

Board of Directors (in public)

Item: 2.3

Subject: Infection Prevention and Control Annual Report
Date of Meeting: 10th June 2025
Prepared by: Nicola Best – Lead Infection Prevention Specialist Nurse
 Manoj Kuduvalli – Medical Director and DIPC
Presented by: Justin Ratnasingham, Divisional Medical Director
Purpose of Report: To Note

BAF Ref	Impact on BAF
BAF 1	Assurance on Infection Prevention and Control processes

Level of Assurance (please tick)		
To be used to provide the Board / Committee with a guide on the extent of assurance and evidence of assurance provided within the report.		<input checked="" type="checkbox"/>
Level of Assurance	Description	
High	There is a strong system of internal control which has been effectively designed to meet the system objectives, and that controls are consistently applied in all areas reviewed.	<input type="checkbox"/>
Substantial	There is a good system of internal control designed to meet the system objectives, and that controls are generally being applied consistently.	<input checked="" type="checkbox"/>
Moderate	There is an adequate system of internal control, however, in some areas weakness in design and/or inconsistent application of controls puts the achievement and some aspects of the system objectives at risk.	<input type="checkbox"/>
Limited	There is a compromised system of internal control as weaknesses in the design and / or inconsistent application of controls puts the achievement of the system objectives at risk.	<input type="checkbox"/>
No	There is an inadequate system of internal control as weaknesses in control, and/or consistent non-compliance with controls could/has resulted in failure to achieve the system objectives.	<input type="checkbox"/>

1. Executive Summary

This report details the infection prevention and control arrangements, the annual report and discusses the achievements that have been made to prevent healthcare associated infections (HCAIs) during the financial year 2024/25. It also includes an updated assessment of Trust compliance against the standards in the National Infection Prevention and Control Board assurance framework.

HCAI rates have remained relatively low throughout the year. There is an ongoing comprehensive surveillance programme to ensure that infections are monitored and reported in a timely and consistent manner. In order to maintain the low HCAI rates a significant amount of work has been undertaken including an extensive audit programme, education and training of staff and the ongoing assessment of patients to ensure they are managed correctly. A number of new initiatives have also been undertaken. The board assurance framework assessment details the standards that are recommended to ensure effective infection prevention and control and it demonstrates that the Trust is fully compliant in most areas and that there is evidence available to support that assessment.

2. Background

The prevention and control of HCAIs is an important part of both the patient safety and clinical quality agendas. The Trust has a responsibility to ensure that appropriate arrangements are in place to protect patients, staff and visitors against the risk of acquiring a HCAI, as detailed in the *Health and Social Care Act (2008)*. There is also a requirement to produce an annual report on Trust activities, in relation to infection prevention and control and present this to the Trust Board.

In addition to the annual report a board assurance framework tool has been used to assess compliance against national standards related to infection prevention. The National Infection Prevention and Control Board assurance framework was published by NHE England for use by health care organisations to enable them to use an evidence based approach to maintain the safety of patients, service users, staff and others. The framework has been updated a number of times, with the latest version (v5) updated in April 25. This report includes the Trust assessment against the framework and details the evidence available to provide appropriate assurances.

3. Conclusion

The ongoing surveillance programme for monitoring and reporting on HCAI has continued and indicates that overall, Trust attributable infections have remained relatively low. There is a comprehensive audit programme which has demonstrated that standards have remained high. An assessment against NHS standards provides assurance that the Trust is fully compliant with the majority (51) of standards related to infection prevention and control, with only 3 standards with partial compliance. Two of these relate to the fact that they are reliant on external providers (Occupational Health and Laboratory services) and one, related to antimicrobial prescribing, is a new standard that has not yet been fully explored. A substantial amount of evidence is available to support the assessment.

4. Recommendations

The Board is requested to note the contents of this report.

Infection Prevention and Control Annual Report 2024/2025

Infection Prevention and Control arrangements

Infection Prevention Team (IPT)

The role of Director of Infection Prevention and Control (DIPC) is undertaken by the Trust's Medical Director, Mr Manoj Kuduvalli.

The Infection Prevention Specialist nurse provision for the Trust is currently 2.6 (wte) consisting of:

- A lead Infection Prevention nurse specialist who is also assistant DIPC (1.0 wte)
- Infection Prevention nurse specialist (1.0 wte)
- Infection Prevention nurse specialist (0.6 wte)

There is an administrative support role for Infection Prevention and surveillance (1.0 wte)

There is designated Consultant Microbiologist support for clinical microbiology and antimicrobial stewardship, with 2 sessions designated specifically for Infection Prevention.

A surveillance software system (ICNET) is used by the Infection Prevention team (IPT) as part of a joint project with Royal Liverpool University Hospital, Aintree University Hospital and Clatterbridge Centre for Oncology.

Laboratory services are provided by Liverpool Clinical laboratories.

Infection Prevention Committee

The Infection Prevention Committee (IPC) meets quarterly and is chaired by the DIPC.

Membership is multi-disciplinary and includes:

- Infection Prevention Nurse specialists
- Consultant Microbiologist
- Deputy Director of Nursing
- Matrons for Surgery, Medicine, and Critical Care
- Critical Care Infection nurse specialist
- Pharmacist
- Consultant anaesthetist
- Consultant surgeon
- Consultant cardiologist
- Estates Manager
- Facilities Manager
- Decontamination lead
- Occupational Health representative

There are 3 sub-groups which report into the committee: the Water Safety Group, the Decontamination Group, and the Antimicrobial Stewardship Group.

