

# Infection Prevention and Control Annual Report



1st April 2023 - 31st March 2024

## **Executive Summary**

This Annual Report highlights Buckinghamshire Healthcare NHS Trust's (BHT) commitment to patient safety through robust infection prevention and control (IPC) practices. It also demonstrates adherence to the Care Quality Commission (CQC) regulations, specifically the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014, regulation 12 (2)(h) and regulation 15 (2).

The Trust's proactive approach to IPC, integrated into service planning and patient care delivery, underscores its commitment to patient safety. The increasing complexity of patient needs due to an ageing population and higher co-morbidities further highlights the importance of preventing Healthcare-Associated Infections (HCAIs) and antimicrobial resistance.

The Infection Prevention Control Team (IPCT) is expanding its collaborative efforts with the Integrated Care Board (ICB) and other partners across the Integrated Care System (ICS), placing a strong emphasis on sharing information and best practices to enhance patient care.

During 2023/24, the Trust responded to concerns about the high number of E. coli cases (79) by conducting a deep dive. It was identified that the main source was lower urinary tract infections. Prevention of urinary tract infections through appropriately managing indwelling urinary catheters will be a priority next year. The trust has made notable progress in reducing C. difficile (CDI) cases, with only 36 cases identified against a target of 49. The ongoing commitment to antimicrobial stewardship remains strong, and significant strides have been made in decreasing CDI rates through effective collaboration among IPC, antimicrobial stewardship, and clinical colleagues, providing a sense of security about our efforts in reducing CDI rates.

A back-to-basics campaign was launched, which focused on hand hygiene, cleaning, screening programs, vascular access devices, and urinary catheter care. The early adoption of the Patient Safety Incident Response Framework (PSIRF) is a significant milestone in improving the ability to learn from incidents and implement preventive measures.

Despite many successes, persistent challenges are related to the built environment. Specifically, there is a lack of available single rooms for appropriate isolation of infection risk and measures to prevent airborne infections and minimise cross-infection and outbreaks.

**This 2023/24 Infection Prevention and Control (IPC) Annual Report was written on behalf of Karen Bonner, Chief Nurse and Director of Infection Prevention and Control.**

**Author: Jo Shackleton – Deputy Director of Infection Prevention Control**

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## Infection Prevention Control Annual Report 2023/24

This Annual Report follows the format of the Code of Practice (known as the Hygiene Code 2015), as required by the Health & Social Care Act (2008) and demonstrates the Trust's compliance with the requirements of the Hygiene Code.

**Criterion 1: Systems to manage and monitor the prevention and control of infection.** These systems should use risk assessments to assess how susceptible service users are and any risks their environment and other service users may pose.

### Governance and Monitoring

The Trust Chief Executive Officer is ultimately responsible for IPC. The Chief Nurse, who also serves as the designated Director of IPC, reports to the Trust Board on all IPC matters.

A successful business case by the IPCT has enabled the expansion of its team. The team works collaboratively and aims to maintain close relationships with external regulations, UKHSA and colleagues across the ICS, providing valuable clinical and operational expertise throughout the Trust

### Infection Prevention Control Team (IPCT)

IPCT currently consists of:

- Deputy Director of Infection Prevention Control: (1 WTE)
- Infection Control Doctor (0.1 WTE)
- Matron IPC (1WTE)
- IPC Built-in the Environment and redevelopment Lead (1 WTE) vacant
- Infection Prevention & Control Specialist: (3 WTE)
- Infection Prevention & Control Specialist: (3 WTE)
- Infection Prevention & Control Epidemiologists Surveillance (1 WTE)
- Infection Prevention & Control Administrator (1 WTE)

### Surgical Site Infection Surveillance Team (SSIS)

- Surgical Site Surveillance Specialists (1 WTE)
- Surgical Site Infection Surveillance Coordinator (1 WTE)

### Antimicrobial Stewardship Team

- Antimicrobial Stewardship Lead- Consultant Microbiologist (0.2 PA)
- Lead Anti-Infectives Pharmacist (0.6 WTE for antimicrobial activities)
- Specialist Antimicrobial Pharmacist (0.8 WTE for antimicrobial activities)

The teams are critical in safeguarding patients by preventing infections and ensuring optimal antibiotic use. Key activities include:

- **Education and Training:**
  - Provide expert advice and guidance to staff, patients, and visitors on infection prevention practices.
  - Deliver training programs for staff on all aspects of IPC, including hand hygiene.
- **Surveillance and Monitoring:**
  - Participate in the surveillance, investigation, and management of healthcare-associated infections (HCAIs) and infectious diseases.

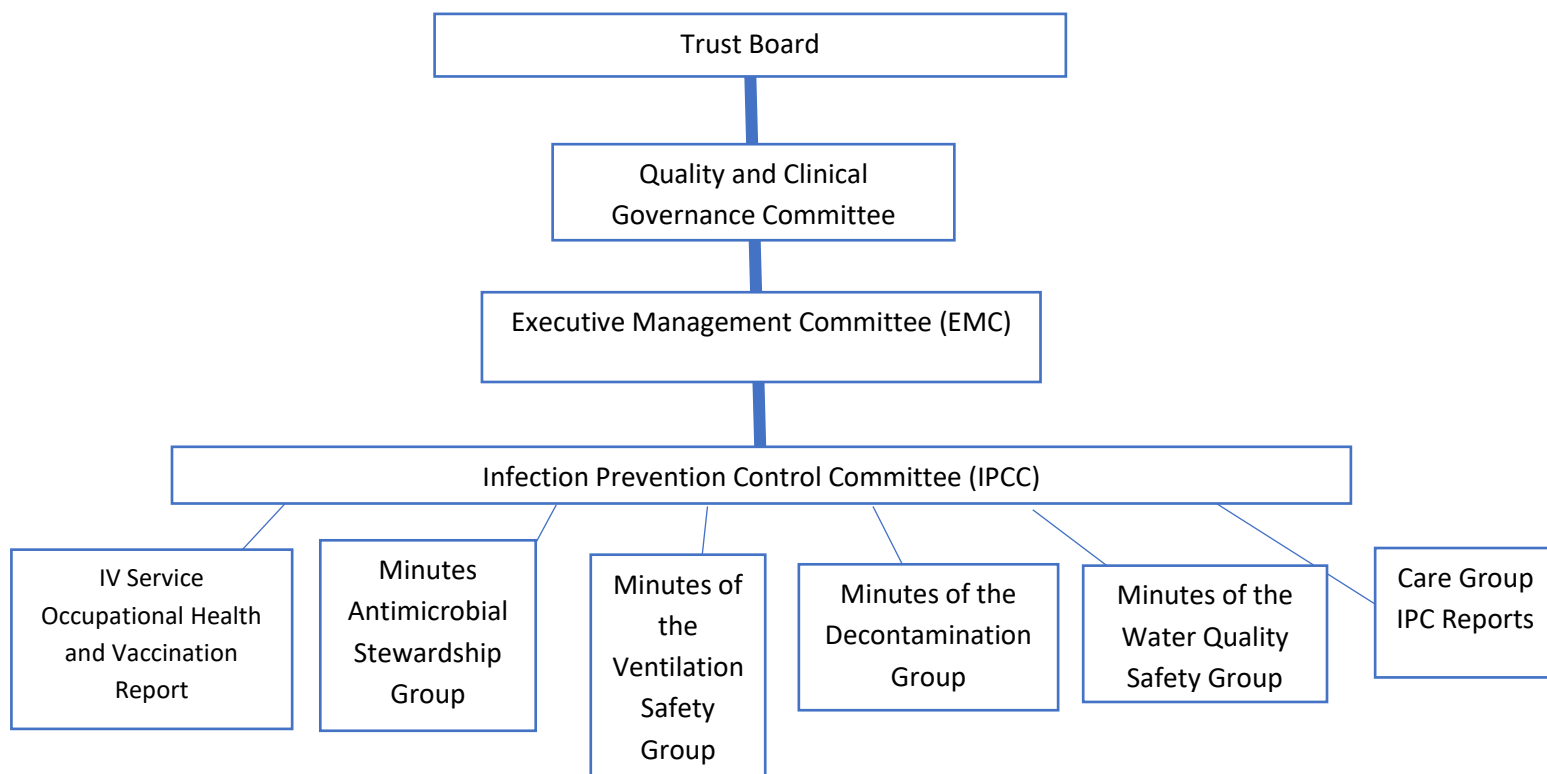
- Maintain a robust surveillance system to monitor progress on controlling HCAs and inform evidence-based action.
- **Policy and Guidance:**
  - Ensure that current legislation and trust policies on IPC are implemented and adhered to.
  - Develop and maintain up-to-date IPC policies and procedures readily available on the Trust's intranet.
  - Advise and assure the Trust Board on IPC legislation, implementation, and compliance.
- **Antimicrobial Stewardship:**
  - Promote responsible antimicrobial use through education and monitoring.
  - Ensure safe, appropriate, and cost-effective application of antibiotics.
- **Additional Services:**
  - Conduct IPC audits and report compliance.
  - Provide advice and support on vascular access procedures.
  - Analyse infection trends and recommend changes to improve practice.

