

Item 3.4

**Infection Prevention and Control  
Annual Report 2014/15**

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## Background

The prevention and control of healthcare associated infections (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 to make this available to the public.

This report details the infection prevention and control arrangements and discusses the achievements that have been made in reducing healthcare associated infections (HCAIs) during the financial year 2014/2015. It also sets out a forward plan for the year 2015/2016

## Infection Prevention and control Arrangements

### Infection Prevention Team (IPT)

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

There are 2 specialist nurses currently in post (total 1.8wte):  
Nicola Best (0.8wte) and Lynn Trayer –Dowell (1wte).

Dr Carlos Nistal de Paz is the Consultant Microbiologist/Infection Prevention Doctor for the Trust .

There is the provision for some administrative support (0.3 wte)

An antibiotic pharmacist (Madelaine Whelan) works part time with the infection prevention team

### Infection Prevention Committee

The Infection Prevention Committee (IPC) meets quarterly and is chaired by the DIPC. Membership is multi-disciplinary and includes the governance manager, senior clinicians and nursing staff and representatives from different clinical areas. There are 3 sub-groups of the committee : Water safety, Antibiotic prescribing and Decontamination. The reporting arrangements and inter-related membership is detailed in appendix 3.

A separate report on the committee and its effectiveness against its terms of reference has been compiled and is included in appendix 2.

### Infection Prevention Link Staff

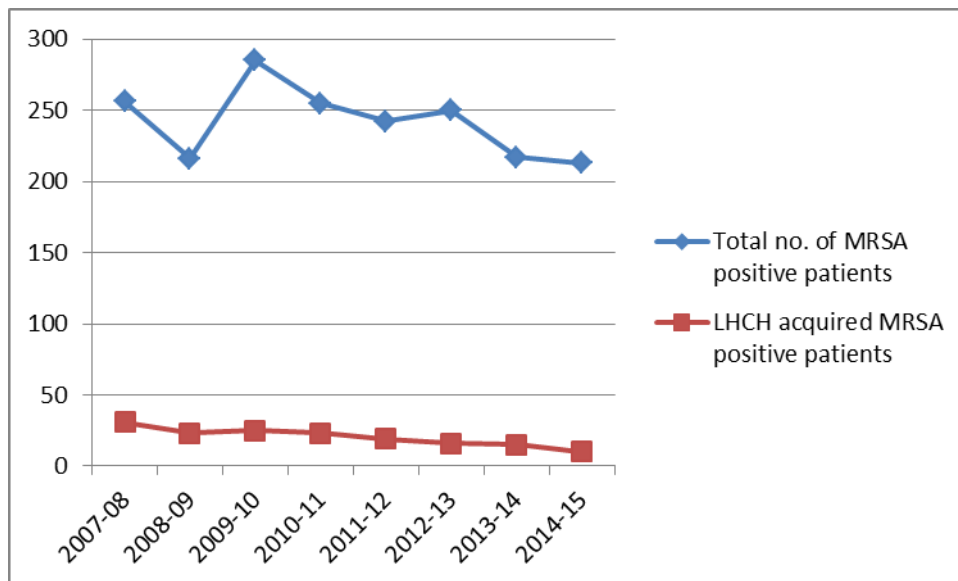
Every ward has nominated nursing staff who act as infection prevention 'links' for their clinical area. Meetings are held every other month.

## Surveillance

A surveillance software system is used by the IPT to monitor and record information on all patients colonised, or infected with, specific organisms. Statistical process charts are then generated monthly and used by the Infection Prevention Committee to monitor performance and trends with regard to HCAIs. Surveillance data is also collected in relation to specific procedures or devices to assess related infection rates.

