

Meeting:	Brighton and Sussex University Hospitals NHS Trust Board of Directors Meeting
Date:	28th September 2015
Board Sponsor:	Sherree Fagge, Director of Infection Prevention and Control, Chief Nurse
Paper Author:	Valerie Unsworth, Nurse Consultant, Deputy Director Infection Prevention and Control
Subject:	Infection Prevention and Control Update

Executive summary

There has been a consistent year on year reduction in the number of cases of C. difficile and MRSA in the Trust. One of the key priorities for 2015/16 is to have zero avoidable MRSA bloodstream infections and no more than 46 cases of Clostridium difficile acquired in our hospitals. This extremely challenging target is a reflection of our success at reducing these infections within the Trust over recent years.

The weekly Infection Prevention and Control (IPC) meeting reviews all Trust acquired cases to identify lessons learnt and to ensure best practice is disseminated across the hospitals.

This report summarises the incidence of MRSA bacteraemias and C. difficile and the actions which have been and are being taken to reduce the incidence further

Key actions on both MRSA, C. difficile and other infection prevention issues are discussed at the Infection Prevention and Control Action Group (IPAG) weekly meetings and include:

- Working with colleagues to safely manage the infection prevention and control risks associated with buildings works from decant and 3Ts.
- Work with Facilities to ensure infection prevention and control is improved now the service is in-house.
- An audit of documentation of peripheral vascular devices to provide assurance that care is safe and will minimise the risk of the patient developing a bacteraemia.

Links to corporate objectives	Reducing the incidence of MRSA and Clostridium difficile and other health care acquired infections (HCAI) on our wards supports the objectives of excellent outcomes; and great experience
Identified risks and risk management	Not meeting 2015/16 reduction targets; risk of cross infection or outbreak; patient harm

actions	
Resource implications	Potential financial penalties if the national targets are breached
Report history	A bi-monthly report on Infection Prevention and Control is submitted to the Board
Appendices	None

Action required by the Board

The Board is asked to note the incidence of infections monitored both nationally and locally and the priorities of the IPC team over the coming months.

The Board is asked to note the importance of ensuring high standards of cleaning are attained with the transition to in-house cleaning provision.

The Board is asked to note the importance of the safe management of infection prevention and controls risk in the decant and 3Ts development

Report to the Board of Directors, 28th September 2015

Infection Prevention and Control Update

1. Introduction

One of the key priorities for 2015/16 is to have zero avoidable MRSA bloodstream infections and no more than 46 cases of *Clostridium difficile* acquired in our hospitals. This extremely challenging target is a reflection of our success at reducing these infections within the Trust over recent years.

Performance against these deliberately challenging targets is monitored nationally and published on a weekly basis both by BSUH on its public-facing website and by the Department of Health.

The weekly Infection Prevention and Control (IPC) meeting reviews all Trust acquired cases to identify lessons learnt and to ensure best practice is disseminated across the hospitals.

This paper summarises the incidence of MRSA bacteraemias and *C. difficile* and the actions which have been and are being taken to reduce the incidence further

Key actions on both MRSA, *C. difficile* and other infection prevention issues discussed at the Infection Prevention and Control Action Group (IPAG) weekly meetings include:

- Working with colleagues to safely manage the aspergillus and other infection prevention and control risks associated with buildings works from decant and 3Ts.
- Work with Facilities to ensure infection prevention and control is improved now the service is in-house.
- An audit of documentation of peripheral vascular devices to provide assurance that care is safe and will minimise the risk of the patient developing a bacteraemia.

2. Methicillin resistant *Staphylococcus aureus* (MRSA)

The reduction target for 2015/16 (and for 2014/15) is zero avoidable Trust acquired infections. These infections are described as cases where MRSA is isolated from the blood stream (by blood culture) and the infection is allocated to the Trust by the Post Infection review (PIR) process.

The incidence of MRSA blood stream infections attributed to our hospitals is shown in the table below:

Year / Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2009/10	2	3	3	1	0	1	1	0	0	0	3	0	12
2010/11	0	2	1	2	0	0	1	0	0	1	0	0	7

2011/12	1	0	0	0	1	1	0	0	1	0	0	1	5
2012/13	0	0	0	0	0	2	1	0	1	0	1	1	6
2013/14	3	0	0	0	0	0	2	1	0	0	0	0	6
2014/15	0	1*	1	0	0	1*	0	0	0	1	0	0	2
2015/16	0	0	0	1	0	0							1

*contaminated sample, no evidence of infection

Year to date there has been one MRSA blood stream infection acquired in our hospitals. The patient was a very frail 91 year old lady who developed a line related infection. No lapses in care were identified and it is not thought that this infection could be prevented.

