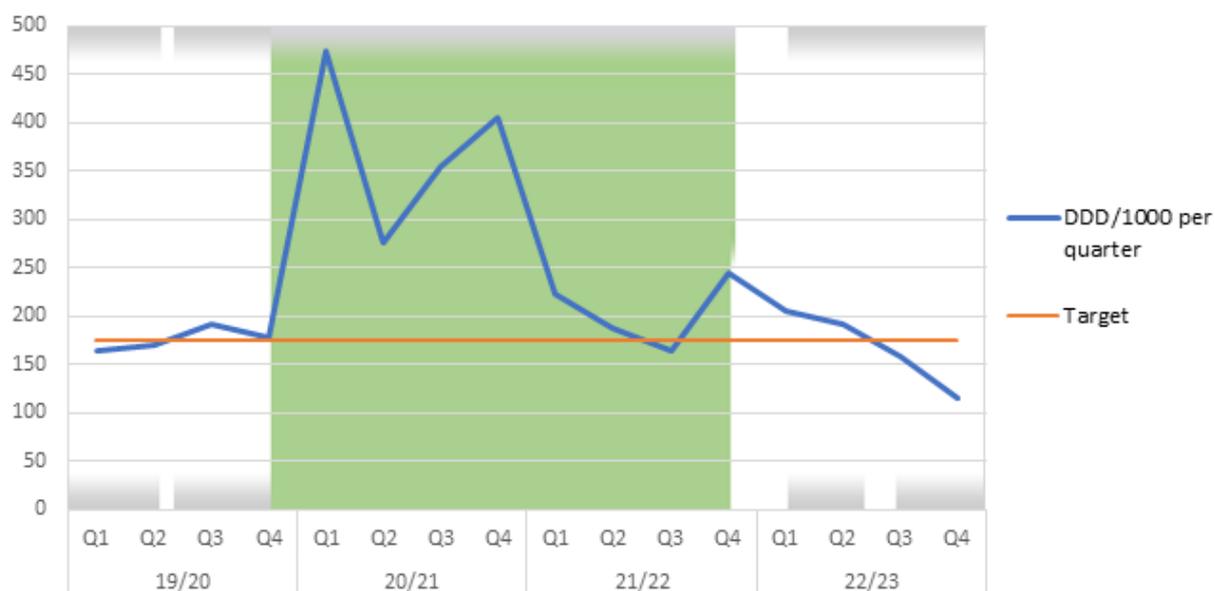
Total Carbapenem consumption data in DDDs and DDD per 1000 admissions compared to the 2018 reference year:

Year	2018	2019/20	2020/21	2021/22	2022/23
Carbapenem consumption (DDD)	2420.8	2300.5	2548.8	2586	2202
Carbapenem consumption (DDD Per 1000 admission)	177.5	176.01	358.9	204	166
Target DDD/ 1000		173.9	173.9	173.9	173.9

Quarterly carbapenem consumption data and DDD per 1000 admissions compared to the 2018 reference year:

Carbapenem consumption	Q1	Q2	Q3	Q4
	2019/2020			
DDD / Per 1000 admission	163.157	170.236	191.359	178.389
	2020/2021			
DDD / Per 1000 admission	473.237	275.382	354.923	404.597
	2021/2022			
DDD / Per 1000 admission	222.647	186.623	164	244
	2022/2023			
DDD / Per 1000 admission	206	191	159	114

Quarterly carbapenem consumption for 2019/20 to 2022/23 (DDD/1000 patients):



The graph above shows quarterly carbapenem usage has decreased this quarter and is below the target set by NHSE.

Yearly usage of antimicrobials within the WHO "access" category of the AWaRe list financial years 2019/20 – 2022/23:

Antimicrobial Usage	2019/20	2020/21	2021/22	2022/23
Antibiotic consumption within the " Access " category of the AWaRe list	1847 (52%)	2394 (43%)	2054 (52%)	2350 (57%)
Antibiotic consumption within the " Watch " category of the AWaRe list	1547 (42%)	2534 (46%)	1546 (39%)	1408 (34%)
Antibiotic consumption within the " Reserve " category of the AWaRe list	325 (9%)	594 (11%)	335 (9%)	358 (8%)

The 'AWaRe' Classification of antibiotics was developed in 2017 by the WHO 'Expert Committee on Selection and Use of Essential Medicines' as a tool to support antibiotic stewardship efforts at local, national, and global levels. Antibiotics are classified into three groups, Access, Watch and Reserve, considering the impact of different antibiotics and antibiotic classes on antimicrobial resistance, to emphasize the importance of their appropriate use. The 2021 update of the 'AWaRe' classification includes an additional 78 antibiotics not previously classified, bringing the total to 258.