The Infection Prevention team (IPT) are also members of, and contribute to, other committees and groups within the Trust.

Group	Frequency
Health and Safety Committee	Quarterly
Cleaning Group (Chair)	Monthly
Surgical site infection Group (Chair)	Bi-monthly
Emergency Planning Group	Quarterly
Product Evaluation Group	Quarterly
Critical Care Delivery Group	Quarterly
Senior Nurse Meetings	Monthly
Outbreak meetings	Ad hoc
Patient infection review meetings	

2. Surveillance

Information on all patients colonised, or infected with, specific “alert” organisms is collected, and data is generated monthly and used by the IPC to monitor performance and trends regarding HCAs (Healthcare associated infections).

Data is also collected on patients with certain bloodstream infections (bacteraemias) and reported to the national HCAI data collection system.

2.1 MRSA Bacteraemias (Blood stream infections)

There has been 1 case of MRSA bacteraemia, the probable cause was pneumonia . A review was undertaken with Critical Care and some learning points were identified regarding blood culture orders.

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Number of LHCH attributable cases per year	1	0	0	0	0	1

2.2 Methicillin sensitive Staphylococcus aureus (MSSA) Bacteraemias (Blood stream infections)

Reviews of individual cases have been performed in conjunction with relevant clinical staff, sources of the infections were noted to be drains, intravascular devices, surgical site infections and chest infections. The reviews were shared with the relevant divisions to improve practice when issues were identified. Learning points were identified related to drain site documentation and care after discharge and new protocols and patient information have been developed by the thoracic nurses.

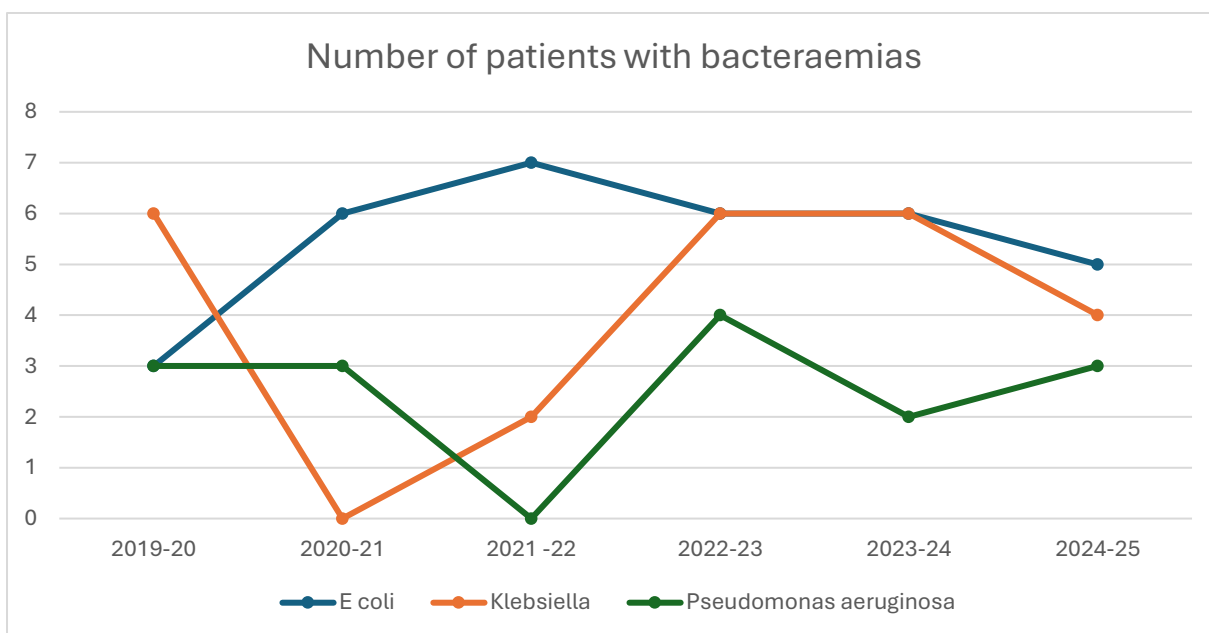
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Number of LHCH attributable cases per year	11	11	8	7	6	8

2.3 Gram Negative Bacteraemias (Blood stream infections)

The numbers of infections caused by these groups of bacteria has decreased slightly overall, although nationally the rates have been increasing. Annual figures have shown that the Trust has some of the lowest comparative rates of Gram negative bacteraemias, i.e. numbers per 100,000 bed days, in the North West region.

Patient reviews have been undertaken with the clinical teams to identify the probable causes of these infections. In some cases this could not be ascertained but in others were found to be due to urinary tract infections, intravascular line infections and abdominal infections. Some of the infections were classified as unavoidable.

The patient reviews have been shared with the relevant divisions to improve practice, where indicated and when learning points were identified. A working group has been set up to look at some of the issues raised related to urinary catheters.

