


SUMMARY REPORT		South Tees Hospitals  NHS Foundation Trust
Board of Directors		Date of meeting: 28 June 2016
Subject	Healthcare-associated infection report for May 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
<p>This report summarises surveillance information on <i>Clostridium difficile</i>-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 May 2016.</p> <ul style="list-style-type: none"> The <i>C.difficile</i>-associated diarrhoea target for 2016/17 is to have no more than 50 Trust-apportioned cases of <i>C.difficile</i> among patients aged over 2 years. There were 3 trust-apportioned cases in May 2016. In the first two months of 2016/17 there have been 7 trust-apportioned cases. There is no official MRSA bacteraemia target for 2016/17. There were 0 trust-assigned cases in May 2016. In the first two months of 2016/17 there have been 0 trust-assigned cases. There is no official MSSA bacteraemia target for 2016/17. There were 3 trust-apportioned cases in May 2016. In the first two months of 2016/17 there have been 5 trust-apportioned cases.

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 MAY 2016)

1. SURVEILLANCE DATA

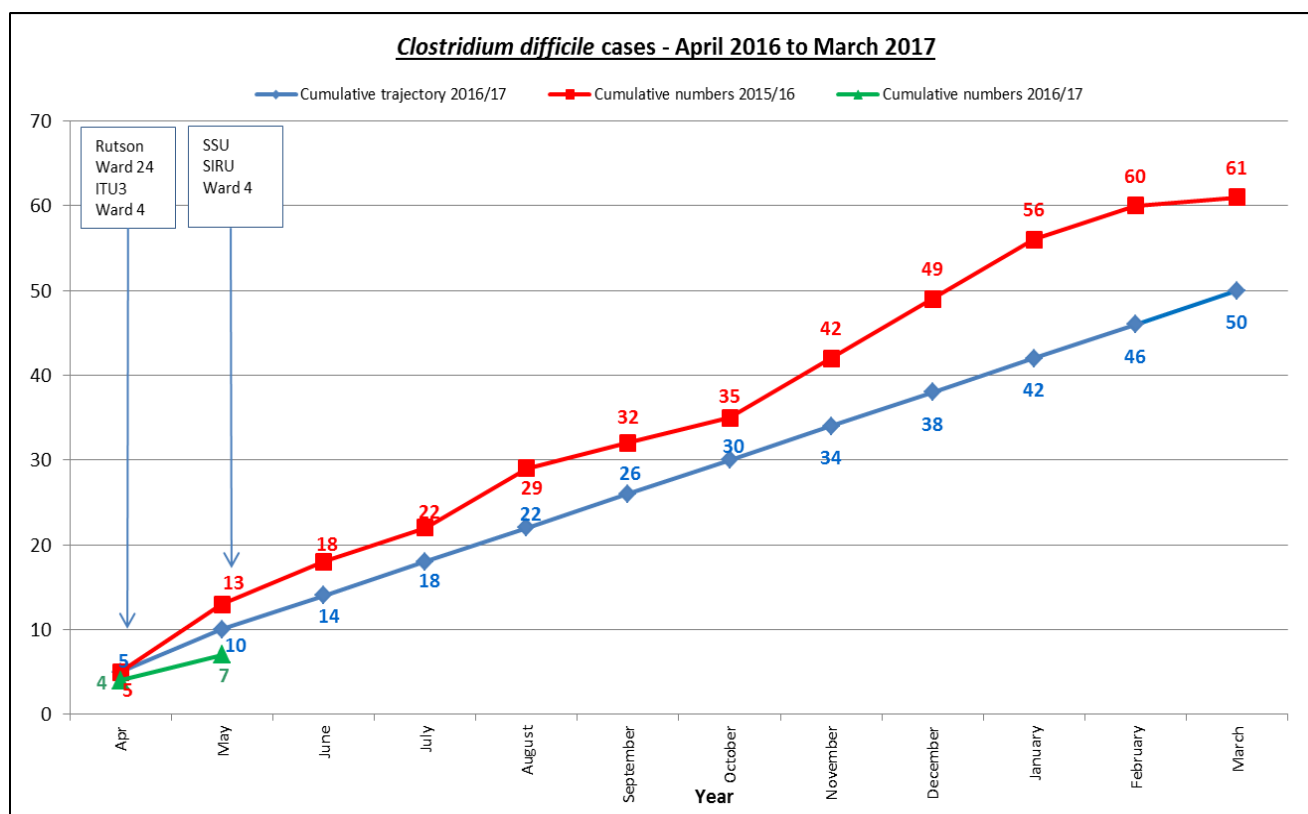
1.1 *Clostridium difficile*

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

There were 10 cases of *C. difficile* infection in May 2016, 3 of which were classed as Trust-apportioned. The annual target is to have no more than 50 Trust-apportioned cases. In the first two months of 2016/17 there have been 7 trust-apportioned cases.

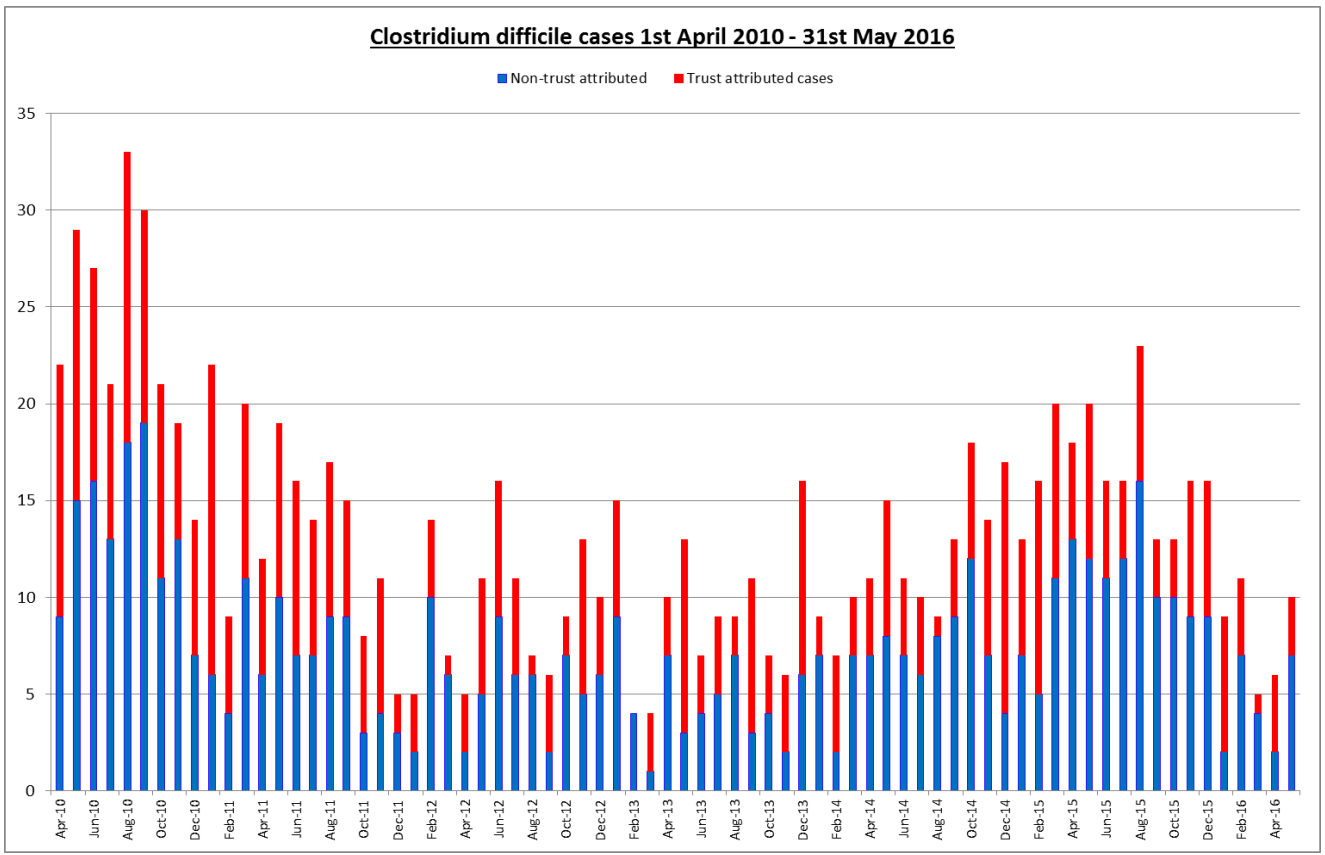
Deaths within 30 days after *C. difficile* diagnosis: for April 2016, 0/6 patients died during this period. Since April 2009, 238/1287 (18%) have died during the 30 day follow-up period.

