

Board of Directors (in public)

Item 2.2

Subject: DIPC Annual Report
Date of Meeting: 28th May 2024
Prepared by: Nicola Best – Lead Infection Prevention Specialist Nurse
Presented by: Mr Manoj Kuduvali – Medical Director/DIPC
Purpose of Report: To Note

BAF Reference	Impact on BAF
1.1; 1.2	Potential Patient Harm

Level of assurance (please tick one)

To be used when the content of the report provides evidence of assurance

✓	Acceptable assurance Controls are suitably designed, with evidence of them being consistently applied and effective in practice	<input type="checkbox"/>	Partial assurance Controls are still maturing – evidence shows that further action is required to improve their effectiveness	<input type="checkbox"/>	Low assurance Evidence indicates poor effectiveness of controls
---	---	--------------------------	---	--------------------------	---

1. Executive Summary

This report details the infection prevention and control arrangements, annual report and discusses the achievements that have been made to prevent healthcare associated infections (HCIs) during the financial year 2023/24.

HCAI remain low in the Trust. Surgical Site Infections (SSI) has been a particular area of focus in the year 2023-24 and a robust multi-disciplinary action plan is in place to keep SSI to a minimum. The deep infections, which can cause more harm, are down to very low levels. Data collection is very robust and based on established criteria.

This paper provides assurances that audit, monitoring and education programmes are in place to prevent healthcare associated infections. Also that there is a robust surveillance

system in place to monitor infections which has ensured that any issues that have arisen have been addressed in a timely manner.

2. Background

The prevention and control of HCAs 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 to make this available to the public. This paper provides such a report and will be made available on the Trust website

3. Report – attached as below

4. Conclusion

The surveillance programme for infections has continued and indicates that overall, Trust attributable infections remain relatively low. SSI have been an area of focus and has seen improvement over the year.

5. Recommendations

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

Infection Prevention and Control Annual Report 2023/2024

1. 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. This was Dr Raph Perry until his retirement in March 24 and the role is now undertaken by Mr Manoj Kuduvali.

The Infection Prevention Specialist nurse provision for the Trust is currently 2.6 (wte) consisting of:
A lead Infection Prevention nurse who is also assistant DIPC (1.0 wte)
Infection Prevention nurse (1.0 wte)
Infection Prevention nurse (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 Nurses
Consultant Microbiologist
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) also attend meetings and contribute to other 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 have been 0 cases of MRSA bacteraemia.

	2019-20	2020-21	2021-22	2022-23	2023-24	Target/Threshold (Internal)
Number of LHCH attributable cases per year	1	0	0	0	0	0

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

There has been a slight decrease in the number of MSSA bacteraemias.

Reviews of individual cases have been performed in conjunction with relevant clinical staff, sources of the infections were noted to be drains, intravascular devices and surgical site infections. The reviews were shared with the relevant divisions to improve practice when issues were identified.

Learning points have also been shared with the IPC.

	2019-20	2020-21	2021-22	2022-23	2023-24	Target/Threshold (Internal)
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, although nationally the rates have been increasing. Targets were set by NHSE (based on the Trust’s previous best performances), those related to Klebsiella and Pseudomonas aeruginosa bacteraemias were challenging and the thresholds were exceeded this year.

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 was found to be due to urinary tract infections, chest infections and abdominal infections. Some of the infections were classified as unavoidable.