The percentage of antibiotics used at the ROH that fall within the 'access' group category has remained steady between 43-52% for the past 3 financial years. There was a decrease in

proportion of 'access' antibiotics in 2020/21, but this can be attributed to the pandemic and a different cohort of patient to which ROH is usually accustomed.

It is important to note antibiotics routinely used for BIS patients are mostly found within either the 'reserve' or 'watch' categories; therefore, as activity remains high for BIS patients then this impacts on the percentage consumption of 'access' antibiotics. Excluding BIS antibiotics, the Trust comfortably achieves the reduction targets as evidenced below.

Yearly usage of antimicrobials within the WHO "Access" category of the AWaRe list (DDD per 1000 patients) – excluding those prescribed by the BIS – NB: 1% excluding Meropenem:

Antimicrobial Usage	2019/20	2020/21	2021/22	2022/23
Antibiotic consumption within the "Access" category of the AWaRe list	1500 (71%)	1794 (62%)	1534 (71%)	1545 (73%)
Antibiotic consumption within the "Watch" category of the AWaRe list	438 (21%)	734 (25%)	416 (19%)	393 (19%)
Antibiotic consumption within the "Reserve" category of the AWaRe list	177 (8%)	367 (13%)	209 (10%)	170 (8%)

The Trust's overall usage of antibiotics is currently lower than the target set by NHS England in the 2019 CQUIN once antibiotics prescribed by the BIS are excluded.

The use of carbapenems has declined even further since the previous quarter and is below the target set by NHS England in the 2019 CQUIN.

Access antibiotics has increased from 52% (2021/22) to 57% (2022/23) and there has been a reduction in the Watch category of antibiotics. The majority of 'Watch' and 'Reserve' antibiotics are prescribed for patients under the Bone Infection Service, so if this data is excluded, the percentage of Access antibiotics increase to 73% which is a significant percentage of our consumption.

Communications (Criterion 4)

Central to the success of any IPC programme is an effective and dedicated communications plan. Collaborative working between the IPCT, and ROH communications and strategy team helps bring about improvements in care through the appropriate and successful instigation of IPC initiatives, as well as timely and targeted public and patient information to improve safety and awareness of IPC issues and topics. The Trust's dedicated communication team have been instrumental in assisting with the execution of the IPC programme throughout 2022/23 and is no different to the excellent support and collaborative working they provide year in year out.

Examples of collaboration during 2022/23:

- Planned and delivered IPC roadshows based on IPC 'focus of the month' and key dates within the IPC calendar such as World Hand Hygiene Day and World Antimicrobial Awareness Week.
- Utilised social media to support communication internally and externally with the public and other organisations. This has proved beneficial with sharing of best practice and communicating key messages to the wider health economy.
- Supported the annual flu vaccination and COVID-19 vaccination campaigns.

Screening and Reporting of Infections (Criterion 5)

Robust screening and testing procedures are in place to identify those most at risk of developing an infection. As an elective orthopaedic hospital, all patients (except for the small number of spinal emergency patients) who attend pre-operative assessments clinics will be tested for MRSA as well as any other infection as deemed necessary based on assessment (this may include CPE screening).

Surgical Site Infection Surveillance (SSIS)

Infections of the surgical site account for approximately 16% of all HCAI, are estimated to double the length of post-operative stay in hospital and significantly increase the cost of care.

During 2022, the substantive experienced band 5 SSIS Nurse left the Trust. This left a relatively new and inexperienced band 3 SSI coordinator to undertake the surveillance programme, who themselves required long-term absence during quarter 4 of 2022. This resulted in ROH withdrawing from the UKHSA SSI surveillance programme for quarter 4. After successful recruitment, training and return of the team, ROH began participating in the surveillance programme again from quarter 1 of 2023.

