

Health Scrutiny Panel

27 April 2017

Time 1.30 pm **Public Meeting?** YES **Type of meeting** Scrutiny

Venue Committee Room 3 - Civic Centre, St Peter's Square, Wolverhampton WV1 1SH

Membership

Chair Cllr Jasbir Jaspal (Lab)
Vice-chair Cllr Wendy Thompson (Con)

Labour

Cllr Craig Collingswood
Cllr Peter O'Neill
Cllr Phil Page
Cllr Judith Rowley
Cllr Stephen Simkins
Cllr Martin Waite

Conservative

Cllr Arun Photay

Liberal Democrat

Quorum for this meeting is two Councillors.

Information for the Public

If you have any queries about this meeting, please contact the democratic support team:

Contact Earl Piggott-Smith
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Some items are discussed in private because of their confidential or commercial nature. These reports are not available to the public.

Agenda

Part 1 – items open to the press and public

<i>Item No.</i>	<i>Title</i>
6	Royal Wolverhampton NHS Trust - Infection Prevention performance data - Q4 2016-17 (Pages 3 - 16) [Jeremy Vanes, Chairman, The Royal Wolverhampton NHS Hospital Trust to present report on annual hospital infection rates]

DATE OF MEETING 21st April 2017

TITLE OF REPORT AND AUTHOR: Infection Prevention, Dr M Cooper, Director of Infection Prevention and Control (DIPC)

PURPOSE OF REPORT: To update the Committee with the Infection Prevention performance data for Q4 2016-17

SUMMARY:

- No RWT-attributable MRSA bacteraemia in Q4, which means there were no RWT or Wolverhampton CCG-attributable cases for the entire year.
- RWT had 5 *C. difficile* cases in Q4 that counted against the external objective of 35 for the year.
- 10 RWT-attributable MSSA bacteraemia against a target of 6 for Q4; 12 MRSA acquisitions in Q4 compared with average of 15.5 per quarter in 2015-16; 12 DRHABs against a target of 12 for the quarter.
- Surgical site infection surveillance, with universal SSI surveillance for New Cross, and the work of the IV Team continue.
- Compliance with mandatory training on hand hygiene and infection prevention at the end of Q4 was 95.0%. With antimicrobial prescriber training it was 91.6%. The target for both is 95%.
- The organisation is fully compliant with the Health and Social Care Act (2008).

RECOMMENDATION TO THE RECEIVING COMMITTEE: Accept the information presented.

ACTION REQUIRED:	<input type="checkbox"/> Decision <input type="checkbox"/> Approval <input checked="" type="checkbox"/> Assurance	Decision of Committee (to be entered after the meeting by the support)
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Implications Clinical view	Healthcare Associated Infections (HAIs) remain a significant cause of morbidity and mortality.
View of patients, carers or the public and the extent of their involvement/impact	Effective actions to reduce HAIs will lead to improved patient experience and outcomes. HAIs remain an important factor to the public and politicians when judging the quality of healthcare delivered.
Implications on resources	Significant but not easily quantifiable financial savings are produced by maintaining good infection prevention performance.

References

Infection Prevention and Control Group

Assurances linked to report subjectThe Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidelines (updated 2014)
CQC Registration**Assurance framework number**

(if on the Board Assurance Framework)

Risks (include grade)

Missing external targets will lead to adverse publicity for the Trust. Poor performance in infection prevention will lead to increases in mortality, length of stay, readmissions, complaints and litigation. Financial penalties can be enforced by Commissioners if external targets are breached.

Risk Register Number1623 Risk of outbreaks
3703 IV Team delays due to demand outweighing availability
08535 Failure to achieve reductions in HAIs impacting on the Trust's reputation and compliance to regulatory standards**BACKGROUND DETAILS**

- RWT's external targets for 2016-17 were: MRSA bacteraemia - 0 and *Clostridium difficile* toxin positives – 35. Mandatory surveillance of MSSA and *E. coli* bacteraemia is undertaken, but there are currently no external targets for these. We have internal targets for MSSA bacteraemia, *C. difficile* total positives, including those only positive by PCR testing (and also recently discharged patients), and device-related hospital acquired bacteraemia (DRHABs). Admission screening for MRSA carriage allows us to also monitor MRSA acquisitions, as a surrogate marker of the transmission of organisms in our hospitals.

Compliance with Infection Prevention elements of mandatory training, relevant High Impact Interventions and other measures are monitored monthly at the Infection Prevention and Control Group. Compliance with the Code of Practice is monitored through 'Health Assure'. Progress against the Infection Prevention Annual Programme of Work, which is based on the nine strategic aims outlined in the current IP Strategy, is fed-back monthly to the Infection Prevention and Control Group.

MRSA Bacteraemia**Monthly totals (and RWT attributable)**

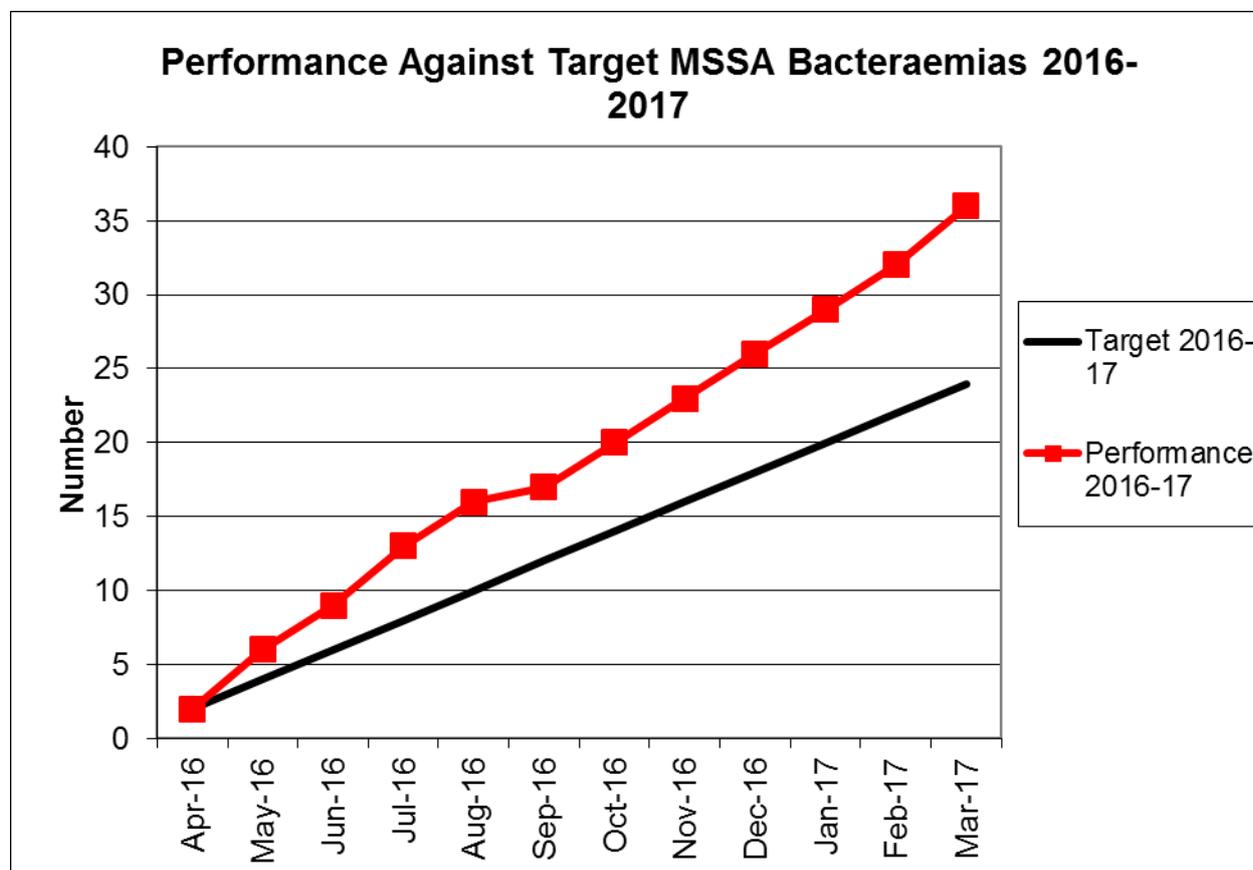
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
15-16 (RWT)	0 (0)											
16-17 (RWT)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Annual target 2016-17 = 0 for RWT; 0 for Wolverhampton CCG. Both organisations achieved these targets.