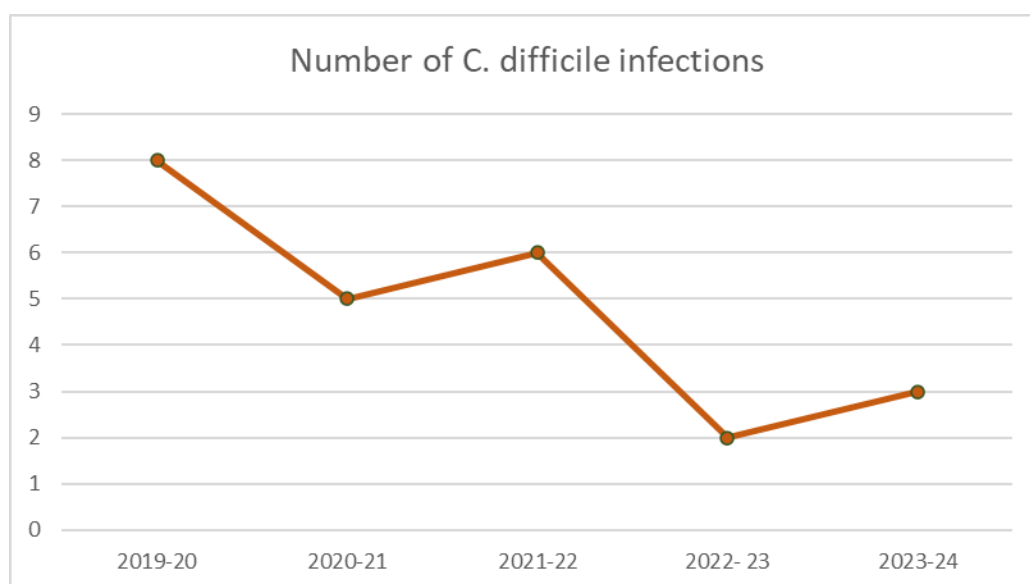
The patient reviews have been shared with the relevant divisions to improve practice, where indicated and when learning points were identified.

	2019-20	2020-21	2021-22	2022-23	2023-24	Target/Threshold
E. Coli	3	6	7	6	6	6
Klebsiella species	6	0	2	6	6	1
Pseudomonas aeruginosa	3	3	0	4	2	1

2.4 Clostridioides Difficile Toxin positive cases

3 patients were identified and treated and cared for in accordance with Trust policy. The patients were not connected.

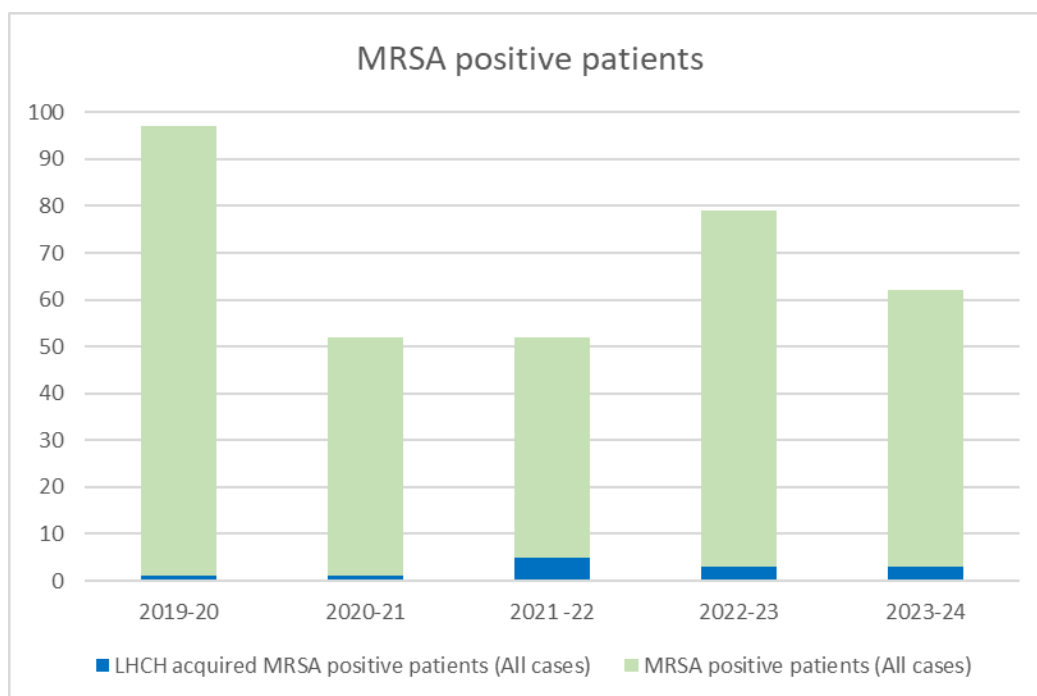
Individual patient reviews were conducted for all cases and learning points discussed at governance meetings and at the IPC.



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.

75 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 3 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 26 patients with CPE within this financial year however only 4 of them are designated as Trust acquired. The patients were reviewed and isolated according to guidelines and there did not appear to be a connection between the patients.

2.7 Norovirus

There were 0 patients identified with Norovirus.

2.8 Influenza cases

There were 17 patients identified with influenza.