## Committee Structures and Assurance Processes

### IPC Reporting Structure

The diagram in Figure 1 illustrates the current reporting structure for IPC.

**Figure 1 IPC Governance Structure and Assurance Process 2023/24**



### Trust infection prevention and control committee (IPCC)

The IPCC oversees IPC across the Trust (Figure 1). It reports to the Executive Management Committee (EMC) and the Trust Board through the Quality Clinical Governance Committee (QCGC), ensuring transparency and accountability. External stakeholders from the UK Health Security

Agency (UKHSA) and the Integrated Care Board (ICB) participate in quarterly IPCC meetings, fostering collaboration on IPC matters. Additionally, lay partners provide valuable patient-centred perspectives.

**Risk Register**

The IPCC proactively identifies and manages risks related to IPC. In 2023/24, key concerns included estate limitations impacting limited side room capacity, ventilation and water supply, the potential for poor practices in vascular access devices, and staffing constraints within the IPC team. These risks are monitored and reviewed quarterly at IPCC meetings. The Chief Nurse/Director for IPC maintains the Risk Register for IPC. The register is updated every quarter, and there is currently one live risk associated with reduced staffing within the IPC team. Risks for the built environment are held on the property service risk register and care group risk registers.

**Infection Prevention Board Assurance Framework**

The IPC Board Assurance Framework (BAF) provides a comprehensive framework for assessing IPC practices. The BAF outlines 95 Key Lines of Enquiries (KLOEs) across ten domains. Progress is regularly reported to the IPCC to address areas needing improvement. Notably, not all KLOEs are currently rated green. Actions are underway to address the amber partial complaint and non-compliance red-rated KLOEs.

**Patient Safety Incident Response Framework**

The PSIRF is a contractual requirement and will be mandatory for providers of NHS-funded care starting April 2024. The IPC, IV/OPAT and SSI teams began using PSIRF for all infection-related incidents in January 2024. The IPC team has been an early adopter of PSIRF within the Trust and the Integrated Care System (ICS). The Root Cause Analysis (RCA) process ceased and was replaced by a clinical review undertaken by the IPCT and IV/OPAT. Care groups can use the PSIRF data IPCT provides for their HCAI prevention plans to focus on specific areas for improvement. Quality improvement projects are then driven by the identified learning and thematic reviews, escalating concerns via IPCC.

**Back to Basics Campaign**

A successful "Back-to-Basics" campaign has been implemented, focusing on standard IPC precautions, including Hand hygiene, appropriate use of clinical hand wash sinks and cleaning.

**Mandatory Surveillance of Healthcare-Associated Infections to UK Health Security Agency (UKHSA).**

Cases of identified infections are reported to UKHSA as part of mandatory HCAI surveillance. The table shows the submission for the Trust for 2023/24.

Figure 2 BHT HCAI (YTD) Cases

Mandatory reportable infections	Q1	Q2	Q3	Q4	Total Cases	Trajectory for the year	Total cases Year-end threshold 23/24
C.difficile (all hospital-associated cases, HOHA + COHA)	7	13	9	7	36	49	73%

Meticillin-resistant Staphylococcus aureus (all healthcare-associated cases, HOHA + COHA)	2	0	0	1	3	0	200%
Methicillin-sensitive Staphylococcus aureus (all healthcare-associated cases, HOHA + COHA)	6	4	5	5	20	<b>N/A</b>	<b>N/A</b>
E. coli (all healthcare-associated cases, HOHA + COHA)	20	17	20	22	79	<b>62</b>	<b>122%</b>
Klebsiella spp. (all healthcare-associated cases, HOHA + COHA)	6	7	10	7	30	<b>32</b>	<b>94%</b>
P. aeruginosa (all healthcare-associated cases, HOHA + COHA)	6	3	2	6	17	<b>11</b>	<b>189%</b>

\* HOHA = Healthcare onset healthcare-associated (samples taken >= 48 hours into a patient's admission)

\*\*COHA = Community onset healthcare-associated (samples taken < 48 hours into a patient's admission and where the patient was an inpatient at the reporting Trust in the 28 days prior to the sample collection date)

## Healthcare-Associated Infection (HCAI) Investigations

### Clostridium Difficile

The Trust places paramount importance on preventing Clostridium difficile infections (CDI). In the 2023/24 period, the national threshold for Trust-attributed CDI cases was 49, and 36 were identified. One significant risk faced was ensuring the availability of isolation rooms for all CDI patients. Each CDI case is reviewed, considering factors such as antibiotic use, medical conditions, and infection prevention practices, including appropriate placement of individuals, utilisation of personal protective equipment (PPE), adherence to hand hygiene protocols, and cleaning procedures.

The Antimicrobial Stewardship Group develops and updates guidelines to promote narrow-spectrum antimicrobials wherever possible. It collaborates with the South-Central Antimicrobial Network (SCAN) group to update and promote primary care guidelines. Responses to lapses in care identified antimicrobial prescribing as a concern and have been followed up with specific conversations with those involved, changes to guidelines/patient pathways or, more broadly, through education and training or communications.

The Buckinghamshire, Oxfordshire, and Berkshire West (BOB) ICB continued to support antimicrobial stewardship priorities through the General Practice Prescribing Quality Scheme (PQS) 2023/2024, which includes an option to undertake Antimicrobial Stewardship Audits focusing on the prescribing of 4Cs (Co-amoxiclav, Cephalosporins, Clindamycin and Quinolones).