SSI Data for 2022/23

The data presented below is a combination of mandatory surveillance data for SSI identified following total hip and knee replacement surgery and voluntary surveillance data for SSI identified following spinal surgery. In addition to this the SSI team undertake in-house surveillance which looks at several other areas of interest including oncology cases. This enables the team to gain an informed understanding of SSI across all specialities and the potential for them to have longstanding implications for patients and significant financial implications for the Trust.

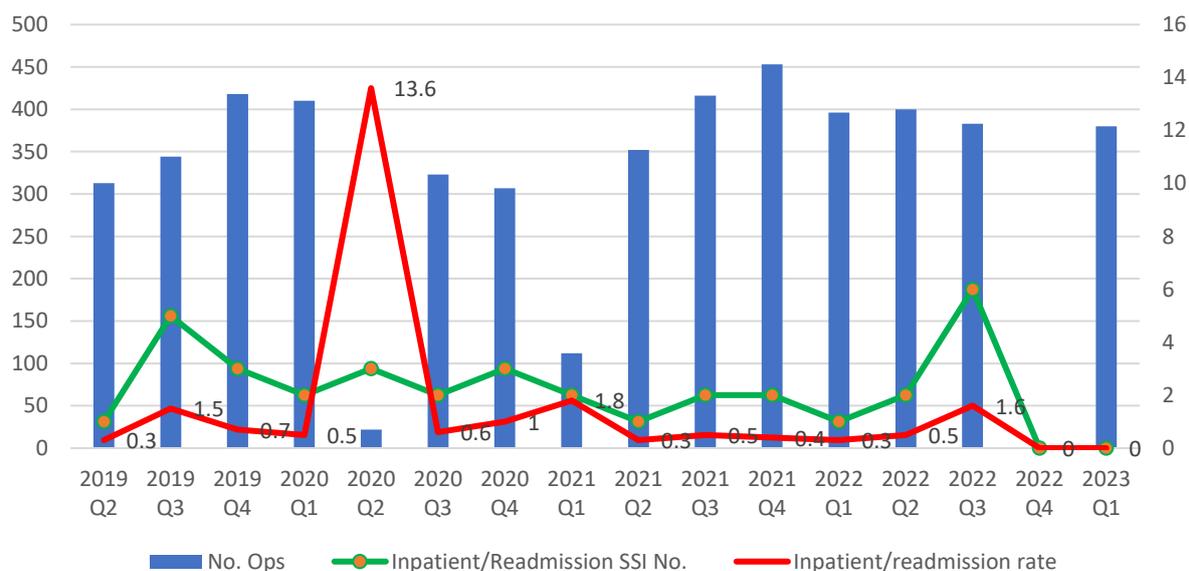
Note: All data on SSI is submitted to UKHSA, however benchmark data (gained from other trusts submitting their rates) only consists of inpatient/readmission figures.

Hips – 2022/23

The national benchmark for hips is based on inpatient/readmission SSIs for the previous 5 years. For April 2022 to March 2023 the ROH inpatient/readmission SSI rate was 0.6%. This is 0.3% above the national benchmark of 0.3%.

ROH withdrew from the SSI surveillance programme for quarter 4 2022 (October to December) due to vacancies within the SSI team.

Trend in Rate of SSI – Arthroplasty – Hip Replacement



HIPS		April 2022 to March 2023
Operations	Total N° of procedures	1559
	N° of successful patients contacted for post discharge surveillance	1550
	% of post discharge surveillance completed	54.9%
SSI	N° of inpatient/readmission SSI	9
	% Infected	0.6%
	N° of post discharge confirmed SSI	2
	% Infected	0.1%
	N° of patient reported SSI	7
	% Infected	0.4%
	All SSI	18
% Infected	1.2%	