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

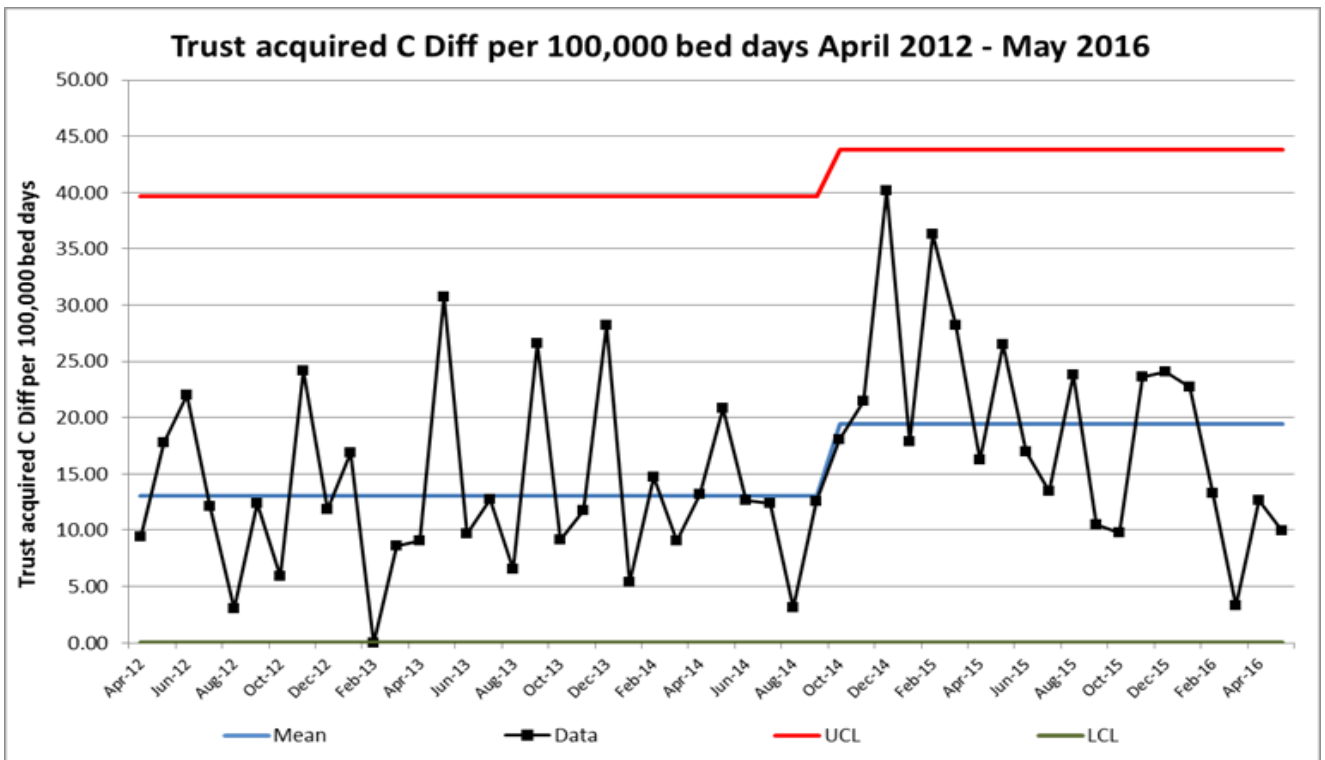


Please note: the 2 cases on ward 4 were confirmed as different ribotypes which provides assurance that transmission between the 2 cases did not take place.

