SUMMARY REPORT	South Tees Hospitals NHS NHS Foundation Trust
Board of Directors	Date of meeting: 31 May 2016

Subject	Healthcare-associated infection report for April 2016
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Approved by	Gill Hunt, Director of Nursing / DIPC
Presented by	Gill Hunt, Director of Nursing / DIPC

Purpose: To provide performance information in relation to healthcare-associated infections.		
	Decision	
	Approval	
	Information	
	Assurance	●

Executive Summary

This report summarises surveillance information on *Clostridium difficile*-associated diarrhoea, MRSA and MSSA bacteraemia, bacteraemia due to glycopeptide-resistant enterococci, ESBL-producing coliform infections and other important healthcare-associated infections for the month of April 2016.

- The *C.difficile*-associated diarrhoea target for 2016/17 is to have no more than 50 Trust-apportioned cases of *C.difficile* among patients aged over 2 years. There were 4 trust-apportioned cases in April 2016.
- There is no official MRSA bacteraemia target for 2016/7. There were 0 Trust-assigned cases in April 2016.
- There is no official MSSA bacteraemia target for 2016/17. There were 2 trust-apportioned cases in April 2016.

Next Steps

The Board are asked to note the current position in respect of HCAI and for their support for the actions being taken.

Supports Trust Strategy Map in the following areas							
quality & patient safety		**business sustainability**		**operational excellence**		**organisational capability**	
deliver integrated care		improved cost control		improved patient flow		improved information	
forefront of clinical innovation		increased productivity		improved innovation processes		continuous service improvement culture	
specialised services development		increased revenue & market share		strong governance & risk management	●	workforce development	
service quality and safety	●	enhanced services				strong partnerships & engagement	

HEALTHCARE ASSOCIATED INFECTION REPORT (DATA TO END OF APRIL 2016)