Prior to the introduction of PSIRF in January, regular meetings were conducted with various healthcare professionals through multidisciplinary peer reviews. A focus on high-risk patient populations revealed an increase in CDI among individuals with pre-existing gut conditions, undergoing chemotherapy, or requiring antibiotics for other infections. Looking ahead to 2024/25, the Trust remains committed to collaborating with ICB and system partners to gain deeper insights into CDI risk factors. This

collaborative effort will emphasise refining CDI sample collection procedures, enhancing environmental cleaning practices, and identifying potential risk factors for early intervention.

Figure 3 BHT C. Difficile (YTD) Cases April 2021- March 2024

	2021/22 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2022/23 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2023/24 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)
Table	2021/22	2022/23	2023/24
Total C Difficile	56	47 ↓	36 ↓
HOHA (Hospital Onset Healthcare Associated)	47	31 ↓	29 ↓
COHA Community Onset Healthcare Associated)	9	16 ↑	7 ↓

### Gram-Positive Blood Stream Infections (GPBSI)

The NHS in England monitors bloodstream infections, known as bacteraemia, from two Gram-positive bacteria, MRSA and MSSA.

### Methicillin-resistant Staphylococcus aureus (MRSA) Bacteraemia

There has been a noted upward trend in the number of healthcare-associated MRSA bloodstream infections (BSI) from 2022/23 to 2023/24 (Figure 4), with three healthcare-associated bloodstream infections (HA-BSI) reported in 2022/23 and a further three in 2023/24.

Figure 4 BHT Number of Cases of GPBSI by Organism HOHA (Hospital Onset Healthcare Associated) COHA Community Onset Healthcare Associated)

	2021/22 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2022/23 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2023/24 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)
MRSA	1	3 ↑	3
MSSA	33	21 ↓	20 ↓

Each case was reviewed in detail to identify the source of bacteraemia, key outcomes, and related learnings from each post-infection review.

### Methicillin Sensitive Staphylococcus aureus (MSSA) Bacteraemia

In 2023/24, there were 20 hospital-associated methicillin-susceptible Staphylococcus aureus (MSSA) bloodstream infections (BSI), a decrease from 21 cases in 2022/23 and 33 cases in 2021/22. While no national threshold exists for MSSA BSI, each case undergoes review. The IV Service/OPAT team further evaluates cases related to vascular access devices to identify relevant learnings.

### Gram-Negative Blood Stream Infections (GNBSI)



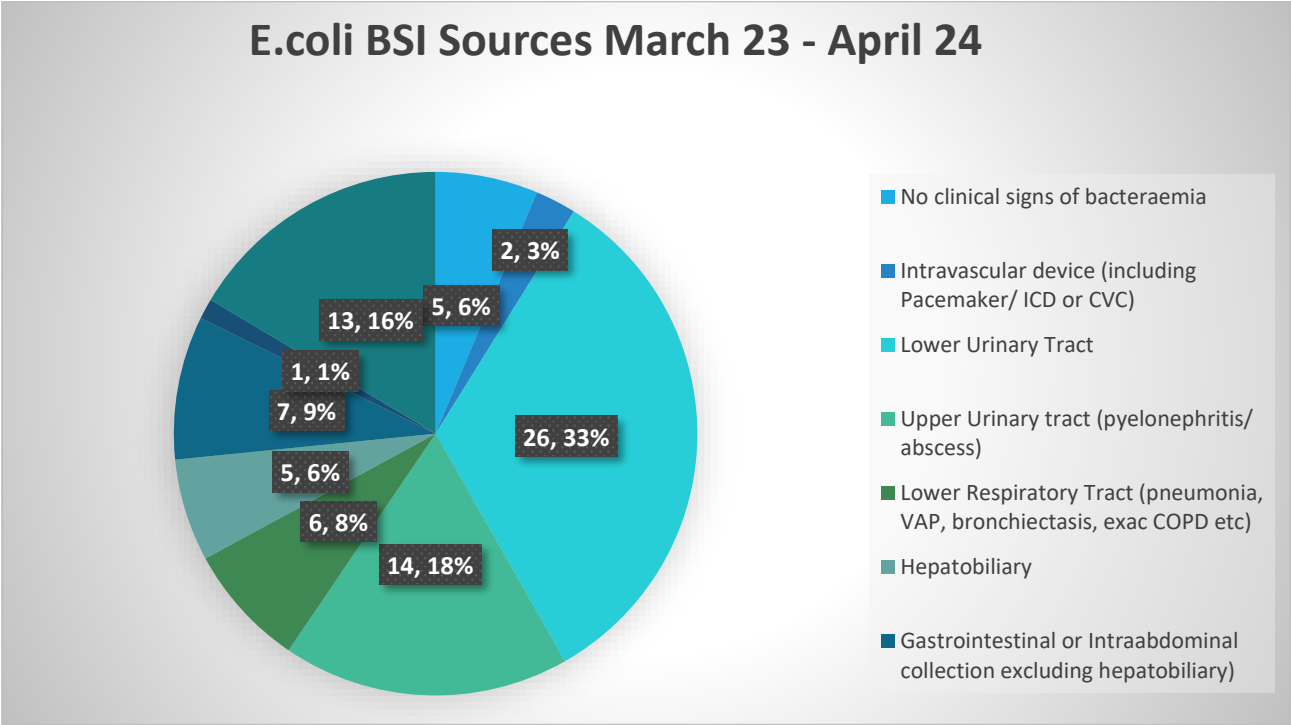
The NHS in England monitors bloodstream infections, known as bacteraemia, from three Gram-negative bacteria: E. coli, Klebsiella, and Pseudomonas. NHS England sets national targets for Gram-negative bacteraemia. According to Figure 2, the national threshold for Trust-attributed E. coli cases was 62, but 79 were identified. For Klebsiella, the national threshold was 30, but 32 cases were identified. For Pseudomonas, the national threshold was set at 17, but only 11 cases were identified. These infections are less responsive to IPC measures as they are often associated with urinary tract infections (UTIs), urinary tract catheterisation, or compromised immune systems.

Figure 5 BHT Number of Cases of GNBSI by Organism

	2021/22 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2022/23 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)	2023/24 Hospital Onset Healthcare-Associated (HOHA) Community Onset Healthcare-Associated (COHA)
<b>E. coli</b>	85	64 ↓	79 ↑
<b>Klebsiella</b>	36	37 ↑	30 ↓
<b>Pseudomonas aeruginosa</b>	7	24 ↑	17 ↓
<b>TOTAL</b>	62	125 ↑	126 ↑

As shown in Figure 5, E. coli is the most prevalent pathogen causing bacteraemia in community and healthcare settings. Bacteraemia usually occurs as a complication of other infections, with urinary tract infections being the most common source (33%) Figure 6. It is suggested that UTIs are linked to urinary tract instrumentation, such as catheter insertion and maintenance.

Figure 6: Escherichia Coli BSI Sources



In 2023/24, 30 Trust apportioned Klebsiella bacteraemia cases compared with 37 cases in 2022/23. The target is no more than 32 cases.

Pseudomonas aeruginosa, unlike E coli or Klebsiella, is an environmental organism and not part of our normal flora. It is naturally highly resistant to antibiotics and is considered an opportunistic pathogen. This means it is unlikely to cause infection in healthy people but can take advantage of situations where the patient is debilitated by illness or treatment and infected after broad-spectrum antibiotic use. One of the significant problems with this organism is creeping increases in resistance leading to difficulties in treating some infections. In 2023/24, the Trust had 17 cases of Trust apportioned Pseudomonas aeruginosa compared with 24 in 2022/23.

