

Board of Directors (in public)

Item 2.4

Subject: DIPC Report Q2
Date of Meeting: 29th November 2023
Presented by: Dr Raphael Perry – Medical Director/DIPC
Purpose of Report: To Note

BAF Reference	Impact on BAF
BAF 1	Assurance in respect of infection prevention and control measures.

Level of assurance (please tick one) <i>To be used when the content of the report provides evidence of assurance</i>					
<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 paper provides information and an update on infection prevention and control issues for quarter 2 of this financial year, 1st July until 30th September 2023. Previous reports have covered the period up to the end of June 2023.

This paper provides assurances that surveillance systems, audit and governance programmes are in place to monitor and prevent healthcare associated infections. A number of audits have been performed across the Trust which has identified some issues which have been fed back to the relevant managers to address.

Working groups are in place to monitor and improve specific issues related to the prevention or management of infection including cleanliness, sepsis management, antimicrobial stewardship and surgical site infections.

The Board of Directors if asked to note the report.

2. Background

High standards of infection prevention and control are essential to ensure that people who use health care services receive safe and effective care. The *Health and Social care Act 2008: Code of Practice on the prevention and control of infections* identifies that good organisational processes and a robust assurance framework are essential to ensure effective infection prevention.

In order to demonstrate that infection prevention is integrated into the assurance framework one recommendation is that the Board of Directors receives regular updates from the infection prevention and control team, including information on alert organisms, outbreaks, cleanliness standards and audit information. This report provides such an update.

3. Issues

3.1 Surveillance - bacteraemias

There is a requirement that bacteraemias (blood stream infections) caused by certain bacteria and also Clostridium difficile infections are monitored and reported to UKHSA (UK Health and Security Agency) on a monthly basis. In addition to this, the infection prevention team continuously monitor other antibiotic resistant organisms or organisms of concern.

Mandatory Reporting – Bacteraemias (Blood cultures)

	Attributable cases July – September 2023 (Year to Date-Trust attributable)	Threshold
MRSA bacteraemias	0 (0)	0
MSSA bacteraemias	2 (4) CCA and Cedar	7 (internal)
E coli	1 (1) CCA	6
Klebsiella sp.	1 (2) CCA	1
Pseudomonas aeruginosa	0 (1)	1

Post infection reviews have been undertaken for all these patients, in conjunction with Cedar and Critical Care and any issues and actions required have been identified. (See below for summary)

The relevant divisional governance meetings discuss these patient reviews and oversee any associated action plans that have been developed.

Month	Bacteraemia	Summary	Learning Points
July	MSSA	The patient was on Critical Care and the probable source of the bacteraemia was identified as a central line.	Issues with documentation regarding monitoring of lines were identified. Education was provided to staff.
July	Klebsiella pneumoniae	The patient was on Critical Care and had to be ventilated because of respiratory distress. The cause of the bacteraemia was likely to be pneumonia.	Learning points were identified relating to changes of ventilator tubing and extubation of patients. The process has been reviewed and feedback provided to staff.
August	E coli	The probable source of the bacteraemia was identified as a hospital acquired pneumonia.	No learning points were identified
September	MSSA	The patient had had complex cardiac surgery and a prolonged stay in hospital due to multiple complications. The probable source of the bacteraemia was a surgical site infection that occurred 4-5 weeks after surgery.	All aspects of the SSI prevention bundle appear to have been followed. Learning points related to the review of microbiology results and subsequent actions were identified. The process has been reviewed and improved.

3.2 Clostridium difficile Infection

	Attributable cases July – September 2023 (Year to Date)	Threshold for 23/24
Clostridium difficile infection (C. difficile toxin positive)	0 (2)	2

There were no C difficile toxin positive patients identified this quarter.

3.3 CPE cases

There was only 1 new patient with CPE attributable to the Trust within this time period. This was a screening sample and no connections to other patients could be identified.

3.4 MRSA cases (all isolates)

Although a number of patients were identified as MRSA positive in this time period only 1 was potentially Trust acquired and all the other patients were identified as positive prior to, or on admission.

3.5 VRE

There have been 15 patients who tested positive for VRE in this time period only 2 were designated as Trust acquired (colonised only), there was no contact between the patients.