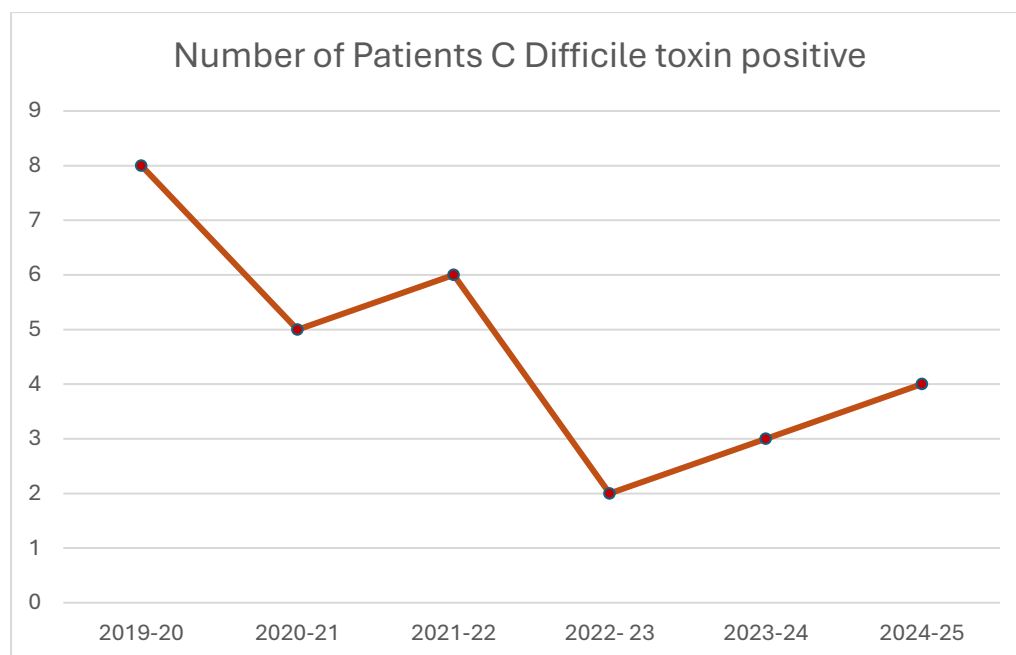


2.4 Clostridiodes Difficile Toxin positive cases

4 patients were identified and treated and cared for in accordance with Trust policy. The patients were not connected. Comparison with other Trusts show that this is the lowest comparative rate of infections in the North West region.

Individual patient reviews were conducted for all cases and learning points discussed at governance meetings and at the IPC. Some of the learning points related to correct documentation and delays in samples when patients were on NG feeding regimes, this has been

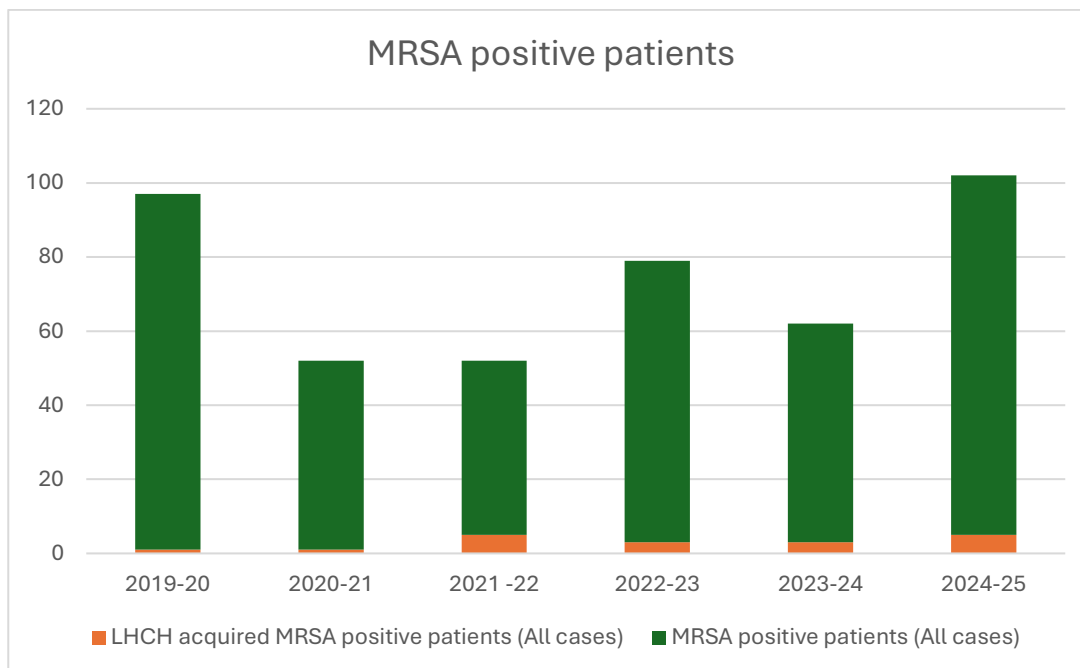
addressed by the dieticians. Another learning point related to patients informing staff promptly if there had any diarrhoea and posters have been placed in patient bathrooms to provide relevant information and prompts to patients.



2.5 Methicillin Resistant Staphylococcus Aureus (MRSA) -All cases including non-blood stream infections.

The total number of patients with MRSA are monitored, this includes patients who are colonised with MRSA or who have an infection at any site. All patients were treated, and precautions instituted as detailed in the Trust policy.

97 patients were identified with MRSA however the vast majority were identified prior to or on admission, as part of the admission screening programme and only 5 were designated as Trust acquired. The graph below shows the relative numbers of all patients with MRSA compared to those that were potentially hospital acquired.



2.6 Carbapenemase Producing Enterobacteriaceae (CPE)

There were 35 patients with CPE within this financial year however only 5 of them were designated as Trust acquired. The patients were reviewed and isolated and there did not appear to be a connection between the patients.

2.7 Norovirus

There were 2 patients identified with Norovirus although they were not connected in time or place. Both were isolated in accordance with policy.

