


SUMMARY REPORT		South Tees Hospitals  NHS Foundation Trust
Board of Directors		Date of meeting: 6 September 2016
Subject	Healthcare-associated infection report for July 2016	
Prepared by	Richard Bellamy, Infection Control Doctor, JCUH David McCaffrey, Lead Nurse, Infection Prevention and Control Judith Connor, Assistant Director of Nursing Julie Barlow, Lead Nurse for Decontamination Gill Hunt, Director of Nursing / DIPC	
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 July 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 55 trust-apportioned cases among patients aged over 2 years. There were 3 trust-apportioned cases in July 2016. In the first four months of 2016/17 there have been 11 trust-apportioned cases. There is no official MRSA bacteraemia target for 2016/17. There was 1 trust-assigned case in July 2016. In the first four months of 2016/17 there has been 1 trust-assigned case. There is no official MSSA bacteraemia target for 2016/17. There were 2 trust-apportioned cases in July 2016. In the first four months of 2016/17 there have been 12 trust-apportioned cases.

Next Steps
The Board of Directors 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 31st JULY 2016)

1. SURVEILLANCE DATA

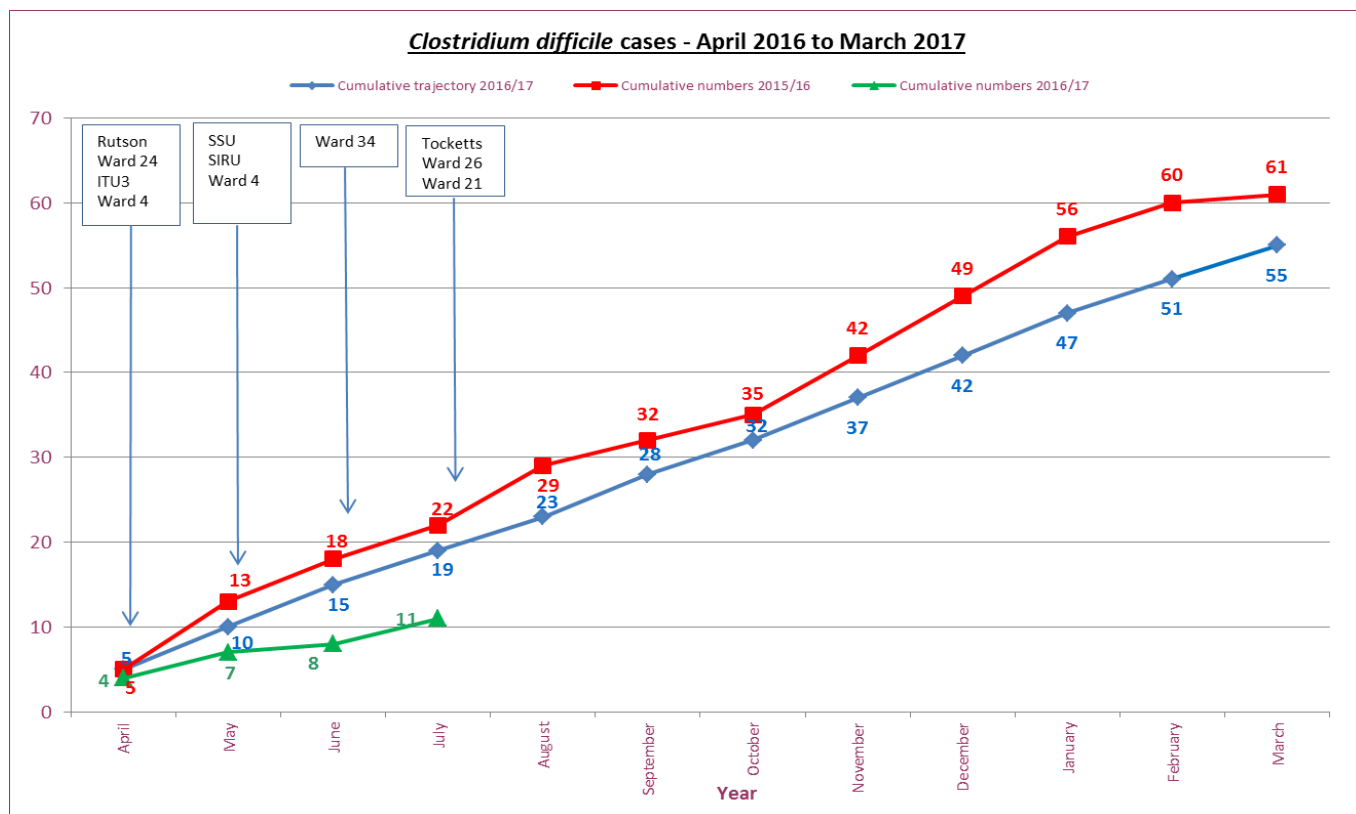
1.1 *Clostridium difficile*

C diff	Total 2015/16	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Total 2016/17 to date	Target for 2016/17
Total cases	176	23	13	13	16	16	9	11	5	6	10	17	8	41	NA
Not trust apportioned	115	16	10	10	9	9	2	7	4	2	7	16	5	30	NA
Trust apportioned	61	7	3	3	7	7	7	4	1	4	3	1	3	11	55
- JCUH	54	3	3	3	7	7	6	4	1	3	3	1	2	9	
-FHN	3	2	0	0	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 Cl	1	0	0	0	0	0	1	0	0	0	0	0	1	1	
-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	1	0	0	0	1	
-Friary	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
-Lambert	2	2	0	0	0	0	0	0	0	0	0	0	0	0	

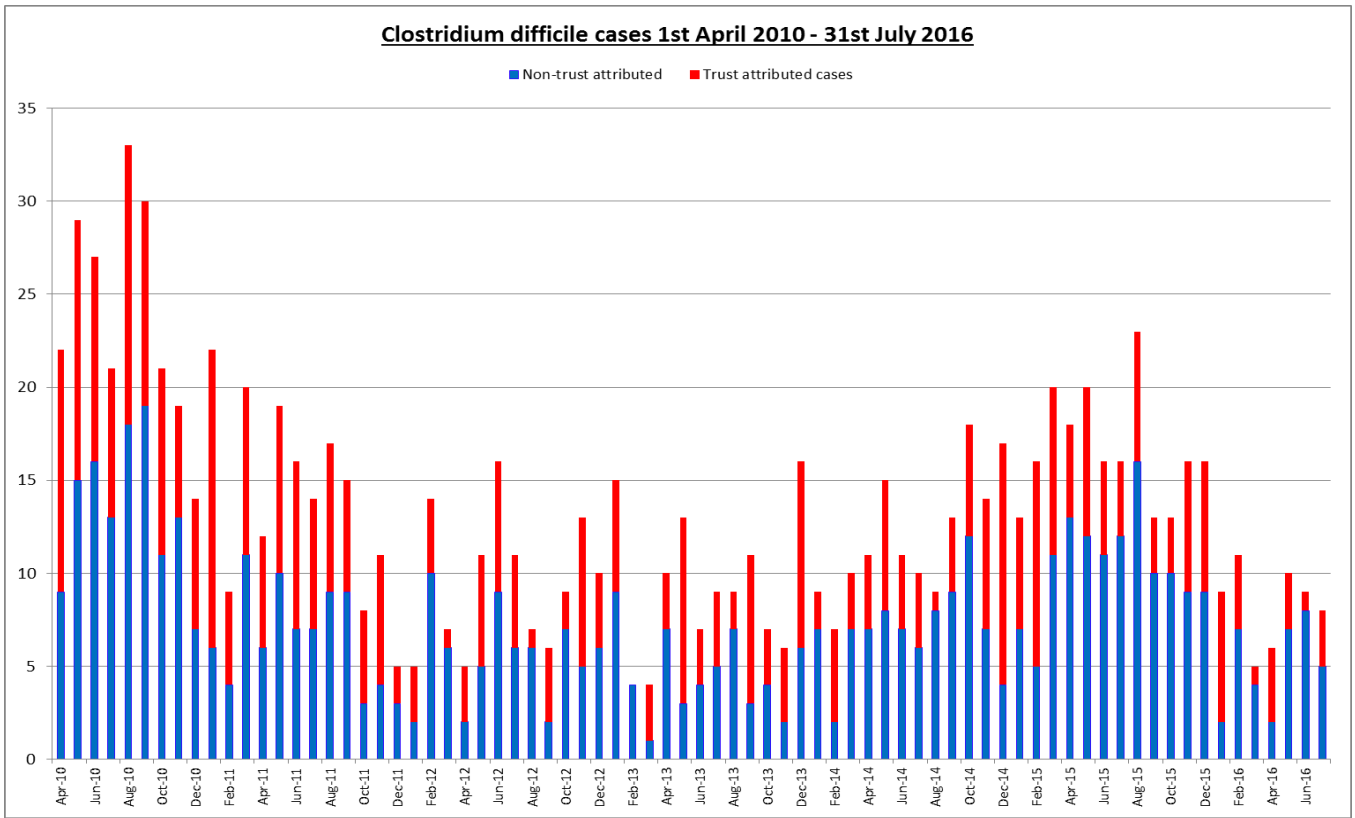
There were 8 cases of *C.difficile* infection in July 2016, 3 of which was classed as trust-apportioned. The annual target is to have no more than 55 trust-apportioned cases. In the first three months of 2016/17 there have been 11 trust-apportioned cases.