### Quality of blood culture collection

Blood cultures serve as the primary method for diagnosing Blood Stream Infections (BSI), with the critical need to distinguish between pathogenic microorganisms and contaminants. Contaminants, introduced during collection or processing, signal potential issues with blood culture collection techniques, with a surveillance threshold typically set at three per cent.

Implementing the NHSE<sup>1</sup> Improving the Blood Culture Pathway (2023) has improved awareness of key aspects surrounding blood cultures and is now part of the Trust's sepsis meetings. Regular audits are being conducted within microbiology to monitor volume improvements and time from sample to lab.

Notably, the rate of contaminants was 1.7 per cent (12-month average) over 2023/24, **down from 2.3 per cent** in 2022/23, reflecting improvement in collection and processing practices.

### Vascular access devices (VAD)

Figure 7 shows data collected via the OPAT/IV service monthly for insertion and incidence of infections for vascular access devices (VADs)

Figure 7: VAD Infection data

Year	VAD insertions (CVAD / Midlines)	VAD bacteraemia (including peripheral VAD)
2023/2024	1080	22 Declared

Neonatal intensive care units (NICU) 2023/24 had 0 CLABSIs at BHT.

### Carbapenemase-producing Enterobacterales (CPE) surveillance

CPE are Gram negative bacteria which are so resistant to antibiotics that even our last line of defence, carbapenem antibiotics, are ineffective. Infections with these organisms are extremely difficult, and sometimes impossible, to treat. Identification of CPE has been relatively uncommon –at BHT. However, following an update of the Trust's policy to reflect changes to national guidelines on CPE, there has been an increase in the identification of patients who are considered high-risk and need to be screened for carriage on admission. PCR testing has reduced the need for multiple swabs to only one, which has improved the patient experience as well as the opportunity for a continuous improvement plan

**Surgical Site Infections (SSI)**

The UK Health Security Agency (UKHSA) leads the National Surgical Site Infection Surveillance (SSIS) programme to monitor infections associated with specific surgical procedures. The Trust has signed up to undertake surveillance retrospectively and submit data to the July-September 2023 (Q3) mandatory surveillance programme for Total Hip Replacements (THR), Total Knee Replacements (TKR) and Fractured Neck of Femurs cases undertaken at Stoke Mandeville and Wycombe Hospital.

For 2023/24, BHT reinstated mandatory surveillance in orthopaedic surgery which previously ceased in 2021. SSI rates following orthopaedic surgery (knee/hip) surpassed the UKHSA national benchmark figure, with reported cases in hip patients and flagged SSIs in knee patients. SSI impose a significant burden, negatively impacting clinical outcomes by impeding wound healing and rehabilitation while also incurring financial and time costs for the Trust, notably in terms of bed days and lost operation time and causing morbidity and distress in patients. The Trust's SSI rates for THR and TKR significantly exceed national benchmarks:

- National THR rate: 0.6% vs Trust rate: 6.3% (1 SSI in 16 surgeries)
- National TKR rate: 0.4% vs Trust rate: 1.3% (1 SSI in 75 surgeries)

A surgical site infection surveillance team was established in April 2024. This team will focus on working with the Care Group for Surgery and Critical Care to ensure that high-risk surgical procedures, such as orthopaedic surgery, are aligned with NICE guidelines on SSI prevention and treatment (NG125).

**Living With COVID-19**

NHS England and UKHSA guidance has continued to be reviewed and updated during 2023/24. The Trust's response continues to be led by the IPC lead and IPCT, and the Trust follows the recommended national guidance. The point-of-care testing (POCT) available in our emergency area has greatly assisted in identifying the symptomatic cases at the point of admission. POCT testing will continue to be available in emergency areas all year.

**Challenges of Living with COVID-19**

The persistent demand of COVID-19 continues to be challenging due to managing fluctuating case numbers. Figure 8 shows the number of monthly cases per NHS England's definition of potential where COVID-19 was acquired.

**Figure 8: COVID cases categorised by NHS England definition April 22-March 23**

BHT COVID Case by NHS England Definition					
23-24	Community 0-2 days after admission	Indeterminate 3-7 days after admission	Probable 8-14 days after admission	Definite 15+ days after admission	Totals
Apr-23	30	14	12	15	71
May-23	20	19	9	19	67

Jun-23	6	2	4	8	20
July -23	15	2	4	9	30
Aug-23	15	19	15	20	69
Sept-23	26	10	8	16	60
Oct-23	40	41	23	21	125
Nov -23	22	14	7	16	59
Dec- 23	48	19	22	35	124
Jan-24	52	14	23	26	115
Feb-24	11	2	4	5	22
March-24	11	5	6	13	35
<b>Totals</b>	<b>296</b>	<b>161</b>	<b>137</b>	<b>203</b>	<b>797</b>

### Learning from hospital-acquired COVID-19 infections in BHT

Engineering controls are critical in minimising the risk of hospital-acquired COVID-19 infections. These measures focus on isolating or removing hazards to reduce airborne transmission within healthcare settings. The lack of adequate ventilation and side rooms presents significant challenges in controlling hospital-acquired infections, particularly COVID-19.

### Influenza

Figure 9 shows the number of monthly cases per NHS England's definition where Influenza was likely to have been acquired.

Figure 9: Influenza cases categorised by NHS England definition Oct 23-March 24

BHT FLU Case by NHS England Definition					
23-24	Community 0-2 days after admission	Indeterminate 3-7 days after admission	Probable 8-14 days after admission	Definite 15+ days after admission	Totals
Oct-23	4	3	0	0	7
Nov -23	7	0	0	0	7
Dec- 23	22	0	0	1	23
Jan-24	53	9	9	11	82
Feb-24	25	4	5	6	40
March-24	11	0	2	5	18
<b>Totals</b>	<b>122</b>	<b>16</b>	<b>16</b>	<b>23</b>	<b>177</b>

**Criterion 2: Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections**

### Environmental IPC and decontamination

#### Cleaning services

Cleaning services and monitoring arrangements are delivered through the Chief Estates and Facilities Officer, who was newly appointed to this role in March 2024. The designated board

nominee responsible for estates and facilities services ensures that effective arrangements exist throughout the Trust, as stated in the National Standards of Healthcare Cleanliness 2021.

### **The National Cleanliness Standards**

In setting cleanliness standards, the Trust uses the National Standards of Healthcare Cleanliness 2007 as its reference point until the updated standards are implemented. The Property Services department is responsible for the operational cleaning services for our 11 sites, with a mixture of in-house and contracted services managing and delivering those services.

### **Monitoring arrangements**

Monitoring is conducted per The National Standards of Healthcare Cleanliness 2007 requirements. A programme of audits is in place to monitor the performance and effectiveness of the service being delivered and to validate the achievement of cleaning standards.

### **Patient-led assessments of the care environment (PLACE)**

The Department of Health and Social Care and the NHS Commissioning Board require all hospitals, hospices, and independent treatment centres to undertake an annual PLACE.

PLACE assessments aim to provide a snapshot of how an organisation is performing against a range of non-clinical activities which impact the patient experience of care, which include cleanliness, the condition, appearance and maintenance of healthcare premises, the extent to which the environment supports the delivery of care with privacy and dignity, how well the needs of patients with dementia are met, how well the needs of patients with a disability are met and the quality and availability of food and beverages.