1. SURVEILLANCE DATA

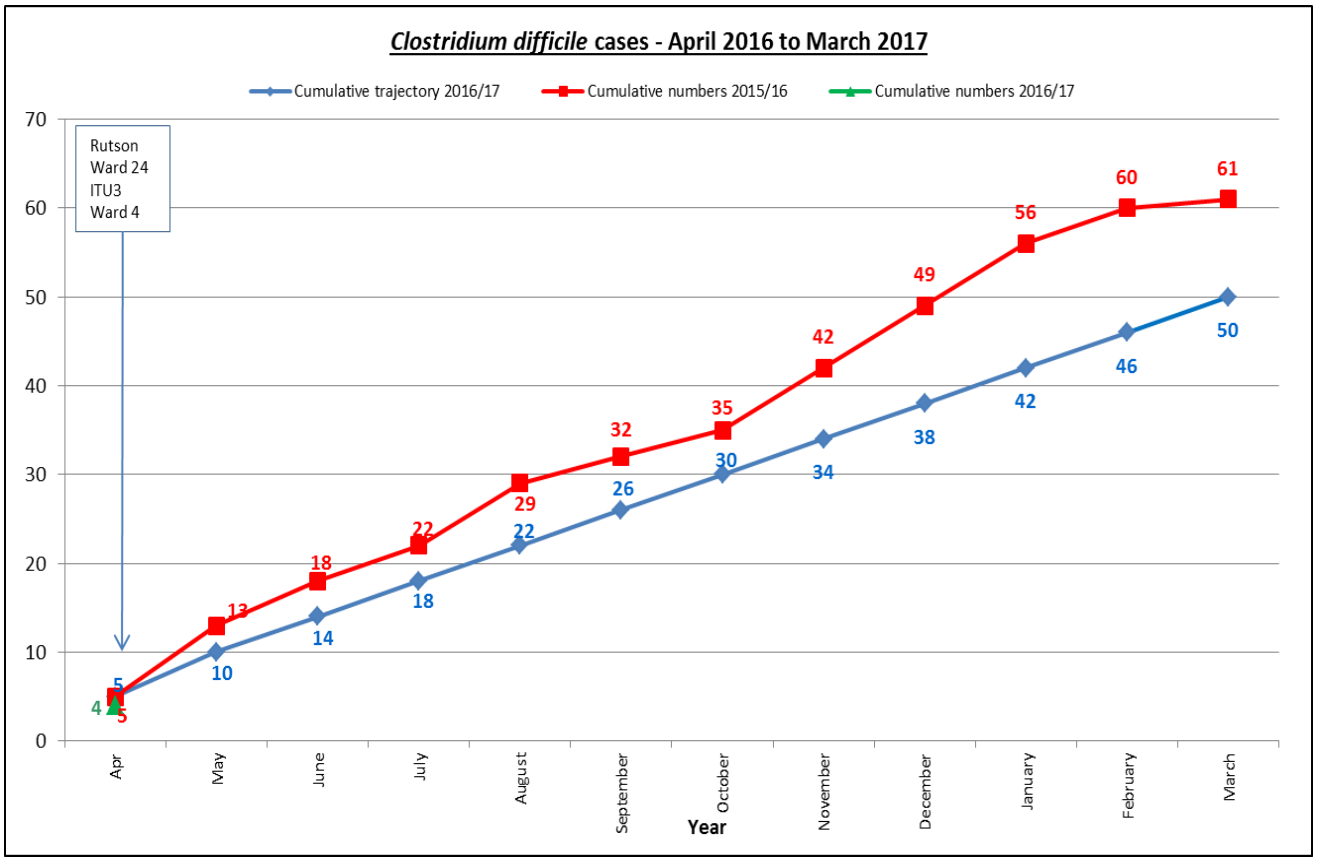
1.1 Clostridium difficile

C diff	Total 2015/16	May 15	Jun 15	July 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	Total 2016/17 to date	Target for 2016/17
Total cases	176	*20*	*16*	*16*	*23*	*13*	*13*	*16*	*16*	*9*	*11*	*5*	6	6	NA
Not trust apportioned	115	*12*	*11*	*12*	*16*	*10*	*10*	*9*	*9*	*2*	*7*	*4*	2	2	NA
Trust apportioned	61	*8*	*5*	*4*	*7*	*3*	*3*	*7*	*7*	*7*	*4*	*1*	4	4	**50**
- JCUH	54	*8*	5	*3*	*3*	*3*	*3*	*7*	*7*	*6*	*4*	*1*	3	3	
-FHN	3	*0*	0	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	
-Carters	0	*0*	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	
-Redcar	0	*0*	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	
-East Cl	1	*0*	0	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	0	0	
-Guis	0	*0*	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	
-Rutson	0	*0*	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	1	1	
-Friary	1	*0*	0	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	
-Lambert	2	*0*	0	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0	0	

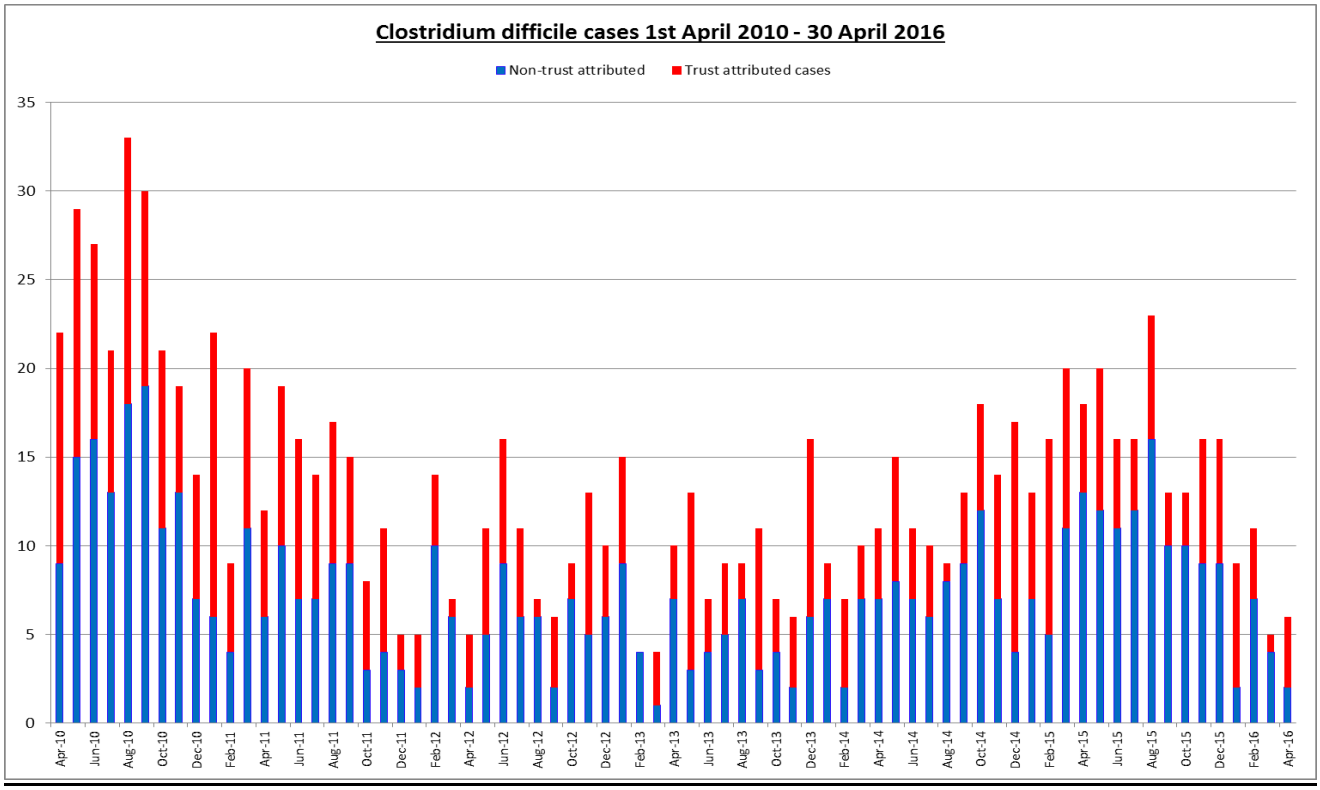
There were 6 cases of *C. difficile* infection in April 2016, 4 of which were classed as Trust-apportioned. The annual target is to have no more than 50 Trust-apportioned cases.