Deaths within 30 days after *C.difficile* diagnosis: for June 2016, 4/17 patients died during this period. Since April 2009, 244/1314 (19%) have died during the 30 day follow-up period.

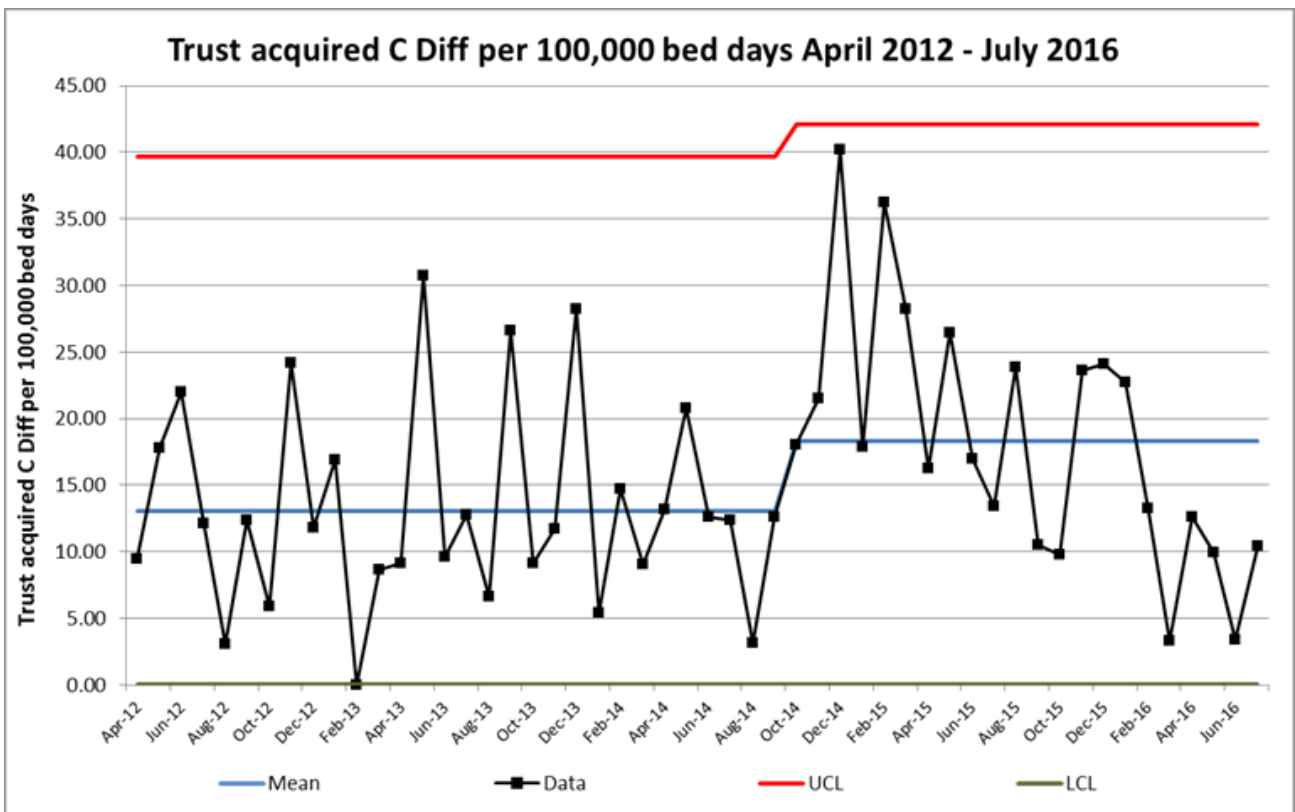
Graph 1: Cumulative Trust-apportioned *C.difficile* cases 2014-2016 compared to 2016/2017 trajectory