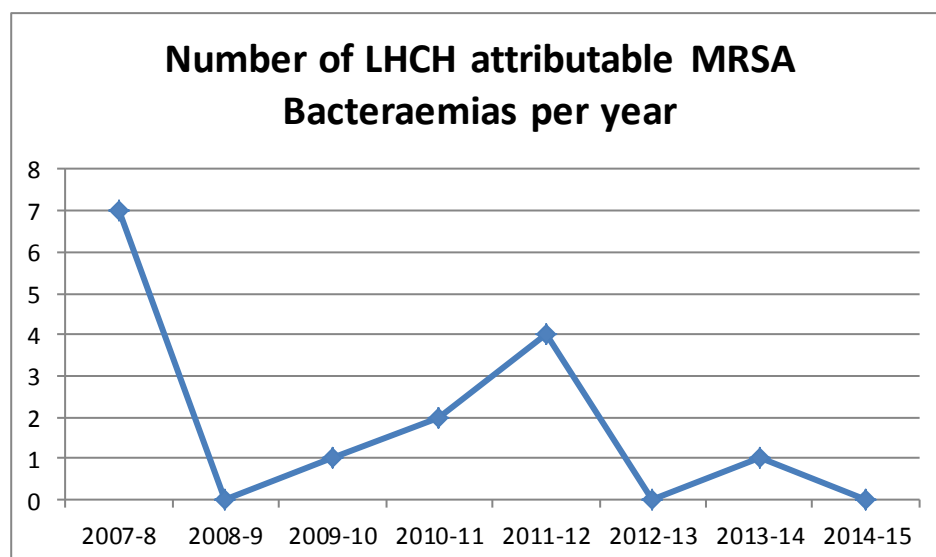
## Methicillin Resistant Staphylococcus Aureus (MRSA) -All cases

The total number of patients with MRSA has not altered significantly, this includes patients both infected, and colonised with MRSA. However review of all patients indicate that the majority of patients are admitted with MRSA i.e. they do not acquire it while an inpatient at LHCH. The overall number of patients acquiring MRSA in the Trust is very low (10 cases) and has again fallen slightly this year.



## MRSA Bacteraemias

There was 1 patient identified with an MRSA bacteraemia. However a post infection review, in accordance with regional guidelines, was performed in conjunction with Liverpool Community Health and Liverpool CCG and it was agreed that this case was not attributable to this Trust.



## Methicillin sensitive Staphylococcus aureus (MSSA) Bacteraemias

There has been an increase in the number of Trust acquired MSSA bacteraemias. All were reported to the HCAI surveillance scheme in line with mandatory requirements. Reviews indicate that the increase has been due to chest infections and wound infections post-surgery. Audits have been undertaken to monitor aspects of the surgical site infection care bundle and these have identified some areas for improvement and work is ongoing to improve the results

and perform further audits.

	2011-12	2012-13	2013-14	2014-15
Number of LHCH acquired cases per year	6	1	8	11

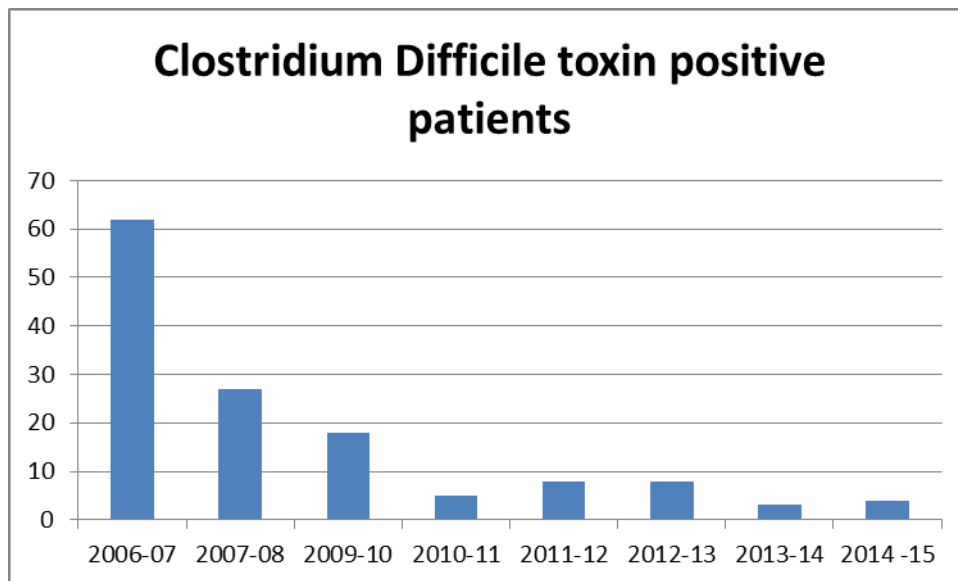
### **E. coli Bacteraemias**

All cases of E. coli bacteraemias have been reported to the HCAI surveillance scheme in line with mandatory requirements. Work is ongoing to reduce the number.