Graph 2: Total number of *C. difficile* cases by month from 1st April 2010 to 31st May 2016.



Graph 3: Trust acquired *C. difficile* cases per 100,000 bed days from 1st April to 31st May 2016.



The graph above illustrates the rate of *C. difficile* infection per 100,000 bed days and shows an overall increase from October 2014. It does appear that there is now a downward trend in both the number of trust-apportioned and the total number of cases.

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 the first 2 months of 2016/17.

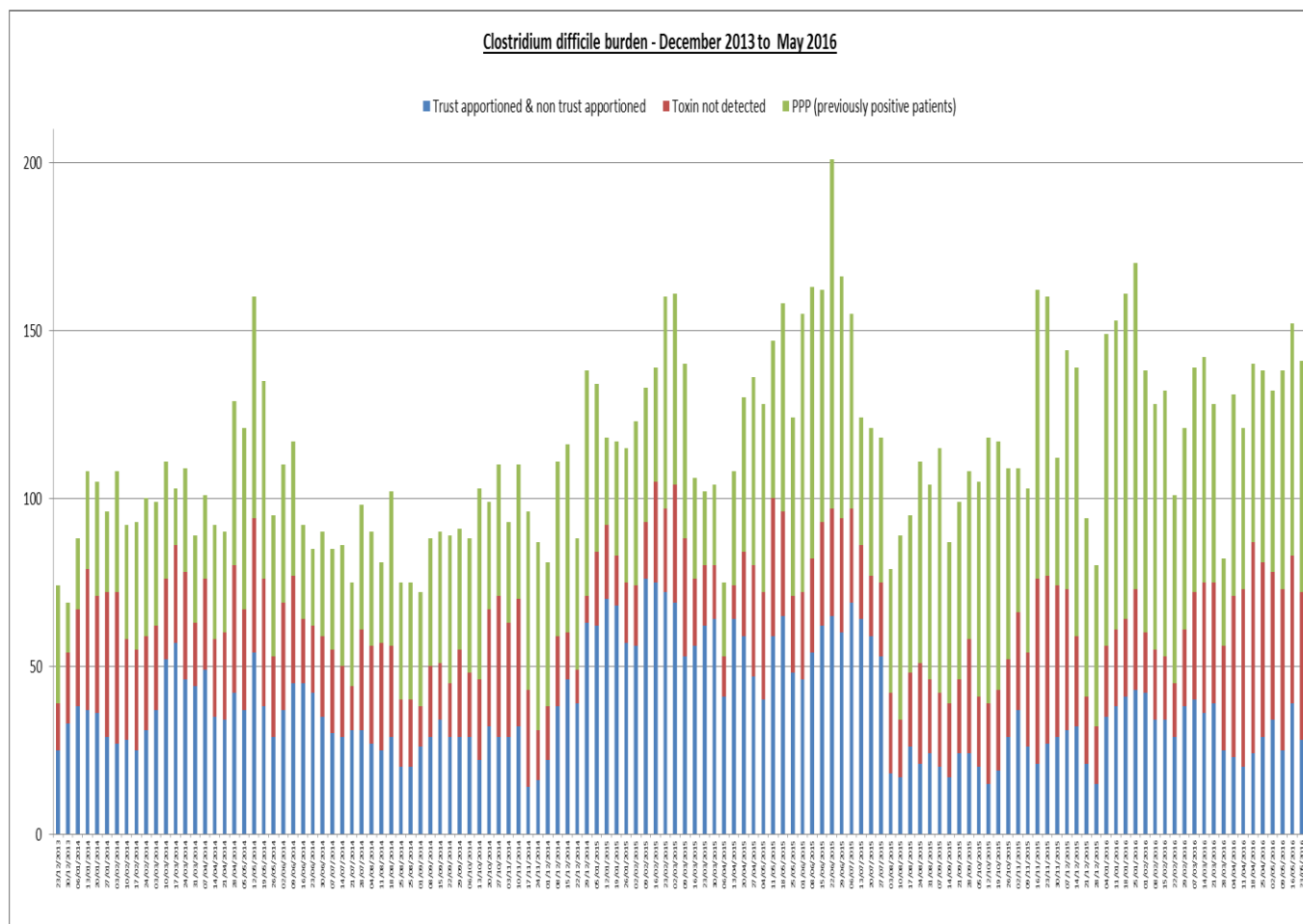
	Trust	Non Trust	Total
Toxin positive	7	9	16
Toxin negative	12	19	31
	19	28	47