The majority of these were diagnosed on admission, no outbreaks were declared.

All patients were isolated and treated with antiviral therapy according to the policy.

2.9 COVID 19

86 patients tested positive for SARS CoV2 from April 23– March 24, this was either via a lateral flow device or a laboratory based PCR test.

This is a significant decrease compared to last year however the testing regime changed and less patients were being tested overall. Only patients who developed symptoms were tested and asymptomatic screening for patients and staff is no longer recommended.

All patients were isolated and cared for with appropriate precautions, in accordance with guidelines. The details on the attribution of cases are given below, using the national definitions.

Onset Categories	Number of Patients
Community-Onset – First positive specimen date ≤ 2 days after admission to trust (CO)	35
Hospital-Onset Indeterminate Healthcare-Associated – First positive specimen date 3-7 days after admission to trust: (HI)	25

Hospital-Onset Probable Healthcare-Associated - First positive specimen date 8-14 days after admission to trust: (HP)	17
Hospital-Onset Definite Healthcare-Associated – First positive specimen date 15 or more days after admission to trust. (HD)	9

2.10 Measles

There has been an increase in the incidence of measles and a number of outbreaks reported nationally. The Trust was asked to complete a risk assessment for measles preparedness. This was completed by the IPT, and a number of actions identified.

Progress against these actions is monitored by the Emergency Planning Group.

There have been 0 cases of measles identified in the Trust.

2.11 National Point Prevalence study

A national point prevalence study was undertaken across England in October/November 2023, to provide information on the burden of HCAI and antimicrobial use and support the development of national policies and inform priorities for the future.

The IPT, with the assistance of the antimicrobial pharmacist and the Critical Care infection nurse contributed to the national prevalence study, gathering, and submitting information on patients within the Trust with healthcare associated infections and antibiotic prescriptions. The final report will be published in 2024.

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.

Results and actions/recommendations have been presented to the IPC and given to individual areas, where relevant. The audits include:

Audit	Schedule	
Infection Prevention Precautions	2x per year June 2023 February 2024	Infection prevention 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. See appendix 1 for average scores for each aspect of the audit. Feedback and action plans were given to each area.
MRSA pathway	June 23	All aspects of the MRSA pathway were audited for MRSA positive patients, overall compliance was 93%.
MRSA screening	2 x per year	Compliance with the MRSA screening policy was

		audited and was found to have fallen from 93% to 87%. This was due to patients not visiting the Trust prior to a procedure or having a virtual pre-op. Work is ongoing with the service line managers to address this.
Screening for CPE and Critical Care screening	3 x per year	Compliance with the protocols for screening for CPE and screening for resistant organisms on Critical Care was audited, with results between 86-94%
Isolation facilities	October 23	An audit of patients being cared for with isolation precautions across the Trust was undertaken to assess compliance with standards. Compliance was observed to be 95%. A review of side room facilities and their use across the Trust site was also undertaken to ensure that patients were isolated appropriately and in a timely manner.
Bare below the elbows policy	Quarterly	Observational audits were performed with compliance levels noted to be 81-85%. Feedback was given immediately to individuals and through the divisional forums.
Endoscopy Audit	Twice yearly May 23 Feb 24	An audit of endoscopy practices was performed by the Infection Prevention Nurse and Theatre nurse using a national audit tool. Results were excellent, with compliance scores of 98% and 100%
Surgical site Infection prevention bundle: Decolonisation Skin prep Surgical prophylaxis Dressing removal	Quarterly	Aspects of the SSI prevention bundle were regularly audited for patients undergoing cardiac surgery with compliance results for each intervention between 89-100%. Results and actions were overseen by the Surgical site infection group.

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

Clinical areas perform and submit 2 hand hygiene audits per month via an electronic audit system.

Some areas do not always complete the required numbers of audits each month and feedback has been provided to the relevant managers and Heads of Nursing.
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- Updated annually. Face to face sessions as requested.
Nurse preceptorship programme	2x per year Face to face session
Healthcare assistant education programme	6 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 Delivered via TEAMS
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.

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.

144 multi- disciplinary audits in the wards, Critical Care, Cath labs and the Theatre department have been performed within this time period, 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 *	135
4 *	8
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.

A new system for decontamination of the environment using hypochlorous acid has also been trialled.