### **IPC in the built environment (water, ventilation, and decontamination)**

The Estates Team and the PFI partners maintain the Trust's water systems across the leading hospital sites and satellite properties. Water safety is crucial in healthcare settings and challenges for the Trust, including the ageing estate, water systems, and complexities in maintenance amidst operational pressures. The multidisciplinary Water Safety Group (WSG) meet every quarter, and its purpose is to develop and implement the Water Safety Plan (WSP), ensuring the safety of water used across all premises and aligning with relevant technical guidance and standards. The Group identifies hazards, assesses risks, monitors control measures, and develops incident protocols through regular meetings and collaboration, contributing to ongoing improvement efforts. Supported by risk registers, independent experts, site-based authorised persons, and subcontractors, the WSG maintains accountability and strives to minimise associated risks effectively, with close involvement from clinical representatives. Provisions for water safety are independently audited by experts who provide the Trust's third-party Authorised Expert for water safety.

### **Sterile Services Department**

The Sterile Services Department (SSD) adheres to the standards outlined in HTM 01-01 for decontaminating surgical instruments, ensuring best practices throughout the decontamination cycle. A scheduled surveillance audit of ISO13485 by the external body BSI in July 2023 yielded no non-conformances. The SSD team collaborates with the IPC team to provide supplementary advice and expertise. Surgical sets are electronically tracked and traceable, with individual high-value or high-risk instruments laser-marked for enhanced traceability and accountability. Any non-conformance is reviewed and actioned with the corrective and preventative action process per the requirements in ISO13485, including reporting to the Medicine and Healthcare Regulatory Agency. All issues are reviewed at the appropriate clinical governance monthly meetings, and any action

plans are taken at the Decontamination Group and Infection Prevention Control Committee for oversight.

### **Endoscopy Decontamination Units (EDU)**

Endoscopy facilities across the Trust maintained accreditation against ISO 13485, as evidenced by internal and external audits conducted through the quality management system. An independent external auditor performs yearly audits aligned with the Institute of Healthcare Engineering and Estate Management (IHEEM) standards, with participation in the Joint Accreditation of Gastroenterologists (JAG) process. The Trust currently does not have an Authorised Person (AP) for decontamination within the retained estate. Mitigation is in place, and a long-term plan is under development by the Associate Director of Estates to address this issue. Although a lack of an authorised person (AP) for some time poses a risk, competent persons perform weekly water testing and are trained and signed off to ensure compliance with HTM 01-06 standards.

### **CJD and NICE 666 risk management**

Policies and procedures are in place to ensure full compliance with NICE 666 guidance for managing instruments used with high-risk tissue and health safety executive (HSE) requirements. In 2023/24, no patients were identified as having Creutzfeldt-Jakob Disease (CJD).

### **Other Decontamination Areas**

Medical devices outside designated SSD and EDUs also undergo decontamination, with staff trained and assessed as competent for local high-level disinfection and equipment monitoring. Laboratory sterilisers, subject to HTM 01-01, undergo regular testing and audits by independent authorising engineers to ensure compliance.

### **Medical Devices**

The IPC team assesses pre-acquisition questionnaires for medical devices and decontamination leads to ensure compliance with safety requirements. The Medical Device Committee oversees medical devices, and the IPC team is a member.

### **Decontamination Group**

The Decontamination group meeting now includes an audit of a pre-agreed area. It will be part of the group's work plan for the upcoming year as part of continued surveillance and monitoring, including an audit of a pre-agreed area. The group process provides assurance reports, including potential incidents, and supports and oversees action plans and associated risks to be monitored and reviewed. Additional auditing is underway with the support of one of the third-party providers of manual decontamination products. It will include refresher training for all those who undertake the process. Part of the decontamination group process is receiving timely assurance reports, including any potential incidents, and supporting and overseeing action plans and associated risks to be monitored and reviewed. All derogations will also be subject to review and approval by the group before implementation.

### **Capital projects**

IPC plays a vital role in the Trust's capital program, which includes building works, water safety, and ventilation. The Health Building Note 00-09 (HBN 00-09) is used to assess the risk of infection in the built environment, especially in healthcare sectors. The guidelines cover distinct stages of a capital project, from the initial concept to post-project evaluation, focusing on measures to control dust and



other aspects that may require attention. If needed, other HTMs and HBNs are consulted. Changes in personnel and increased building works have caused potential delays due to non-compliance with relevant guidelines and review of designs, which can cause flaws that increase the risk of healthcare-associated infections (HCAIs).

Following the IPC team's restructuring in 2023, a funded post has been established to provide expert advice throughout the conceptual phase to complete redevelopment works, facilitating better communication and understanding of IPC requirements. This post is yet to be recruited to.

### **Ventilation Safety Group**

Ventilation safety is crucial in healthcare settings, due to an ageing estate, lack of ventilation systems, and complexities in maintenance has increased risk. To address these issues, a multidisciplinary Ventilation Safety Group (VSG) has been established to develop and implement the Ventilation Safety Plan (VSP). The VSG plays a pivotal role in ensuring ventilation safety across all Trust premises, aligning with relevant technical guidance and standards.

The Estates team continues to conduct routine inspections and maintenance on all ventilation systems, formal validations on all Theatres and Critical Areas in compliance with HTM 03-01 Part B, and undertakes remedial work where required.

**Criterion 3: Ensure appropriate antimicrobial use to optimise patient outcomes and reduce the risk of adverse events and antimicrobial resistance.**

### **Antimicrobial Stewardship Group (ASG)**

The ASG, in conjunction with IPCC, is responsible for antimicrobial use to ensure their safe, appropriate, and economical use in line with optimal antimicrobial stewardship (AMS) principles to improve patient outcomes from infection while minimising negative consequences such as HCAI and the development of antimicrobial resistance (AMR). The ASG is responsible for producing the annual AMS programme. Its other functions are to review policies and clinical guidelines, AMS performance targets, review clinical incidents, support formulary applications and research and development.

### **AMS Programme**

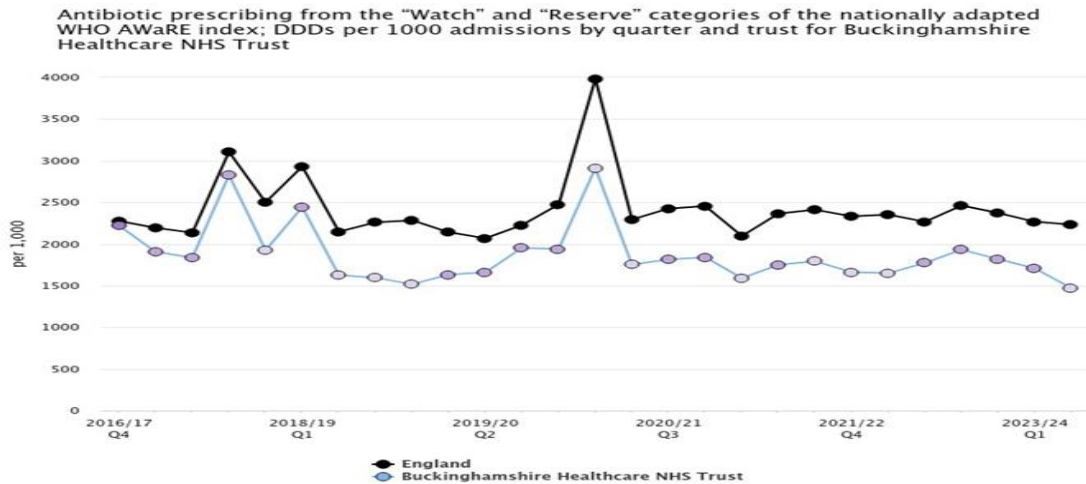
The AMS programme outlines the key areas for development aligned to the UK's five-year national action plan (NAP) for 2019-2024 for tackling Antimicrobial Resistance (AMR), the UK's 20-year vision for AMR, standard contract requirements and CQUINs relating to antimicrobial use. The comprehensive programmes include:

- Antimicrobial management within the Trust
- Operational delivery of antimicrobial stewardship (prescribing and surveillance)
- Clinical governance and risk management for antimicrobial prescribing
- Education, training, and public engagement
- Collaboration (Integrated Care System, Regional and Global)

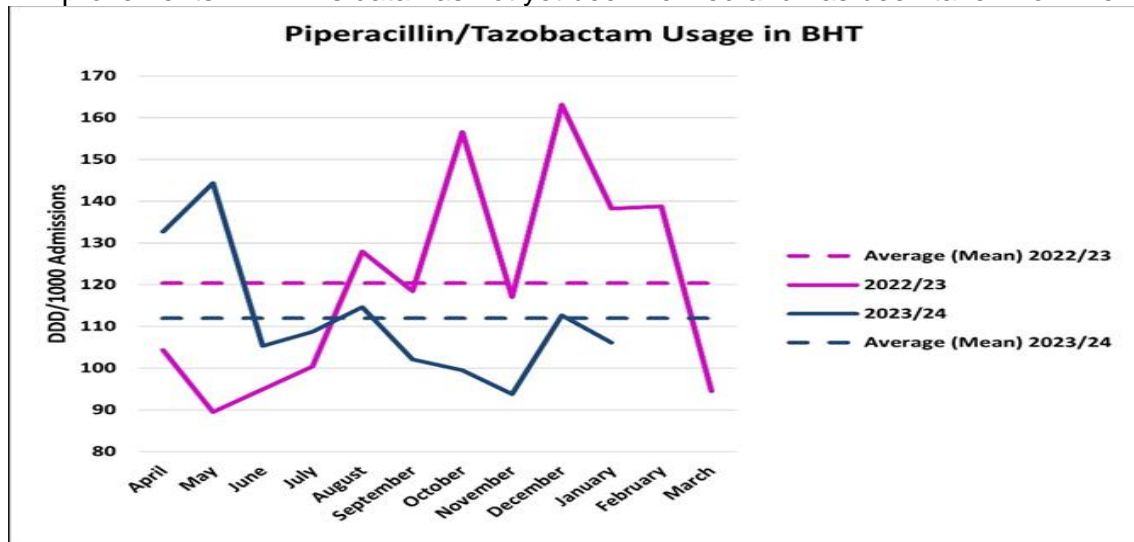
The 2023/24 AMS Programme identified 4 key priority areas of focus:

1. **Reduce the use of "Watch" and "Reserve" antibiotics (part of the National Standard Contract).** For BHT, the latest data (available up to Q3 2023/24) indicates the achievement of an 18.7% reduction in "Watch" and "Reserve" antibiotics compared to the 2017 baseline. This exceeds the national target set of 6.5% - The graph below shows DDDs/1000

admissions for BHT compared to the average in England and is taken from the AMR local indicators - produced by the UKHSA:



2. **Reduce the use of Tazocin by 10% by the end of 2023/24 compared with 2022/23.** This year, we achieved a reduction of 6.7%, not quite meeting this target, but steadily showing improvements. NB. This data has not yet been verified and has been taken from Define®.



**3. To improve the documentation of penicillin allergy and opportunities for challenge and de-labelling**

The Trust's allergy policy was updated in October 2023, and the penicillin challenge guideline was launched in November 2023 to de-label patients with an unconfirmed spurious penicillin allergy. To date, the penicillin allergy delabelling team has seen 12 patients, and 11 patients have been successfully delabelled.

**4. CQUIN03 timely appropriate IV to oral switch (IVOS)**

The target is to achieve <40% of patients prescribed IV antibiotics suitable for oral administration. This has been achieved consistently for every quarter, whereby 100 set audit records were submitted. The following results have been achieved:

- Q1 – 18% (verified)
- Q2 – 17% (verified)
- Q3 – 20% (verified)
- Q4 – 12% (unverified)

**AMS audits/projects**



To support the improvement of systems and processes for effective AMS, the following audits/projects were undertaken or completed during 2023/24:

- Prophylactic antibiotic prescription for catheter changes in patients with spinal cord injury at the NSIC – QIP 4<sup>th</sup> cycle.
- Antibiotic Care Bundle Audit in A&E.

**Criterion 4: Provide suitable, accurate information on infections to service users, their visitors and any person concerned with providing further support or nursing/medical care in a timely fashion**

### **Information for Service Users, Visitors and Carers**

IPCT collaborates closely with clinical site managers, ward leads, staff, and facilities services. The team attend daily bed meetings to support patient placement and cleaning requirements. Infection Prevention Control Patient Activity summary (PAS) flags are added for all newly identified infections to ensure prompt identification and management.

For each newly diagnosed patient with certain infections, the IPC team conducts in-person visits, providing information leaflets, discussing diagnoses, and addressing any questions from patients and clinical staff.

The IPC Team collaborates with the communications team to update staff on new guidance via email and staff bulletins. A dedicated IPC section on the Trust's intranet site is regularly updated, mainly when new guidance is implemented. During 2024/25, we will be looking to review and update the information on the Trust's website regarding hospital IPC.

The IPC team monitors all Clostridium difficile (CDI) and potential CDI infections daily and reviews affected patients in-depth weekly. Concerns are escalated to medical teams, wards, and consultant microbiologists. Consultant microbiologists contact GPs when patients are diagnosed with CDI, potential CDI, MSSA, MRSA, and Gram-negative bloodstream infections.

The IPC Team works closely with the IPC team in the Integrated Care System to identify the needs of the local population and develop collaborative strategies for integrated care. Monthly review meetings are held to share learning, raise concerns, and discuss systemwide priorities.

Communications will be a priority for the IPC team in 2024/25.

**Criterion 5: Ensure that people who have, or develop, an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing on the infection to other people**

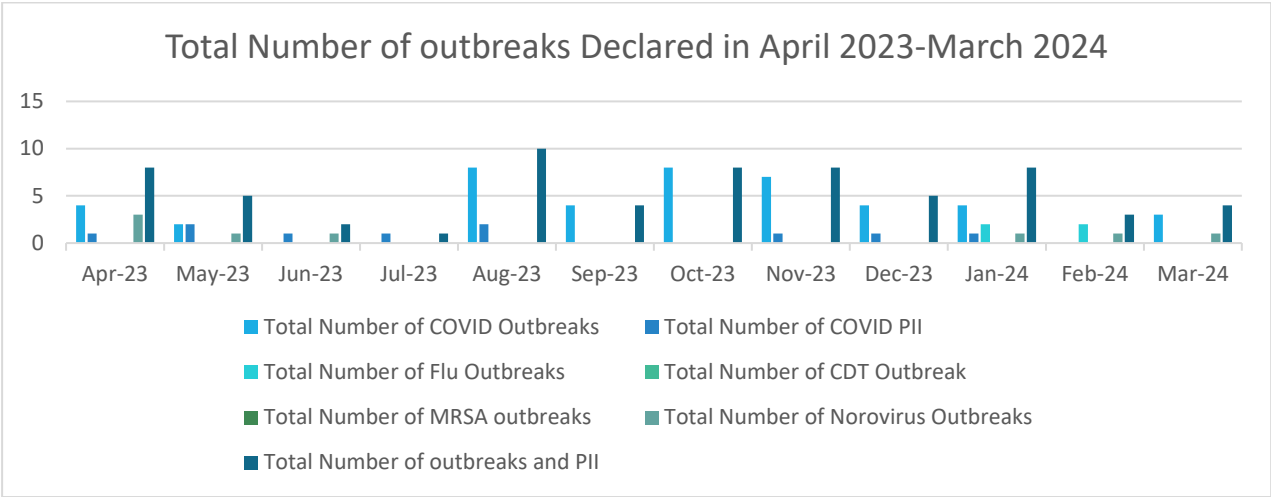
### **Patient Alerts and Surveillance of Alert Organisms e.g., MRSA, C. difficile**