Deaths within 30 days after *C. difficile* diagnosis: for March 2016, 0/5 patients died during this period. Since April 2009, 238/1281 (19%) have died during the 30 day follow-up period.

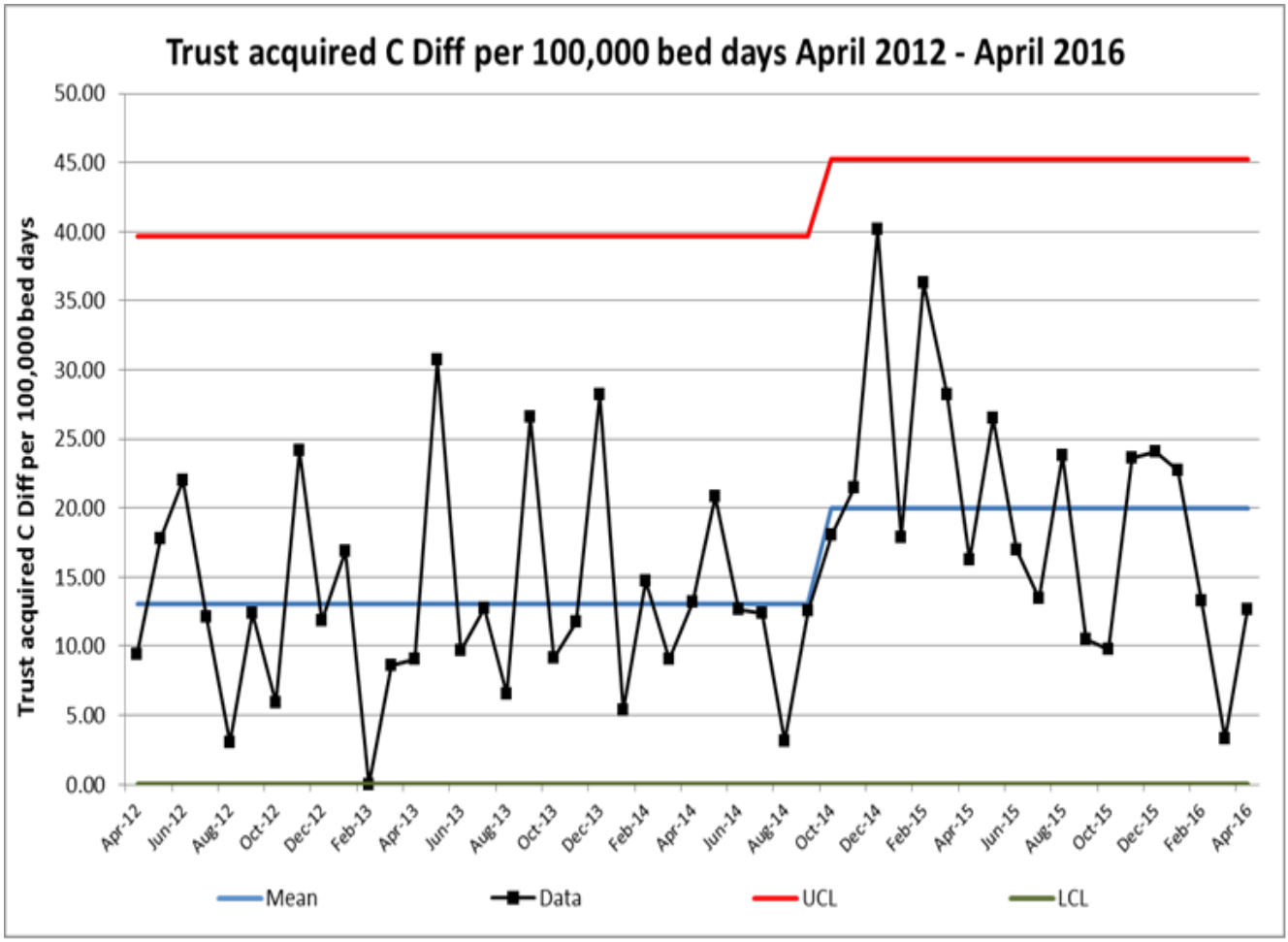
Graph 1: Cumulative Trust-apportioned *C. difficile* cases 2014-2016 compared to 2016/2017 trajectory