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



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



The graph above illustrates the rate of *C.difficile* infection per 100,000 bed days and shows an overall increase from October 2014, followed by a downward trend in the number of trust-apportioned 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 4 months of 2016/17.

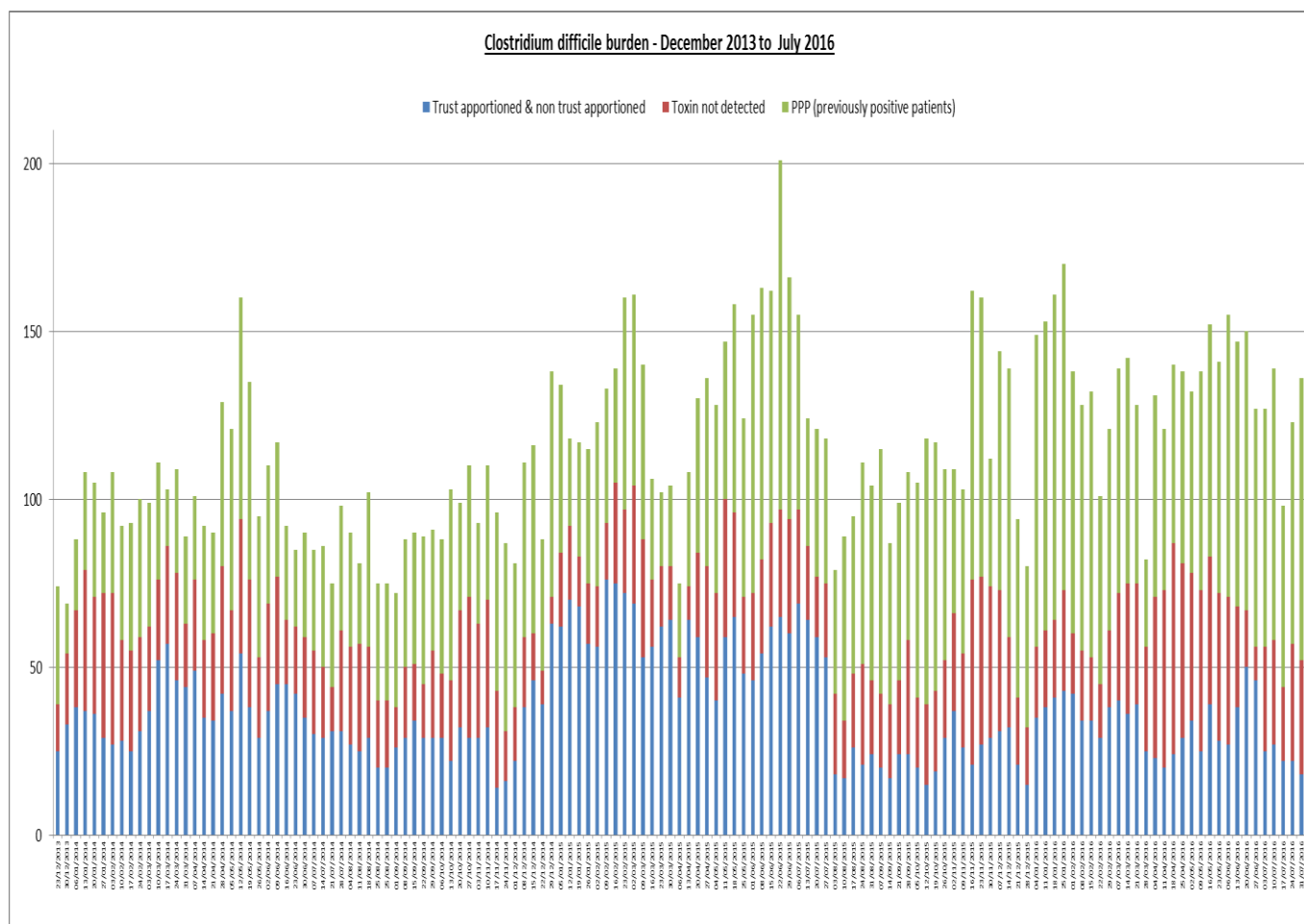
	Trust	Non Trust	Total
Toxin positive	11	30	41
Toxin negative	25	43	68
	36	73	109