MSSA bacteraemia

Monthly totals and number attributable to RWT

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
15-16	7	2	5	5	6	6	3	10	4	7	7	5
(RWT)	(1)	(0)	(1)	(2)	(2)	(2)	(1)	(5)	(1)	(4)	(1)	(5)
16-17	8	6	4	6	6	4	7	9	4	7	9	11
(RWT)	(2)	(4)	(3)	(4)	(3)	(1)	(3)	(3)	(3)	(3)	(3)	(4)

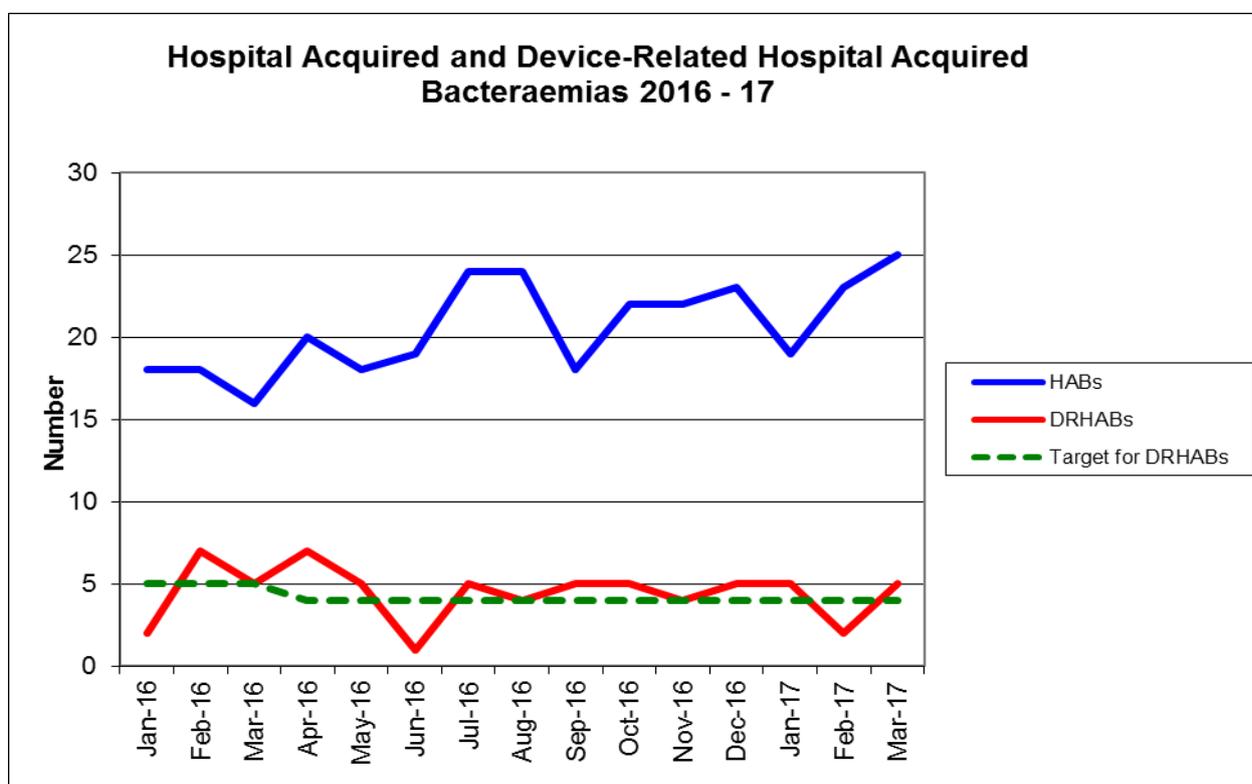


There is no external target for MSSA bacteraemia. We have an internal target of 24 RWT-attributable cases for the year, so 10 cases in a quarter is above target. Using the DH definition of attribution of cases there were seven RWT-attributable cases in Q4.

Of the 10 RWT-attributable MSSA bacteraemia in Q4, three were secondary to skin or soft tissue infections, two were line related, two were secondary to surgical site infections (one Cardiothoracic, one Orthopaedic), two were from patients with vertebral discitis and the final case was related to either a chest infection or the patient's chronic leg ulcers.

Hospital Acquired Bacteraemia (HABs) and Device-Related HABs (DRHABs)

The number of HABs and DRHABs are monitored internally, with a target of 48 DRHABs for the year. The graph below shows our performance for Q4. There were 12 DRHABs in Q4 against a target of 12. The sources of the Q4 DRHABs are shown in the table, with comparison figures from recent years. The IV Team became operational in September 2012 and the number of line-related DRHABs has fallen from an average of 6.08 per month in 2012-13 to 1.83 per month in 2016-17.