2.8 Influenza cases

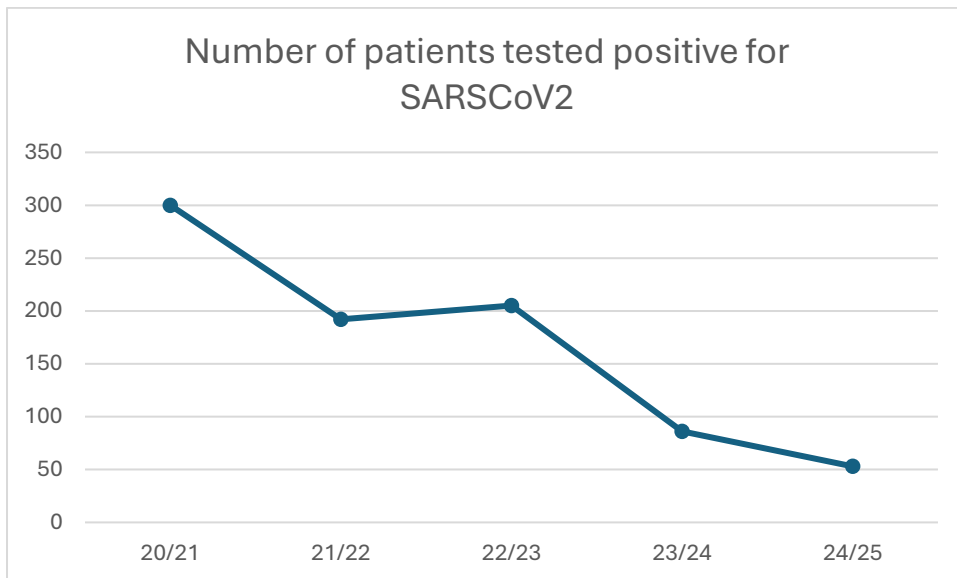
There were 24 patients identified with influenza, this was a mix of either Influenza A or Influenza B. All inpatients were isolated and treated with antiviral therapy according to the policy.

2.9 COVID 19

53 patients tested positive for SARS CoV2 from April 24– March 25, this was either via a lateral flow device or a laboratory based PCR test.

This has been a significant decrease compared to previous years however the testing regime has changed and less patients were being tested overall. Only patients who developed symptoms have been tested.

All patients were isolated and cared for with appropriate precautions, in accordance with guidelines.

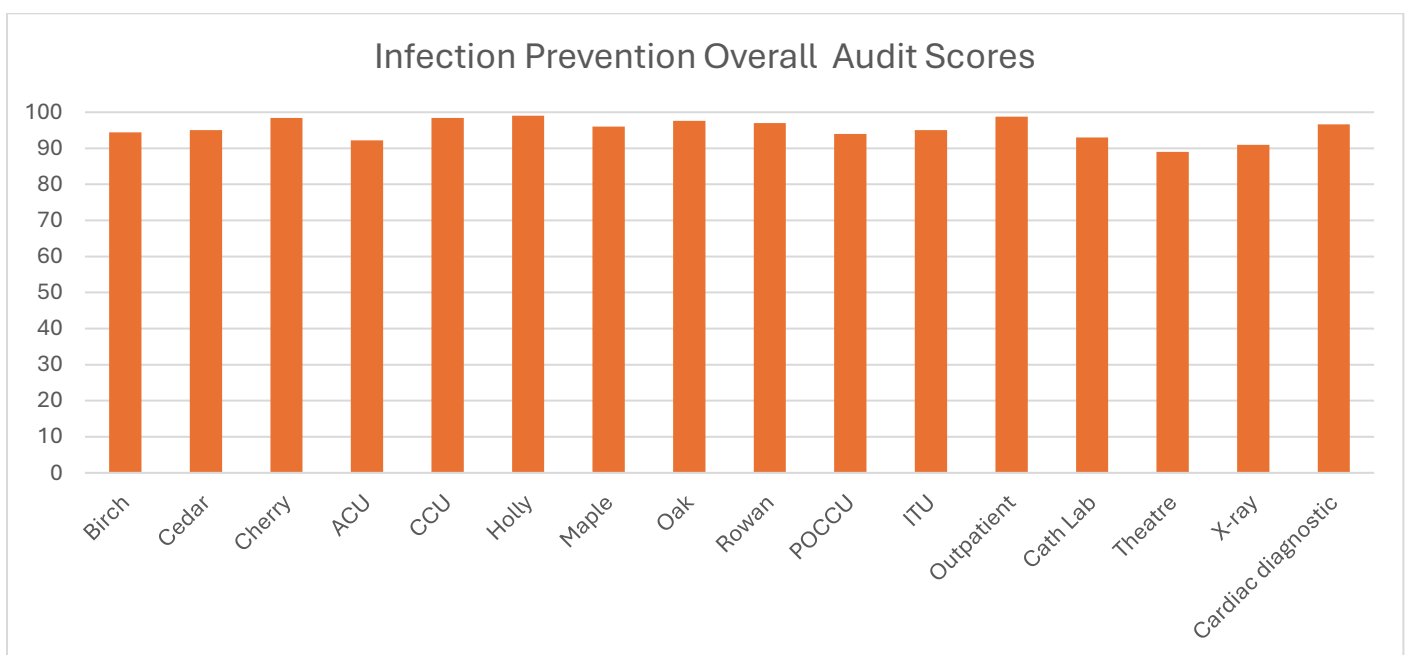


3. Audit Programme

An audit programme is in place for the infection prevention nurses to ensure compliance with policies and to provide assurance to the IPC that standards are adhered to.