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.

Although cases of *C.difficile* infection are falling, we will require constant focus to maintain this. 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 are undertaken for all trust apportioned *C.difficile* cases and the table below shows the trust-apportioned cases from April 2016, identifying where elements of appropriate management have been undertaken or omitted.

Were the following assessment and management elements completed?	Apr-16				May-16			Jun-16	Jul-16		
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11
The patient has received Antibiotics in previous 12 weeks to this episode of care	✓	✓	X	X	X	✓	✓	✓	✓	✓	✓
Normal Bowel habit assessment on admission	✓	✓	X	X	✓	X	✓	✓	✓	✓	✓
If symptomatic of diarrhoea was the trusts diarrhoea assessment tool completed?	✓	X	✓	✓	✓	✓	✓	✓	X	X	X
Bristol Stool score recorded	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
If suspected infectious diarrhea: was a clinician informed and agreed for sample to be sent for MC&S and Virology?	✓	✓	✓	✓	✓	X	✓	✓	X	✓	✓
Was the patient Isolated within 2 hours of suspicion of infected diarrhea?	✓	X	X	✓	✓	✓	X	✓	X	X	✓
Did the side room have en-suite facility?	X	X	N/A	X	✓	✓	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?	X	✓	N/A	✓	✓	✓	N/A	✓	✓	X	✓
Reviewed by medic and severity assesment completed within 6 hours?	✓	✓	✓	✓	✓	✓	X	✓	X	X	✓
Did the patient have an abdominal x-ray is assessed as moderate or severe based on severity assessment?	N/A	✓	✓	✓	✓	N/A	N/A	✓	X	X	N/A
Appropriate antibiotics based on severity assessment prescribed and administered in line with trust guidelines?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Maintenance of documentation i.e stool chart, nutrition/hydration.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Evidence of MDT review	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Does the patient have the following risk factors?	Apr-16				May-16			Jun-16	Jul-16		
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11
>65 years old	✓	✓	X	✓	✓	X	✓	✓	✓	✓	X
Recent Antibiotics	✓	✓	✓	X	✓	✓	✓	X	✓	✓	✓
Taking protein pump inhibitors (PPI)	✓	X	✓	✓	X	✓	✓	X	X	X	✓
Known history of <i>Clostridium Difficile</i> infection (CDI)	X	✓	X	X	X	X	X	X	X	X	X
Link to CDI case	X	X	X	X	X	X	X	X	X	U	X
Immune supressed	X	X	✓	✓	X	U	✓	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
Care Home resident	X	X	X	X	X	X	X	X	X	X	X
History of abdominal surgery	X	X	✓	✓	X	X	X	X	X		✓
Admission to critical care	X	✓	✓	X	X	X	X	X	X	✓	X
PEG tube and feed	✓	✓	✓	X	X	X	X	X	X	X	✓
> 2 admissions to hospital	X	✓	X	X	✓	✓	✓	X	✓	X	✓