IPCT is alerted to new infections through a manual system integrated with the pathology reporting systems. Microbiology Consultant's report alerts and correspond via email to IPCT and call the correspondence clinician. Out-of-hours, the site team is included in these correspondences to maintain continuous oversight.

### **Managing Outbreaks of Infection**

Figure 10 shows the number of monthly incidences of declared outbreaks by infection.

**Figure 10 Number of Outbreak of Infection Declared in BHT April 22-March 23**



**Incidences**

**Tuberculosis (TB)**

In April 2023, a delay in diagnosing a tuberculosis (TB) case at Stoke Mandeville Hospital led to the potential exposure of patients and staff in Ward 4 and the Acute Medical Unit (AMU). Contact tracing identified 22 contacts who may have been exposed; eight contacts of all patients had passed away before any action could be taken, while the remaining 14 were provided with information about TB screening. Of those 14, eight patients were screened, and no active TB cases were detected, bringing the incident to a close.

**National Outbreak Measles**

In January, UKHSA declared a national measles outbreak. BHT formed a measles response group to ensure robust processes for identifying and managing suspected measles cases. Two cases were identified in March 2024, leading to extensive contact tracing and immunity checks. Gaps in readiness and handling were identified, prompting actions to verify staff immunity and improve contact tracing protocols.

A measles case was identified in a child admitted to Ward 3 in May 2023. Initially placed in a bay, the child was moved to a single room where appropriate transmission-based precautions were taken. Three contacts were identified and monitored during incubation; none developed measles symptoms.

**Meningococcal Meningitis**

In May, a meningococcal meningitis exposure involving colleagues from the Emergency Department (ED) and Intensive Care Unit (ICU). The patient's initial symptoms were atypical, complicating the application of transmission-based precautions. Affected colleagues, including those from the ED, security team, and ICU, were assessed and provided with antibiotic prophylaxis as needed.

**Increase in MRSA Cases**

Since April 2022, the Trust has seen a rise in MRSA cases, particularly at Stoke Mandeville Hospital. Four MRSA bloodstream infection cases were reported between April 2022 and April 2023, and all inpatients were at Stoke Mandeville hospital. Specialist areas, such as the spinal and ICU units, reported higher MRSA prevalence. The IPCT with IPC ICB and NHS England IPC conducted a deep dive to identify gaps and improve infection prevention and control measures. Action plans are being developed and monitored at care group performance meetings and reported to the Infection Prevention Control Committee (IPCC).

### Mortality Case of Infection

Between September 2022 and May 2023, there was a rise in hospital-onset COVID-19 infections (HOHAs), leading to an increase in mortality rate. Out of 215 confirmed cases, 34 resulted in death (16% mortality rate). A retrospective clinical notes review found that most deceased patients were elderly with multiple underlying conditions. Four cases were identified where more aggressive COVID-19 treatment could have been offered. This led to a review and temporary change in the COVID-19 contact testing policy.

### Suspected Middle East Respiratory Syndrome (MERS) Case

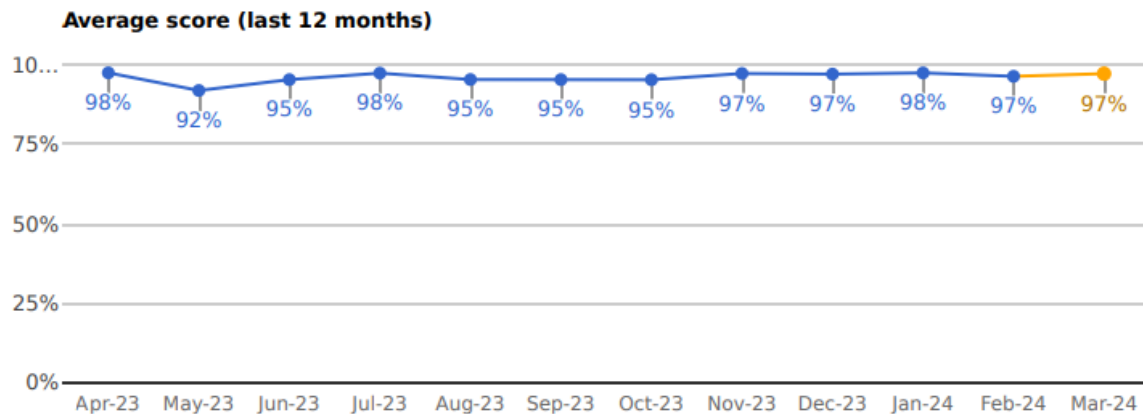
In February 2024, a patient with a travel history presented with respiratory symptoms at the ED. The MERS PCR test was negative, but the incident highlighted delays in identifying potentially infectious patient actions, including reviewing contractor infection reporting practices, enhancing staff training, revising the ED triage process, conducting MERS pathway testing, and improving communication protocols.

### Audit Programme to Ensure Key Policies are Implemented

The annual audit program demonstrated compliance with key IPC policies, including Hand Hygiene and Personnel and Protective Equipment.

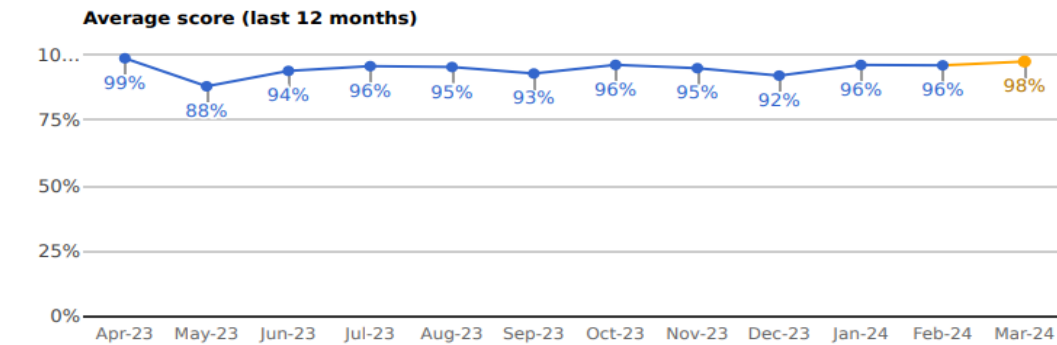
Figure 11: Audit compliance with hand hygiene and PPE audit