The overarching infection prevention standards audits are performed in all clinical areas within the Trust by the IPNs, in conjunction with members of ward staff. The audits cover various aspects of infection prevention including the patient environment, decontamination and cleanliness, equipment, waste disposal, sharps handling and linen handling. The overall scores for all areas are given below.

Feedback and action plans are provided to each area.



Additional audits have also been performed by the IPT throughout the year and compliance scores and feedback have been provided to all relevant areas

Audit
MRSA screening and pathway
CPE screening
Critical Care screening
Isolation practices and facilities
Endoscopy Audit
Surgical site Infection prevention bundle: Decolonisation Skin prep Surgical prophylaxis Dressing removal

Additional Audits are also performed on relevant wards/departments by Matrons and ward staff.

Audit	Performed by:
Peripheral Intravascular line insertion & care	Matrons and Ward staff
Urinary catheter Insertion and Care	Matrons and Ward staff
Central line care and dressings	Critical care infection nurse
Cleanliness of area and equipment	Matrons

Hand Hygiene

Staff in the clinical areas perform and submit 2 hand hygiene audits per month via an electronic audit system.

Areas where non-compliance has occurred have also been highlighted to the managers and Heads of Nursing.

4.Education and Training

Education and training regarding infection prevention and control was provided by the Infection Prevention Team as part of:

Session	Input from IP Nurses and Frequency
Mandatory Training	Electronic Workbook. Face to face sessions as requested

Nurse preceptorship programme	2x per year Face to face session
Nursing continuing education rolling programme	12 x per year Face to face session
Healthcare assistant education programme	4 x per year Face to face session
Medical induction programme	2 x per year Face to face session
Volunteer Induction	2x per year Face to face session
Masters programme-Safe from Harm	1x per year Face to face session
Access to medicine	1x per year Face to face session
Ward based updates	Ad hoc sessions throughout the year

Corporate induction is provided by the education team, including hand washing and aseptic non touch technique.

Fit testing to ensure staff can be fitted with appropriate respiratory protective equipment is also performed during the induction for new staff and updates for existing staff is performed by the practice educators.

Infection Prevention Awareness day

The IPT held an Infection Prevention awareness day in October, with a stall on the main corridor aswell as visiting clinical areas. Free samples, gifts and prizes were available. The main messages and areas of focus related to C difficile infections, hand hygiene and cleaning of equipment.

5. Environmental Hygiene

A Cleaning Group has been convened with membership including IPT, Hygiene supervisors. Matrons and Estates department. This group oversees an audit and monitoring programme in accordance with the National Standards for Cleanliness, including both clinical and non-clinical items. It is considered best practice that the audits are conducted by a multi-disciplinary team, rather than individually, and the LHCH standard is that this should happen at least once per month in all wards/areas.

182 multi- disciplinary audits have been performed in the wards, Critical Care, Cath labs and the Theatre department, with areas being allocated a star rating depending on the result achieved, the scoring and rating system is based on the national standards. The majority were 5-star ratings.

Star Ratings	Number of Audits
5 ★	175
4 ★	6
3 ★	1
2 ★	0
1 ★	0

Additional monitoring of environmental cleanliness in all non- clinical areas by the hygiene supervisors has continued throughout the year on a monthly basis. Results are generally very good (usually exceeding the stated target of 95%) with any identified problems rectified immediately.

Enhanced Environmental Decontamination

Decontamination of the patient environment using Ultraviolet-C has been used across the Trust throughout the year.

6. Antimicrobial stewardship

The Antimicrobial stewardship group meets quarterly to review stewardship issues and is chaired by the Director of Infection Prevention and Control. Audits on compliance with the antimicrobial policy are performed quarterly.

An antimicrobial pharmacist is in post and there are also Critical Care Infection Specialist Nurses (1.6 wte) to liaise with Microbiologists and clinicians regarding patients with complex infections and their treatment and management, and to provide input into the antimicrobial stewardship and sepsis programmes.

A critical care microbiology ward round is in process 3 times a week including the critical care infection nurse, the microbiologist, pharmacist and intensivist.

An annual report on antimicrobial stewardship was compiled by the antimicrobial pharmacist and submitted to the Trust Board in September 2024.

7. Surgical Site Infection prevention

Surveillance data and information on patients with SSI is essential to enable effective monitoring and drive improvement projects. A robust electronic surveillance system is now in place and improvements have been made to the system throughout the year. An in-depth analysis has also been performed by the audit department to look at the various risk factors for infection.

The surveillance programme includes all patients who have undergone cardiac surgery within this time period therefore information on 1908 patients and their outcomes has been collected by the IPT.