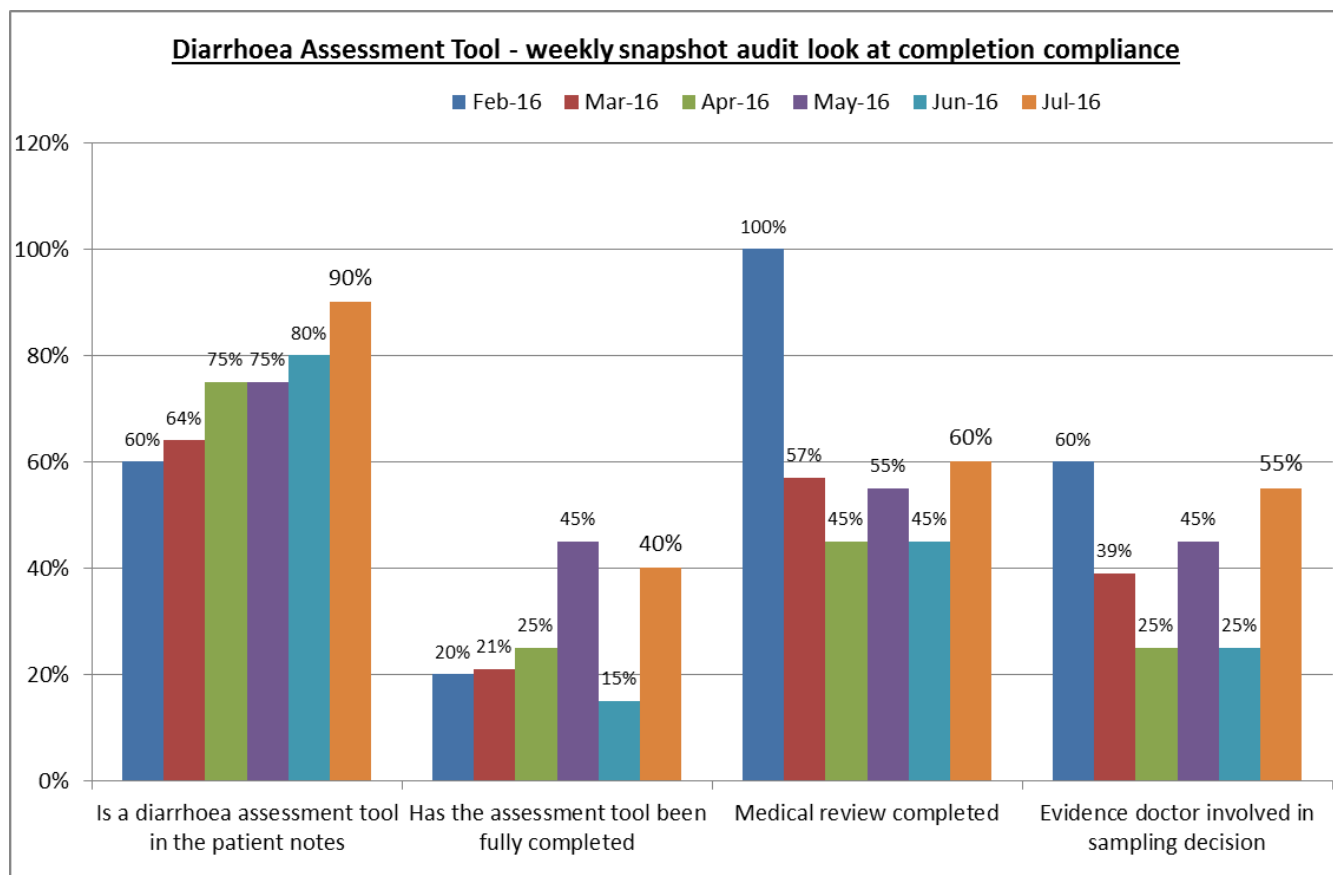
Compliance with the use of the Diarrhoea Assessment Tool (DAT) remains a concern as all 3 cases in July did not have a fully completed tool on onset of symptoms.

Completion of the DAT has been added to the ward managers weekly documentation audit to provide further focus on full completion.

Graph 5 depicts the results of the weekly DAT audit of the use of the diarrhoea assessment tool. The overall compliance rate of all elements being fully completed is 40%.

The audit tool was redesigned in June to provide the granular detail of which elements were not being completed consistently and is shared with Matrons on a weekly basis, immediate feedback is given to the ward staff at the time of the audit and steps are taken to rectify any gaps in management immediately.