6. Antimicrobial stewardship

The Antimicrobial stewardship group meets quarterly to review stewardship issues and is chaired by the Director of Infection Prevention and Control.

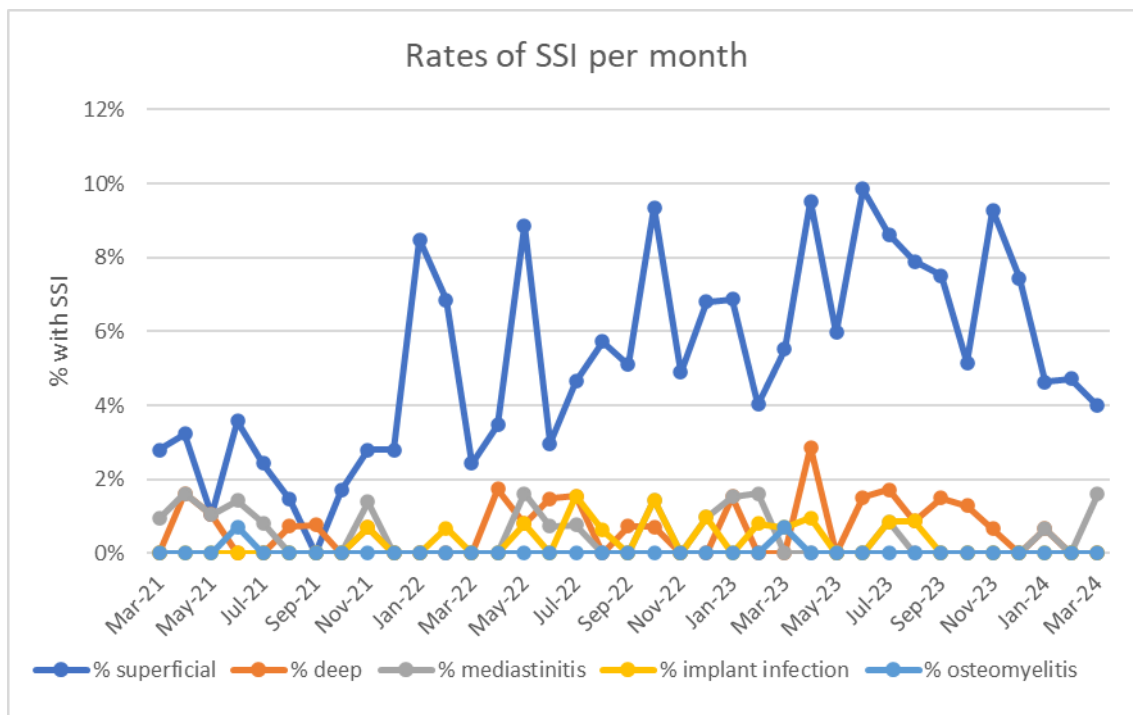
A new antimicrobial pharmacist has been appointed. There is also a Critical Care Infection Specialist Nurse (1 wte) to liaise with Microbiologists and clinicians regarding patients with complex infections and their treatment and management and to provide input into the antimicrobial stewardship and sepsis 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.

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 1564 patients and their outcomes has been collected by the IPT. Data on the rates of SSI and their categorisation has been produced and presented to the IPC and Surgical governance meetings.



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 (see appendix 2)

Benchmarking has been undertaken with other Trusts and a visit from a team from the Royal Papworth hospital was arranged in September 23 to review systems and share good practice.

8. Water Safety

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.

Ongoing actions to maintain water safety continue, including a water testing programme for Legionella and Pseudomonas aeruginosa and flushing and maintenance programmes.

Audits have been performed by independent contractors who are experts in the field of water safety and a number of areas of non-compliance with current guidelines have been identified, an action plan has been developed to address any issues.

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. An audit has been performed by an externally appointed independent Authorising Engineer for Decontamination which has identified

an area of non-compliance. An action plan has been put in place to address the issues raised. This audit reviews all aspects of flexible endoscope decontamination such as sampling, testing processes, equipment maintenance etc.

The group are currently working to implement a new Ultraviolet Decontamination process for transoesophageal echocardiogram (TOE) probes which will be implemented in Q2 2024/25.