	2011-12	2012-13	2013-14	2014-15
Number of LHCH acquired cases per year	8	8	7	7

### **Clostridium Difficile**

The number of Trust acquired cases of C difficile infection remains low (4 cases). Reviews were carried out for all patients with C. difficile infection and for 3 of the cases it was concluded that no lapse in care associated with the infection could be identified. As part of the new regional review process these cases were discussed at a multi-disciplinary appeal panel. The panel agreed with the conclusions of the Trust reviews and the appeals were upheld. All cases were reported to the national surveillance scheme in line with mandatory reporting schedules.



### **Norovirus**

Although a number of individual patients within the Trust were diagnosed with Norovirus, these were likely to be community acquired and there were no cross infection issues identified. No outbreaks occurred and no bed days were lost due to closure of any areas.

### **Influenza**

A number of inpatients were identified with influenza (community acquired). No evidence of transmission was identified.

## Carbapenemase Producing Enterobacteriaceae

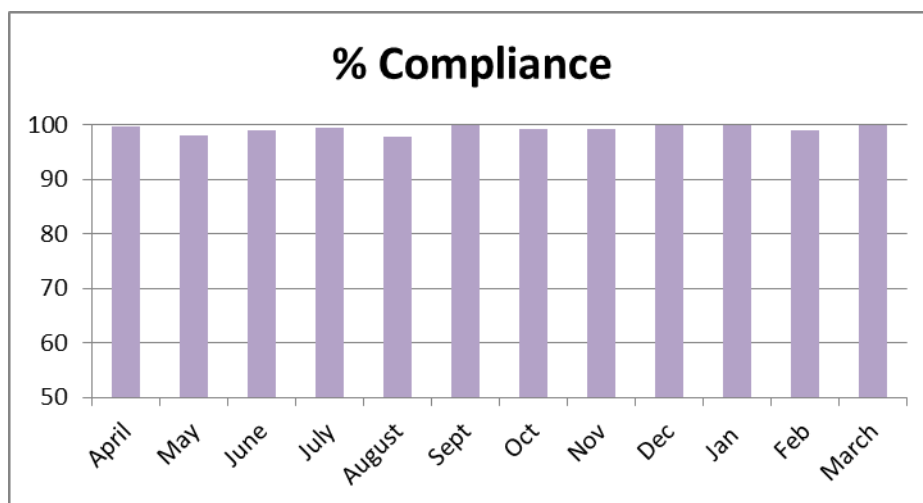
5 patients were identified in this time period with confirmed CPE. However reviews indicated that they were all definitely or very probably colonised prior to transfer to the Trust and there was no evidence of spread across the Trust.

A policy and patient information leaflets have been developed and a screening policy introduced. This has been audited by the infection prevention nurses and results fed back to individual areas.

## Audit Activity

### Hand Hygiene

Clinical areas perform and submit weekly hand hygiene audits to the clinical audit department. Areas should submit 3 audits for their own area each month and one for their peer review ward. Compliance levels by month are given below.



### Antibiotic Prescribing

In order to improve antimicrobial stewardship an antimicrobial prescribing group has been set up consisting of the antibiotic pharmacist, senior clinicians and the infection prevention team. Audits of antibiotic prescribing are performed by the pharmacist and microbiologist and reviewed by this group and the Drugs and Therapeutic Committee..

Audits include:

Surgical Prophylaxis  
Prophylaxis for MRSA positive patients  
Antibiotic prevalence and compliance with policy  
Use of broad spectrum antibiotics

### Other audits

A number of other audits have been performed throughout the year. Results and actions/recommendations have presented to the IPC and also given to individual areas where relevant. The audits include:

- MRSA and S. aureus screening- performed by IPNs
- MRSA care pathway- performed by IPNs
- Waste management in clinical areas – performed by IPNs with link staff
- Sharps disposal– performed by IPNs with link staff

- Decontamination of equipment in clinical areas – performed by IPNs with link staff
- Linen handling– performed by IPNs with link staff
- Kitchens– performed by IPNs with link staff
- Endoscope practices –performed by theatre staff
- Compliance with Legionella control and water safety – performed by independent contractors on behalf of the estates department
- Central line insertion and care performed by theatre and critical care staff
- Hand gel availability – performed by IPNs
- Pre-op preparation –performed by IPNs
- Screening for CPE- performed by IPNs