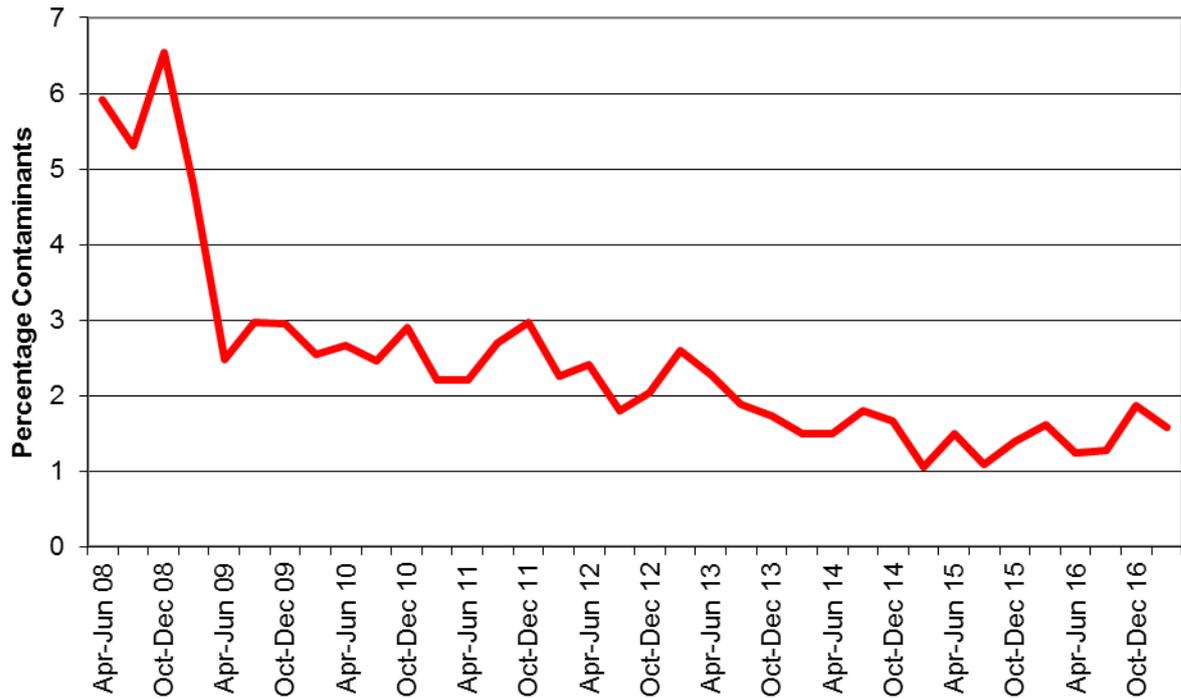
Devices Associated with DRHABs – Monthly Averages 2013-16 and Qs 1 3 plus Monthly Totals Q4 2016-17

	2013-14 Monthly Average	2014-15 Monthly Average	2015-16 Monthly Average	2016-17 Qs 1-3 Monthly Average	Jan 17	Feb 17	Mar 17
B/C taken	1036.6	1257.7	1303.3	1264.6	1371	1259	1292
B/C positives	77.1	84.5	84.9	87.1	96	91	87
B/C significant	57.9	65.6	66.3	68.7	68	74	70
Contaminants	19.2	18.8	18.6	18.4	28	17	17
HABs	21.1	19.8	20.4	21.1	19	23	25
DRHABs	5.4	5.3	4.4	4.6	5	2	5
Lines	3.3	3.1	2.7	1.9	3	1	1
Urinary catheter	1.7	1.8	1.5	1.9	1	1	4
VAP	0.1	0.2	0.0	0.1	0	0	0
Nephrostomy	0.1	0.2	0.3	0.4	0	0	0
Pacing wires	0.3	0	0	0.1	0	0	0
Other	0.1	0	0	0.1	1	0	0

Blood Culture Contaminants

Contaminated blood cultures can lead to unnecessary patient investigations and treatment, prolonging the in-patient stay, wasting resources and increasing the risk of complications, such as *C. difficile*. The blood culture Phlebotomy Team enables the majority of blood cultures to be taken by dedicated staff fully trained in the appropriate techniques. This has resulted in a substantial reduction in the number and rate of blood culture contaminants. The generally agreed target rate for this measure in the UK is 3% or below, as used in the USA. In 2008-09 (pre-Phlebotomy team), our average blood culture contamination rate was 5.64%; the average rate for 2015-16 was 1.41%. The average rate in Q4 2017-18 was 1.58% and for the year as a whole was 1.49%. There were two months with much higher than normal rates, but the reason for this sudden increase is not immediately apparent.

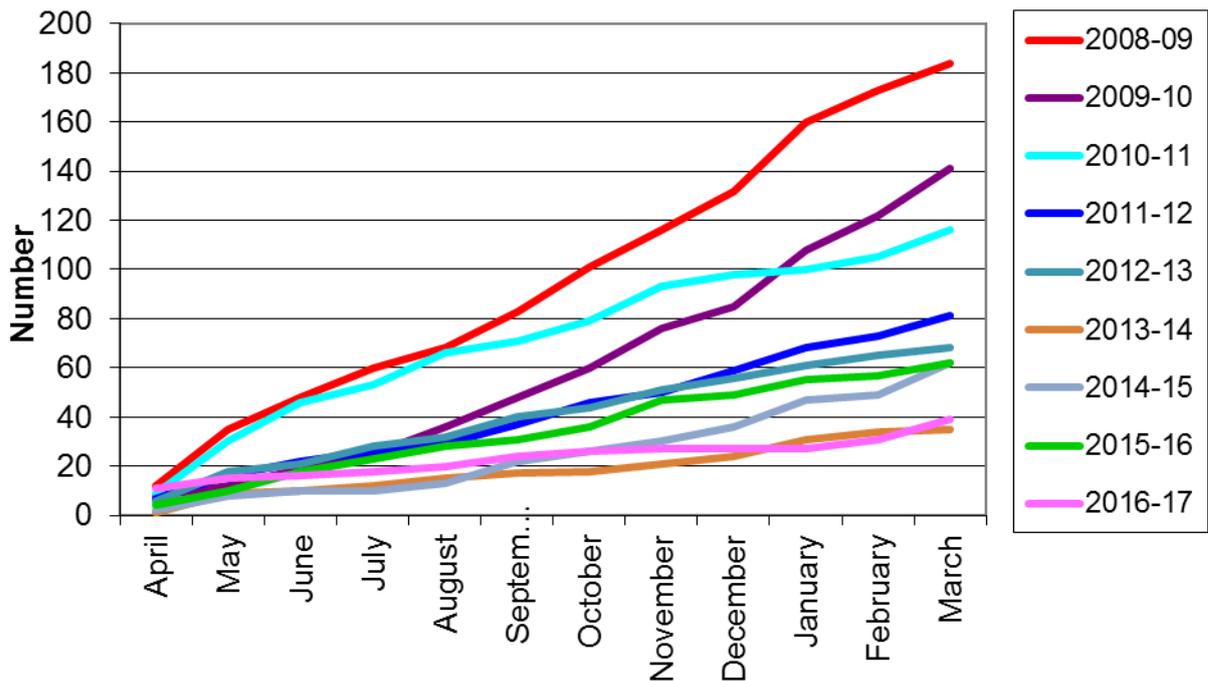
Percentage of Contaminated Blood Culture Sets by Quarter



MRSA Acquisitions

The screening of all admissions to RWT enables us to monitor the acquisition of MRSA in the hospital. In 2015-16 there were 62 MRSA acquisitions in RWT. In Q4 2016-17 there were 12, giving a total of 39 for the year. Ward C19 had four cases and the Acute Stroke Unit two during the quarter. PII meetings have taken place to determine what actions can be implemented to prevent further transmission.

Cumulative RWT MRSA Acquisitions from April 2008



Clostridium difficile

RWT and Wolverhampton CCG have external objectives for cases of *C. difficile* based on a national definition for the diagnosis of such cases. The target set for the year 2016-17 was 35 for RWT. A process to classify cases attributable to RWT as being either avoidable or unavoidable has been agreed with the Commissioners. Unavoidable cases, although still counting towards the organisation's target, do not incur a financial penalty should RWT finish the year with a total above its target. Externally, the national definition of avoidable / unavoidable is used, but internally we have a more stringent definition that includes a 95% compliance threshold for the relevant components of mandatory training. The avoidable / unavoidable breakdown of cases is only available up to February 2017 at the time of writing this report.