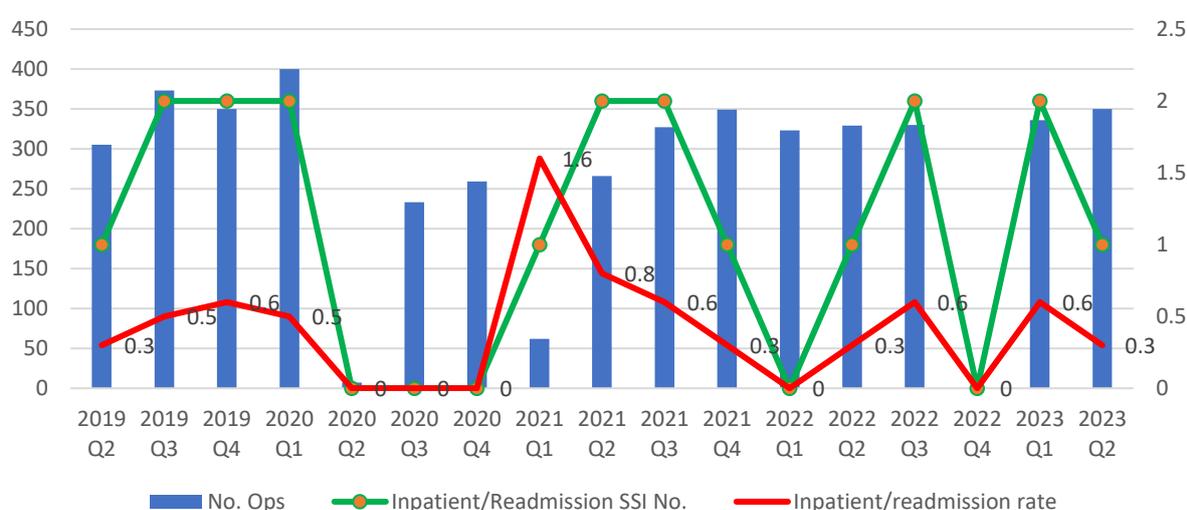
The graph and table above provide a breakdown of the trends in the rates of SSIs for hips from January 2019 to March 2023. The graph reflects the inpatient & readmission SSIs which include organ/space and deep infections. There has been a steady increase and decrease in the rates of infections during this timeframe. The peak during April to June 2020 was due to the very low number of operations performed because of cancelled elective work due to the COVID-

19 pandemic. Rates reported by ROH have been slightly above the national benchmark for most quarters. However, overall, when looking at the total number of infections reported over this time frame, the number of inpatient/readmission infections out of the number of operations that were performed is low.

Knees – 2022/23

The national benchmark for knees is based on inpatient/readmission SSIs for the previous 5 years. For April 2022 to March 2023 the ROH inpatient/readmission SSI rate was 0.4%. This is 0.2% above the national benchmark of 0.2%.

Trend in Rate of SSI - Arthroplasty – Knee Replacement



KNEES		April 2022 to March 2023
Operations	Total N° of procedures	1318
	N° of successful patients contacted for post discharge surveillance	1316
	% of post discharge surveillance completed	53.0%
SSI	N° of inpatient/readmission SSI	5
	% Infected	0.4%
	N° of post discharge confirmed SSI	1
	% Infected	0.1%
	N° of patient reported SSI	13
	% Infected	1.0%
	All SSI	19
% Infected	1.4%	

The graph and table above provide a breakdown of the trends in rates of SSIs for knee surgeries from April 2019 to March 2023. The graph reflects the inpatient & readmission SSIs which include organ/space and deep infections. There have been areas of increase and

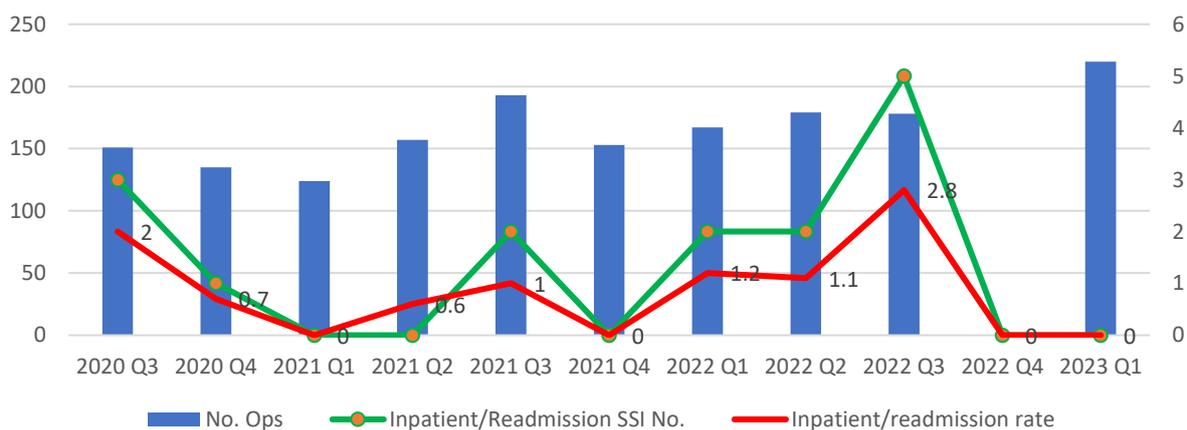
decrease in the rates of infections during this timeframe. The peak during January to March 2021 was due to the very low number of operations performed because of the COVID-19 pandemic. The rates reported by ROH have been slightly above and below the benchmark for some quarters. However, overall, when looking at the total number of infections reported over this time frame, the number of inpatient/readmission infections out of the number of operations that were performed is low.