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.

There is an improving picture in relation to *C. difficile* infection, however it must be noted that sustaining this reduction requires constant focus. 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 *C. difficile* cases and the table below shows the trust attributed cases from January 2016, identifying where elements of appropriate management have been undertaken or omitted.

Were the following assessment and management elements completed?	Jan-16						Feb-16				Mar-16	Apr-16				May-16			
	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	Case 5	Case 6	Case 7
The patient has received Antibiotics in previous 12 weeks to this episode of care	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Normal Bowel habit assessment on admission	X	✓	✓	✓	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	✓	✓	✓	✓	✓	✓	✓	✓	X	✓
Was the patient Isolated within 2 hours of suspicion of infected diarrhea?	X	✓	✓	✓	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	✓	✓	X
Patient commenced appropriate pathway and bundle for isolation eg PPE (full length fluid repellent 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	✓	X	✓	N/A
Reviewed by medic and severity assesment completed within 6 hours?	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	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	✓	✓	✓	✓	N/A	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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Does the patient have the following risk factors?	Jan-16						Feb-16				Mar-16	Apr-16				May-16			
	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	Case 5	Case 6	Case 7
>65 years old	X	✓	X	✓	X	X	X	✓	✓	✓	X	X	✓	✓	X	✓	✓	X	✓
Recent Antibiotics	✓	✓	✓	✓	U	X	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	✓
Taking protein pump inhibitors (PPI)	✓	✓		X	✓	✓	✓	X	✓	✓	✓	X	✓	X	✓	✓	X	✓	✓
Known history of <i>Clostridium Difficile</i> infection (CDI)	U	✓	X	✓	X	X	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	✓	X	X	X	X	X	X	X
Immune supressed	X	X	X	X	X	X	X	X	X	X	X	X	X	X	✓	✓	X	U	✓
Multiple intra hospital transfers	✓	X	✓	X	X	✓	X	✓	✓	✓	X	X	✓	✓	X	✓	X	X	X
Underlying oncology	X	X	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	X	X	X
History of abdominal surgery	X	✓	X	X	X	X	X	X	X	✓	X	X	X	✓	✓	X	X	X	X
Admission to critical care	✓	X	✓	X	✓	✓	X	✓	✓	X	X	✓	X	✓	✓	X	X	X	X
PEG tube and feed	✓	X	✓	X	✓	X	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	✓	✓	✓

Themes identified from root cause analysis investigations:

Patients normal bowel habits are not being consistently documented in line with the World Health Organisations terminology on admission. In case 6 the patient was unconscious on admission following a road traffic accident and therefore unable to provide the information.

Where isolation is not taking place within 2 hours it has been acknowledged that there are operational explanations for the delay and escalation has taken place.

It is apparent when wards are less familiar with caring for patients who develop diarrhoea and additional training and support is being provided.

