

Board of Directors (In public)

Item 2.5

Subject: Director of Infection Prevention and Control (DIPC)
Quarterly Report

Date of Meeting: 30th July 2019

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Presented by: Dr Raphael Perry

Reason for Report: To Note

BAF Ref	Impact on BAF
1.1,1.2	None

1. Executive Summary

- This paper provides information and an update on infection prevention and control issues for the time period 1st April– 30th June 2019. Previous reports have covered the period up to March 2019.
- This paper provides assurances that surveillance systems and audit programmes are in place to monitor and prevent healthcare associated infections. A number of audits have been performed across the Trust which identified some issues which have been fed back to the relevant managers to address.

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

3.1.1 Mandatory reporting of Bacteraemias and C Difficile infections

There is a requirement that bacteraemias (blood stream infections) caused by certain bacteria and also Clostridium difficile infections are monitored and reported to Public Health England on a monthly basis. These cases are also reported to the Clinical Commissioning Group monthly.

		April 19 – June19 (Year to Date)	Target
1.	Trust attributable MRSA (Methicillin Resistant Staphylococcus aureus) bacteraemias	0 (0)	0
2.	Trust attributable MSSA (Methicillin Sensitive Staphylococcus aureus) bacteraemias	6 (6)	Internal target 7
3.	Trust attributable E coli bacteraemias	0 (0)	Internal Target for the total of all Gram negative bacteraemias 9
4.	Trust attributable Klebsiella species bacteraemias	3 (3)	
5.	Trust attributable Pseudomonas aeruginosa bacteraemias	0 (0)	
6.	Trust attributable Clostridium Difficile infection	3 (3)	≤ 4

Patient Reviews for Bacteraemias

Patient reviews have been performed for all reportable bacteraemias to try to identify the initial source of infection and assess if there are any learning points or areas for improvement. A summary is provided in appendix 1.

The patient reviews with associated action plans have been submitted to the relevant divisions for discussion and for follow up of any actions noted.

Clostridium difficile

A multi -disciplinary meeting was convened to discuss the three patients in May who developed C difficile infections as investigation determined that the cases were connected and transmission had occurred in the Trust. Patient reviews were completed and an action plan developed to address the issues identified.

3.1.2 MRSA – all cases (Non- bloodstream)

Cases of MRSA in the Trust are closely monitored to identify any increased incidence or outbreaks. This includes all patients and all isolates, including colonised and infected patients.

Twenty eight patients were MRSA positive in this time period all of these were already known to be positive or MRSA was isolated from the admission screen i.e. there were no Trust acquired cases. All were probably colonised patients; positive samples were screening swabs or sputum samples.

3.1.3 Carbapenemase Producing Enterobacteriaceae (CPE)

Four new cases were identified only one of these was designated as Trust attributable (colonised only).

3.1.4 Vancomycin Resistant enterococcus (VRE)

Forty patients were identified as having VRE positive isolates in this time period. The majority of these positive samples were from rectal swabs. However 1 patient had a positive urine sample and another a positive blood culture.

Nine of the patients were designated as not Trust acquired i.e. screened positive on admission.

Nine patients had not had a screen for VRE prior to the positive sample therefore unknown whether this was Trust acquired

Nine patients had had a negative screen (s) prior to the positive one therefore probably acquired VRE whilst an inpatient at this Trust.

The majority of the new isolates were from patients on the Critical Care Unit. However this is the only area that routinely tests for colonisation with VRE as part of a weekly screening regime. Therefore it is not always possible to identify where and when the patients acquired VRE.

3.4 Audits

3.4.1 Hand Hygiene

Clinical areas carry out weekly observational audits of hand hygiene in their area, with one audit in a peer review ward each month. Some areas have not submitted all the peer audits, but this has been raised with the relevant managers and the results have been forwarded to the Heads of Nursing so they can monitor that the audits are performed according to the schedule.

	April	May	June
Results of Compliance Audits	100%	100%	100%
No. of Observations	642	523	555

Although audits performed by the wards show good compliance audits separately performed by the infection prevention nurse showed that not all staff were compliant with the hand hygiene and “bare below the elbows” policy, this has been fed back to individual staff members, ward managers and the Infection Prevention Committee.