Spines - 2022/23

Spinal surgery was included as part of the ROH surveillance programme from July 2020 onwards.

The national benchmark for spines is based on inpatient/readmission SSIs for the previous 5 years. For April 2022 to March 2023 the ROH inpatient/readmission SSI rate was 1.2%. This is 0.3% above the national benchmark of 0.9%.

Trend in Rate of SSI – Spinal Surgery



SPINES		Trust Total (Last 4 periods)
Operations	Total N° of procedures	744
	N° of successful patients contacted for post discharge surveillance	734
	% of post discharge surveillance completed	42.6%
SSI	N° of inpatient/readmission SSI	9
	% Infected	1.2%
	N° of post discharge confirmed SSI	0
	% Infected	0.0%
	N° of patient reported SSI	5
	% Infected	0.7%
	All SSI	14
% Infected	1.9%	

We began participating in spinal surveillance from July 2020. The graph and table above provide a breakdown of the trends in rates of SSIs for spines from July 2020 to March 2023. The graph reflects the inpatient & readmission SSIs which include organ/space and deep infections. There have been areas of increase and decrease in the rates of infections during this timeframe. The rates reported have been below national benchmarking for each quarter except for July – September 2020, July – September 2021 and January to March 2022.

Training and Education (Criterion 6)

At ROH infection prevention is everyone's responsibility and is included in all job descriptions. All staff, clinical and non-clinical receive training and education in optimum infection prevention practices via formal and information teaching session including mandatory training, and ad-hoc department-based teaching sessions.

The IPC team deliver training sessions year-round according to a training needs analysis which aids the population of a training and education calendar which is reviewed before each financial year. This includes sessions tailored towards, nurses, junior doctors, students, administrators, contractors etc. The team have also provided bespoke training sessions within ward and department areas, so staff do not have to leave their working environment to attend sessions.

Examples of engagement and training undertaken by the IPCT during 2022/23:

- Facilitated quarterly meetings for IPC link champions (from each ward and department).
- Continued to utilise educational 'grab packs' for hand hygiene, Influenza, MRSA, PPE, and CPE across ROH to support staff with effective application of theory into practice within their areas of work.
- Delivered bespoke infection prevention training, in line with HBN 00-09, for all preferred contractors coming into ROH.
- Facilitated the national antibiotic awareness and hand hygiene days across ROH.

IPC monthly focus

Before each new financial year, the IPCT undertake an away day where a review of the previous year's performance is undertaken, and ideas are shared to help formulate the IPC programme for the following year. Included in this is the creation of new 'IPC monthly focus'. This provides an opportunity to plan a programme of audit activity and quality improvement work specifically focussed on a key issue. The themed focus allows the team to provide support on a range of infection prevention issues throughout the year. Details of the audits and training provided throughout the months is shared within the IPC summary report at the IPCC.

- Several Infection Prevention Society study days attended focusing on key topics that benefit service provision at ROH.
- SSI team undertook annual SSI surveillance training refresher provided by UKHSA.

The lead IPC Nurse progressed from the Deputy Education Officer to the full Education Officer position of the West Midlands Branch of the Infection Prevention Society. This role provides networking and development opportunities for the ROH IPCT and helps to better facilitate system and national working.

Isolation Facilities (Criterion 7)

Most NHS hospital wards have a mixture of open bays, with multiple beds, and single or double side rooms. Except for some recent new builds, the beds in open bays still predominate.