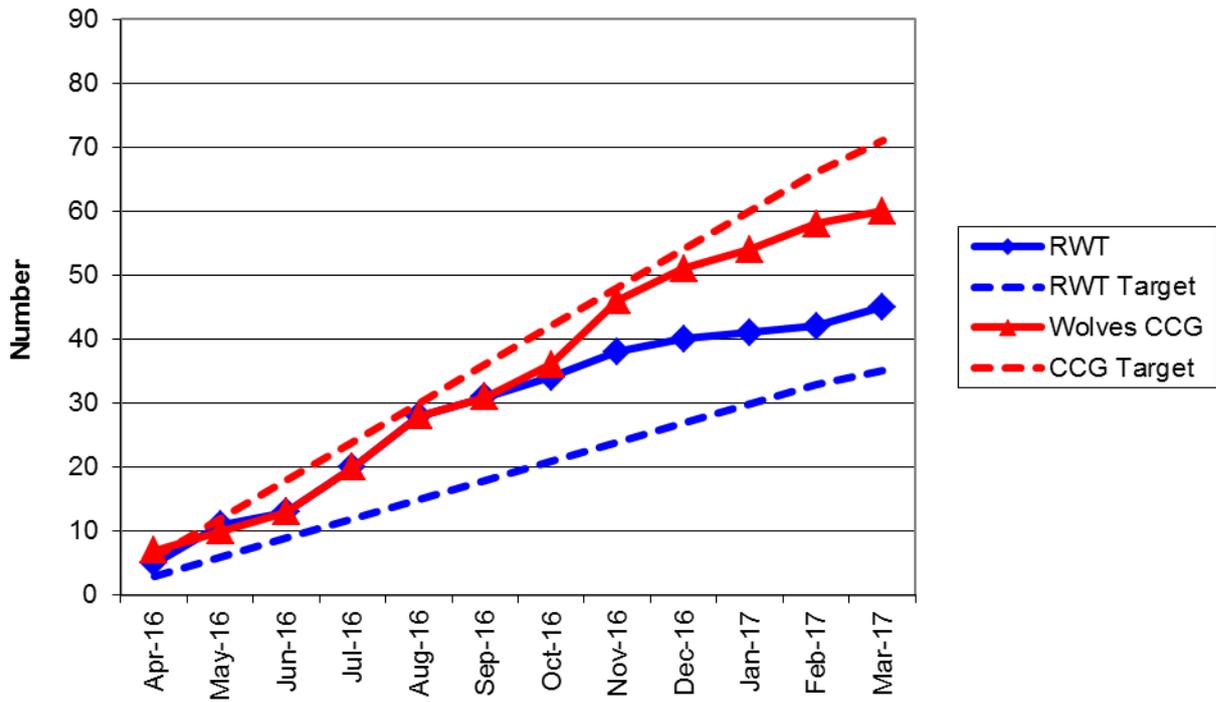
	RWT toxin positive (external target)	Avoidable:		W'ton CCG toxin positive (external target)	RWT positives – all methods (internal target)
		External	Internal		
Apr 16	5 (3)	2	5	7 (6)	10 (9)
May 16	6 (3)	2	6	3 (6)	12 (9)
Jun 16	2 (3)	2	2	3 (6)	9 (9)
Jul 16	7 (3)	6	7	7 (6)	11 (9)
Aug 16	8 (3)	2	8	8 (6)	18 (9)
Sep 16	3 (3)	0	3	3 (6)	5 (9)
Oct 16	3 (3)	2	2	5 (6)	14 (9)
Nov 16	4 (3)	1	4	10 (6)	15 (9)
Dec 16	2 (3)	0	2	5 (6)	7 (9)
Jan 17	1 (3)	0	1	3 (6)	8 (9)
Feb 17	1 (3)	0	1	4 (6)	1 (9)
Mar 17	3 (2)			2 (5)	6 (9)
Totals (Target)	45 (35)	17 (33)	41 (33)	60 (71)	116 (108)

RWT's performance deteriorated from September 2014 and a comprehensive *C. difficile* action plan has been in place across the organisation for more than a year. The performance in the second half of 2016-17 has been much better, and has been within both our internal and external targets over that period. Undoubtedly this improvement is a consequence of the considerable amount of work undertaken through the action plan, although it is not known which actions have been most successful in producing this.

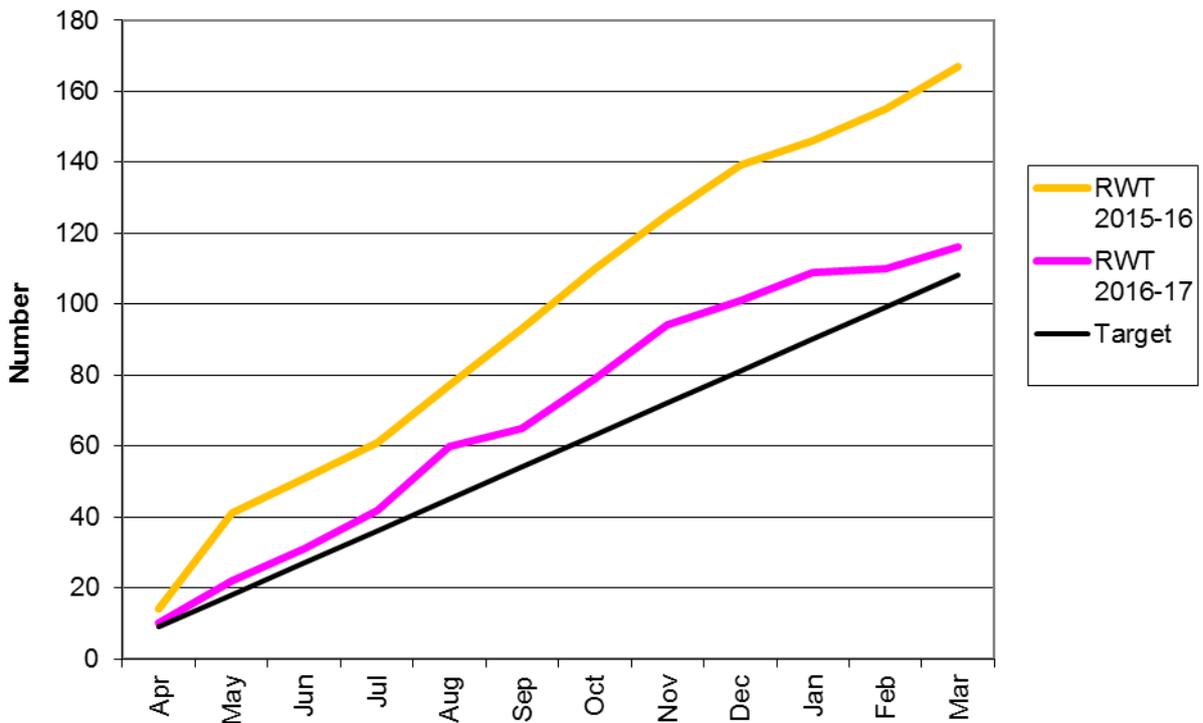
Typing of isolates has found just one pair of linked cases in Q4 (one case in December and one in January in Deanesly Ward), although the typing results from March were not available at the time of writing this report.