## 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 team -Frequency and Times
Nurse preceptorship programme plus practical	4 hours 1x per year
HCA pathway	1 hour 5 x per year
Volunteer induction	20 minutes 5 x per year
Access to medicine	20 minutes 3x per year
Anaesthetist induction	15 minutes 3 x per year
Induction	Market place education session 2 ½ hours per month
Mandatory Training	Staff complete workbook which has been written and reviewed by the IPT Face to face sessions 3x per year
Fit testing for respirator masks	2 hours , 4x per year
Aseptic Non touch technique	2 hours 3 x per year

## Environmental Hygiene

### Monitoring scores

Monitoring of environmental cleanliness is performed by the domestic staff monthly and results are fed back to IPC.

Results are generally very good (usually exceeding the stated target of 95%) with any identified problems rectified immediately.

### PLACE assessment

The PLACE (Patient Led Assessment of the Care Environment) inspection was performed in May 2014. A multi-disciplinary team consisting of patients/volunteers and members of staff, including the infection prevention nurse, assessed the hospital environment according to criteria laid out by the NHS commissioning board. The results were good with the Trust performing above the national average in all areas.

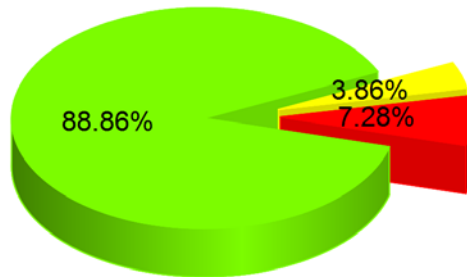
### Clean Trace System

The Clean trace system is now being used throughout the Trust. This provides an objective measurement of cleanliness in the clinical area using a swabbing system and is used to monitor equipment cleanliness rather than the general environment. The programme is co-ordinated by the IPNs and performed monthly by the ward staff in conjunction with the IPNs. Results are fed back to ward managers and the relevant assistant director of nursing. Results for all

area/equipment monitored over the year has been compiled below. The programme has shown an overall improvement in cleanliness over time in most areas, but some areas have required additional monitoring due to poor results.

Total Measurements:1814. Pass:1612. Caution:70. Fail:132

Pass Caution Fail



### Wipes

New surface wipes were introduced following a successful trial on the intensive care unit. The aim was to enhance decontamination of equipment by using cleaning wipes with added disinfectant and to simplify the processes by using 1 type of wipe for all equipment and surfaces. This change also delivered a cost saving to the Trust.

### Water Safety

The water safety plan continues to be monitored by the water safety group and the Infection Prevention Committee. The water sampling regimes for Legionella and Pseudomonas aeruginosa continues and actions have been taken if any abnormal results identified. There has been a tap replacement programme on the critical care unit which demonstrated significant improvement in results and also some shower units have been replaced across the Trust. A new electronic monitoring system (COMPASS 2) has been introduced to improve the flushing of outlets and to provide added assurance of water safety measures across the Trust.

The infection prevention nurses have also participated in a research project to assess risks related to Pseudomonas aeruginosa in the water supply within the intensive care unit setting.

### Summary

There has been some progress made within the field of infection prevention and control during 2014/15, however further work is required to improve in some areas.

In order to continue to maintain progress and reduce the risks of HCAI a forward plan for 2015/2016 has been developed (appendix 1) and progress against this plan will be monitored throughout the year by the Infection Prevention Committee.

## Appendix 1 Infection Prevention and Control – Forward Plan 2015-2016 Liverpool Heart and Chest hospital NHS Foundation Trust