ROH have a total of 127 inpatient beds. Of these there are:

- 56 single occupancy rooms with en-suite.
- 3 single occupancy rooms without en-suite.

The IPCT work closely with the clinical site team and clinical areas to review the single room usage to ensure it is most efficiently utilised. A local isolation risk assessment tool continues to be utilised to help bed managers to safely allocate beds based on clinical need, factoring in infection status and risk of transmission.

Access to Laboratory Support (Criterion 8)

ROH do not have access to an onsite laboratory. Laboratory services are provided by UHB which has purpose-built laboratory's onsite at both The Queen Elizabeth Hospital and Heartlands Hospital where ROH samples are processed. The UHB microbiology laboratory has full (UKAS) accreditation ISO Standard 15189. ROH has electronic access to microbiology results to facilitate prompt identification and response.

IPC Policies (Criterion 9)

All IPC policies, guidelines and standard operating procedures are available for staff to view via the Trust intranet. There is a formal governance structure in place for reviewing and ratifying such documents within the Trust and the corporate governance team produce a directory of documents alerting lead authors when policies are due for review. Policies are also updated prior to review date if national guidance or evidence base is updated/changed. All policies are agreed and approved for use at the IPCC (if minor or no change) or Quality and Safety Committee (if the changes are major or introduction of new policy).

During 2022/23 the IPCT reviewed/updated the following policies:

- Decontamination Policy
- Hand Hygiene Policy

- Isolation Policy
- CJD/TSE Policy
- Permit to Work Policy

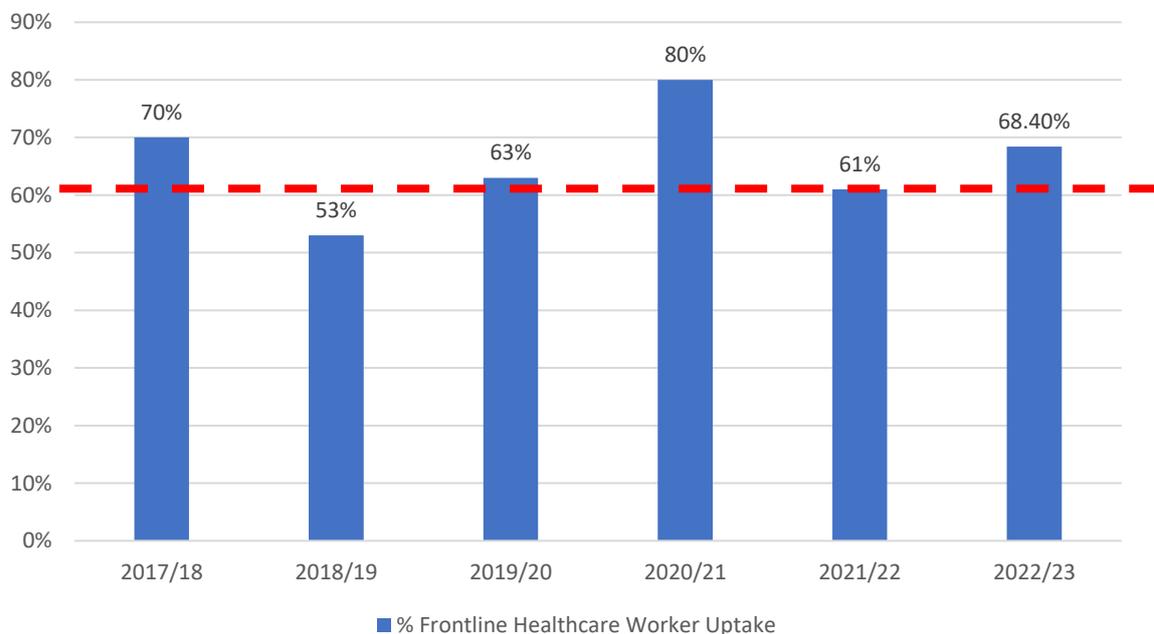
Occupational Health (Criterion 10)

Occupational Health services are provided via an SLA by UHB. Occupational Health (OH) staff from UHB provide one session (1 day) per week to support the OH requirements of ROH staff. The OH team carry out preplacement health assessment and immunisation needs, skin health surveillance (from referral) and management of inoculation injuries.