Graph 2: Total number of *C. difficile* cases by month from 1st April 2010 to 30th April 2016.



Graph 3: Trust acquired *C.difficile* cases per 100,000 bed days from 1st April to 30th April 2016.



The graph above depicts the rate of *C. difficile* infection per 100,000 bed days and shows an overall increase from October 2014.

The table below shows the number of *C. difficile* patient episodes (where samples were processed in the JCUH laboratory). The trust column includes patients cared for in JCUH, FHN and our Primary Care Hospitals in April 2016/17.

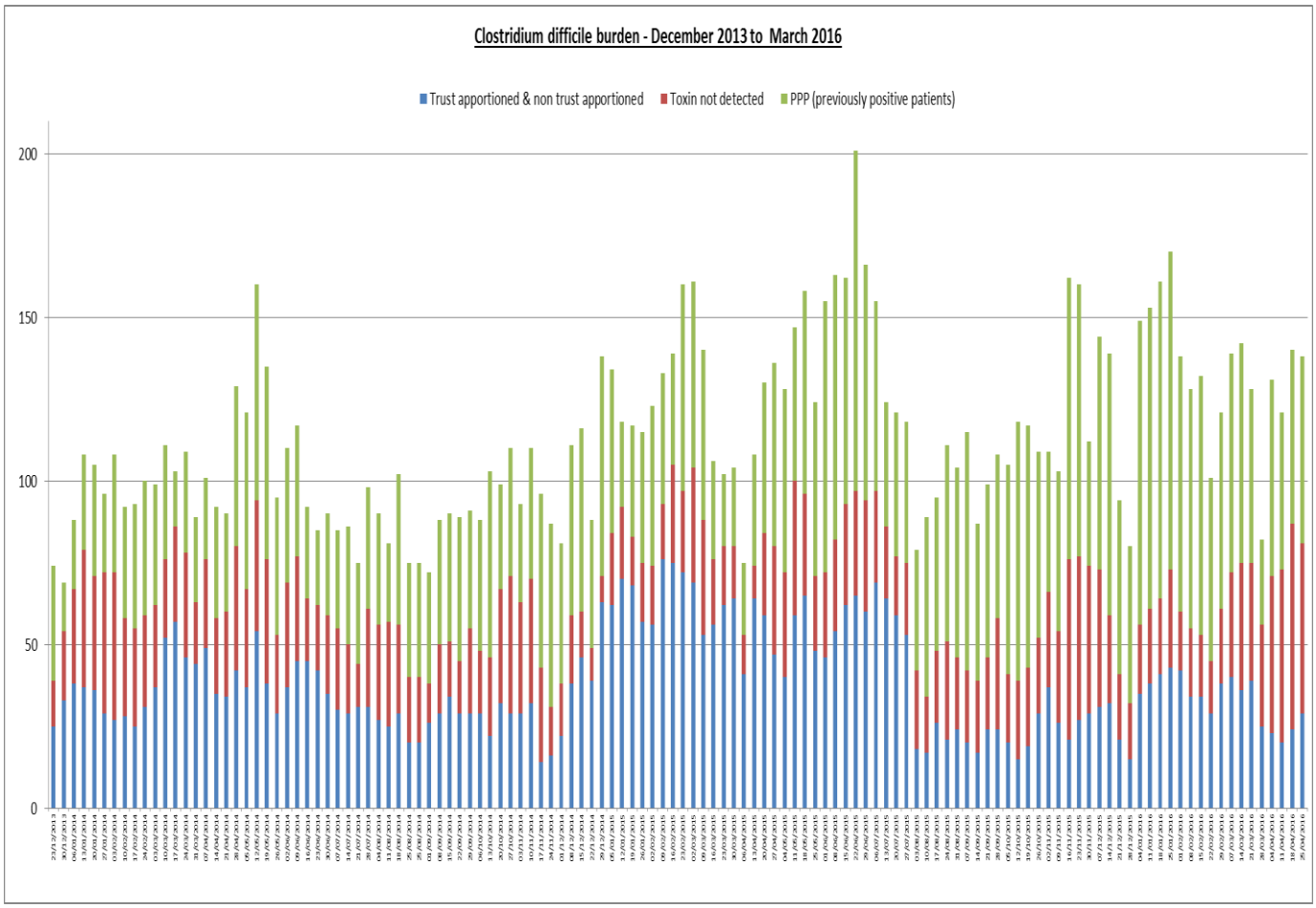
	Trust	Non Trust	Total
Toxin positive	4	2	6
Toxin negative	20	10	30
			36