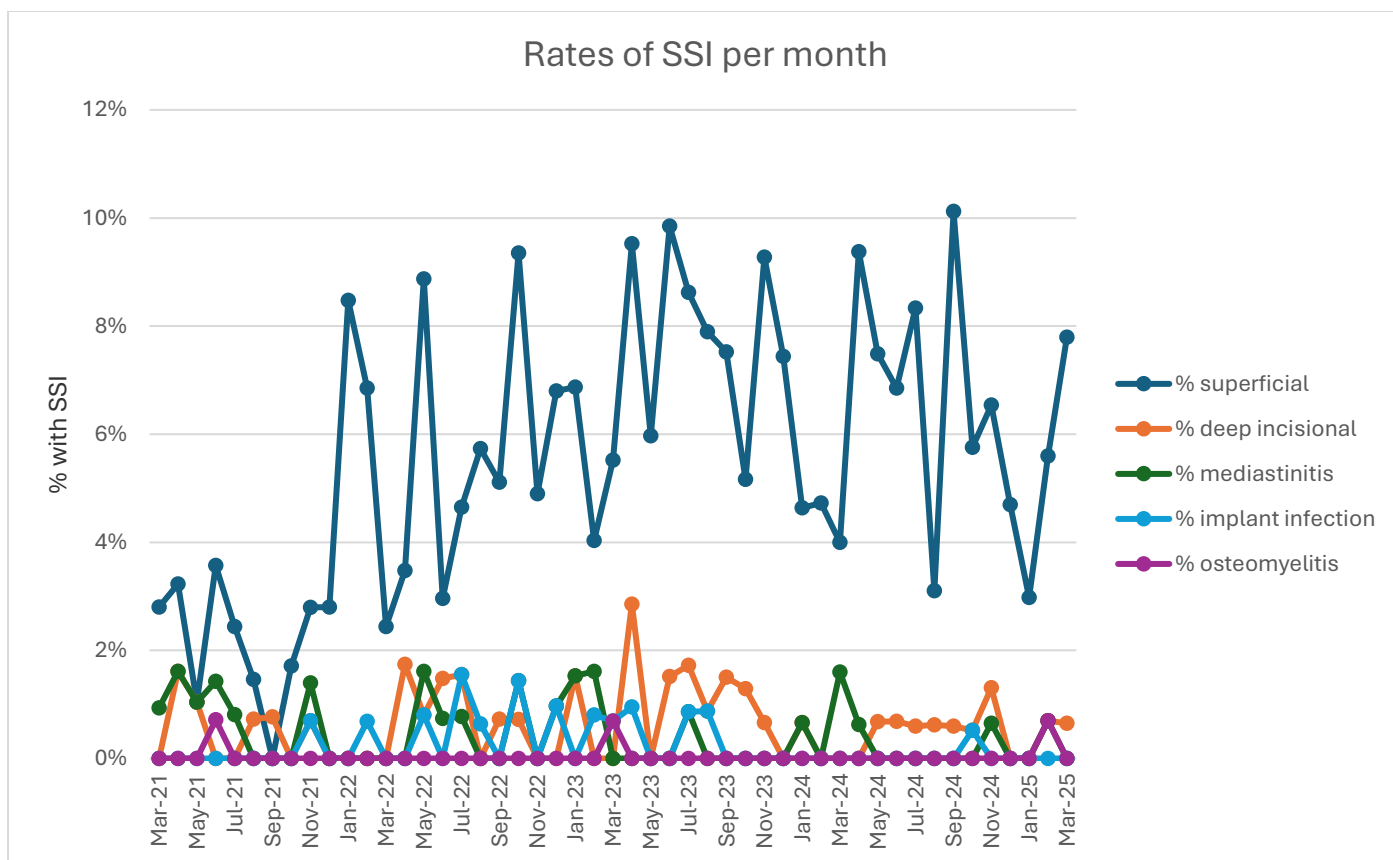
Data on the rates of SSI and their categorisation and work to prevent SSI has been produced and presented to the IPC, Surgical governance meetings and the Quality, Safety and Experience Committee. The Infection Prevention nurse has also presented on the joint audit day.

The Infection Prevention nurse has also presented to the North Wales Health Board and the Merseyside and Cheshire ICB on the implementation of an SSI surveillance programme.

An SSI group has been established in the Trust, with bi-monthly meetings and multi-disciplinary membership including Infection Prevention Team (IPT), Tissue viability team (TVT), Consultant surgeon, Head of Nursing, Matrons for the divisions, Surgical Care Practitioner, Theatre Manager, and information analyst.

The group oversees an audit programme and ongoing action plan. The rates of the more severe infections i.e. those that are not classed as superficial, has decreased over the previous two years. A review is completed for all these patients to identify any issues or learning which are feedback to the relevant areas and also vis the surgical audit days.

One issue that was raised was that compliance with decolonisation treatment prior to surgery had decreased. A multi-disciplinary working group was convened to look at this and actions have been implemented including education and training and additional monitoring by the urgent pathway specialist nurse.



Evaluation of new pre-op wash product

Audits showed that there was a lack of standardisation and information for pre-op preparation for patients undergoing thoracic surgery. The IPT sourced a new product (an antimicrobial impregnated sponge) and produced a patient information leaflet. These were evaluated on 2 wards with positive feedback and excellent results and so were introduced as standard.

8. Water Safety Group

The Water Safety Group is a sub-group of the Infection Prevention Committee and meets quarterly. The aim of the group is to ensure the safety of all water used by patients, residents, staff, and visitors across all Trust premises, minimising the risk of infection associated with waterborne pathogens.

Audits have been performed by independent contractors who are experts in the field of water safety. The audit results rated the Trust as having substantial assurance although some areas of non-compliance were identified and an action plan has been developed to address any issues. Ongoing actions to maintain water safety continue, including a water testing programme for Legionella and Pseudomonas aeruginosa and flushing and maintenance programmes.

Pseudomonas aeruginosa has been isolated from some outlets on Critical Care and there has been a series of remedial actions undertaken to address this. Pipework has been replaced and point of use bacterial filters have been fitted to some taps to ensure patient safety. Work continues to rectify the problem.