A report from the Occupational health service is provided to the IPCC every quarter.

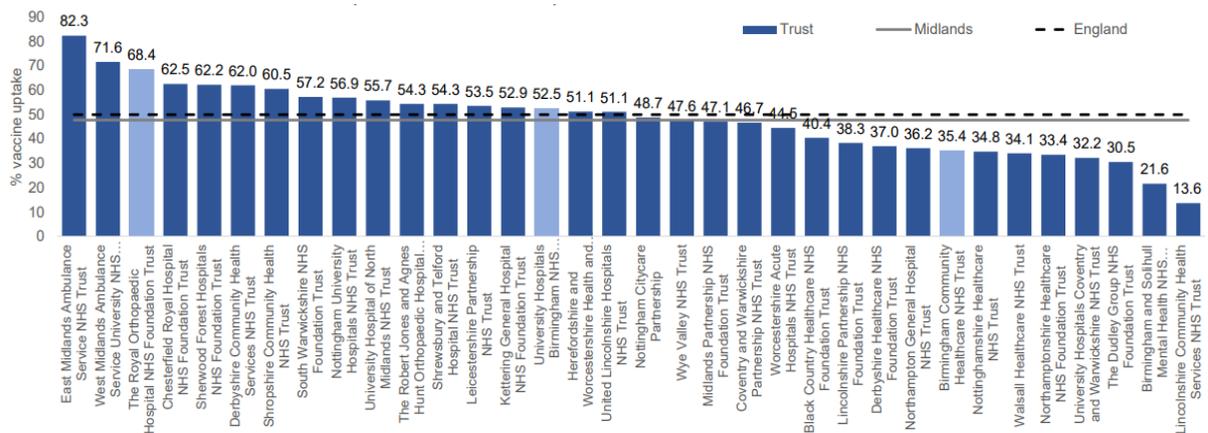
The seasonal influenza staff vaccination campaign is well established at ROH. The 2022/23 campaign officially commenced on 1st October 2022 with a wealth of information available to staff on the Trust intranet, information boards across the site and locally based influenza champions. The uptake for 2022/2023 was 68.4%. This was higher than the uptake reported for 2021/22, this was believed to be a result of vaccine hesitancy due to the ongoing COVID-19 pandemic and booster vaccination programmes running concurrently. The graph below shows the final uptake percentage for vaccination of frontline healthcare workers for the last 5 years.

Annual ROH frontline healthcare worker influenza vaccine uptake percentage



Red dotted line shows the minimum CQUIN threshold = 70% of all frontline healthcare workers who have patient contact.

Trusts in the West Midlands that submitted frontline healthcare worker vaccination data via Immform 2022/23



Note: The chart above only contains information on 34 out of 43 Trusts in the Midlands, who reported uptake in the ImmForm Healthcare Worker Flu and Covid-19 vaccine uptake 2022/23, February 2023.

Data source: [UKHSA_Seasonal_influenza_vaccine_uptake_Frontline_HCW_February-2023.ods](https://www.ukhsa.gov.uk/data-and-statistics/data-sets/ukhsa-seasonal-influenza-vaccine-uptake-frontline-hcw-february-2023-ods) (live.com)

Conclusion

Overall, our success is measured by our compliance with the Health and Social Care Act 2008 code of practice for the prevention and control of infections, which encompasses all aspects of infection prevention and control, including management systems, environment, cleaning, training, and policies to protect patients and staff.

2022/23 has seen the IPCT continue to lead the Trusts core IPC programme to reduce HCAs, whilst battling ongoing recruitment and full team establishment setbacks. The IPCT have met the challenge well and collaborative working, with divisional colleagues, has continued to ensure IPC practices are supported and maintained across all clinical services.

The focus for the IPCT and the Trust remains on improving and maintaining infection prevention and control practices, supporting patient care pathways across the health economy, and enhancing and improving clinical practice. The IPCT will continue to undertake robust reviews and scrutiny of each case of infection, working with colleagues and clinicians, to identify learning and ensure the continued high standard of patient care.

It is clear IPC specialists lead the way in ensuring our staff and patients safety. We must continue to evaluate and consider each step to ensure that patient safety remains at the forefront, as well as the wellbeing of our staff, who continue to rise to the challenge.

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