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

10. Policies

A number of policies have been rewritten in this time period including:

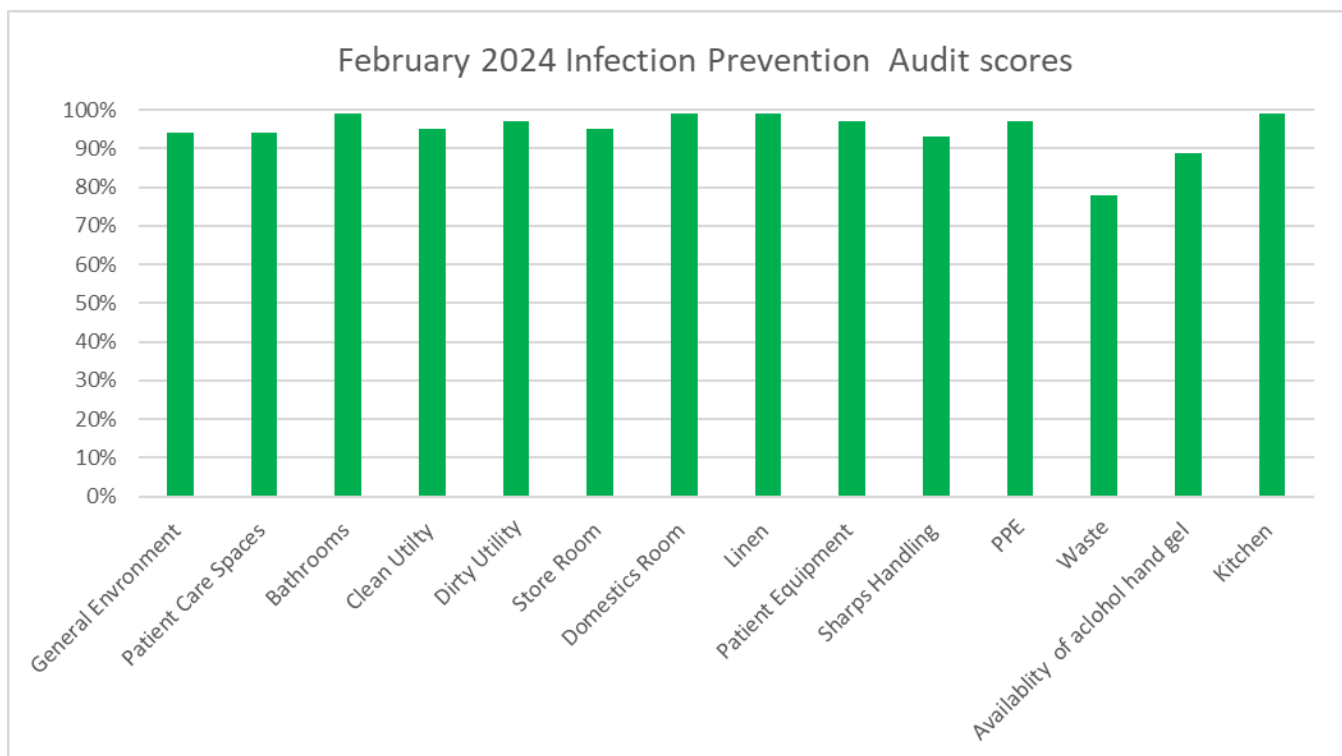
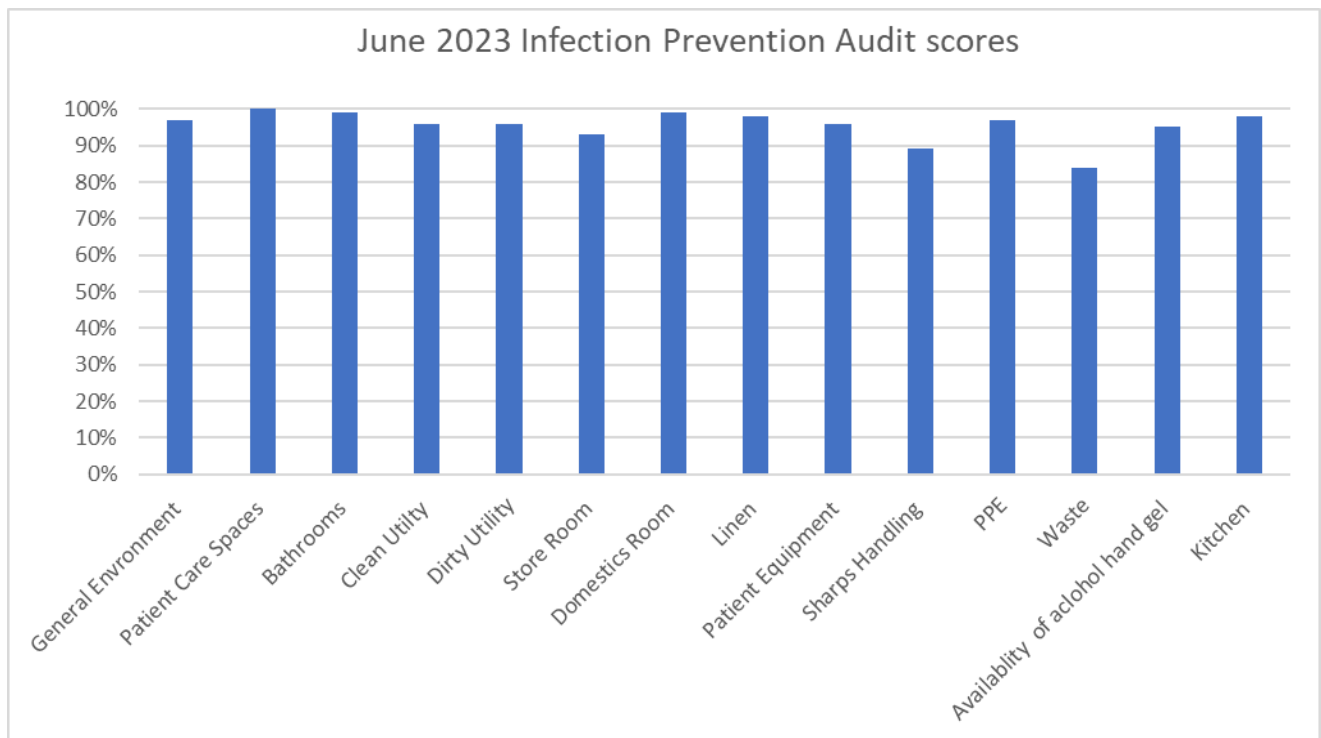
- Hand hygiene policy
- Isolation Policy
- Diarrhoea and vomiting policy
- Surveillance policy
- Respiratory Virus policy
- Inoculation injury policy
- MRSA policy
- Transmissible spongiform encephalopathy (TSE) policy