Actions

The following actions have been completed in May 2016:

- The final stage of the wipes trial is due to start on the 20th June with two hydrogen peroxide products, one of which is intended to replace the current chlorine based product. This trial will take place over four weeks (two weeks each product) followed by a review of the evaluations.
- Following the testing of a polywipe system to establish the presence of micro-organisms in the environment within the critical care areas, the nursing teams have introduced an improved process of cleaning high touch points in the patient bed area twice a day. This is now being adopted by the spinal injuries unit and ward 4 prior to patient movement.
- A pilot to test the concept of a decontamination unit for beds and other equipment will take place starting on the 20th June for 4 weeks with support from Carillion. Evaluation measures will include improved patient flow and the standard of cleaning, using a monitoring system.
- The patient medication chart has been reviewed to include an antibiotic specific section to facilitate a review of antibiotic prescriptions after 72 hours of administration. The new chart will be in use by August 2016 and will support the achievement of the national antibiotic CQUIN measure.
- The delivery of consistently high cleaning standards continues to be a priority and this is being monitored via the monthly Director-led Cleaning Standards meeting. Joint Trust and Carillion monitoring against the C4C standards began in September 2015 and has continued since. Cleaning standards across the JCUH site continue to be 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 on the JCUH site for May 2016 are as follows:

- High risk areas: 98% against a target of 95%
- Significant risk areas: 97% against a target of 85%
- Low risk areas: 96% against a target of 75%

No area was below the required standard.

We have agreed with Carillion and Endeavour to commission 2 cleaning audits to be undertaken in 16/17 by the British Institute of Cleaning Science (BICS) to provide additional independent assurance of cleaning standards.

Cleaning standards on all other sites are monitored via the Infection Prevention and Control Action Group (IPAG) and are consistently good.

1.2 MSSA bacteraemia

There were 9 cases of MSSA bacteraemia in May 2016; 3 of which were classed as trust-apportioned. In the first two months of 2016/17 there have been 5 trust-apportioned cases.

MSSA	Total 2015/16	Jun 15	July 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	May 16	Total 2016/17 to date	Target for 2016/17
Total cases	138	12	10	14	12	9	13	9	15	10	11	8	9	17	NA
Not trust apportioned	99	9	9	10	11	7	10	8	7	3	7	6	6	12	NA
Trust apportioned	39	3	1	4	1	2	3	1	8	7	4	2	3	5	NA

1.3 MRSA bacteraemia

There were 0 cases of MRSA bacteraemia in May 2016. In the first two months of 2016/17 there have been 0 trust-apportioned cases.

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

1.4 Surveillance for other healthcare-associated infections

	Total for 15/16	May 2016	Total 16/17
Bacteraemia due to glycopeptide-resistant enterococci	6	0	1
Bacteraemia due to <i>E. coli</i>	466	37	71
ESBL producing coliform infections	893	92	184
• sample taken in community	600	62	125
• sample taken in our trust	293	30	59
• bacteraemias	19	0	0
Other alert organisms	0	0	0

A working group has been established to focus on the use of invasive devices as the source of potential infection. This will include a programme of audit in relation to urinary catheter and intravenous device insertion and subsequent management. Data will be collected in June 16 and will provide a baseline prior to the planned interventions to improve practice.

2. OUTBREAKS

Diarrhoea & vomiting outbreaks	Annual total 14/15	May 15	June 15	July 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	May 16	Total 16/17 to date
Total number	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0
Total number of patients affected	22	0	0	0	0	0	0	7	0	0	0	28	0	0	0
Total number of staff affected	18	0	0	0	0	0	0	10	0	0	0	2	0	0	0

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

There were no clusters of cases of *C. difficile* identified during May 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 are being effective and we continue to monitor the situation.

4. DECONTAMINATION

A monthly report is prepared by the Lead Nurse Decontamination and presented to IPAG. Key points from this report are as follows:

- A traceability audit for endoscopes used outside of the Endoscopy unit will take place during June 16 to provide assurance in relation to the robustness of the current paper based system.
- An engineer from Carillion will undertake the Authorised Person role in relation to decontamination. Agreement in relation to the Competent Person needs to be reached. In the interim this role is being fulfilled by staff from the trusts Medical Engineering team as a first responder and the manufacturers of equipment as the second response.

5. 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 July 2016.

Richard Bellamy
David McCaffrey
Judith Connor
Gill Hunt

Appendix 1 – *C.difficile* Recovery Plan