3.5 Cleanliness

3.5.1 Environmental Cleanliness

A standard monitoring tool is used by the Hygiene supervisors to assess environmental cleanliness. The target is an overall Trust score of 95%, with an individual score for clinical areas of 95% or above.

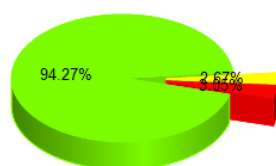
All clinical areas scored above the target score within this time period.

	April	May	June
Results of Compliance Audits	96%	96%	96%

3.5.2 Monitoring of Equipment cleanliness

The Clean Trace system helps to assess standards of hygiene and cleaning processes by using a swabbing system to monitor levels of contamination at the point of use. All wards are expected to complete an audit monthly to monitor cleanliness of equipment and patient items.

Pass Caution Fail



Measurements: 262. Pass 247. Caution:7 Fail: 8

All equipment that failed was cleaned at the time and results fed back to individual ward managers and Matrons.

4. Audits

Audits have been performed by the infection prevention nurses

1) Isolation facilities

All patients were isolated appropriately and facilities were adequate

2) CPE screening

There was a slight increase in the number of eligible patients screened for CPE compared to the previous audit. Results and issues have been feedback to the appropriate managers

3) MRSA screening

There was a decrease in compliance compared to previous audits. In some cases this was due to specimens being discarded by the lab because of issues with the request forms.

4) Decolonisation prior to cardiac surgery

There has been an increase in compliance compared to the previous audit. Reasons for non-compliance were that the patients did not attend a pre-op clinic prior to admission or that they were emergency patients transferred from other Trusts. Work is on-going to address some of these issues

5. Sepsis

There has been an improvement in the management of sepsis with the principal KPIs either achieved or significantly improved. Usage of the screening tool and the sepsis bundle has more than doubled in the last year. The annual sepsis report was presented to the Quality Committee in July 2019.

The lead for sepsis Dr Al-Rawi continues to lead the sepsis group to ensure continuous improvement of the care of patients with sepsis at LHCH. The group comprises Dr Al-Rawi, Dr Nistal de Paz, (consultant microbiologist), the infection prevention nurses, the sepsis audit analyst, outreach nurses, EPR representation and ITU staff

The objectives have been clarified and simplified using MEWS scoring. MEWS ≥ 5 and suspicion of infection do not need screening and should be treated within one hour preferably using the sepsis bundle. Two consecutive MEWS ≥ 3 and suspicion of infection need the screening tool completing and if high risk treated within one hour. There is a national drive to use NEWS2 scoring rather than MEWS however the sepsis group and the infection prevention committee consider that this is not the best tool for our specific patient population. Discussions with commissioners have led to LHCH continuing to use MEWS with NEWS2 being monitored and applied to transfer patients.

There is a plan for optimisation of EPR workflow. This includes making the collection of blood culture timing to be a mandatory field; pop up reminders for the screening tool when trying to prescribe sepsis antibiotics off bundle; a tick box for MEWS greater than 5 to eliminate the need for the screening tool; automatically open the sepsis bundle on completion of high risk screening.

The drive now is to use the screening tool and ensure all KPIs can be measured via EPR. The mortality from sepsis remains low.

There is a continued education program. To deliver teaching sessions for junior doctors outreach and hospital coordinators. Trust wide reminders through screen savers and desktop backgrounds continue. There is a new sepsis eLearning package which is included in mandatory training for clinical staff.

7. Summary

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

8. Recommendations

The Board is asked to note the contents of this report and request further updates on progress against the annual plan and outstanding action plans.

Appendix 1

	Month: April	Bacteraemia: MSSA	Ward: CCA
Summary	Admitted as an emergency from another Trust. Had CABG surgery 2 days after admission. Prophylactic antibiotics given 9 days after surgery sternal wound appeared red, sloughy, had dehisced superficially. Also treated for chest infection. 10 days after admission sepsis screen done. Blood cultures taken, positive for MSSA,. Sternal wound and donor leg wound also positive for MSSA.		
Probable Source	Surgical Site Infection		
Learning Points	Patient did not receive Octenisan pre-operatively. Screens not completed correctly.		