There have also been reviews related to water safety as part of all the capital build projects to ensure safety standards are maintained in all new builds.

9. Decontamination.

The Decontamination Assurance Group is a sub-group to the Infection Prevention Committee and meets monthly. The Decontamination Assurance Group is responsible for ensuring the Trust continues to fulfil its statutory responsibilities for all matters involving the decontamination of reusable medical devices in accordance with legislation.

Audits have been performed by external assessors on the decontamination processes for endoscopes, this demonstrated substantial assurance against NHS standards with only minor issues to be rectified.

A new process for the decontamination of transoesophageal echocardiogram (TOE) probes using Ultraviolet – C has been implemented in the Theatre department.

The group are also working to develop the next phase of the tender for surgical instrument decontamination.

10. Ventilation system

In order to provide assurance to the Trust a ventilation audit is formed by annually by an authorised engineer (external contractor). This was performed in 2024 and the status was deemed to be "satisfactory". A number of actions were identified which have been addressed by the Estates department.

All ventilation systems within the Trust have had planned preventative maintenance programmes and the critical ventilation systems i.e. Theatres, Critical Care, Cath labs, and Cherry ward have had their annual verification in accordance with NHS guidelines.

Upgrading existing ventilation systems has been included in the capital management programme and Theatres C and D had their air handling units replaced in February/March 2025. During the replacement process it was identified that there was excessive air leakage from the ductworks. Some remedial work was undertaken however this was insufficient to ensure the national standard was met and so a derogation is in place. Additional monthly monitoring has been introduced to ensure the air changes and pressures within the operating theatres continue to be maintained at acceptable levels. Funding is now being pursued to replace all the relevant ductwork.

11. Policies

A number of policies have been rewritten and ratified in this time period by the IPT including:

- Major Outbreak policy
- Infection Prevention and Control standards Policy
- Pandemic Plan
- Aseptic non touch technique
- Respiratory Virus policy
- Cleaning policy
- Carbapenemase producing Enterobacterales Policy

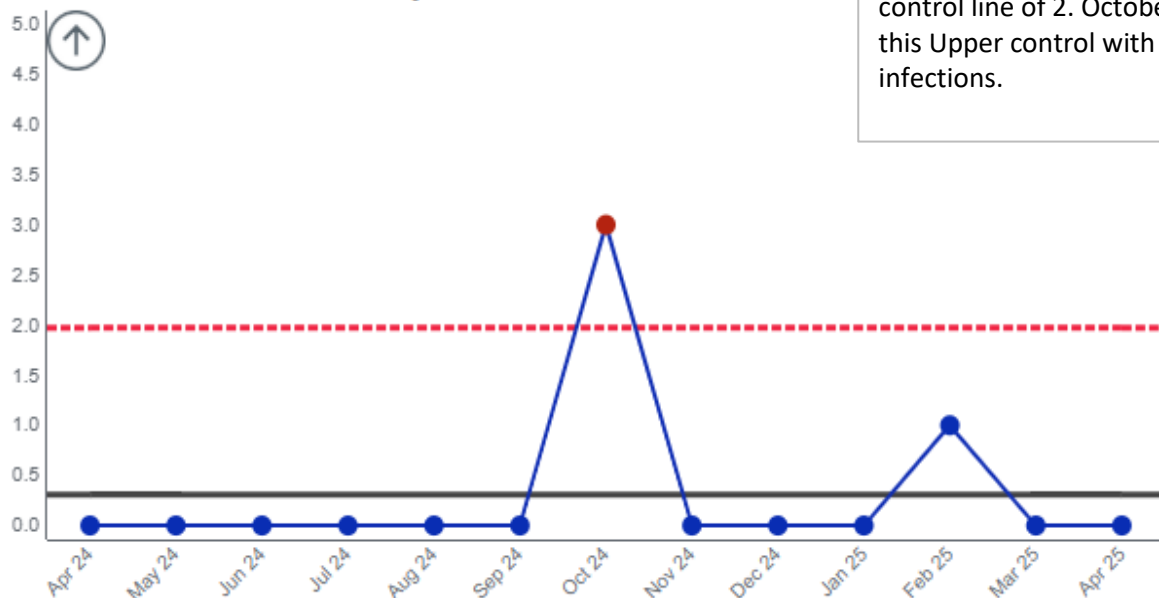
Summary

The rates of reportable HCAI remain low and progress has been made in a number of areas within infection prevention and control. This report provides assurance that the Trust complies with the requirements in the Health and Social Care Act 2028: Code of Practice on the Prevention and Control of Infection. It also demonstrates that there is a comprehensive surveillance system and a robust audit and monitoring programme to ensure good infection prevention practices are applied in order to enable safe and effective care.

In order to continue to maintain progress and reduce the risks of HCAI a forward plan for 2025/2026 will be developed and progress against this plan will be monitored throughout the year by the Infection Prevention Committee.

