

Board of Directors – in Public

Item 2.7

Subject: Infection Prevention & Control Annual Report
Date of Meeting: 26th April 2022
Prepared by: Nicola Best - Infection Prevention Nurse Specialist
Presented by: Dr Raphael Perry – Medical Director & DIPC
Purpose of Report: Noting

BAF Reference	Impact on BAF
BAF 1	Potential for patient harm if IPC standards not maintained

Level of assurance (please tick one) To be used when the content of the report provides evidence of assurance					
<input checked="" type="checkbox"/>	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 (HCAIs) during the financial year 2021/22.

This has continued to be a very challenging period for the infection prevention team because of the ongoing demands related to the COVID-19 pandemic, in addition to all the other requirements in the annual programme and with limited resources available to meet the demands.

However, despite this most of the objectives in last year's forward plan have been met and HCAI rates remain low. This paper provides assurances that audit 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

4. Conclusion

The surveillance programme for infections has continued and indicates that overall Trust attributable infections remain relatively low. A new forward plan is being developed and will be submitted to the Infection Prevention Committee to ensure that work will continue in 2022/23 to ensure improvements.

5. Recommendations

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

Infection Prevention and Control Annual Report 2021/2022

1. Infection Prevention and control Arrangements

Infection Prevention Team (IPT)

The Director of Infection Prevention and Control (DIPC) for the Trust is Dr Raphael Perry.

The infection prevention specialist nurse provision for the Trust is currently 1.6 (wte)

Nicola Best, who is also assistant DIPC. (1.0 wte)

Lynn Trayer –Dowell (0.6wte)

Another nurse has been recruited and will start in a development post in the coming year.

There is an administrative support role 1.0 wte.

There is a designated Consultant Microbiologist Dr Jon Van Aartsen.

However on-site clinical microbiology support and overall support to infection prevention has been reduced due to pressures related to the COVID pandemic, staff shortages, increased demand within the Microbiology department. Critical Care support has been prioritised, with three microbiology-ITU ward rounds scheduled per week.

Infection Prevention Committee

The Infection Prevention Committee (IPC) meets quarterly and is chaired by the DIPC. Membership is multi-disciplinary and includes senior clinicians and nursing staff, a pharmacist, the Estates manager, the facilities manager and the decontamination lead

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

Information Technology

A surveillance software system (ICNET) is used by the infection prevention team as part of a joint project with Royal Liverpool University Hospital and Aintree University Hospital.

2. Surveillance

Information on all patients colonised, or infected with, specific “alert” organisms is collected and data is generated monthly and used by the Infection Prevention Committee to monitor performance and trends with regard to HCAs.

Data is also collected on patients with certain bloodstream infections (bacteraemias) and reported to a healthcare associated infection (HCAI) national system.

2.1 MRSA Bacteraemias (Blood stream infections)

There have been 0 cases of MRSA bacteraemia

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Target/Threshold
Number of LHCH attributable cases per year	0	0	1	0	1	0	0	0

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

There has been no significant change in the number of MSSA bacteraemias. Reviews of individual cases have been performed and shared with the relevant divisions to improve practice where indicated. A report summarising the outcomes of the patient reviews has been compiled and submitted to the Infection Prevention Committee.

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Target/Threshold (Internal)
Number of LHCH attributable cases per year	8	10	8	8	11	11	8	9

2.3 Gram Negative Bacteraemias (Blood stream infections)

Overall, the numbers of infections caused by these groups of bacteria have remained the same. Patient reviews have been undertaken 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 a variety of reasons including urinary tract infections and chest infections and abdominal infections. The patient reviews have been shared with the relevant divisions to improve

practice where indicated. Thresholds for the numbers of bacteraemias had been given to each Trust for each of these bacteraemias, only 1 of the thresholds was breached (E. coli).