		Person(s) Responsible	Target Date
1. Surveillance	<ul style="list-style-type: none"> <li>To continue with continuous alert organism surveillance and generate monthly reports of figures against trajectories</li> <li>To report to mandatory surveillance scheme in accordance with national requirements</li> <li>To monitor bacteraemias caused by MSSA and E.coli</li> <li>To monitor clinical isolates of Pseudomonas aeruginosa</li> </ul>	IPT  IPT  IPT IPT	15 <sup>th</sup> every month  15 <sup>th</sup> every month  15 <sup>th</sup> every month Monthly
2. Surgical Site Infection (SSI)	<ul style="list-style-type: none"> <li>To continue ongoing surveillance project on rates of SSI following coronary artery bypass graft surgery and valve replacement surgery</li> <li>To re- audit standards against NICE quality standard for SSI</li> <li>Development to new protocol and dressings for high risk patients undergoing cardiac surgery</li> </ul>	IPT/ Tissue viability nurses  IPT/Theatre staff/Pharmacist Tissue Viability nurses/IPNs	Quarterly  30 <sup>th</sup> June 2015 31 <sup>st</sup> March 2016
4.Assurance framework	<ul style="list-style-type: none"> <li>To assess the Trust using the HCAI assurance framework and generate monthly reports to the PCT (commissioners)</li> </ul>	IPT	20 <sup>th</sup> of every month
5. Environmental Hygiene	<ul style="list-style-type: none"> <li>To continue system of monitoring environmental cleanliness</li> <li>To continue Clean Trace monitoring programme</li> <li>Explore new decontamination techniques and deep cleaning programme for the Trust</li> </ul>	Support services manager IPT/Ward Managers IPT /Support Service manager	Monthly Monthly  31 <sup>st</sup> December 2015
6. Education and training	<ul style="list-style-type: none"> <li>To provide training for all new staff and annual updates for staff in IP and C according to Trust's Learning Needs Analysis</li> </ul>	IPT	Ongoing
7. Policies	<ul style="list-style-type: none"> <li>To review and update all policies as necessary</li> </ul>	IPT	31 <sup>st</sup> December 2015



8. Theatres	<ul style="list-style-type: none"> <li>To ensure ventilation is monitored 6 monthly in each theatre</li> <li>To carry out planned preventative maintenance and replacement of air handling units as scheduled</li> <li>To complete risk assessment and new protocol for decontamination of perfusion equipment</li> </ul>	Estates Manager	July 2015/March 2016
		Perfusion manager	June 2015
9 Water Safety	<ul style="list-style-type: none"> <li>To continue with the Water Safety plan and continue to monitor and improve compliance with flushing of outlets</li> </ul>	IPT/Estates manager	Ongoing

#### IPandC Audit Framework 2015-2016

Audit	Person(s) Responsible	Schedule	Reporting to
Hand hygiene (1) Observational (2) Facilities and standards	Ward managers	Weekly	Infection Prevention Committee (IPC)
Isolation	IPT	Annually	IPC
Cleanliness (Domestic)	Domestic Supervisors	Monthly	IPC
Decontamination process -endoscopy	Decontamination Lead	6 monthly	Decontamination Steering Group
Waste disposal Sharps disposal Linen handling Decontamination of equipment	IPT/Link staff	6 monthly	IPC
Antimicrobial prescribing	Antimicrobial pharmacist/Microbiologist	As detailed in pharmacy audit programme	Drugs and Therapeutic Committee
MRSA screening	Clinical Audit /IPT	6 monthly	IPC
MRSA pathway	IPT	Annually	IPC
Clostridium difficile policy	IPT	Annually	IPC
Compliance with central line bundle	Theatre staff/Critical care staff	Quarterly	IPC
Peripheral line and urinary catheter care	Ward managers/IPT	To be agreed	IPC
Water safety	Estates manager	6 monthly	IPC and H&S committee
Surgical site infection care bundle	Theatre staff/IPT/Pharmacy	Annually	IPC
CPE screening	IPT	Quarterly	IPC

## Appendix 2

### Subject: Annual Report of Infection Prevention Committee 2014/15

#### 1. Executive Summary

This annual report details progress made against the Terms of Reference for the Infection prevention Committee from April 2014 –March 2015. Each objective described below corresponds to those detailed in the Terms of Reference document (Version 5.1)