3.6 SARS CoV-2

A number of patients tested positive for SARS coV2 in this period and the breakdown is given below. The testing programme has significantly reduce and patients are only tested now if they develop symptoms of respiratory viral infection. These cases were reported to the national system.

COVID 19 Patients July – Sept 2023	Numbers of Patients
Community-Onset – First positive specimen date <=2 days after admission to trust.	9
Hospital-Onset Indeterminate Healthcare-Associated – First positive specimen date 3-7 days after admission to trust.	6
Hospital-Onset Probable Healthcare-Associated - First positive specimen date 8-14 days after admission to trust.	7
Hospital-Onset Definite Healthcare-Associated – First positive specimen date 15 or more days after admission to trust.	3

All patients were isolated in accordance with guidelines.

3.7 Influenza

1 patient tested positive for influenza, this was a community acquisition.

3.8 Outbreaks

No outbreaks were recorded within this period

4. Audit programme

An annual audit programme has been developed and a number of audits completed to provide assurance of compliance with national infection prevention and control standards. These audits have been carried out by Infection prevention nurses, matrons and ward staff.

These include:

- Critical care screening programme
- Isolation
- Hand Hygiene
- Peripheral Line care
- Urinary catheter care

An infection prevention and control audit has also been performed for each ward, covering standards such as; linen handling, sharps disposal, waste disposal and decontamination of equipment (Audit scores ranged from 93%- 99%)

Compliance was generally good overall although some areas for improvement have been identified and results and action plans have been feedback to wards and relevant areas and through the Infection Prevention committee.

5. Cleanliness

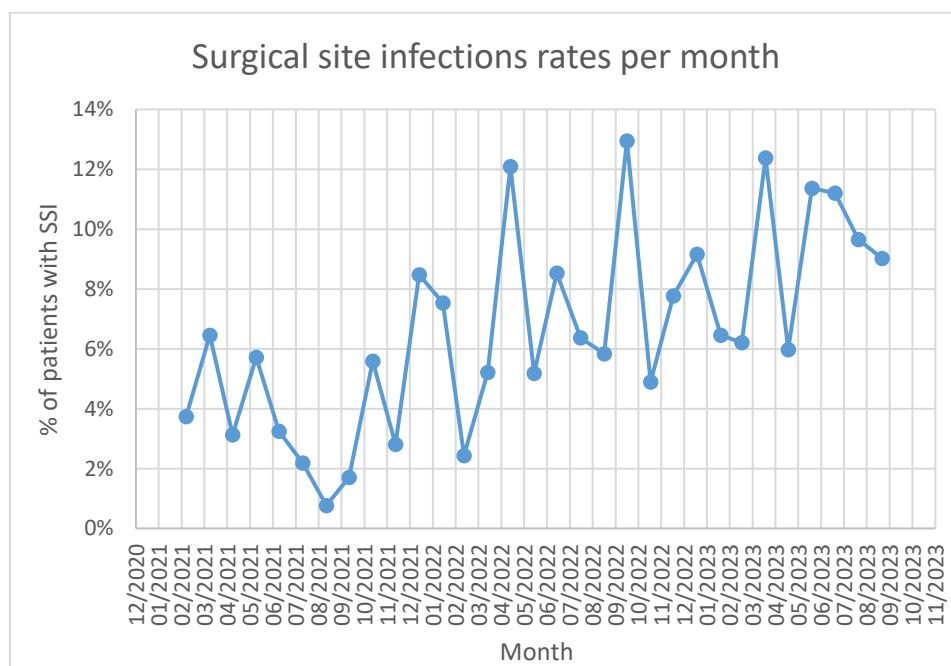
A new audit tool and programme to monitor cleanliness across the Trust has been developed in line with the National Standards for Cleanliness. A multi-disciplinary group including infection prevention nurses, matrons and Hygiene service supervisors have performed the audits ensuring a collaborative and standardised approach to monitoring cleanliness.

All clinical wards have participated on a monthly basis in the audit process and the scores over this time period have ranged from 93%-100%.

6. Surgical Site Infection (SSI)

The SSI group meets regularly and has a wide ranging action plan to improve SSI although the rates are not yet seen to be declining. Data is presented to the Infection Prevention Committee and the Surgical Governance Committee.