11. Summary

The rates of reportable HCAI remain low and progress has been made in a number of areas in 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 that good infection prevention practices are applied to enable safe and effective care.

In order to continue to maintain progress and reduce the risks of HCAI a forward plan for 2024/2025 will be developed and progress against this plan will be monitored throughout the year by the Infection Prevention Committee.

Appendix 1



Appendix 2

SSI Group Action Plan 23 24		
Action	Person responsible	Progress
To refine surveillance collection and include categories of SSI in data presentation	IPN	Complete
To perform in depth analysis of infection data to examine risk factors and produce risk adjusted data	IPN	Complete
To commence data collection for the surveillance of thoracic surgery	IPN	Complete
To produce case study presentations to be used for theatre education/training sessions	IPN	Complete
To develop a template and a process for the reporting and reviewing of severe infections	IPN	Complete
To introduce antimicrobial sutures	Theatre Matron	Complete
To ensure theatre cleanliness audits are included in the national standards for cleanliness framework	Theatre matron	Complete
To audit patient temperature and patient warming	Anaesthetist	Complete
To audit the movement of staff within the operating theatre	Theatre Matron	Complete
To gather additional information and audit data on hair removal pre-operatively	Surgical care practitioners	Complete
To extend the use of the photo at discharge programme	Tissue viability nurse	Complete
To provide information to ward staff on dressing changes and steri- strip removal	Tissue viability nurse	Complete
To arrange a peer review visit with Papworth hospital	IPN	Complete
To perform additional ventilation checks in theatres	Estates/IPT	Ongoing
To explore the use of BHIS bra for sternal support for high-risk patients	Tissue viability nurse/IPN	Proposal submitted. Working group convened
To produce a separate SSI prevention policy & competency framework	IPN/Theatre matron	Ongoing
To review alternative methods for effective decolonisation of patients pre-operatively	IPN/Microbiologists	Steriwave technology and evidence reviewed.