All MRSA bacteraemia infections have a Post Infection Review (PIR) and are discussed in depth at the weekly Infection Prevention Action Group (IPAG) meeting. An overarching action plan has been compiled from the actions from each MRSA bacteraemia to address the issue of MRSA bacteraemias at BSUH. This action plan is monitored by the weekly IPAG meeting.

MRSA screening

All patients admitted to BSUH are screened to see if they are colonised with MRSA. Any patients found to be MRSA positive are then given MRSA suppression therapy to reduce their risk of developing an MRSA infection. Screening compliance is audited and reported at the weekly IPC meeting. The results show a sustained increase in compliance which is usually greater than 97%. Further work is planned to audit the uptake of MRSA suppression therapy after a patient is identified as being colonised.

Once screened patient who are found to be colonised with MRSA are given suppression therapy to reduce bacterial load and minimise the risk of developing an infection.

Invasive line documentation

In recent RCAs for MSSA (Methicillin Sensitive *Staphylococcus aureus*) bacteraemias, concerns have been raised about the quality of documentation related to peripheral vascular cannulas (PVC). Regular inspection and documentation of PVCs is vital to ensure that they are removed at the first signs of redness and inflammation. This is known to minimise the risk of the patient developing a blood stream infection, including MRSA. Recently there have been concerns that PVCs are being left in despite there being redness and other signs of inflammation present. The IPC team has recently undertaken an audit to identify if this is a wide scale problem. The audit findings will be feedback at IPAG on 25th September. In addition awareness has been raised with nursing staff and ward managers via the Practice Improvement Meeting and the Nursing Executive Board.

3. *Clostridium difficile*

There has been a consistent year on year reduction in the number of cases of *C. difficile*. BSUH have achieved all the *C. difficile* reduction targets since 2009/10 apart from the 2013/14 reduction target which was to have no more than 34 Trust acquired cases (48 cases).

From 2014/15 NHS England has placed an emphasis on lapses in care. For the first time a case with no lapses in care may not incur financial penalties (at the discretion of the commissioner). They have also placed a focus on ensuring that the published *C. difficile* figures accurately represent the true burden of *C. difficile* within the organisation.

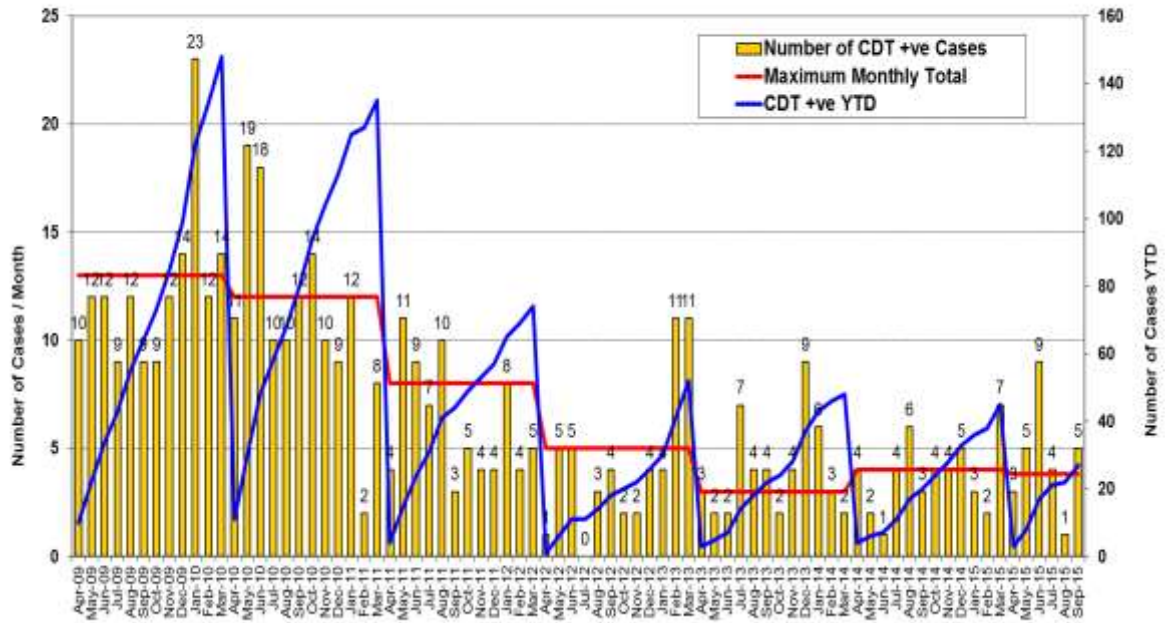
The incidence of *C. difficile* in our hospitals from 2009/10 to 2015/16 YTD is shown in the table below:

Year / Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Totals
2009/10	10	12	12	9	12	9	8	12	14	23	12	14	147
2010/11	11	19	18	10	10	12	14	10	9	12	2	8	135
2011/12	4	11	9	7	10	3	5	4	4	8	4	5	74
2012/13	1	5	5	0	3	4	2	2	4	4	11	11	52
2013/14	3	2	2	7	4	4	2	4	9	6	3	2	48
2014/15	4	2	1	4	6	3	4	4	5	3	2	7	45
2015/16 YTD	3	5	9	4	1	5							27

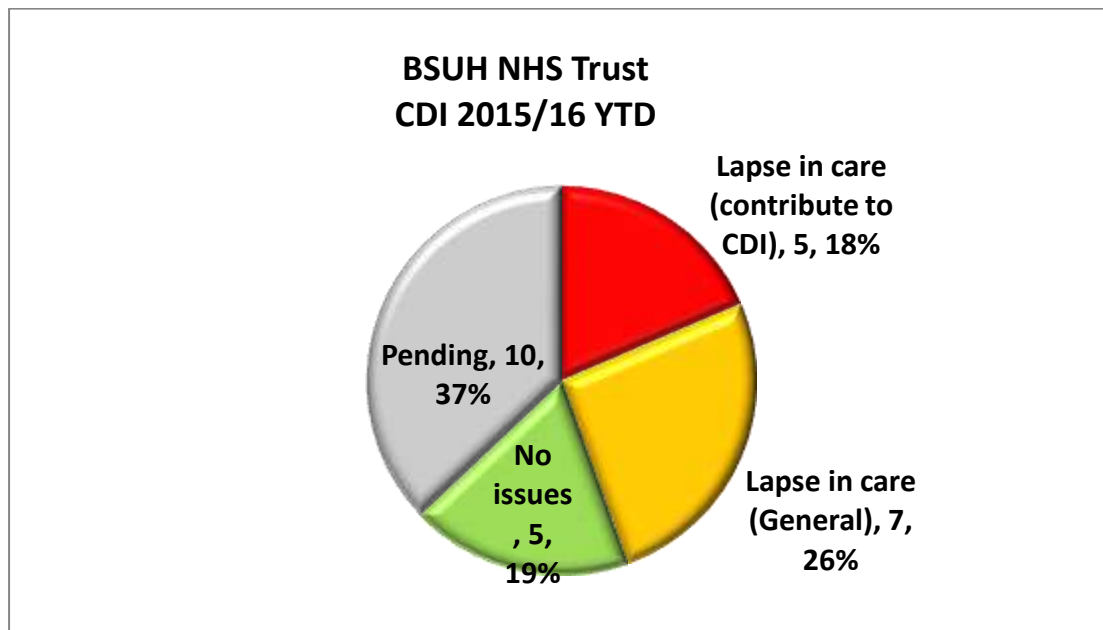
In recent weeks there has been one period of increased incidences (PII). Two patients on Level 8A east developed *C. difficile* within a 28 day period. Samples have been sent for typing to see if they are the same ribotype (results pending). The IPC team have worked with the ward teams to identify any issues or possible contributory factors. More information will be known once the cases have had the RCAs discussed at IPAG.

The RCA process has recently been reviewed to provide more information as a result of a more robust approach from the CCG in reviewing cases for contractual sanctions. In conjunction with this the directorates are encouraged to develop their own CDI action plans based on their RCA findings.

Clostridium difficile toxin positive cases since April 2009



All trust-acquired cases of CDI have a RCA and are discussed at IPAG where they are graded as no lapse in care (green), lapse in care which is thought not to have contributed to the infection (amber) and a lapse in care which is thought to have contributed to the CDI (red). The red cases will attract contractual sanctions; the green and amber cases do not. This criterion has been fully discussed and agreed with Brighton and Hove CCG. Of the 27 cases YTD five are considered red cases (lapses in care which contributed to the infection) and 10 cases are outstanding (have not yet had RCAs or have been feedback to IPAG). See chart below.