#### Hand Hygiene Audit Compliance



#### PPE Audit Compliance

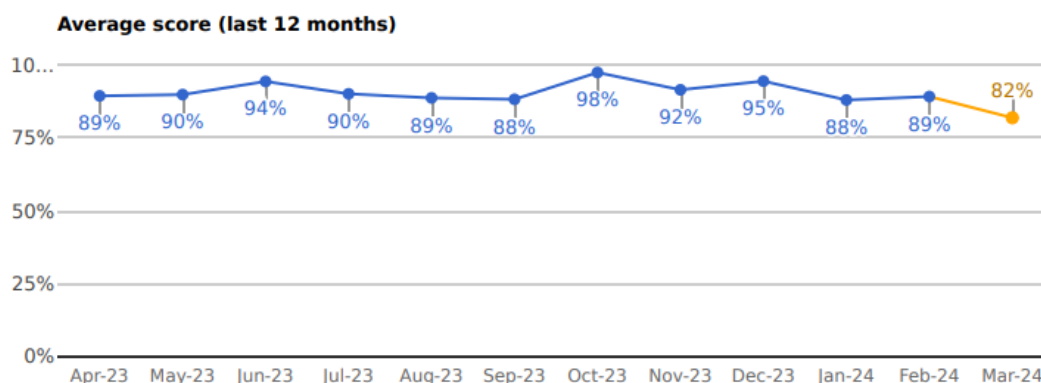
Figure 12: PPE Audit Compliance



## Peer-reviewed infection prevention and control audits

IPC peer review audits are conducted as part of the ward accreditation program to assess compliance with the National IPC manual.

Figure 13: Ward Accreditation Audit Scores



## Research and Innovation

A prospective multicentre randomised study called the Camstent study is being conducted to investigate if a catheter coated with a patented polymer could reduce the prevalence of bacteriuria compared to uncoated catheters used in standard care.

Patients undergoing long-term catheterisation at the National Spinal Injuries Centre) based at Stoke Mandeville Hospital are ideal candidates to participate in the study. To date, 82 patients have participated, with the first being recruited in August 2021. Stoke Mandeville continues to be the largest recruiting site, thanks to the patients of the NSIC and their willingness to help with research. The trial is scheduled to end in August 2024.

### Criterion 6: All care workers (including contractors and volunteers) are aware of and discharge their responsibilities in the process of preventing and controlling infection

The IPC team continued to provide education training sessions for clinical and non-clinical staff, both face-to-face and via e-learning. Overall, compliance with mandatory IPC training over the year has remained in line with the target for clinical staff, but further work needs to be done to bring compliance for other training to the same level. Compliance is part of the yearly appraisal review process for all staff members.

Figure 14: Mandatory Training Compliance as of March 2024

Mar-24	Fit testing compliance	Hand Hygiene Compliance	IPC Mandatory Compliance (1-3)	Food Safety Mandatory Compliance
Corporate	69.07%	85.64%	96.89%	68.24%
Surgery & Critical Care	64.02%	86.40%	83.33%	82.72%
integrated Medicine	62.68%	86.69%	93.09%	78.60%
Specialist Clinical Services	55.48%	86.42%	94.01%	78.13%

Community and Rehabilitation	72.70%	86.80%	96.04%	80.34%
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The IPC team reviewed the educational recommendations outlined in the National IPC Educational Framework 2024. This new framework aims to guide the design and delivery of IPC education for staff to ensure safe and effective care. It will help improve the skills and expertise of our existing workforce and benefit all learners, educators, patients, and populations. The framework has minimum expected learning outcomes, with the opportunity to develop additional ones. It is in incremental order and structured into three tiers (tier 1, tier 2, and tier 3). The implementation of the framework will form part of the IPC work plan for 2024-2025.

**Criterion 7: Provide or secure adequate isolation facilities.**

Approximately 24% of all beds are single rooms, and less than 10% of single rooms have en-suite facilities. The reduced side room capacity significantly impacts the ability to isolate all patients who should be isolated according to national guidelines. Therefore, a risk assessment is completed to assist with decision-making when side room capacity is low. The concept of cohorting nursing patients is used during the high prevalence of certain infections such as Flu A, COVID-19, or RSV, which the IPCT continues to suggest, support, and provide guidance on when necessary. To mitigate this, the Trust has 5 Redi rooms and a mobile "pop-up" isolation facility which can be deployed.

**Criterion 8: Secure adequate access to laboratory support as appropriate.**

The microbiology laboratory provides a full range of microbiology and serology services. It continues to expand the test range on offer, for example, the introduction of molecular testing for carbapenemase-producing organisms and MRSA and rapid testing of positive blood cultures. Future developments include using remote blood culture units to aid the sepsis pathway in the Trust. Developing a new pathology reporting system (WinPath Enterprise) is nearing completion; it will require enhancements for IPC. The microbiology department is working towards UKAS accreditation under ISO15189:2022 standards; this has not been achieved. Difficulties have been experienced due to staffing issues within the laboratory staff and Microbiology Consultants, but there is commitment and plans to resolve these problems. Point-of-care testing continues to provide a service for Influenza and COVID-19 testing and RSV in children.

**Criterion 9: Have and adhere to policies designed for the individual's care and provider organisations that help to prevent and control infections.**

**Policies and Guidance**

The IPC team has a rolling programme highlighting policies needing yearly updates to align with annual reviews and the Trust's overarching Governance policy, which outlines the responsibility, auditing, and monitoring of IPC policies to ensure adherence and compliance with changes. However, not all required policies have been written or updated during the review. The policy and manual are available for staff to view on the Trust intranet.

**Criterion 10: Providers have a system in place to manage the occupational health needs of colleagues in relation to infection.**

**Immunisation COVID and Flu**

The staff autumn-winter vaccination programme, offering COVID-19 and Flu vaccines, started in September 2023 and ceased in January and March '24, respectively. Since September, the team has given over 16,000 vaccines to various Buckinghamshire residents or BHT colleagues.

The vaccine team supports the Occupational Health Department with the staff Flu programme, and this year, they have also run a very successful Peer Vaccinator campaign, training and recruiting 55 vaccinators, who range from pharmacists to nurses to physiotherapists. This has made it easier for all colleagues to access the Flu vaccine, and vaccines administered by Peer vaccinators have increased this year to over 1600 vaccines. Nationally, uptake is at pre-pandemic levels, with BHT being well above the national COVID-19 and Flu uptake averages. Aside from vaccination, the team has also sought declines from colleagues to try to understand the reasons for not receiving the vaccine with the 52.7% uptake rate, the 80% CQUIN Target has been reached by seeking permission and using the declines.

The team will now move to planning and implementing the vaccination campaigns for the coming year and will build on the success of 2023/24.

### **COVID-19 Risk Assessments**

National recommendations on COVID risk assessments continue to be in place post-pandemic. All new employees complete a risk assessment as part of the pre-employment documentation, and compliance is recorded. High-risk assessments are escalated to the Occupational Health team for advice. Further assurance for employee advice is provided through the Occupational Health new starter health questionnaire and the on-employment management referral and self-referral routes.

### **Fit Mask Testing**

Central NHS Funding for fit mask testing ended in April 2023. Responsibility was transferred to Occupational Health. Staff are in place to provide the service alongside peer testers based in clinical environments. Compliance with the legislative requirement for testing and the recommendation on re-testing is monitored.

Fit mask testing has matured during the year, and we are working with our local NHS partners to develop long-term plans for testing in the post-pandemic future.

### **Lateral Flow Testing and Isolation**

Routine LFT ended in April 2023 for colleagues. Symptomatic testing and isolation of colleagues is currently restricted to colleagues in contact with seriously immunosuppressed patients.