The RWT Internal Target figure is set against our own definition of attribution, which includes patients who have recently been discharged from RWT. It is based on both toxin and PCR test results; PCR gives a measure of colonisation with the organism and therefore can be used to chart the spread of *C. difficile*. The second graph below shows our performance for 2015-16, 2016-17 our target for these years. The improvement on last year's figures is immediately apparent, and although the target for the year was missed, this is the lowest total we've ever achieved against this measure since the introduction of molecular testing for *C. difficile*. As mentioned above, of particular note is the performance over the past few months.

C. difficile Toxin Positives and External Targets 2016 - 17



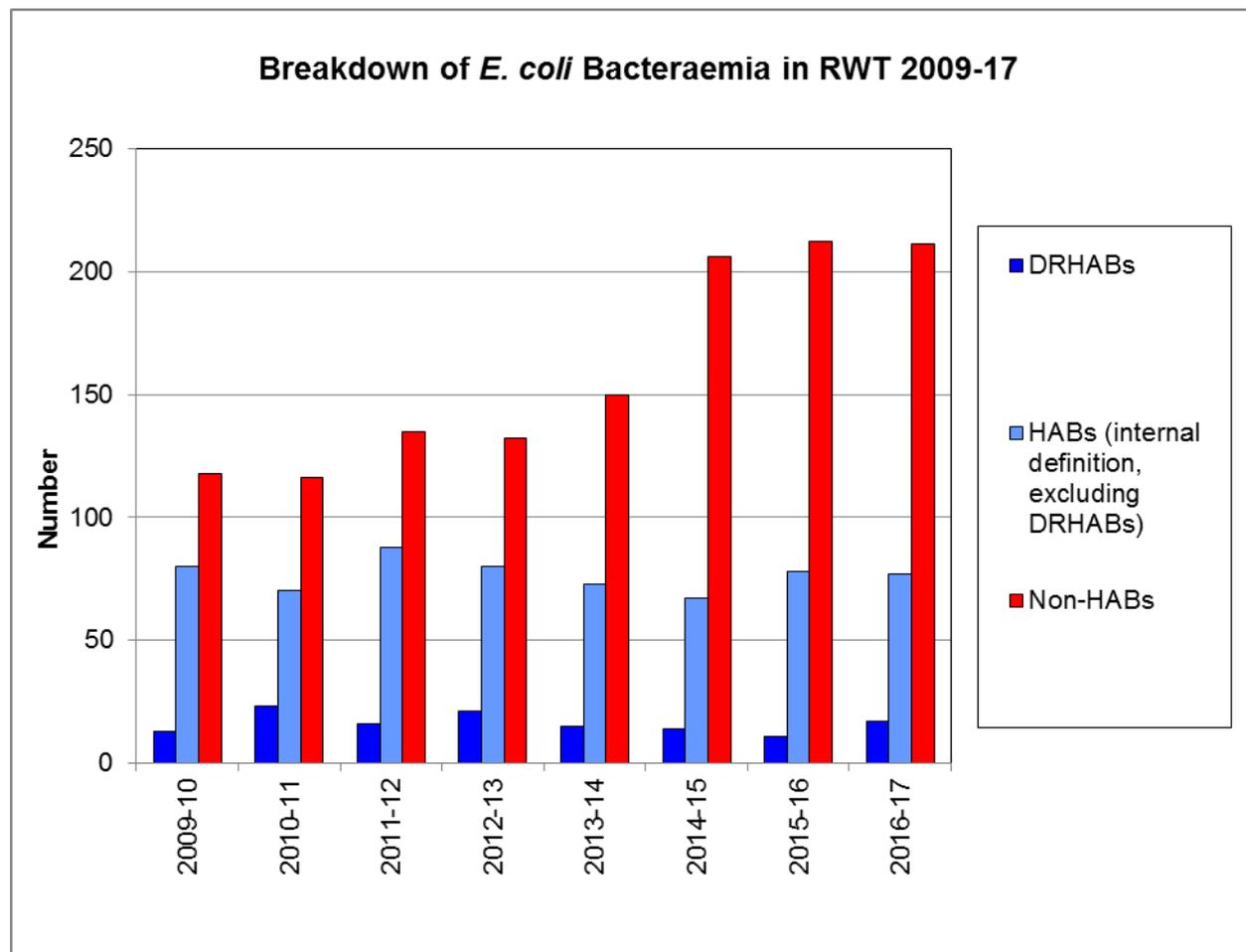
Cumulative C. difficile PCR Positives from 2011-12



Escherichia coli Bacteraemia

National mandatory reporting of all *E. coli* bacteraemia began in June 2011, though locally we have robust data from April 2009. The graph below gives the annual totals of

E. coli bacteraemia broken down according to RWT's internal definition of attribution of cases, with the RWT-attributable cases further divided into those associated with medical devices and those not. It can be seen that non-hospital acquired infections consistently outnumber the hospital-attributable ones and DRHABs account for only a small proportion of the hospital acquired cases. The overall proportion of DRHABs due to *E. coli* in comparison with the total number of *E. coli* bacteraemia has ranged from 11% in 2010-11 to 3.65% for 2015-16. The figure for 2016-17 was 5.57%. Even if all DRHABs were eliminated, this would have little impact on the total number of *E. coli* bacteraemia. Virtually all non-device-related and many device-related *E. coli* bacteraemia are unavoidable. Despite this, targets are being set for all organisations for the year 2017-18, with the intention of producing a national reduction of *E. coli* bacteraemia by 50 percent by 2020. We still await guidance from the DH about how this target can be achieved.