N.B a proportion of the patients in the Non Trust column will have been in the trust within the previous 3 months but are not captured as trust-apportioned according to current DoH reporting requirements. It is believed that this definition may change.

The current position in respect of *C. difficile* remains a concern and Monitor enforcement action remains in place. The recovery plan being used to manage our performance is attached to this paper (Appendix 1).

Graph 4 shows the total burden of *C. difficile* in the Trust in terms of bed-days occupied by patients with current or previous *C. difficile* infection/ colonisation. This graph is probably the most sensitive predictor of future *C. difficile* infection risk because it correlates with the likely probability of exposure.

Graph 4: Total Clostridium difficile burden expressed as inpatient bed-days each week



Root cause analysis (RCA) and panel reviews have been undertaken for all trust apportioned CDI cases and the table below depicts the trust attributed cases from July 2015 identifying where elements of appropriate management have been ommitted or were unable to be ascertained from the original

RCA report. We are unable to review cases prior to July 2015 using this method due to the limitations of the RCA template used at the time.

Actions arisng from April include the need to review documentation in relation to diarrhoea in the stroke pathway and the need to devise and implement a standard process for touch point bed cleaning when transferring a bed bound patient from one area to another and this will be complete in June.

	Jan-16							Feb-16				Mar-16	Apr-16			
Were the following assessment and management elements completed?	Case 50	Case 51	Case 52	Case 53	Case 54	Case 55	Case 56	Case 57	Case 58	Case 59	Case 60	Case 61	Case 1	Case 2	Case 3	Case 4
Antibiotic history in previous 12 weeks	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X
Normal Bowel habit assessment on admission	X	✓	✓	✓	X	✓	✓	✓	X	✓	X	✓	✓	✓	X	X
If symptomatic of diarrhoea was the trusts diarrhoea assessment tool completed?	X	✓	✓	✓	✓	N/A	X	✓	X	✓	X	✓	✓	X	✓	✓
Bristol Stool score recorded	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
If suspected infectious diarrhea: was a clinician informed and agreed for sample to be sent for MC&S and Virology?	✓	✓	✓	X	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
Was the patient Isolated within 2 hours of suspicion of infected diarrhea?	X	✓	✓	✓	X	✓	✓	✓	X	✓	X	X	✓	X	X	✓
Did the side room have en-suite facility?	X	✓	✓	✓	✓	N/A	✓	X	X	✓	X	X	X	X	N/A	X
Patient commenced appropriate pathway and bundle for isolation eg PPE (full length fluid repellant gowns), chlorine based products for cleaning, signage, single use equipment etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Was the patient given the appropriate information leaflet and given advice about hand hygiene?	✓	✓	✓	✓	✓	N/A	✓	✓	✓	X	✓	✓	X	✓	N/A	✓
Reviewed by medic and severity assesment completed within 6 hours?	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Did the patient have an abdominal x-ray is assessed as moderate or severe based on severity assessment?	N/A	✓	✓	N/A	✓	✓	✓	X	N/A	X	✓	X	N/A	✓	✓	✓
Appropriate antibiotics based on severity assessment prescribed and administered in line with trust guidelines?	✓	✓	✓	N/A	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	✓
Maintenance of documentation i.e stool chart, nutrition/hydration.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Evidence of MDT review	✓	✓	✓	✓	✓	✓	✓	U	✓	✓	✓	✓	✓	✓	✓	✓