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Target/Threshold
E. Coli	11	9	7	7	3	6	7	5
Klebsiella species	Not previously reported		4	2	6	0	2	5
Pseudomonas aeruginosa	Not previously reported		5	1	3	3	0	3

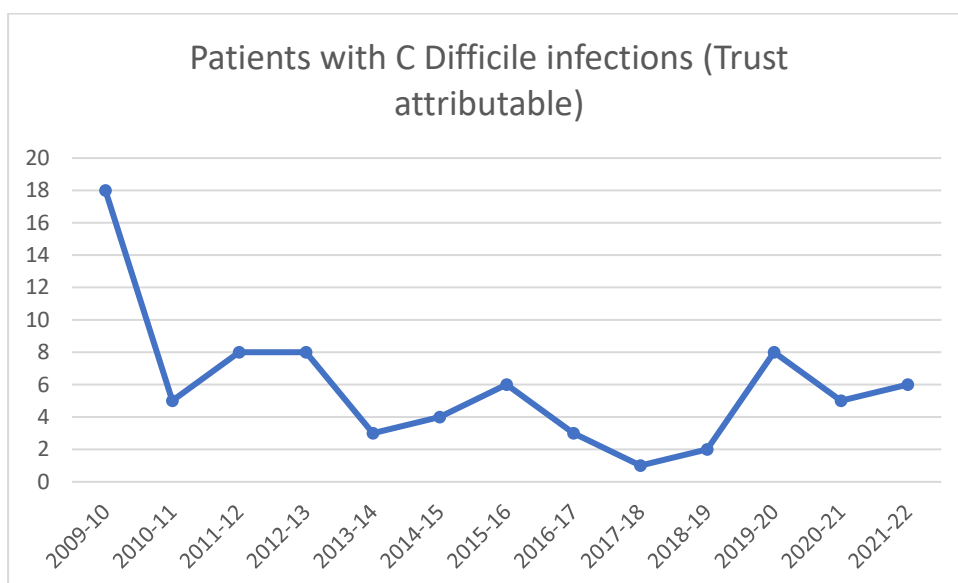
2.4 Clostridium Difficile Toxin positive cases

Six patients were identified. Individual patient reviews were conducted for all cases and learning points discussed at governance meetings

A link was identified between two of the patients on one particular ward. A meeting was held to discuss these patients and any additional actions and assurances that were required. Attendees included the infection prevention team, hygiene services representative, the matron, the ward manager and Head of Nursing.

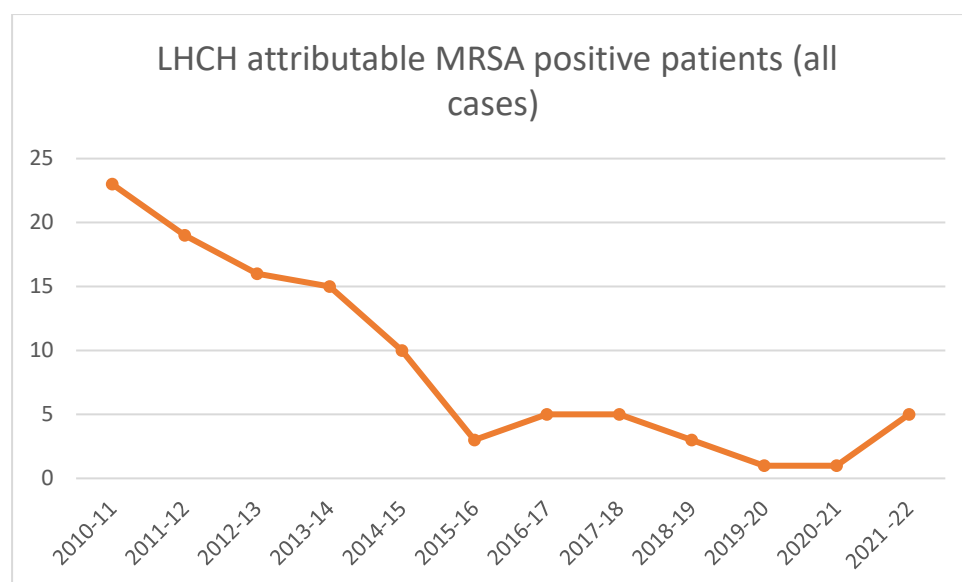
An action plan was developed and implemented, and no further cases were identified. New C Diff guidance is being reviewed by the IPC team and any updates or changes will be adopted during Q1- 2 22/23.