	Month: April	Bacteraemia: Gram Negative (Klebsiella)	Ward: CCA
Summary	Patient admitted as an emergency for PPCI, following out of hospital cardiac arrest. Sepsis suspected 3 days after admission, blood cultures taken and started on antibiotic therapy.		
Probable Source	Ischaemic Bowel following cardiac arrest leading to translocation of gut bacteria		
Learning Points	Probably unavoidable infection		

	Month: April	Bacteraemia: Gram Negative (Klebsiella)	Ward: CCA
Summary	Elective admission for angiogram and then in patient stay whilst awaiting CABG. Had CABG and then later developed rising lactate, abdominal pain and distension.6 days after surgery showed signs of sepsis, blood cultures taken, positive for Klebsiella pneumonia.		
Probable Source	Intra-abdominal sepsis		
Learning Points			

	Month: May	Bacteraemia: Gram Negative (Klebsiella)	Ward: CCA
Summary	Patient admitted as an emergency ACS transfer had angiography and then an inpatient stay whilst awaiting CABG surgery. 2 days post surgery developed rising lactate levels and abdominal pain. Emergency laparotomy performed but no abnormalities detected. Blood cultures negative. 7 days post op triggered sepsis bundle, blood cultures taken (positive for Klebsiella variicola)		
Probable Source	Unknown		
Learning Points	Bowel charts not completed		

	Month: June	Bacteraemia: MSSA	Ward: CCA
Summary	Patient admitted from another Trust following diagnosis of endocarditis. Patient already on IV antibiotics (Gentamicin, Vancomycin, Rifampicin), these were continued at LHCH. Operation postponed following discussion at MDT in order to continue antibiotic therapy. Patient spiking temperatures 12 days after admission, blood cultures taken, positive for MSSA despite treatment.		
Probable Source	Endocarditis		
Learning Points	Screens taken on admission but did not appear in lab system. Issues with PICC line documentation and monitoring		

	Month: June	Bacteraemia: MSSA	Ward: CCU
Summary	Patient admitted for PPCI then transferred to CCU. Had a number of PVC (peripheral venous cannula) inserted. 9 days after admission one of the PVCs noted to be red and painful at the site (VIP 2) therefore removed. The next day showed signs of sepsis, blood cultures taken, commenced on antibiotics. Blood cultures positive for MSSA		
Probable Source	Peripheral venous cannula infection		
Learning Points	Documentation related to PVC not completed and difficult to follow. Insertion not documented correctly. Recording and care of post removal sites not clear		

	Month: June	Bacteraemia: MSSA	Ward: CCA
Summary	Admitted as PPCI. Sedated and ventilated, transferred from Cath lab to POCCU. Agitated and delirious. 6 days after admission remained sedated and ventilated and noted to be developing lung injury. Commenced on empirical antibiotics for chest infection. Next day, signs of sepsis, blood cultures taken, positive for MSSA. Tracheal aspirate and sputum samples also positive		
Probable Source	Pneumonia		
Learning Points	Sepsis screening tool not used		

	Month: June	Bacteraemia: MSSA	Ward: Oak
Summary	Admitted electively for left lung and chest wall resection. 3 days post surgery developed signs of sepsis. Blood cultures taken, commenced on antibiotics. Pneumonia diagnosed. Bronchial lavage also positive for MSSA		
Probable Source	Pneumonia		
Learning Points	Documentation related to PVCs not always completed		

	Month: June	Bacteraemia: MSSA	Ward: Elm
Summary	Transferred from other Trust with severe aortic stenosis for assessment for AVR. 2 days after admission MEWS 5, sepsis screening tool done, blood cultures taken. Cardiac arrest, transferred to ITU. Only 1 blood culture bottle positive for MSSA, others negative.		
Probable Source	Possibly not true bacteraemia but contamination of the bottle by staff		
Learning Points	To review how staff take blood cultures.		