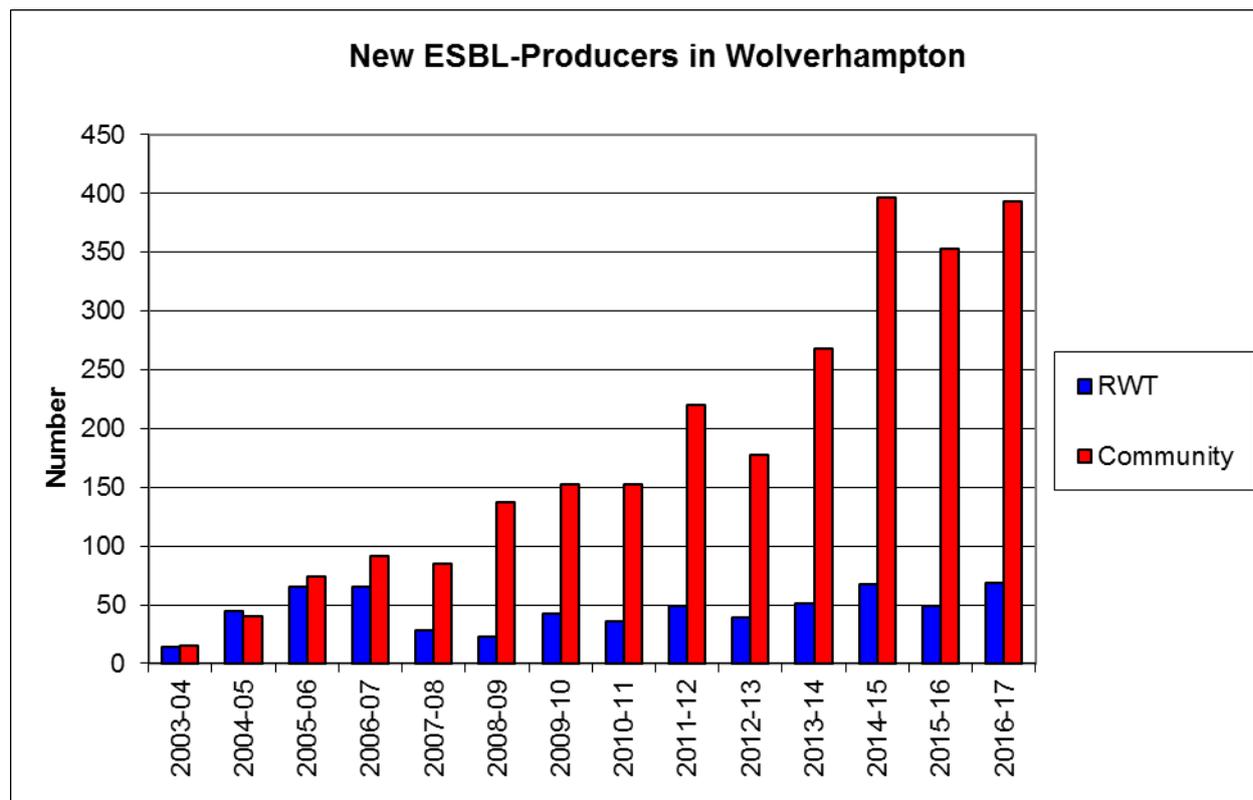


Extended Spectrum Beta-Lactamase Producers (ESBLs):

ESBLs-producing organisms remain sensitive to some antibiotics, although these often have to be given intravenously rather than orally, even if the infection is relatively trivial. This obviously increases the impact for the patient and the costs to the healthcare system. It is also well established that infections with multi-resistant organisms, such as ESBL-producers, have a higher mortality than those caused by sensitive strains of the same organisms.

The number of new patients found to be carrying or infected with an ESBL-producing organism has increased enormously over the past 15 years, locally and nationally. The graph below shows the numbers detected in our laboratory, with a peak at the beginning of 2015 that was probably due to the transfer of the diagnostic work for Cannock to the

Wolverhampton Microbiology laboratory, and the detection of many Cannock patients new to us. Numbers since fell, but have now increased again. There is no obvious explanation for this latest trend. Equally, it is not known where the majority of these organisms originate, and therefore what actions can be taken to prevent their acquisition.



Carbapenemase-Producing Enterobacteriaceae (CPEs)

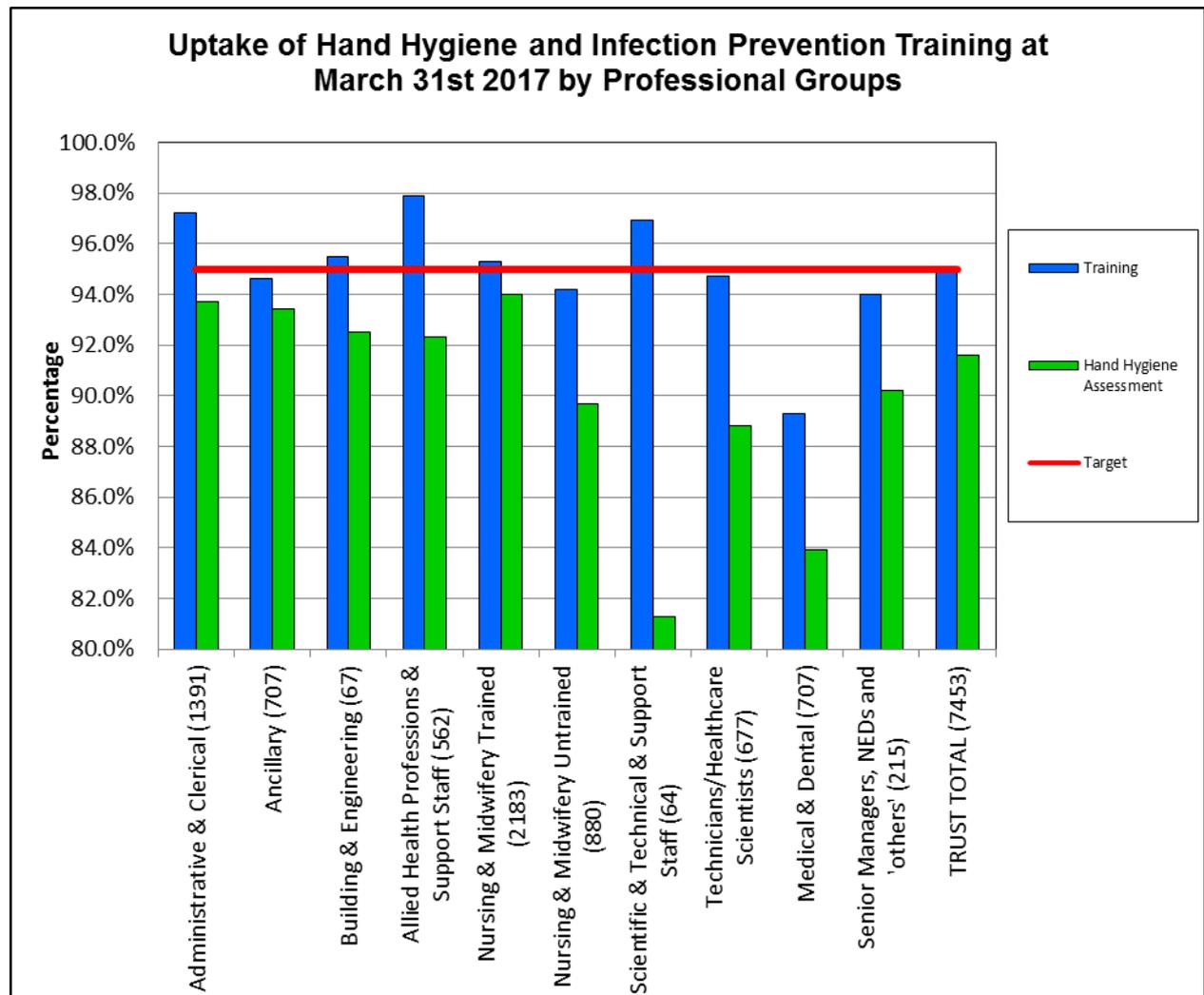
The carbapenem group of antibiotics are regarded as the antibiotic of last resort in many of the situations in which they are used. Organisms that produce enzymes (the common enzymes being NDM, KPC, and OXA-48) that destroy these antibiotics have been increasing across the UK and in Wolverhampton. RWT has adopted a very strict policy for the control of these organisms, based both on national guidelines and the experiences of a hospital in the north of England that has had many more isolates than we have had so far. This appears to have slowed the increase in numbers, but far greater adherence to admission screening is required now and over future years to ensure we do not reach a situation in which these organisms become endemic in our population and hospitals, as they have elsewhere.