NHS England set a threshold for the number of C difficile infections attributed to the Trust which has not been exceeded (6 cases)



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. 40 patients were identified with MRSA however the vast majority were identified prior to admission or as part of the admission screening programme 5 were identified as LHCH attributable.



2.6 Carbapenemase Producing Enterobacteriaceae (CPE)

There were 5 cases of trust attributable CPE within this financial year. Although none of the patients overlapped in any area, at any time a review of the timelines identified that three of the patients been cared for at some point in POCCU although weeks apart. Additional actions were implemented including an extension of the screening programme in Critical Care and increasing cleaning schedules

2.7 Norovirus

There were 0 patients identified with Norovirus

2.8 Influenza cases and Vaccination programme

There were 0 patients identified with influenza.

69% of staff were vaccinated against influenza. The vaccination programme is led by the Risk and Safety lead. Staff have improved access to vaccination via Occupational health, peer vaccinators, walk around vaccination sessions and also drop-in sessions at the vaccination hub.

A campaign to increase vaccination uptake included corporate communications including clinical leads, feedback of uptake rates and a voucher scheme for a free hot drink

2.9 COVID 19

230 patients tested positive for SARS CoV2 from April 21 – March 22. The details on whether they were nosocomial cases is given below, using the national definitions.

Onset Categories	Number of Patients
Community-Onset – First positive specimen date <=2 days after admission to trust (CO)	169
Hospital-Onset Indeterminate Healthcare-Associated – First positive specimen date 3-7 days after admission to trust; (HI)	28
Hospital-Onset Probable Healthcare-Associated - First positive specimen date 8-14 days after admission to trust; (HP)	15
Hospital-Onset Definite Healthcare-Associated – First positive specimen date 15 or more days after admission to trust. (HD)	18

Four outbreaks occurred during this time period. Action plans were developed to address these at the time and regular updates provided via the Trust command structure.

The oversight and decision making related to the pandemic was addressed by means of a command and control structure (Gold, Silver, Bronze) which incorporated infection prevention. The command structure ensured that all national and regional guidelines and requirements were enacted, and the ongoing Trust plans were monitored and adhered to.

The Infection Prevention team provided specific input and support to many aspects of the plan including surveillance, outbreak monitoring and reporting, contact tracing, fit testing, procurement, supply and distribution of PPE (Personal protective clothing), audits, protocol development and patient pathways.

They also provided guidance and advice to both staff, visitors and patients.

3. Audit Activity

3.1 Hand Hygiene

Clinical areas perform and submit weekly hand hygiene audits to the clinical audit department. Areas should submit 2 audits for their own area each month. Some areas do not always complete the required numbers of audits each month and this has been feedback 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.

There have been issues ensuring the audit programme has been completed each month because of the move to a new audit and reporting system introduced (Perfect Ward/Tenable) these issues are being addressed.