#### 2. Delivery of Objectives

ToR Ref	Objective	Evidence to Support Delivery	Outstanding Issues / Action Plan
3.1	To provide strategic direction and planning pertaining to all issues related to infection prevention & control within the Trust.	Annual plan, audit programme, reporting systems.	
3.2	To support the infection prevention team and the ADN's in their activities.	<ul style="list-style-type: none"> <li>• Audits submitted by IPT</li> <li>• Infection Prevention Audits</li> <li>• Hand Hygiene Audits</li> <li>• MRSA screening-performed by IPNs</li> <li>• MRSA care pathway-performed by IPNs</li> <li>• Isolation</li> <li>• Endoscope practices – performed by theatre staff</li> <li>• Compliance with Legionella control and water safety – performed by independent contractors on behalf of the estates department</li> <li>• Theatre audit</li> </ul>	
3.3	To ensure infection prevention and control policies and protocols are developed, implemented, monitored and updated by the appropriate leads within the Trust.	Policies developed and updated and approved at IPC <ul style="list-style-type: none"> <li>• MRSA policy</li> <li>• Diarrhoea &amp; Vomiting policy</li> <li>• ANTT policy</li> </ul>	
3.4	To advise the Trust on the best means for the education and training of hospital staff to ensure successful implementation of policies and protocols and that staff are aware of their roles and responsibilities relation to	<ul style="list-style-type: none"> <li>• Infection Prevention training delivered at all Induction sessions by the IPT.</li> <li>• Nurse preceptorship programme</li> <li>• HCA pathway</li> </ul>	

	infection prevention and control	<ul style="list-style-type: none"> <li>• Volunteer induction</li> <li>• Access to medicine</li> <li>• Anaesthetist induction</li> <li>• Fit testing for respirator masks</li> </ul>	
3.5	To develop and implement an annual programme of work against which progress will be report to the Committee, as per the agreed reporting schedule.	Annual plan attached	
3.6	To produce quarterly DIPC reports and annual infection prevention report, and submit these to Trust Board	Quarterly DIPC reports produced Annual Infection Report presented to Trust Board.	
3.7	To receive regular reports on surveillance, key quality indicators and any serious untoward incidents related to infection prevention and control and ensure that robust delivery plans are in place to address emerging issues.	Surveillance reports produced for each IPC meeting.	
3.8	To co-operate with the other Trust Committees e.g. Health and Safety to ensure that exemplary infection prevention and control practices are applied consistently across the Trust.	Joint membership of Occupational Health Nurse, Governance lead and Senior Nurses at both IPC and Health and Safety Committee	
3.9	To monitor and evaluate infection prevention and control practice and performance at directorate level receiving twice yearly directorate reports on related issues	Audit reports have been produced by the IPT and presented to the IPC Reports from critical care and theatres	New template for directorate reports produced
3.10	To develop the appropriate partnerships with external agencies necessary for improving infection prevention and control practice	Meetings with commissioners and other Trusts	Public Health England representative invited to meetings

### 3. Membership and Attendance

All members are expected to attend 75% of meetings and HPA representatives need only attend 50% of meetings.

It covers the period between May 2014 and March 2015

Membership	May 14	August 14	October 14	January 15	Total as %
Chair: Medical Director/DIPC	✓	✓	✓	✓	100%
Deputy Chair: Deputy Director of Nursing	✓		✓		50%
Infection Prevention Doctor (IPT)		✓			25%
Infection Prevention Nurse Specialists (IPT)	✓	✓	✓	✓	100%
Support Services Manager	✓				25%
Pharmacist	✓		✓	✓	75%
Risk Manager				✓	25%
Matron for Theatre	✓	✓	✓	✓	100%
Assistant Director of Clinical Quality	✓		✓	✓	75%
Estates Manager	✓		✓		50%
Critical Care Unit Manager					0%
Assistant Director of Nursing (Surgery) or matron		✓	✓	✓	75%
Assistant Director of Nursing (Medicine) or matron	✓				25%
Lead clinicians for: Chest Medicine	✓			✓	50%
Cardiac Surgery	✓			✓	50%
Thoracic Surgery				✓	25%
Cardiology			✓		25%

Anaesthesia & Critical Care		✓		✓	50%
Occupational Health Advisor	✓	✓		✓	75%
HPA representative		✓		✓	50%

The attendance of a number of members has not met the required standard. The terms of reference require review to determine if this membership is required and the chair will contact relevant members to reiterate the importance of attendance at these meetings

All meetings have been quorate.

#### **4. Sub Committees**

There are three sub groups that report to the Infection Prevention Committee, Water Safety Group, antibiotic group and Decontamination Steering Group. The Infection Prevention Committee has received some reports and minutes. A more robust schedule for reporting has been developed.