	NDM	OXA-48	KPC	Others	Total
2012-13	2	0	0	0	2
2013-14	5	1	2	0	8
2014-15	2	0	6	0	8
2015-16	4	1	7	0	12
2016-17	7	2	10	0	19

A cluster of KPC-producing organism associated with the Orthopaedic Wards in New Cross account for much of the increase in numbers this year. Extensive screening of contacts did not produce many further positive patients outside those still in these wards.

All contacts have been tagged on the Trust's electronic systems so they can be identified as requiring screening and appropriate isolation precautions put in place if they require re-admission at any time in the future.

Compliance with Hand Hygiene and Infection Prevention Training and Hand Hygiene Competency Assessment



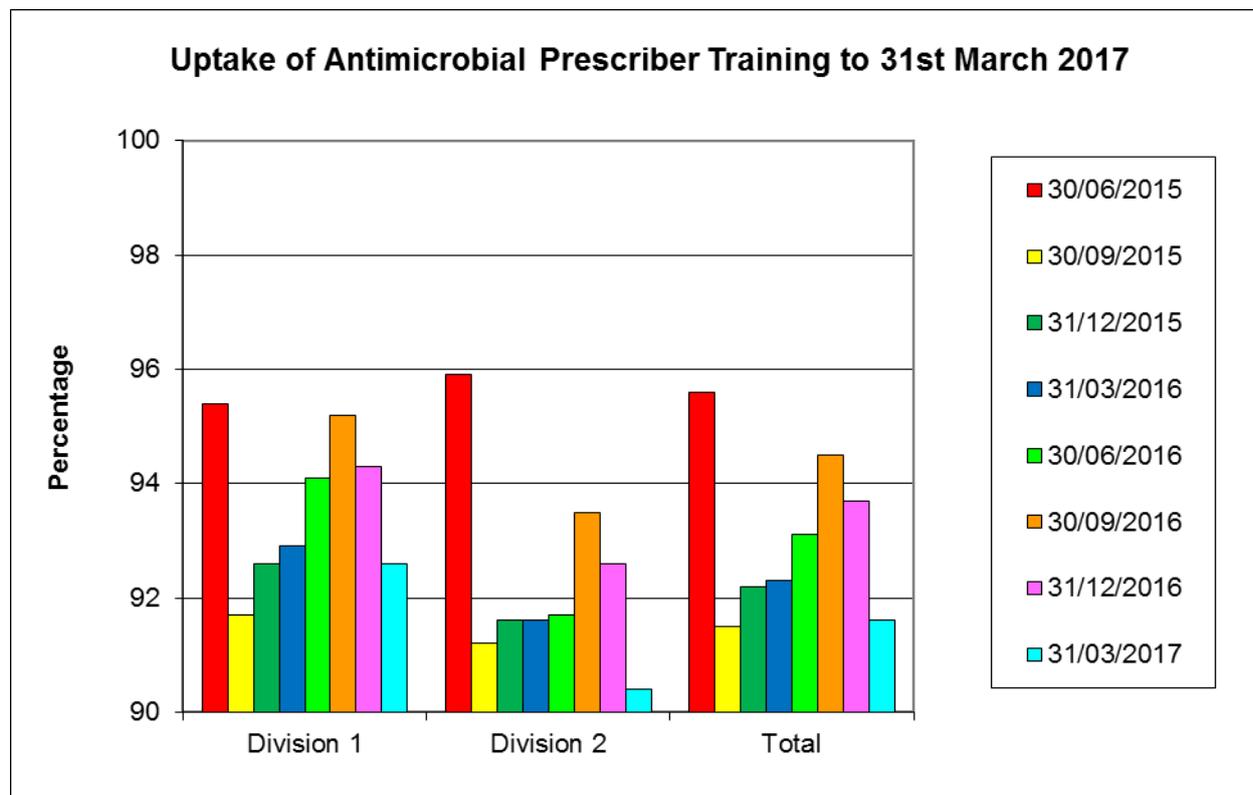
The target set by RWT for NHSLA level 3 compliance requires that at least 95% of staff have had hand hygiene training in the preceding year. The graph above shows that we were on this target for the training component (95.0%) at the end of the year, but have fallen below this figure for the competency element (91.6%). An action plan to improve compliance was put in place by the Training and Education Department and the Clinical Divisions during 2016, which had an immediate impact and led to a sustained period above 95% for the training element. Further work is still needed to produce sustained improvement for the evidence of competency.

Antimicrobial Prescriber Training

RWT has also set a target of 95% compliance with antimicrobial prescriber training for NHSLA purposes. Although this level has been achieved in the past, it has never been sustained. The compliance level at the end of 2016-17 was 91.6%.

The Antimicrobial Stewardship Group remains active in exploring alternative means of improving compliance with both this training and with our local antimicrobial prescribing

guidelines. Additionally, a Wolverhampton health economy-wide antimicrobial stewardship campaign is underway, with the aim of increasing the focus on antimicrobials and their use. Enhanced training of prescribers, non-prescribers and all other healthcare staff, along with education of the public about the value and role of antibiotics and need to preserve them are key components of this work.



Compliance with the Code of Practice for the Prevention and Control of Healthcare Associated Infections (2008, revised 2014)

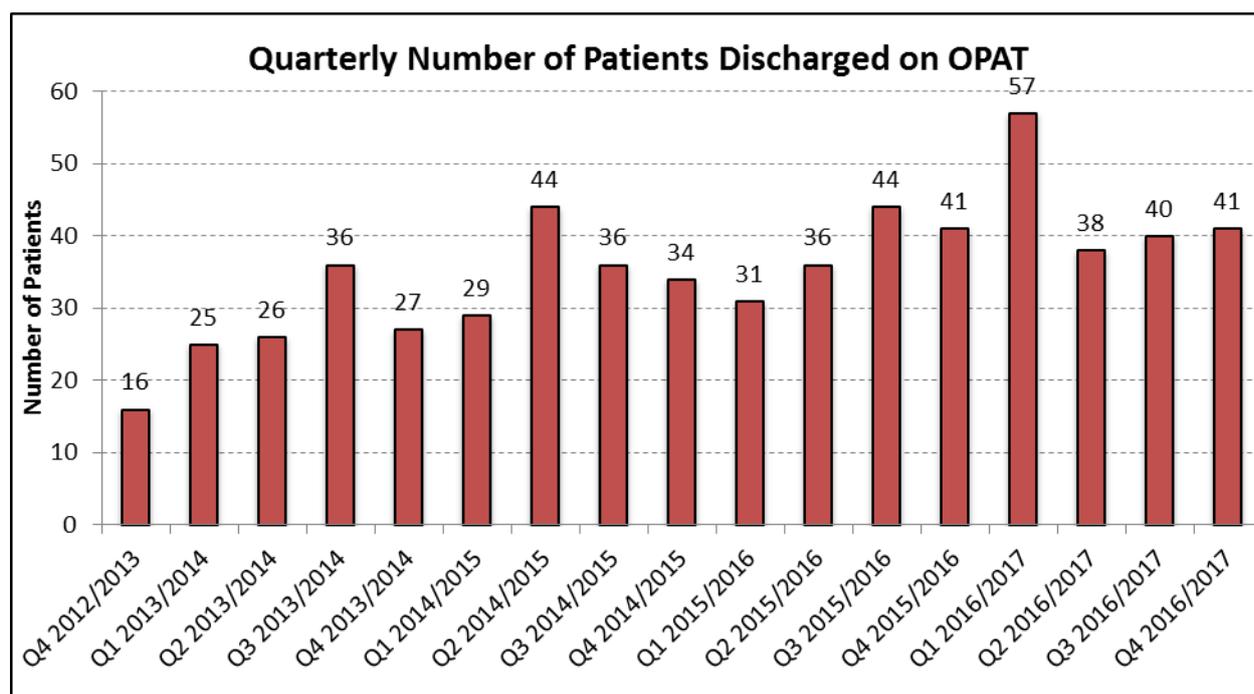
Criterion 01: Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider how susceptible service users are and any risks that their environment and other users may pose to them.	HCAI Self Assessment Rating: Green
Criterion 02: Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.	HCAI Self Assessment Rating: Green
Criterion 03: Provide suitable accurate information on infections to service users and their visitors.	HCAI Self Assessment Rating: Green
Criterion 04: Provide suitable accurate information on infections to any person concerned with providing further support or nursing/medical care in a timely fashion.	HCAI Self Assessment Rating: Green
Criterion 05: Ensure that people who have or develop an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing on the infection to other people.	HCAI Self Assessment Rating: Green