3.2 Other audits

An audit programme is in place for the infection prevention nurses to ensure compliance with policies and standards. Results and actions/recommendations have presented to the IPC and also given to individual areas where relevant. The audits include:

Audit	Performed by:
MRSA and S. aureus screening	IPNs
Screening for CPE	IPNs
Weekly Critical Care screening	IPNs
Decolonisation prior to cardiac surgery	IPNs
Hand gel availability	IPNs
Isolation	IPNs
Waste management in clinical areas	IPNs with Ward staff
Sharps disposal	IPNs with Ward staff
Decontamination of equipment	IPNs with Ward staff
Linen handling	IPNs with Ward staff
Compliance with decolonisation treatment	IPNs
Bedspace cleanliness	IPNs with Domestic supervisors
COVID swabbing audit	IPNs
PPE use	IPNs and Matrons
UTI diagnosis and management	IPN with Antimicrobial pharmacist

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
Cleanliness of area and equipment	Matrons

4. Education and Training

Education and training with regard to 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	1x per year Face to face session
Care Certificate programme	3 x per year Face to face session
Anaesthetist induction programme	1 x per year Face to face session
Master's programme- Safe from Harm	1x per year Face to face session
Ward based updates	Ad hoc sessions throughout the year

5. Environmental Hygiene

Hygiene scores

The Hygiene service department experienced a challenging year due to the COVID pandemic with increased cleaning frequencies introduced and a deep cleaning programme across the Trust instituted.

Monitoring of environmental cleanliness by the hygiene supervisors did continue 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.

An environmental cleanliness group has been established to ensure compliance with the new NHS standards for Cleanliness. A new audit tool has been developed. A multi-disciplinary monthly audit programme with hygiene services, infection prevention and Matrons has commenced.

Equipment cleaning

Additional monitoring of equipment cleanliness and frequently touched surfaces in the clinical areas by the Matrons has been introduced.

Enhanced Environmental Decontamination

Decontamination of the patient environment using Ultraviolet-C has been used to a much greater extent across the Trust throughout the year. There have been some issues with staff training, which needs to be renewed every year. The infection prevention team and hygiene services are leading a pilot with the company to introduce electronic learning to resolve this.

Antimicrobial stewardship

Quarterly antimicrobial audits have been performed this year to analyse prescribing, compliance with formulary and evidence of stewardship.

Also, surgical prophylaxis audits (cardiac patients) have been undertaken

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

A nurse has been seconded to a new role as a Critical Care Infection Specialist Nurse (1 wte) to liaise with Microbiologists and clinicians regarding patients with complex infections and their treatment and management. Also, to provide input into the antimicrobial stewardship programme.

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

Reviews of patients with urinary tract infections (UTI) and audits of practice indicated issues with diagnosis and management of UTI. The policy was changed, in accordance with national guidance and an awareness day related to UTI, prevention, diagnosis and management was held in November.

7. Surgical Site Infection prevention

A working group to look at all aspects of the prevention of surgical site infection had been re-established and an annual plan developed however meetings and the implementation has been disrupted somewhat due to additional work pressures on all members of the group

Reviews of patients who developed deep sternal wound infections to identify any learning points has continued.

A report detailing ongoing work, surveillance data and a forward plan is currently being prepared by the Infection Prevention Nurse on behalf of the group to be submitted to Surgical Governance.

Work has commenced on a new interface and software system to improve the surveillance and feedback programme.

A new initiative to target patients at high risk of surgical site infection with prophylactic negative pressure dressings post operatively has been led by the Tissue viability team.

The infection prevention team have also provided support to the Photo at Discharge project led by the Tissue Viability nurses.

8. Water Safety

The Water Safety Group is a sub-group of the Infection Prevention Committee and meets quarterly. Ongoing actions to maintain water safety continue, including a water testing programme for Legionella and Pseudomonas aeruginosa, 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 has 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 multi- disciplinary decontamination group is established and is scheduled to meet quarterly although not all meetings took place because of increased workload of members. The Trust commissioned a review of decontamination processes and governance by Merseyside Internal Audit Agency. The results and report were used to develop a forward plan to address issues raised.

Summary

This has been a challenging year for the infection prevention team because of the demands related to the COVID-19 pandemic. However, despite this most of the objectives in last year's forward plan have been met.

In order to continue to maintain progress and reduce the risks of HCAI a forward plan for 2022/2023 will be developed and progress against this plan will be monitored throughout the year by the Infection Prevention Committee.