Graph 5: Weekly Diarrhoea Assessment Tool Audit



Actions

The following actions were completed in July 2016:

- The final stage of the wipes trial was completed in July 2016 with an evaluation paper and recommendations to be considered at IPAG in August 2016. The Hydrogen peroxide wipe evaluated the most favourably. Procurement is currently negotiating with the supplier on price.
- The new patient medication chart has been approved and will be available later in August 2016. The new format of the chart will facilitate early review of the prescription of antibiotics and support the achievement of the national antibiotic CQUIN measure.
- The Lead Nurse for IPC continues to meet with the Carillion manager on a fortnightly basis to discuss any immediate IPC issues relating to cleaning and the environment.
- Finalisation of IPCN cover for community and acute locales has been agreed and has been disseminated to the relevant clinical areas.
- A Band 4 Healthcare Assistant post has been successfully appointed to with an August 2016 start date. This post will support the Lead Nurse for Decontamination in the planned annual audit programme and assist in other duties to ensure the trust is compliant with regulatory requirements for decontamination.
- 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 July 2016 were 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 areas were reported as below the required standard in July. Cleaning standards will continue to be monitored at the monthly meeting with Carillion to ensure standards are maintained.

Cleaning standards on all other sites are monitored via the Infection Prevention Action Group (IPAG). Both the Friarage site and community hospitals report all targets have been met.

All other actions are monitored via the CDI Recovery Plan (see Appendix 1)

1.2 MSSA bacteraemia

There were 9 cases of MSSA bacteraemia in July 2016; 2 of which were classed as trust-apportioned. In the first four months of 2016/17 there have been 12 trust-apportioned cases.

MSSA	Total 2015/16	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15	Jan 16	Feb 16	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Total 2016/17 to date	Target for 2016/17
Total cases	138	14	12	9	13	9	15	10	11	8	9	14	9	40	NA
Not trust apportioned	99	10	11	7	10	8	7	3	7	6	6	9	7	28	NA
Trust apportioned	39	4	1	2	3	1	8	7	4	2	3	5	2	12	NA

An audit of central venous cannulae (CVC) care and management was completed in July 2016. The data will be presented at IPAG in September 2016 along with recommendations. It is acknowledged that further work is required to ascertain whether cases of MSSA bacteraemia are linked to the use of invasive devices. This is currently under development alongside a refreshed 'Saving Lives' programme with a preliminary start date for October 1st 2016. This will provide the IPC team with an opportunity to monitor compliance with the 'Care Bundles' approach to managing invasive devices.

1.3 MRSA bacteraemia

There was 1 case of MRSA bacteraemia in July 2016. This was classed as Trust-apportioned. In the first four months of 2016/17 there has been 1 trust-apportioned case. The case review identified one lesson to be learnt: the empirical antibiotic cover the patient was given post-operatively should have included cover for the previously isolated MRSA. As the urine culture result was not available to guide treatment it is possible the bacteraemia could have been avoided if the patient had attended a pre-assessment clinic. This will be considered for future spinal injuries patients.

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

1.4 Surveillance for other healthcare-associated infections

	Total for 15/16	July 2016	Total 16/17
Bacteraemia due to glycopeptide-resistant enterococci	6	0	1
Bacteraemia due to <i>E. coli</i>	466	39	154
ESBL producing coliform infections	893	51	303
• sample taken in community	600	32	202
• sample taken in our trust	293	19	101
• bacteraemias	19	1	4
Other alert organisms	0	0	0

2. OUTBREAKS

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

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

There were no clusters of cases of *C. difficile* identified during July 2016.

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

There have been no new cases identified in the last four months. In total there have been 17 patients identified who are colonised or infected with a GES carbapenemase-producing strain of *Pseudomonas aeruginosa* since November 2014.

4. DECONTAMINATION

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

- The trust is still pursuing extending the electronic Scantrack system to scopes used outside of the Endoscopy unit.
- In June there were 4 patients who had *Stenotrophomonas maltophilia* isolated from broncho alveolar lavage. There have been a further 4 cases identified in July. The cases have been strain typed and preliminary investigations suggest that two of these cases are linked. For the other cases it is not clear if this is related to endoscope decontamination. Monitoring measures continue to be in place. A working group has been established to identify any potential risks to patients and agree initial actions to mitigate any identified risks.

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 October 2016.

Richard Bellamy
David McCaffrey
Judith Connor
Julie Barlow
Gill Hunt