Further in-depth analysis examining contributory factors that may influence the rates has been requested and is now underway. Additional audits are being undertaken in the theatre department.



Benchmarking with other cardiac centres is being undertaken and a visit from Royal Papworth hospital Infection Prevention Team and the Director of Infection Prevention took place in September. Feedback from this visit has been presented to the Infection Prevention Committee.

7. Antimicrobial Stewardship

Antibiotic compliance audits have been performed and data collection for the CQUIN target for intravenous to oral switch continues. Issues related to compliance with the Trust formulary and correct documentation for antibiotic indications have been identified and an action plan to address this has been agreed by the Antimicrobial Stewardship group.

8. Sepsis

The Trust screens patients for risk of sepsis using the MEWS scoring system (in ward areas) and change in SOFA scoring on critical care.

In ward areas if a patient triggers a MEWS of 3 or more on 2 consecutive occasions, or a MEWS of 5 or more on a single occasion, the patient is required to be screened for sepsis by the clinical team. In the critical care area, a rise in SOFA score, 2 or more above baseline triggers the requirement for the patient to be screened for sepsis. If there is clinical suspicion, then treatment is initiated.

To aid clinical teams to achieve this in a timely manner there is a sepsis screening document as well as a sepsis treatment bundle that includes the investigations and initial antibiotic choices to help ensure prompt treatment. The sepsis screening tool has also been imbedded within multiple documents in EPR to highlight when a patient hits a trigger to help ensure prompt review and treatment where a risk is identified.

All new starting medical and nursing staff are required to undergo a teaching session as part of their induction on the identification, screening and prompt treatment of sepsis and how this is done using our EPR. There is a sepsis learning module on the trust intranet which forms part of staff mandatory training.

There are 3 performance indicators that are monitored weekly. Compliance levels for this quarter are given below.

	Compliance July – Sept 23
Blood cultures taken prior to antibiotics.	97.6 % (target - 90%)
Antibiotics within 1hr of a screen that identifies a possible high risk of sepsis.	96.4% (target - 95%)
Antibiotics within 3hrs of a possible high risk of sepsis	100% (target – 95%)

Data is presented weekly as part of the weekly harm report and reviewed monthly by the Trust sepsis lead.

Individual cases where targets aren't met are reviewed with learning fed back to departments / individuals involved. This also allows monitoring to ensure that possible trends of system failure are identified and addressed.

A sepsis group meets quarterly to monitor compliance, identify areas of challenge, and aims to continually improve all aspects of sepsis management and care.

The trust sepsis lead submits an annual sepsis report to the Trust governance meetings and has developed an action plan to improve sepsis management (see Appendix 1).

9. Summary

The surveillance of infections and routine audit data continue to be monitored and work is on-going to ensure the infection prevention quality and safety plan is fulfilled and a robust audit programme is in place.

A number of working groups have been established to oversee issues related to the prevention or management of infection including the Cleaning Group, Sepsis Group, Antimicrobial stewardship Group and Surgical Site infection Group. Each of these have their own audit schedule and action plans.

10. Recommendations

The Board of Directors is asked to note the contents of this report, the ongoing work and the continued low incidence of reportable infections.

Appendix 1 – Sepsis management action plan progress

Action	Action Required	Timeframe for completion	Progress update			
			Qtr1 (Apr-Jun)	Qtr2 (Jul -Sep)	Qtr. 3 (Oct -Dec)	Qtr. 4 (Jan-Mar)
1	Continued drive to improve education and training of staff to ensure high rates of compliance and thus continue to meet KPI's	Ongoing	See Sepsis Annual report 2022/23	Detailed in this paper		
2	Continued education and training in the importance of blood cultures prior to antibiotics	Ongoing	As above	Detailed in this paper		
3	Report back on Improved EPR link between MEWS / SOFA trigger and the clinician being informed to speed up patient review to ensure timely patient treatment	Jul-24	As above			
4	Improved data acquisition, provision and validation (once data storage has transitioned to the new warehouse) with the assistance of Sophie Barwise.	Sep-23	As above	Update Q3		
5	Review and amend the trust sepsis policy pending the release of the latest NICE guidelines	Nov-23	As above	Update in Q3		