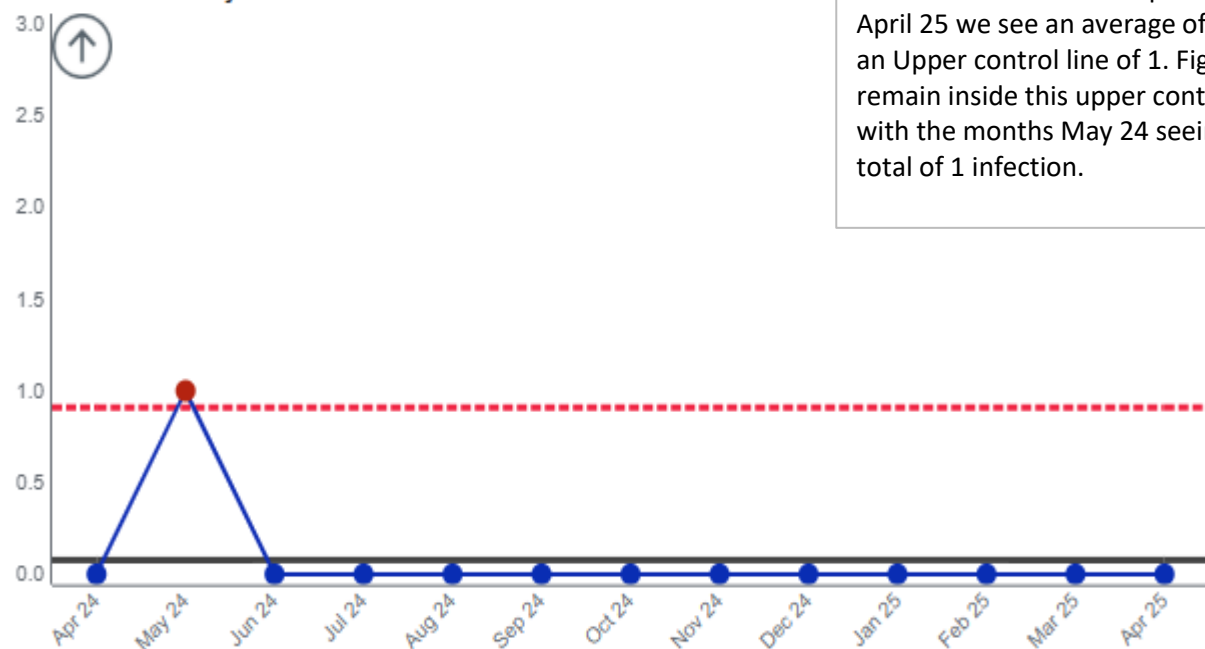
Appendix 1 Reportable infections by month

Clostridium Difficile Infections by Month



Clostridium Infections in April 24 - April 25 we see an average of 0 with an Upper control line of 2. October 24 rises above this Upper control with a total of 3 infections.

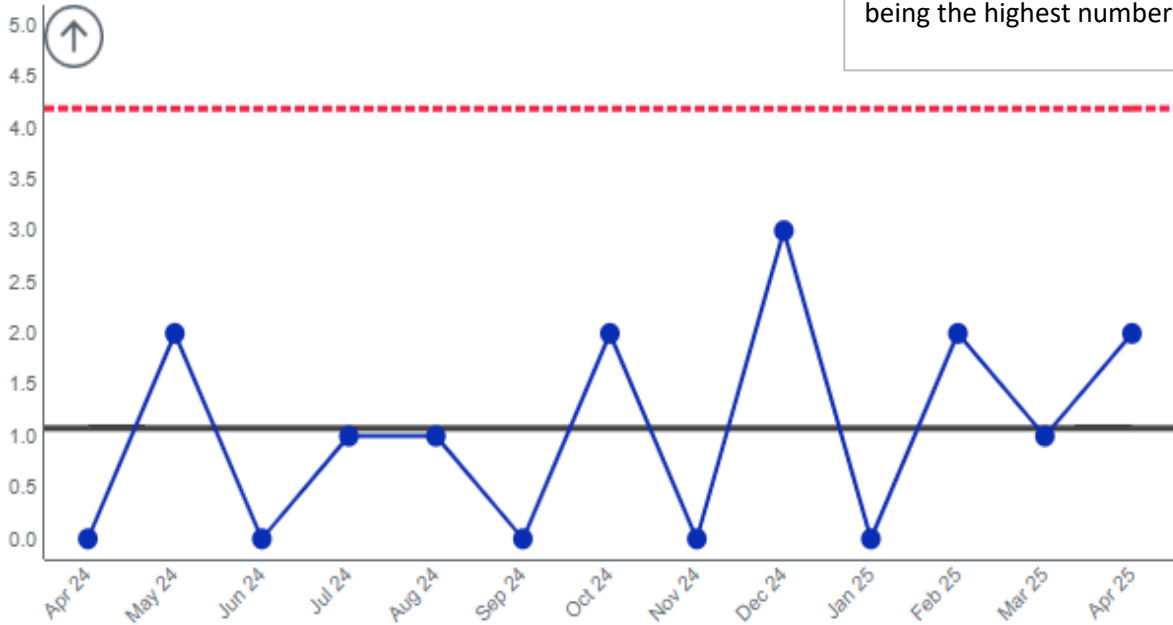
MRSA Infections by Month



MRSA Bacteraemias in April 24 - April 25 we see an average of 0 with an Upper control line of 1. Figures remain inside this upper control line with the months May 24 seeing a total of 1 infection.

Gram Negative Bacteraemias Infections in April 24 - April 25 we see an average of 1 with an Upper control line of 4. Figures remain inside this upper control line with the 3 infections in Dec 23 being the highest number of infections.

Gram Negative Bacteraemias Infections by Month



MSSA Bacteraemias in April 24 - April 25 we see an average of 1 with an Upper control line of 3. Figures remain inside this upper control line with the months May 24 and October 24 seeing a total of 2 infections.

MSSA Infections by Month