Criterion 06: Ensure that all staff and those employed to provide care in all settings are fully involved in the process of preventing and controlling infection.	HCAI Self Assessment Rating: Green
Criterion 07: Provide or secure adequate isolation facilities.	HCAI Self Assessment Rating: Green
Criterion 08: Secure adequate access to laboratory support as appropriate.	HCAI Self Assessment Rating: Green
Criterion 09: Have and adhere to policies, designed for the individuals care and provider organisations, that will help to prevent and control infections.	HCAI Self Assessment Rating: Green
Criterion 10: Ensure, so far as is reasonably practicable, that care workers are free of and are protected from exposure to infections that can be caught at work and that all staff are suitably educated in the prevention and control of infection associated with the provision of health and social care.	HCAI Self Assessment Rating: Green

Current Projects

IV Team (incorporating OPAT – Outpatient Parenteral Antimicrobial Therapy). The work of the IV Team continues. In Q4 the team inserted 224 lines. The expansion of the IV Team to enable full 7-day working and even greater access to line insertion occurred earlier this year and the benefits of this are being seen. Community base facilities are now also available for the Team, allowing them greater flexibility in the management of patients outside hospital who have IV lines and those who require intravenous antibiotics.

In Q4 there were 41 patients discharged on OPAT and 41 patients in total received OPAT, resulting in 961 bed days saved. The graph below shows the number of patients discharged on OPAT for each quarter since Q3 2012-13.



Surgical Site Infection Surveillance - the Surgical Site Infection work continues.

Incidents

C. difficile Periods of Increased Incidence (PIIs)

There have been several potential clusters of *C. difficile* infections during Q4. Two linked cases were found on C25 in December / January, and there were also two possible linked cases on C25 in March, although the result of typing of these isolates is not yet available. SI meetings have been held or are planned. Remedial actions have been taken as appropriate. All other possible clusters of infection or colonisation with *C. difficile* over the course of the quarter have been found to be due to unrelated strains, although the typing of most of the strains from March is still awaited.

Norovirus

There have been several bays closed as a precaution against the spread of norovirus during Q4, but the majority of these cases proved to be negative on testing. An outbreak of norovirus on ward C19 in January led to closure of the entire ward, but lost bed days were kept to a minimum. Other wards with just bays closed because of norovirus have been: SEU, C18 and C25 in January; Cardiology ward, Acute Stroke Unit and A14 (February). There have also been several outbreaks of gastroenteritis presumed and proven to be caused by this virus in care homes in Wolverhampton and the surrounding area during this period.

Influenza and Other Respiratory Viruses

In January the male bays on C22 were closed due to patients with Influenza A infection. Later that same month a bay was closed on C18 because of Influenza A. During February bays had to be closed on both Deanesly Ward and C16, also because of Influenza A. In all of these wards contacts were identified and given appropriate prophylaxis.

MRSA Acquisition Period of Increased Incidence (PII)

There was a PII of MRSA acquisitions on C19 during Q4 2016-17. An incident meeting was held and an action plans drawn up. There have been no further cases attributed to this ward for more than a month at the time of writing this report.

CPE on Orthopaedic Wards

During January a patient on one of the Orthopaedic wards was found to have an infection due to a KPC-producing strain of *Klebsiella pneumoniae*. All patients on the ward were screened and three further positive patients were found to be colonised with the same organism. An incident meeting was held and actions put in place to prevent further spread. Screening of the adjacent Orthopaedic ward found one further colonised patient, and screening of patients discharged from those wards to other wards in the organisation found one additional colonised patient. Infection prevention precautions consistent with those described in national guidelines were put in place from the time of the initial positive sample, and despite repeated extensive screening of contacts no further cases have been found beyond those already mentioned. All contacts are tagged on RWT's electronic patient systems, so they can be appropriately screened if they require admission at any time in the future.

Milk Incident on Neonatal Unit

In January a baby on NNU was given breast milk from the wrong mother. A full investigation was undertaken and measures have been put in place to prevent reoccurrences. Screening of the neonate involved for any adverse effect have so far been negative.

Re-use of Neonatal Facemasks

It was found that Neonatal resuscitation equipment included different types of facemask, some of which could be decontaminated and some that were single-use only. This had led to some confusion. Additionally there was not a fully assured process for the decontamination of the re-usable masks. An incident meeting took place and, while the risk of infection was deemed to be very low, a decision was made to move to single use masks only.

Tuberculosis Incidents

There have been two incidents with patients and staff exposed to cases of open (i.e. potentially infectious) tuberculosis in RWT during Q4 2016-17. One incident involved a patient admitted but not diagnosed for several days. All staff and patient contacts have been contacted and screened as necessary. One of the contacts has been found to possibly have a mycobacterial infection, but the tests have so far failed to confirm that this is TB. The nature of their underlying illness means atypical mycobacterial disease is possible, and it is also of note that they have had previous exposure to TB. The other incident involves a member of staff who has been diagnosed with open TB. All patient and staff contacts have been notified and screening is being undertaken as appropriate. The member of staff has also undertaken work in the community and another acute Trust, and tracing and screening is also being undertaken for these contacts.

Use of Non-Sterile Equipment in Radiotherapy

A member of staff notified their managers that some items of equipment used in one of the radiotherapy treatments were not sterile, although they were being placed in packaging that suggested they were, and were then being used in a sterile field. An incident meeting has taken place where the risk of the infection was adjudged to be very low. These practices have now stopped, with additional equipment purchased to allow for the appropriate decontamination of all re-processable equipment to take place.