4. Environmental cleaning

The IPC team is working with Facilities to ensure significant, sustained improvements in cleaning standards following the transfer of services in-house from 1st September 2015.

5. Mycobacteria chimaera outbreak cardiac surgery

An international outbreak of invasive *M. chimaera* infections has been identified associated with Sorin heater cooler machines used during cardiac bypass during cardiac surgery. Public Health England (PHE) are investigating and there are known to be cases in the UK. Of those cases, a very small number have been treated at BSUH.

Water samples from all four machines have isolated *M. chimaera* and further tests have identified other bacteria including legionella. BSUH are working with PHE and Sorin to ensure that all new recommendations are being followed. Enhanced decontamination has been introduced and the machines have been move further away from the patient during surgery.

6. Aspergillus risk and building works

Aspergillus is a fungus that is present in the environment. It does not cause problem for healthy people but can cause severe, invasive disease (aspergillosis) in immunosuppressed patients with significant associated morbidity and mortality. Hospital acquired cases of invasive aspergillosis are a well-recognised complication of construction, demolition or renovation activities

Works outside of the Jubilee block restarted in December after at-risk patients were identified and moved away to other parts of the hospital to minimise their risk of being exposed to aspergillus. In addition current and future ground works outside the Jubilee whilst still presenting a risk are generally a lower risk than previous works. As such IPC have advised that the windows in the Jubilee block can be opened which will help reduce the high temperature in the building. Patients considered being at-risk of aspergillus will still be housed away from the building works.

This has also highlighted the need to ensure that clinical safety issues are discussed between the infection prevention and estates and 3Ts teams, in relation to any development work, including construction, relating to the hospital sites.

7. Ebola

The recent outbreak of the Ebola virus primarily affected 3 countries in West Africa: Guinea, Liberia and Sierra Leone. More than 26,700 cases and 11,000 deaths have been reported globally by the World Health Organisation (13 May 2015).

Public Health England has said that the risk to the UK remains low. Patients with confirmed Ebola will admitted to / transferred to the High Security isolation Unit at The Royal Free Hospital in London. The IPC team are working with colleagues in A&E to prepare for a patient presenting who has travelled in an affected country and presents. Fortnightly planning meetings are being held to plan and prepare.

A total of three patients have presented to the RSCH site having travelled / worked in an affected country and having symptoms (all three were tested subsequently found

to be negative). These cases have identified that there is a robust system in place for dealing with patients who may have Ebola.

8. Norovirus

Norovirus is a highly infectious virus which can cause diarrhoea and / or vomiting. Norovirus can spread very rapidly in 'closed' environments such as hospitals, schools, cruise ships and prisons. Norovirus is not normally dangerous but can be more severe in vulnerable patients.

If a ward is affected by norovirus control measures are introduced including heightened awareness of standard infection prevention and control precautions, excluding symptomatic staff and visitors and extra cleaning. Wards with norovirus are normally closed to new admissions to prevent exposing new patients to the infection. The IPC team review closed wards on a daily basis and re-open when patients are asymptomatic and there are no new cases.

The following table shows the number of confirmed / suspected norovirus outbreaks which caused a ward to be closed in 2014/15 YTD. Norovirus is more common in the winter months (it is sometimes called the 'winter vomiting disease') although it can be seen all year round. There have been several recent outbreaks which correspond to an increase in the local community as confirmed by Public Health England.

Currently no wards are closed with confirmed or suspected Norovirus.

2015/16 YTD	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Totals
No of outbreaks	2	1	4	1	1	0							9
No of patients affected	35	7	12	12	12	0							78
Number of staff affected	3	5	0	0	5	0							13
Bed days lost	79	98	23	23	21	0							244

9. IPC team priorities

Based on the work undertaken and the issues going forward the priorities for the IPC team over the next few months are:

- Work with Capital Development / 3Ts colleagues to ensure infection prevention and control issues are considered when undertaking and planning building works, especially works likely to lead to aspergillus release.
- Expanding the audit programme to audit key IPC policies including glove misuse, MRSA suppression therapy and an audit to determine if all patients with suspected infectious diarrhoea have had a stool sample sent (as per NHS England guidance).

- All audits will be feedback and discussed at IPAG.
- Work with all staff to embed the new C. difficile RCA process and encourage further directorate involvement
- An audit of documentation of peripheral vascular devices to provide assurance that care is safe and will minimise the risk of the patient developing a bacteraemia.
- Work with Facilities to ensure that patients are nursed in a clean, safe environment.

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September 2015