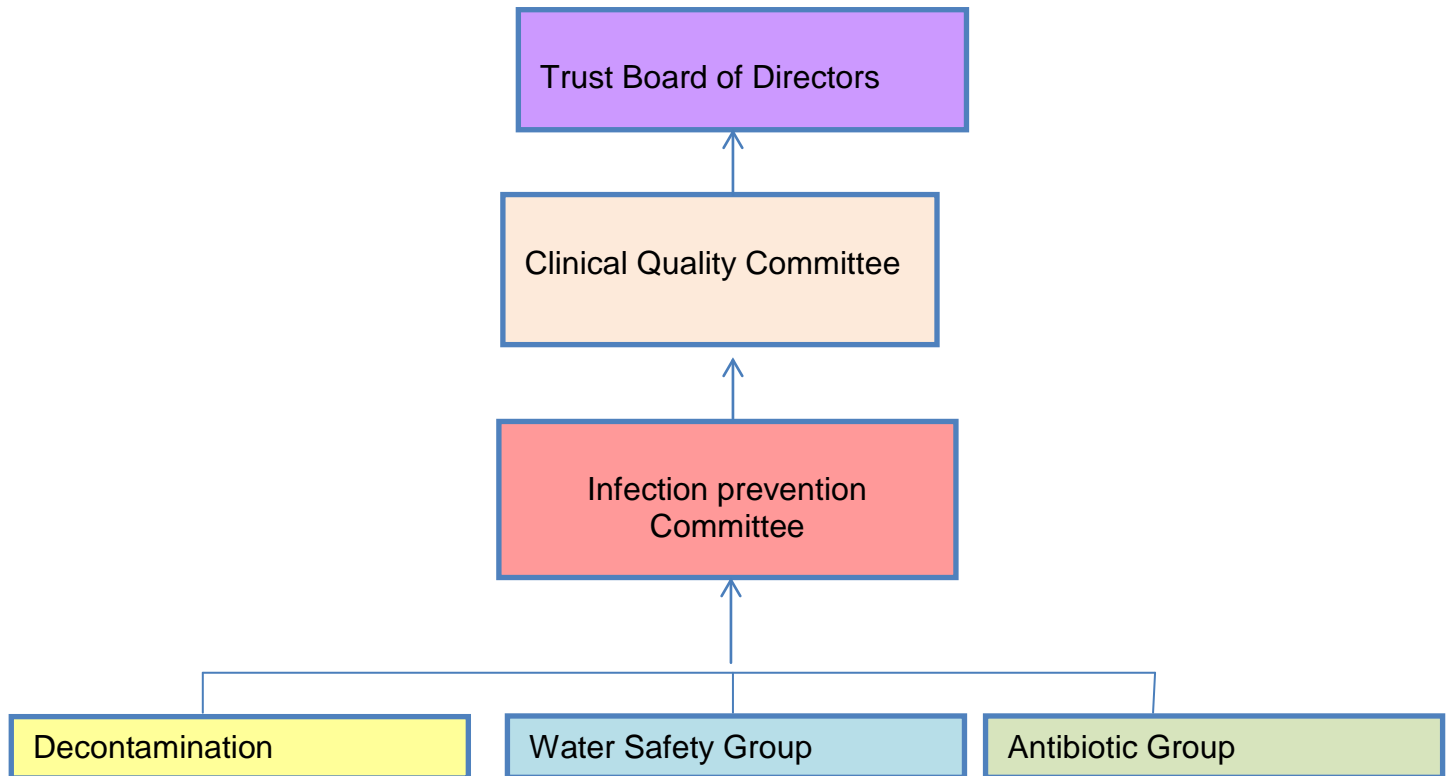
#### **5. Conduct of Meetings**

- Workplan agreed at start of year and meetings / agenda are appropriately scheduled to meet the work plan
- Reports and papers are consistently issued ahead of the meeting, although sometimes not within 5 working days.
- There is a robust action logging process maintained to ensure actions clearly recorded and followed through.
- The Committee has reported to the Board via quarterly IP reports

#### **6. Conclusion**

Overall the committee has met its terms of reference.

Infection Prevention Committee Representation and Reporting Structure



DIPC						
Consultant Microbiologist						
IPN						
Deputy Director Nursing						
Estates manager						
Pharmacist						
Theatre manager						
Critical care manager						
ADNS- surgery						
ADNS -medicine						
Support Service manager						
Risk manager						
Consultant representatives						
Health and safety advisor						