	Jan-16							Feb-16				Mar-16	Apr-16			
Does the patient have the following risk factors?	Case 50	Case 51	Case 52	Case 53	Case 54	Case 55	Case 56	Case 57	Case 58	Case 59	Case 60	Case 61	Case 1	Case 2	Case 3	Case 4
>65 years old	X	✓	X	✓	X	X	X	✓	✓	✓	X	X	✓	✓	X	✓
Recent Antibiotics	✓	✓	✓	✓	U	X	✓	✓	✓	X	✓	✓	✓	✓	✓	X
Taking protein pump inhibitors (PPI)	✓	✓		X	✓	✓	✓	X	✓	✓	✓	X	✓	X	✓	✓
Known history of *Clostridium Difficile* infection (CDI)	U	✓	X	✓	X	X	X	✓	X	✓	X	X	X	✓	X	X
Link to CDI case	U	X	U	X	U	X	X	X	U	X	U	✓	U	X		X
Immune supressed	X	X	X	X	X	X	X	X	X	X	X	X	X	X	✓	✓
Multiple intra hospital transfers	✓	X	✓	X	X	✓	X	✓	✓	✓	X	X	✓	✓	X	✓
Underlying oncology	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	✓
Care Home resident	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
History of abdominal surgery	X	✓	X	X	X	X	X	X	X	✓	X	X	X	X	✓	✓
Admission to critical care	✓	X	✓	X	✓	✓	X	✓	✓	X	X	✓	X	✓	✓	X
PEG tube and feed	✓	X	✓	X	✓	X	X	X	✓	X	✓	✓	✓	✓	✓	X
> 2 admissions to hospital	X	X	U	X	X	X	X	X	X	✓	X	X	X	✓	X	X

In the two cases where normal bowel habits were not recorded one of the patients was directly admitted to critical care with no opportunity to provide the information, the second was due to inadequate record keeping.

Actions

The following actions have been completed in April 2016:

- Successful appointment of two new band 6 IPCNs to fill vacancies.
- The cleaning wipe trial has been completed. Two products have tested favourably. These two products will now be part of a wider trial during May to establish the most effective product as an alternative to the chlorine based wipes currently in use.
- Antimicrobial stewardship audits (ARED) continue every 3 months.

Results can be seen in the table below.

Centre	No. Antibiotic Courses Reported to JCUH Antibiotic Ward Round	% Antibiotic Courses Deemed Acceptable by JCUH Antibiotic Ward Round
Community Care	142	99.3
Planned Care	109	98.2
Specialist Care	132	100
Urgent & Emergency Care	45	100
Overall Trust	376	99.3

More detailed information has been shared with the centre Medical Directors to enable them to plan a programme of audit pertinent to their local improvement requirements.

- There is a new national CQUIN to reduce total antibiotic use, carbapenem use and piperacillin/ tazobactam use each by 1%. This work is being led by the Medical Director for the Community Centre and the Antibiotic Pharmacist and has been included as part of the trusts CDI recovery plan.

- A proposal for the frequency of a full dismantle bed clean has been agreed at IPAG. This requires a tagging system in the absence of an asset management system. This is currently being piloted on one ward and will be rolled out across the whole trust following evaluation.

- The delivery of consistently high cleaning standards continues to be a priority and this is being monitored via the Liaison Committee and the monthly director-led Cleaning Standards meeting. Joint Trust and Carillion monitoring against the C4C standards began in September 2015 and has continued since. Overall it must be noted that cleaning standards across the JCUH site are much improved and the infection control team believe this has been a major factor in the reduced number of cases since January 2016.

  The average cleaning scores for April are as follows:

  - High risk areas: 98% against a target of 95%
  - Significant risk areas: 97% against a target of 85%
  - Low risk areas: 95% against a target of 75%

- PLACE assessments took place at both The James Cook site and the Friarage hospital in April. The trust will receive the final reports of these assessments late July / early August 2016.

The CDI recovery plan has been updated and new objectives have been agreed, this is included in Appendix 1.

1.2 MSSA bacteraemia

There were 8 cases of MSSA bacteraemia in April 2016; 2 of which were classed as Trust-apportioned.

MSSA	Total 2015/16	*May 15*	*Jun 15*	*July 15*	*Aug 15*	*Sep 15*	*Oct 15*	*Nov 15*	*Dec 15*	*Jan 16*	*Feb 16*	*Mar 16*	Apr 16	Total 2016/17 to date	Target for 2016/17
Total cases	138	*12*	*12*	*10*	*14*	*12*	*9*	*13*	*9*	*15*	*10*	*11*	8	8	NA
Not trust apportioned	99	*9*	*9*	*9*	*10*	*11*	*7*	*10*	*8*	*7*	*3*	*7*	6	6	NA
Trust apportioned	39	*3*	*3*	*1*	*4*	*1*	*2*	*3*	*1*	*8*	*7*	*4*	2	2	NA

Root cause analysis has been requested from the clinical teams concerned. A strengthened process to identify themes and any lessons learnt is being implemented from May 2016 as this has been previously managed within the centres. Historically the majority of avoidable cases are due to peripheral and central venous cannulae. Invasive device management is a major focus and has been added to the IPC work plan for 2016/2017.

1.3 MRSA bacteraemia

There were 0 cases of MRSA bacteraemia in April 2016.

MRSA	Total 2015/16	*May 15*	*Jun 15*	*July 15*	*Aug 15*	*Sep 15*	*Oct 15*	*Nov 15*	*Dec 15*	*Jan 16*	*Feb 16*	*Mar 16*	Apr 16	Total 2016/17 to date	Target for 2016/17
Total cases	7	*1*	*0*	*0*	*1*	*0*	*1*	*1*	*0*	*2*	*0*	*0*	0	0	NA
Not trust assigned	5	*1*	*0*	*0*	*1*	*0*	*1*	*1*	*0*	*1*	*0*	*0*	0	0	NA
Trust assigned	2	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	0	0	**NA**

1.4 Surveillance for other healthcare-associated infections

	Total for 15/16	**April 2016**	**Total 16/17**
Bacteraemia due to glycopeptide-resistant enterococci	6	0	1
Bacteraemia due to *E. coli*	466	34	34
ESBL producing coliform infections	893	92	92
• sample taken in community	600	63	63
• sample taken in our trust	293	29	29
• bacteraemias	19	0	0
Other alert organisms	0	0	0

2. OUTBREAKS

Diarrhoea & vomiting outbreaks	Annual total 14/15	Apr 15	May 15	June 15	July 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	Total 15/15 to date
Total number	*3*	1	0	0	0	0	0	0	1	0	0	0	1	0	0
Total number of patients affected	*22*	38	0	0	0	0	0	0	7	0	0	0	28	0	0
Total number of staff affected	*18*	4	0	0	0	0	0	0	10	0	0	0	2	0	0

There were no outbreaks of diarrhoea and vomiting during April 2016.

There were no clusters of cases of Clostridium difficile identified during April 2016.

3. OUTBREAK OF MULTI-DRUG-RESISTANT PSEUDOMONAS AERUGINOSA INFECTION IN ICU2/3, GHDU, WARD 4 AND 24HDU

There have been 17 patients identified who are colonised or infected with a GES carbapenemase-producing strain of Pseudomonas aeruginosa since November 2014. Cluster meetings continue and a large number of actions have been implemented. One of these has been to reintroduce temocillin prescribing in ICU2, ICU3 and GHDU. We believe these measures will be effective and will continue to monitor the situation.

4. RECOMMENDATIONS

The Board of Directors are asked to note the current position in respect of HCAI and for their support for the actions being taken.

A further report will be presented in June 2016.

Richard Bellamy
David McCaffrey
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Appendix 1 – C.*difficile* Recovery Plan